
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

Form 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2020

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE TRANSITION PERIOD FROM TO .

Commission file number: 001-39144

DISH Network Corporation

(Exact name of registrant as specified in its charter)

Nevada
(State or other jurisdiction of incorporation or organization)

88-0336997
(I.R.S. Employer Identification No.)

9601 South Meridian Boulevard
Englewood, Colorado
(Address of principal executive offices)

80112
(Zip Code)

Registrant's telephone number, including area code: (303) 723-1000

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Class A common stock, \$0.01 par value	DISH	The Nasdaq Stock Market L.L.C.

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

As of June 30, 2020, the aggregate market value of Class A common stock held by non-affiliates of the registrant was \$8.8 billion based upon the closing price of the Class A common stock as reported on the Nasdaq Global Select Market as of the close of business on the last trading day of the month.

As of February 10, 2021, the registrant's outstanding common stock consisted of 287,734,942 shares of Class A common stock and 238,435,208 shares of Class B common stock, each \$0.01 par value.

DOCUMENTS INCORPORATED BY REFERENCE

The following documents are incorporated into this Form 10-K by reference:

Portions of the registrant's definitive Proxy Statement to be filed in connection with its 2021 Annual Meeting of Shareholders are incorporated by reference in Part III.

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DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

Unless otherwise required by the context, in this report, the words “DISH Network,” the “Company,” “we,” “our” and “us” refer to DISH Network Corporation and its subsidiaries, “EchoStar” refers to EchoStar Corporation and its subsidiaries, and “DISH DBS” refers to DISH DBS Corporation, a wholly-owned, indirect subsidiary of DISH Network, and its subsidiaries.

This Annual Report on Form 10-K contains “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995, including, in particular, statements about our plans, objectives and strategies, growth opportunities in our industries and businesses, our expectations regarding future results, financial condition, liquidity and capital requirements, our estimates regarding the impact of regulatory developments and legal proceedings, and other trends and projections. Forward-looking statements are not historical facts and may be identified by words such as “future,” “anticipate,” “intend,” “plan,” “goal,” “seek,” “believe,” “estimate,” “expect,” “predict,” “will,” “would,” “could,” “can,” “may,” and similar terms. These forward-looking statements are based on information available to us as of the date of this Annual Report on Form 10-K and represent management’s current views and assumptions. Forward-looking statements are not guarantees of future performance, events or results and involve known and unknown risks, uncertainties and other factors, which may be beyond our control. Accordingly, actual performance, events or results could differ materially from those expressed or implied in the forward-looking statements due to a number of factors, including, but not limited to, those summarized below:

SUMMARY OF RISK FACTORS

COVID-19 Pandemic

- The COVID-19 pandemic and its impact on the economic environment generally, and on us specifically, have adversely impacted our business. Furthermore, any continuation or worsening of the pandemic and economic environment could have a material adverse effect on our business, financial condition and results of operations.

Competition and Economic Risks

- We face intense and increasing competition from providers of video, broadband and/or wireless services, which may require us to further increase subscriber acquisition and retention spending or accept lower subscriber activations and higher subscriber churn.
- Changing consumer behavior and new technologies in our Pay-TV business may reduce our subscriber activations and may cause our subscribers to purchase fewer services from us or to cancel our services altogether, resulting in less revenue to us.
- We face certain risks competing in the wireless services industry and operating a facilities-based wireless services business.
- Our pay-TV competitors may be able to leverage their relationships with programmers to reduce their programming costs and/or offer exclusive content that will place them at a competitive advantage to us.
- Through the MNSA, we depend primarily on T-Mobile in providing services to our retail wireless subscribers, and any system failure related to T-Mobile’s wireless network, interruption in the services provided by T-Mobile, including the shutdown of its CDMA Network on or around January 1, 2022 and/or the termination of the MNSA could negatively impact our subscriber activations, our subscriber churn rate and our subscriber base, which in turn could have a material adverse effect our business, financial condition and results of operations.
- Changes in how network operators handle and charge for access to data that travels across their networks could adversely impact our Pay-TV business.
- Economic weakness and uncertainty may adversely affect our ability to grow or maintain our business.

Operational and Service Delivery Risks

- Any deterioration in our operational performance and subscriber satisfaction could adversely affect our business, financial condition and results of operations.
- If our subscriber activations decrease, or if our subscriber churn rate, subscriber acquisition costs or retention costs increase, our financial performance will be adversely affected.
- With respect to our Pay-TV business, programming expenses are increasing, which may adversely affect our future financial condition and results of operations.
- We depend on others to provide the programming that we offer to our Pay-TV subscribers and, if we fail to obtain or lose access to certain programming, our Pay-TV subscriber activations and our subscriber churn rate may be negatively impacted.
- We may not be able to obtain necessary retransmission consent agreements at acceptable rates, or at all, from local network stations.
- Any failure or inadequacy of our information technology infrastructure and communications systems or those of third parties that we use in our operations, including, without limitation, those caused by cyber-attacks or other malicious activities, could disrupt or harm our business.
- Our failure to effectively invest in, introduce, and implement new competitive products and services could cause our products and services to become obsolete and could negatively impact our business.
- We rely on a single vendor or a limited number of vendors to provide certain key products or services to us, and the inability of these key vendors to meet our needs could have a material adverse effect on our business.
- We depend on independent third parties to solicit orders for our services that represent a meaningful percentage of our total gross new subscriber activations.
- We have limited satellite capacity and failures or reduced capacity could adversely affect our business, financial condition and results of operations.
- We may have potential conflicts of interest with EchoStar due to our common ownership and management.
- We rely on highly skilled personnel for our business, and any inability to hire and retain key personnel or hire qualified personnel may negatively affect our business, financial condition and results of operations.

Acquisition and Capital Structure Risks

- We have made substantial investments to acquire certain wireless spectrum licenses and other related assets, and we may be unable to realize a return on these assets.
- We have made substantial non-controlling investments in the Northstar Entities and the SNR Entities related to AWS-3 wireless spectrum licenses, and we may be unable to obtain a profitable return on these investments.
- We may pursue acquisitions and other strategic transactions to complement or expand our business that may not be successful, and we may lose up to the entire value of our investment in these acquisitions and transactions.
- We have substantial debt outstanding and may incur additional debt.
- We may need additional capital, which may not be available on acceptable terms or at all, to continue investing in our business and to finance acquisitions and other strategic transactions.
- The conditional conversion features of our 3 3/8% Convertible Notes due 2026 (the “Convertible Notes due 2026”) and our 2 3/8% Convertible Notes due 2024 (the “Convertible Notes due 2024”), if triggered, may adversely affect our financial condition.

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- The convertible note hedge and warrant transactions that we entered into in connection with the offering of the Convertible Notes due 2026 may affect the value of the Convertible Notes due 2026 and our Class A common stock.
- We are subject to counterparty risk with respect to the convertible note hedge transactions.
- From time to time a portion of our investment portfolio may be invested in securities that have limited liquidity and may not be immediately accessible to support our financing needs.
- We are controlled by one principal stockholder who is also our Chairman.
- It may be difficult for a third party to acquire us, even if doing so may be beneficial to our shareholders, because of our ownership structure.

Legal and Regulatory Risks

- Our business depends on certain intellectual property rights and on not infringing the intellectual property rights of others.
- We are, and may become, party to various lawsuits which, if adversely decided, could have a significant adverse impact on our business, particularly lawsuits regarding intellectual property.
- Our services depend on FCC licenses that can expire or be revoked or modified and applications for FCC licenses that may not be granted.
- If our internal controls are not effective, our business, stock price and investor confidence in our financial results may be adversely affected.
- We may face other risks described from time to time in periodic and current reports we file with the Securities and Exchange Commission (“SEC”).

Other factors that could cause or contribute to such differences include, but are not limited to, those discussed under the caption “Risk Factors” in Part I, Item 1A in this Annual Report on Form 10-K, those discussed in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” herein and those discussed in other documents we file with the SEC. All cautionary statements made or referred to herein should be read as being applicable to all forward-looking statements wherever they appear. Investors should consider the risks and uncertainties described or referred to herein and should not place undue reliance on any forward-looking statements. The forward-looking statements speak only as of the date made, and we expressly disclaim any obligation to update these forward-looking statements.

PART I

Item 1. BUSINESS

OVERVIEW

DISH Network Corporation was organized in 1995 as a corporation under the laws of the State of Nevada. We started offering the DISH[®] branded pay-TV service in March 1996 and started offering retail wireless services in July 2020. Our common stock is publicly traded on the Nasdaq Global Select Market under the symbol “DISH.” Our principal executive offices are located at 9601 South Meridian Boulevard, Englewood, Colorado 80112 and our telephone number is (303) 723-1000.

DISH Network Corporation is a holding company. Its subsidiaries operate two primary business segments, Pay-TV and Wireless. Our Wireless business segment consists of two business units, Retail Wireless and 5G Network Deployment.

Pay-TV

We offer pay-TV services under the DISH[®] brand and the SLING[®] brand (collectively “Pay-TV” services). The DISH branded pay-TV service consists of, among other things, FCC licenses authorizing us to use direct broadcast satellite (“DBS”) and Fixed Satellite Service (“FSS”) spectrum, our owned and leased satellites, receiver systems, broadcast operations, customer service facilities, a leased fiber optic network, in-home service and call center operations, and certain other assets utilized in our operations (“DISH TV”). We also design, develop and distribute receiver systems and provide digital broadcast operations, including satellite uplinking/downlinking, transmission and other services to third-party pay-TV providers. The SLING branded pay-TV services consist of, among other things, multichannel, live-linear streaming over-the-top (“OTT”) Internet-based domestic, international and Latino video programming services (“SLING TV”). As of December 31, 2020, we had 11.290 million Pay-TV subscribers in the United States, including 8.816 million DISH TV subscribers and 2.474 million SLING TV subscribers.

Wireless – Retail Wireless

As a result of the Boost Mobile Acquisition and the Ting Mobile Acquisition (as defined below), we have entered the retail wireless business. See Note 6 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information. We offer nationwide prepaid and postpaid retail wireless services to subscribers under our Boost Mobile and Ting Mobile brands, as well as a competitive portfolio of wireless devices. Prepaid wireless subscribers generally pay in advance for monthly access to wireless talk, text, and data services. Postpaid wireless subscribers generally are qualified to pay after receiving wireless talk, text, and data services. We are currently operating our retail wireless business unit as a mobile virtual network operator (“MVNO”) while we build our 5G broadband network. As an MVNO, we depend primarily on T-Mobile US, Inc. (“T-Mobile”) to provide us with network services under the MNSA. We acquired over 9 million subscribers as a result of the Boost Mobile Acquisition and acquired over 200,000 subscribers as a result of the Ting Mobile Acquisition. As of December 31, 2020, we had 9.055 million retail wireless subscribers.

Wireless – 5G Network Deployment

We have directly invested over \$11 billion to acquire certain wireless spectrum licenses and related assets and made over \$10 billion in non-controlling investments in certain entities, for a total of over \$21 billion. The \$21 billion of investments related to wireless spectrum licenses does not include \$6 billion of capitalized interest related to the carrying value of such licenses. See Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information on capitalized interest. We plan to commercialize our wireless spectrum licenses through the completion of the nation's first cloud-native, Open Radio Access Network ("O-RAN") based 5G network (our "5G Network Deployment").

Recent Developments

We accounted for the Boost Mobile Acquisition and Ting Mobile Acquisition as business combinations. The identifiable assets acquired and liabilities assumed were recorded at their preliminary fair values as of the acquisition date and are consolidated into our financial statements. Our Consolidated Statements of Operations and Comprehensive Income (Loss) includes the results of the Boost Mobile Acquisition from July 1, 2020 and the Ting Mobile Acquisition from August 1, 2020. See Note 6 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Boost Mobile Acquisition

Asset Purchase Agreement

On July 26, 2019, we entered into an Asset Purchase Agreement (the "APA") with T-Mobile and Sprint Corporation ("Sprint" and together with T-Mobile, the "Sellers" and given the consummation of the Sprint- T-Mobile merger, sometimes referred to as "NTM") to acquire from NTM certain assets and liabilities associated with Sprint's Boost Mobile and Sprint-branded prepaid mobile services businesses (the "Prepaid Business") for an aggregate purchase price of \$1.4 billion as adjusted for specific categories of net working capital on the closing date (the "Boost Mobile Acquisition"). Effective July 1, 2020 (the "Closing Date"), upon the terms and subject to the conditions set forth in the APA and in accordance with the Final Judgment (as defined below), we and T-Mobile completed the Boost Mobile Acquisition.

In connection with the Boost Mobile Acquisition and the consummation of the Sprint- T-Mobile merger, we, T-Mobile, Sprint, Deutsche Telekom AG ("DT") and SoftBank Group Corporation ("SoftBank") came to an agreement with the United States Department of Justice (the "DOJ") on key terms and approval of the Transaction Agreements (as defined below) and our wireless service business and spectrum. On July 26, 2019, we, T-Mobile, Sprint, DT and SoftBank (collectively, the "Defendants") entered into a Stipulation and Order (the "Stipulation and Order") with the DOJ binding the Defendants to a Proposed Final Judgment (the "Proposed Final Judgment") which memorialized the agreement between the DOJ and the Defendants. The Stipulation and Order and the Proposed Final Judgment were filed in the United States District Court for the District of Columbia (the "District Court") on July 26, 2019 and on April 1, 2020, the Proposed Final Judgment was entered with the District Court (the Proposed Final Judgment as so entered with the District Court, the "Final Judgment") and the Sellers consummated the Sprint-T-Mobile merger.

The term of the Final Judgment is seven years from the date of its entry with the District Court or five years if the DOJ gives notice that the divestitures, build-outs and other requirements have been completed to its satisfaction. A Monitoring Trustee has been appointed by the District Court that has the power and authority to monitor the Defendants' compliance with the Final Judgment and settle disputes among the Defendants regarding compliance with the provisions of the Final Judgment and may recommend action to the DOJ in the event a party fails to comply with the Final Judgment. See Note 6 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information on the Stipulation and Order and the Final Judgment, including our build-out commitments.

Also in connection with the closing of the Boost Mobile Acquisition, we and T-Mobile entered into a transition services agreement under which we will receive certain transitional services (the “TSA”), a master network services agreement for the provision of network services by T-Mobile to us (the “MNSA”), an option agreement entitling us to acquire certain decommissioned cell sites and retail stores of T-Mobile (the “Option Agreement”) and an agreement under which we would purchase all of Sprint’s 800 MHz spectrum licenses, totaling approximately 13.5 MHz of nationwide wireless spectrum for an additional approximately \$3.59 billion (the “Spectrum Purchase Agreement” and together with the APA, the TSA, the MNSA and the Option Agreement, the “Transaction Agreements”). See Note 6 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information on the Transaction Agreements.

Ting Mobile Acquisition

On August 1, 2020, we entered into an asset purchase agreement with Tucows Inc. (“Tucows”) pursuant to which we purchased the assets of Ting Mobile, including over 200,000 Ting Mobile subscribers (the “Ting Mobile Acquisition”). In addition, we entered into a services agreement pursuant to which Tucows will act as a mobile virtual network enabler for certain of our retail wireless subscribers. The consideration for the Ting Mobile Acquisition is an earn out provision and the fair value of the earn out provision has been assigned to a customer relationship intangible that is recorded in “Intangible assets, net” with the offset recorded in “Long-term deferred revenue and other long-term liabilities” on our Consolidated Balance Sheets. See Note 6 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

PAY-TV

Business Strategy – Pay-TV

Our Pay-TV business strategy is to be the best provider of video services in the United States by providing products with the best technology, outstanding customer service, and great value. We promote our Pay-TV services as providing our subscribers with a better “price-to-value” relationship than those available from other subscription television service providers.

- *Products with the Best Technology.* We offer a wide selection of local and national HD programming and are a technology leader in our industry, offering award-winning DVRs (including our Hopper® whole-home HD DVR), multiple tuner receivers, 1080p and 4K video on demand and external hard drives. We offer several Sling TV services, including Sling Orange (our single-stream Sling domestic service), Sling Blue (our multi-stream Sling domestic service), Sling International, and Sling Latino, among others, as well as add-on extras, pay-per-view events and a cloud based DVR service.
- *Outstanding Customer Service.* We strive to provide outstanding customer service by improving the quality of the initial installation of subscriber equipment, improving the reliability of our equipment, better educating our customers about our products and services, and resolving customer problems promptly and effectively when they arise.
- *Great Value.* We have historically been viewed as the low-cost provider in the pay-TV industry in the United States. With our DISH TV services, we are currently focused on our brand promise “Tuned into You” and a message of Service, Value and Technology. For example, for certain new and qualifying customers we guarantee our pricing for certain programming packages and equipment for a two-year commitment period. We also offer a differentiated customer experience with our award winning Hopper Platform that integrates voice control powered by Google Assistant, access to apps including Netflix, Prime Video and You Tube, and the ability to watch live, recorded and On Demand content anywhere with the DISH Anywhere mobile application. As another example, our Sling Orange service and our Sling Blue service are two of the lowest priced live-linear online streaming services in the industry.

Products and Services – Pay-TV

DISH TV services. We offer a wide selection of video services under the DISH TV brand, with access to hundreds of channels depending on the level of subscription. Our standard programming packages generally include programming provided by national broadcast networks, local broadcast networks and national and regional cable networks. We also offer programming packages that include regional and specialty sports channels, premium movie channels and Latino and international programming. Our Latino and international programming packages allow subscribers to choose from over 340 channels in 26 languages.

In addition, we offer our DISH TV subscribers streaming access through DISH On Demand® to thousands of movies and television shows via their TV or Internet-connected devices.

Our DISH TV subscribers also have the ability to use dishanywhere.com and our DISH Anywhere mobile applications on Internet-connected devices to view authorized content, search program listings and remotely control certain features of their DVRs. Dishanywhere.com and our DISH Anywhere mobile applications provide access to thousands of movies and television shows.

SLING TV services. We market our SLING TV services to consumers who do not subscribe to traditional satellite and cable pay-TV services, as well as to current and recent traditional pay-TV subscribers who desire a lower cost alternative. Our SLING TV services require an Internet connection and are available on multiple streaming-capable devices including streaming media devices, TVs, tablets, computers, game consoles and phones. We offer SLING domestic, SLING International, and SLING Latino video programming services. We offer domestic SLING TV services as a single-stream service branded SLING Orange and a multi-stream service branded SLING Blue, which includes, among other things, the ability to stream on up to three devices simultaneously. We also offer add-on extras, pay-per-view events and a cloud based DVR service.

Distribution Channels – Pay-TV

We operate in the consumer market in the United States and use print, radio, television and Internet media, on a local and national basis to motivate potential subscribers to contact DISH TV and SLING TV, visit our websites or contact independent third party retailers. We often offer our new DISH TV subscribers certain programming at no additional charge and/or promotional pricing during a commitment period. We often offer our new Sling TV subscribers free trials and/or streaming-capable devices at no additional charge and/or promotional pricing.

While we offer receiver systems and programming through direct sales channels, a meaningful percentage of our gross new DISH TV subscriber activations are generated through independent third parties such as small retailers, direct marketing groups, local and regional consumer electronics stores, nationwide retailers, and telecommunications companies. In general, we pay these independent third parties a mix of upfront and monthly incentives to solicit orders for our services and provide customer service. We offer our SLING TV services through direct sales channels and third-party marketing agreements.

We incur significant upfront costs to provide our new DISH TV subscribers with in-home equipment, which most of our new DISH TV subscribers lease from us. We also incur significant upfront costs to install satellite dishes and receivers in the homes of our new DISH TV subscribers.

Competition – Pay-TV

Competition has intensified in recent years as the pay-TV industry has matured. We and our competitors increasingly must seek to attract a greater proportion of new subscribers from each other's existing subscriber bases rather than from first-time purchasers of pay-TV services. We face substantial competition from established pay-TV providers and broadband service providers and increasing competition from companies providing/facilitating the delivery of video content via the Internet to computers, televisions, and other streaming and mobile devices, including wireless service providers. In recent years, industry consolidation and convergence has created competitors with greater scale and multiple product/service offerings. These developments, among others, have contributed to intense and increasing competition, and we expect such competition to continue.

Many of our competitors have been especially aggressive by offering discounted programming and services for both new and existing subscribers, including bundled offers combining broadband, video and/or wireless services and other promotional offers. Certain competitors have been able to subsidize the price of video services with the price of broadband and/or wireless services.

Our Pay-TV services also face increased competition from programmers and other companies who distribute video directly to consumers over the Internet, as well as traditional satellite television providers, cable companies and large telecommunications companies that are increasing their Internet-based video offerings. We also face competition from providers of video content, many of which are providers of our programming content, that distribute content over the Internet including services with live-linear television programming, as well as single programmer offerings and offerings of large libraries of on-demand content, including in certain cases original content. These providers include, among others, Netflix, Hulu, Apple, Amazon, Alphabet, Disney, Verizon, AT&T, T-Mobile, ViacomCBS, STARZ, Peacock, Fubo and Philo.

Significant changes in consumer behavior with regard to the means by which consumers obtain video entertainment and information in response to digital media competition could have a material adverse effect on our business, results of operations and financial condition or otherwise disrupt our business. In particular, consumers have shown increased interest in viewing certain video programming in any place, at any time and/or on any broadband-connected device they choose. Online content providers may cause our subscribers to disconnect our DISH TV services ("cord cutting"), downgrade to smaller, less expensive programming packages ("cord shaving") or elect to purchase through these online content providers a certain portion of the services that they would have historically purchased from us, such as pay-per-view movies.

For further information see *"Item 1A – Risk Factors – Competition and Economic Risks – We face intense and increasing competition from providers of video, broadband and/or wireless services, which may require us to further increase subscriber acquisition and retention spending or accept lower subscriber activations and higher subscriber churn."*

RETAIL WIRELESS

Business Strategy - Retail Wireless

We offer nationwide prepaid and postpaid retail wireless services to subscribers under our Boost Mobile and Ting Mobile brands, as well as a competitive portfolio of wireless devices. Prepaid wireless subscribers generally pay in advance for monthly access to wireless talk, text, and data services. Postpaid wireless subscribers are qualified to pay after receiving wireless talk, text, and data services. We currently operate our retail wireless business unit as an MVNO while we build our 5G broadband network. As an MVNO, we depend primarily on T-Mobile to provide us with network services under the MNSA.

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Our retail wireless business strategy is to expand our current target segments and profitably grow our subscriber base by acquiring and retaining high quality subscribers while we complete our 5G Network Deployment. We intend to acquire high quality subscribers by providing competitive offers, increased consumer value and innovative new value-added services that better meet those subscribers' needs and budget. We intend on retaining those subscribers through compelling new value-added services and outstanding customer service. As we work to integrate our retail wireless brands one of our focuses will be to ensure that our Pay-TV subscribers are aware of the increased value available to them through our retail wireless brands.

Products and Services - Retail Wireless

Currently, we offer wireless subscribers competitive consumer plans with no annual service contracts and monthly service plans offered range from \$10 for 1GB of high-speed data and unlimited talk and text to \$60 for unlimited data, talk and text. We also offer promotional plans, including, among others, three lines for \$90 for unlimited data, talk and text.

Distribution Channels - Retail Wireless

We operate in the consumer market in the United States and use print, radio, television and Internet media, on a local and national basis to motivate potential subscribers to contact Boost Mobile, visit our websites or contact independent third party retailers.

We have both an indirect sales channel, which includes third-party owned retail stores and big box stores, and a direct sales channel, which services customers online. Through the indirect sales channel, we utilize direct distribution partners to facilitate product delivery to the third-party Boost Mobile retailers.

We have relationships with most large manufacturers of wireless devices. We can incur significant upfront costs to subsidize wireless devices offered under promotional pricing to consumers.

Competition - Retail Wireless

Boost Mobile operates within the prepaid wireless space and Ting Mobile operates within the postpaid wireless space. Retail Wireless is a mature market with moderate year-over-year organic growth. Competitors include providers who offer similar communication services, such as talk, text and data. Competitive factors within the wireless communications services industry include pricing, market saturation, service and product offerings, customer experience and service quality. We compete with a number of national wireless carriers, including Verizon, AT&T and T-Mobile, all of which are significantly larger than us, serve a significant percentage of all wireless subscribers and enjoy scale advantages compared to us. Verizon, AT&T, and T-Mobile are currently the only nationwide Mobile Network Operators ("MNOs") in the United States. Primary competitors to our Retail Wireless business unit include, but are not limited to, Metro PCS (owned by T-Mobile), Cricket Wireless (owned by AT&T), Tracfone Wireless and other MVNOs such as Consumer Cellular and Mint Mobile. Verizon announced its pending acquisition of Tracfone Wireless in September 2020.

5G NETWORK DEPLOYMENT

We have directly invested over \$11 billion to acquire certain wireless spectrum licenses and related assets and made over \$10 billion in non-controlling investments in certain entities, for a total of over \$21 billion. The \$21 billion of investments related to wireless spectrum licenses does not include \$6 billion of capitalized interest related to the carrying value of such licenses. See Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information on capitalized interest.

DISH Network Spectrum

We have directly invested over \$11 billion to acquire certain wireless spectrum licenses and related assets. These wireless spectrum licenses are subject to certain interim and final build-out requirements, as well as certain renewal requirements. We plan to commercialize our wireless spectrum licenses through the completion of our 5G Network Deployment. To that end, we have undertaken several key steps including identifying markets to build out, making executive and management hires and entering into agreements with key vendors. For example, on November 16, 2020, we announced a long-term agreement with Crown Castle pursuant to which Crown Castle will lease us space on up to 20,000 communication towers. As part of the agreement, we will also receive certain fiber transport services and have the option to utilize Crown Castle for pre-construction services. During December 2020, we completed a successful field validation, utilizing our fully-virtualized standalone 5G core network and the industry's first O-RAN compliant radio. We currently expect expenditures for our 5G Network Deployment to be approximately \$10 billion, excluding capitalized interest.

We will need to make significant additional investments or partner with others to, among other things, complete our 5G Network Deployment and further commercialize, build-out and integrate these licenses and related assets and any additional acquired licenses and related assets, as well as to comply with regulations applicable to such licenses. Depending on the nature and scope of such activities, any such investments or partnerships could vary significantly. In addition, as we complete our 5G Network Deployment we will incur significant additional expenses and will have to make significant investments related to, among other things, research and development, wireless testing and wireless network infrastructure. We may also determine that additional wireless spectrum licenses may be required to complete our 5G Network Deployment and to compete with other wireless service providers. See Note 2 and Note 16 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

DISH Network Non-Controlling Investments in the Northstar Entities and the SNR Entities Related to AWS-3 Wireless Spectrum Licenses

During 2015, through our wholly-owned subsidiaries American AWS-3 Wireless II L.L.C. ("American II") and American AWS-3 Wireless III L.L.C. ("American III"), we initially made over \$10 billion in certain non-controlling investments in Northstar Spectrum, LLC ("Northstar Spectrum"), the parent company of Northstar Wireless, L.L.C. ("Northstar Wireless," and collectively with Northstar Spectrum, the "Northstar Entities"), and in SNR Wireless HoldCo, LLC ("SNR HoldCo"), the parent company of SNR Wireless LicenseCo, LLC ("SNR Wireless," and collectively with SNR HoldCo, the "SNR Entities"), respectively. On October 27, 2015, the FCC granted certain AWS-3 wireless spectrum licenses (the "AWS-3 Licenses") to Northstar Wireless and to SNR Wireless, respectively, which are recorded in "FCC authorizations" on our Consolidated Balance Sheets.

Under the applicable accounting guidance in Accounting Standards Codification 810, *Consolidation* ("ASC 810"), Northstar Spectrum and SNR HoldCo are considered variable interest entities and, based on the characteristics of the structure of these entities and in accordance with the applicable accounting guidance, we consolidate these entities into our financial statements. See Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

The AWS-3 Licenses are subject to certain interim and final build-out requirements, as well as certain renewal requirements. The Northstar Entities and/or the SNR Entities may need to raise significant additional capital in the future, which may be obtained from third party sources or from us, so that the Northstar Entities and the SNR Entities may commercialize, build-out and integrate these AWS-3 Licenses, comply with regulations applicable to such AWS-3 Licenses and make any potential Northstar Re-Auction Payment and SNR Re-Auction Payment for the AWS-3 licenses retained by the FCC. Depending upon the nature and scope of such commercialization, build-out and integration efforts, regulatory compliance, and potential Northstar Re-Auction Payment and SNR Re-Auction Payment, any loans, equity contributions or partnerships could vary significantly.

There can be no assurance that we will be able to obtain a profitable return on our non-controlling investments in the Northstar Entities and the SNR Entities. See Note 16 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

NEW BUSINESS OPPORTUNITIES

From time to time we evaluate opportunities for strategic investments or acquisitions that may complement our current services and products, enhance our technical capabilities, improve or sustain our competitive position, or otherwise offer growth opportunities.

GOVERNMENT REGULATIONS

Our operations, particularly our Pay-TV operations, our wireless services business and our wireless spectrum licenses are subject to significant government regulation and oversight, primarily by the FCC and, to a certain extent, by Congress, other federal agencies and international, foreign, state and local authorities. Depending on the circumstances, noncompliance with legislation or regulations promulgated by these authorities could result in limitations on, or the suspension or revocation of, our licenses or registrations, the termination or loss of contracts or the imposition of contractual damages, civil fines or criminal penalties, any of which could have a material adverse effect on our business, financial condition and results of operations. These governmental authorities could also adopt regulations or take other actions that would adversely affect our business prospects.

Furthermore, any government policy changes, which may be substantial, could increase regulatory uncertainty. The adoption or modification of laws or regulations relating to video programming distribution, satellite services, wireless telecommunications, broadband, the Internet or other areas of our business could limit or otherwise adversely affect the manner in which we currently conduct our business. In addition, the manner in which regulations or legislation in these areas may be interpreted and enforced cannot be precisely determined, which in turn could have an adverse effect on our business, financial condition and results of operations.

Wireless services and our wireless spectrum licenses are subject to regulation by the FCC and, depending on the jurisdiction, other federal, state and local, as well as international, governmental authorities and regulatory agencies, including, among other things, regulations governing the licensing, construction, operation, sale and interconnection arrangements of wireless telecommunications systems. In particular, the FCC imposes significant regulation on licensees of wireless spectrum with respect to how radio spectrum is used by licensees, the nature of the services that licensees may offer and how the services may be offered, and resolution of issues of interference between spectrum bands. The FCC grants wireless licenses for terms of generally 10-12 years that are subject to renewal or revocation. There can be no assurances that our wireless spectrum licenses will be renewed. Failure to comply with FCC build-out requirements in a given license area may result in acceleration of other build-out requirements or in the modification, cancellation, or non-renewal of licenses. For further information related to our licenses and build-out requirements related to our wireless spectrum licenses see Note 16 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K.

The following summary of regulatory developments and legislation in the United States is not intended to describe all present and proposed government regulation and legislation affecting the video programming distribution, satellite services, wireless telecommunications, broadband, and Internet industries. Government regulations that are currently the subject of judicial or administrative proceedings, legislative hearings or administrative proposals could change these industries to varying degrees. We cannot predict either the outcome of such proceedings or any potential impact they might have on these industries or on our operations.

FCC Regulations Governing our Pay-TV Operations

FCC Jurisdiction over our DBS Operations. The Communications Act of 1934, as amended (the “Communications Act”), gives the FCC broad authority to regulate the operations of satellite companies. Specifically, the Communications Act gives the FCC regulatory jurisdiction over the following areas relating to communications satellite operations:

- the assignment of satellite radio frequencies and orbital locations, the licensing of satellites and earth stations, the granting of related authorizations, and evaluation of the fitness of a company to be a licensee;
- approval for the relocation of satellites to different orbital locations or the replacement of an existing satellite with a new satellite;
- ensuring compliance with the terms and conditions of such assignments, licenses, authorizations and approvals, including required timetables for construction and operation of satellites;
- avoiding interference with other radio frequency emitters; and
- ensuring compliance with other applicable provisions of the Communications Act and FCC rules and regulations.

To obtain FCC satellite licenses and authorizations, satellite operators must satisfy strict legal, technical and financial qualification requirements. Once issued, these licenses and authorizations are subject to a number of conditions including, among other things, satisfaction of ongoing due diligence obligations, construction milestones, and various reporting requirements. Necessary federal approval of these applications may not be granted, may not be granted in a timely manner, or may be granted subject to conditions that may be cumbersome.

Overview of our DBS Satellites, Authorizations and Contractual Rights for Satellite Capacity. Our satellites are located in orbital positions, or slots, that are designated by their western longitude. An orbital position describes both a physical location and an assignment of spectrum in the applicable frequency band. Each DBS orbital position has 500 MHz of available Ku-band spectrum that is divided into 32 frequency channels. Several of our satellites also include spot-beam technology that enables us to increase the number of markets where we provide local channels, but reduces the number of video channels that could otherwise be offered across the entire United States.

The FCC has licensed us to operate a total of 82 DBS frequency channels at the following orbital locations:

- 21 DBS frequency channels at the 119 degree orbital location, capable of providing service to the continental United States (“CONUS”); and
- 29 DBS frequency channels at the 110 degree orbital location, capable of providing service to CONUS; and
- 32 DBS frequency channels at the 61.5 degree orbital location, capable of providing service to most of the United States – of these 32 channels, 30 are licensed to us and we are authorized to use the additional two channels under a grant of Special Temporary Authority.

In addition, we currently lease or have entered into agreements to lease capacity on satellites using the following spectrum at the following orbital locations:

- 500 MHz of Ku-band FSS spectrum that is divided into 32 frequency channels at the 118.7 degree orbital location, which is a Canadian FSS slot that is capable of providing service to CONUS, Alaska and Hawaii;
- 32 DBS frequency channels at the 129 degree orbital location, which is a Canadian DBS slot that is capable of providing service to most of the United States;
- 24 DBS frequency channels at the 77 degree orbital location, which is a Mexican DBS slot that is capable of providing service to most of the United States and Mexico; and
- 32 DBS frequency channels at the 72.7 degree orbital location, which is a Canadian DBS slot that is capable of providing service to CONUS.

We also have month-to-month FSS capacity available from EchoStar on an FSS satellite located at the 121 degree orbital location.

Duration of our DBS Licenses. Generally speaking, all of our satellite licenses are subject to expiration unless renewed by the FCC. The term of each of our DBS licenses is ten years. Our licenses are currently set to expire at various times. In addition, at various times we have relied on special temporary authorizations for our operations. A special temporary authorization is granted for a period of only 180 days or less, subject again to possible renewal by the FCC. From time to time, we apply for authorizations to use new satellites at our existing orbital locations. Generally, our FCC licenses and special temporary authorizations have been renewed, and our applications for new satellites at our existing orbital locations have been approved, by the FCC on a routine basis, but there can be no assurance that the FCC will continue to do so.

Opposition and Other Risks to our Licenses. Several third parties have opposed in the past, and we expect these or other parties to oppose in the future, some of our FCC satellite authorizations and pending and future requests to the FCC for extensions, modifications, waivers and approvals of our licenses. In addition, we must comply with numerous FCC reporting, filing and other requirements in connection with our satellite authorizations. Consequently, it is possible the FCC could revoke, terminate, condition or decline to extend or renew certain of our authorizations or licenses.

4.5 Degree Spacing “Tweener” Satellites. The FCC has proposed to allow so-called “tweener” DBS operations – DBS satellites operating at orbital locations 4.5 degrees (half of the usual nine degrees) away from other DBS satellites. The FCC granted authorizations to EchoStar and Spectrum Five for tweener satellites at the 86.5 and 114.5 degree orbital locations, respectively. These authorizations were subsequently cancelled because the FCC determined that the licensees did not meet certain milestone requirements. Tweener operations close to our licensed orbital locations could cause harmful interference to our service and constrain our future operations. In September 2019, the FCC completed its 2006 rulemaking on the operating and service rules for tweener satellites. Among other things, the FCC will now accept new applications for tweener slots, and the applicant must show that either no other U.S. DBS operations would be affected or that it has successfully coordinated with affected parties. We cannot predict whether any parties will file for tweener slots and whether we will face interference or other operational constraints as a result.

Interference from Other Services Sharing Satellite Spectrum. The FCC has adopted rules that allow non-geostationary orbit (“NGSO”) FSS satellites to operate on a co-primary basis in the same frequency band as our DBS and geostationary orbit (“GSO”) FSS satellites. The FCC has also authorized the use of multichannel video distribution and data service (“MVDDS”) licenses in the DBS band. MVDDS licenses were auctioned in 2004. MVDDS systems have been commercially deployed in a few markets. We have MVDDS licenses in 82 out of 214 geographical license areas, including Los Angeles, New York City, Chicago and several other major metropolitan areas. Despite regulatory provisions intended to protect DBS and FSS operations from harmful interference, there can be no assurance that operations by other satellites or terrestrial communication services in the DBS and FSS bands will not interfere with our DBS and FSS operations and adversely affect our business. Space Exploration Corporation (“SpaceX”), OneWeb LLC (“OneWeb”) and others have obtained FCC authority to launch and operate, or provide service from, NGSO satellite systems using a variety of spectrum bands, including the 12.2-12.7 GHz band, which we use for our DBS service, and where we also have certain licenses to provide one-way terrestrial MVDDS service. If these systems are launched and put into operation, there can be no assurance that they will not interfere with our DBS operations and adversely affect our business or that they will not hinder our ability to provide MVDDS service.

Satellite Competition from Additional Slots and Interference. AT&T, through DirecTV, has obtained FCC authority to provide service to the United States from a Canadian DBS orbital slot, and we have obtained authority to provide service to the United States from both Mexican and Canadian DBS orbital slots. The possibility that the FCC will allow service to the United States from additional foreign slots may permit additional competition against us from other satellite providers. It may also provide a means by which to increase our available satellite capacity in the United States. In addition, a number of administrations, such as Great Britain and the Netherlands, have requested authority to add orbital locations serving the United States close to our licensed slots. Such operations could cause harmful interference to our satellites and constrain our future operations.

Rules Relating to Broadcast Services. The FCC imposes different rules for “subscription” and “broadcast” services. We believe that, because our DISH TV services offer a subscription programming service, we are not subject to many of the regulatory obligations imposed upon broadcast licensees. However, we cannot be certain whether the FCC will find in the future that we must comply with regulatory obligations as a broadcast licensee. If the FCC determines that we are a broadcast licensee, it could require us to comply with all regulatory obligations imposed upon broadcast licensees, which in certain respects are subject to more burdensome regulation than subscription television service providers.

Public Interest Requirements. The FCC imposes certain public interest obligations on our DBS licenses. These obligations require us to set aside four percent of our channel capacity exclusively for noncommercial programming for which we must charge programmers below-cost rates and for which we may not impose additional charges on subscribers. The Satellite Television Extension and Localism Act of 2010 (“STELA”) required the FCC to decrease this set-aside to 3.5 percent for satellite carriers who provide retransmission of state public affairs networks in 15 states and are otherwise qualified. The FCC, however, has not yet determined whether we qualify for this decrease in set-aside. The obligation to provide noncommercial programming may displace programming for which we could earn commercial rates and could adversely affect our financial results. We cannot be sure that, if the FCC were to review our methodology for processing public interest carriage requests, computing the channel capacity we must set aside or determining the rates that we charge public interest programmers, it would find them in compliance with the public interest requirements.

Separate Security, Plug and Play. The STELA Reauthorization Act of 2014 (“STELAR”) ended the “integration ban” that required cable companies to separate security functionality from the other features of their set-top boxes and that required leased cable set-top boxes to include CableCARDS effective December 2015. Set-top boxes used by DBS providers were not subject to this separate security requirement. STELAR required the FCC to establish a working group of technical experts to identify and report on downloadable security design options that are not unduly burdensome and that promote competition with respect to the availability of navigation devices. The working group released a report in August 2015, which declined to offer a consensus recommendation regarding downloadable security design options. However, we cannot predict whether the FCC will take further action regarding downloadable security. Also, the FCC adopted the so-called “plug and play” standard for compatibility between digital television sets and cable systems. That standard was developed through negotiations involving the cable and consumer electronics industries, but not the satellite television industry. The FCC’s adoption of the standard was accompanied by certain rules regarding copy protection measures that were applicable to us. We appealed the FCC’s decision regarding the copy protection measures to the United States Court of Appeals for the D.C. Circuit (“D.C. Circuit”) and on January 15, 2013 the D.C. Circuit vacated the FCC’s decision. The FCC is also considering various proposals to establish two-way digital cable “plug and play” rules. That proceeding also asks about means to incorporate all pay-TV providers into its “plug and play” rules. The cable industry and consumer electronics companies have reached a “tru2way” commercial arrangement to resolve many of the outstanding issues in this docket. We cannot predict whether the FCC will impose rules on our DISH TV operations that are based on cable system architectures or the private cable/consumer electronics tru2way commercial arrangement. Complying with the separate security and other “plug and play” requirements may not be technically feasible or may require potentially costly modifications to our set-top boxes and operations. We cannot predict the timing or outcome of this FCC proceeding.

In 2016, the FCC adopted a Notice of Proposed Rulemaking regarding possible new regulations that would generally require pay-TV providers, among others, to make their video services operate on third-party devices. Under the FCC's proposal, consumers would have the choice of accessing cable and satellite programming through the pay-TV operator's products and services, or through products and services offered by a third party. These regulations, if adopted, would have the potential to impose new costs on our DISH TV business by, among other things, requiring us to deploy additional hardware or software to enable our DISH TV services to operate with third-party devices. In February 2017, the FCC closed this rulemaking proceeding and no regulations were adopted. However, we cannot be certain that the FCC will not open a new proceeding in the future to pursue similar regulations.

Retransmission Consent. The Copyright Act generally gives satellite companies a statutory copyright license to retransmit local broadcast channels by satellite back into the market from which they originated, subject to obtaining the retransmission consent of local network stations that do not elect "must carry" status, as required by the Communications Act. If we fail to reach retransmission consent agreements with such broadcasters, we cannot carry their signals. This could have an adverse effect on our strategy to compete with cable and other satellite companies that provide local signals. While we have been able to reach retransmission consent agreements with most of these local network stations, from time to time there are stations with which we have not been able to reach an agreement. We cannot be sure that we will secure these agreements or that we will secure new agreements on acceptable terms, or at all, upon the expiration of our current retransmission consent agreements, some of which are short-term. In recent years, national broadcasters have used their ownership of certain local broadcast stations to require us to carry additional cable programming in exchange for retransmission consent of their local broadcast stations. These requirements may place constraints on available capacity on our satellites for other programming. Furthermore, the rates we are charged for retransmitting local channels have been increasing substantially and may exceed our ability to increase our prices to our customers, which could have a material adverse effect on our business, financial condition and results of operations. In addition, the broadcast stations' demands for higher rates have resulted in more frequent negotiating impasses and programming interruptions. During these programming interruptions, our subscribers in the affected markets lack access to popular programming and may switch to another multichannel distributor that may be able to provide them with such programming.

In 2015, the FCC commenced a rulemaking proceeding as required by STELAR to review its "totality of circumstances" test for ensuring that television stations and MVPDs negotiate retransmission consent agreements in "good faith." In 2016, the Chairman of the FCC announced that the FCC would not proceed at that time to adopt additional rules governing good faith negotiations for retransmission consent. STELAR prohibits television stations from coordinating or engaging in joint retransmission consent negotiations with any other local television stations, unless the stations are "directly or indirectly under common de jure control," expanding a previous FCC ruling prohibiting joint negotiations only among the top four stations in a market. In addition, STELAR prohibits a local television station from limiting an MVPD's ability to carry other television signals that have been deemed by the FCC to be "significantly viewed" or to carry any other television signal the MVPD is otherwise entitled to carry under the Communications Act, unless such stations are "directly or indirectly under common de jure control" pursuant to FCC regulations. We cannot predict if these restrictions on broadcasters will result in more effective retransmission consent negotiations.

ATSC 3.0. In April 2016, the broadcast industry petitioned the FCC to authorize the use of the "Next Generation TV" broadcast television standard, ATSC 3.0. In November 2017, the FCC authorized television broadcasters to deploy the ATSC 3.0 standard on a voluntary basis. We cannot predict the effect that supporting this new standard could have on equipment costs, carriage obligations or the retransmission consent process.

Media Ownership Rules. Also in 2016, the broadcast industry petitioned the FCC to relax its media ownership rules, which, among other things, limit the number of commonly owned TV stations per market and restrict newspaper/broadcast cross-ownership and radio/TV cross-ownership. In November 2017, the FCC voted to: (i) eliminate the newspaper/broadcast cross-ownership rule; (ii) eliminate the radio/television cross-ownership rule; (iii) relax the local television ownership rules to eliminate certain restrictions and modify others; and (iv) eliminate the attribution rule for television joint-sales agreements (collectively, the “2017 Order”). Additionally, in December 2017, the FCC initiated a rulemaking proceeding seeking comment on changes to the national television multiple-ownership rule, including changes that could relax or eliminate the current limits that prevent entities from owning or controlling television stations that, in the aggregate, reach more than 39 percent of the television households in the country. If the FCC were to relax or eliminate some or all of the national television multiple-ownership rule, it could increase the negotiating leverage that broadcasters hold in retransmission consent negotiations. In December 2018, the FCC initiated a rulemaking proceeding to commence its periodic review of media ownership rules. We cannot predict whether the FCC will change any of its media ownership rules or the effect that any changes to the media ownership rules could have on our future retransmission consent negotiations. In 2019, the U.S. Court of Appeals for the Third Circuit vacated the 2017 Order. Pursuant to this decision in *Prometheus Radio Project v. FCC*, on December 20, 2019 the FCC amended its rules to reverse the 2017 Order and reinstate the rules as they existed prior to the 2017 Order. The FCC, though, petitioned for a writ of certiorari with the Supreme Court of the United States (the “Supreme Court”) to reverse the Third Circuit’s decision. The petition for writ of certiorari was granted on October 2, 2020. Oral arguments occurred on January 19, 2021. We cannot predict the timing or outcome of the Supreme Court’s review.

Digital HD Carry-One, Carry-All Requirement. To provide any full-power local broadcast signal in any market, we are required to retransmit all qualifying broadcast signals in that market (“carry-one, carry-all”), including the carriage of full-power broadcasters’ HD signals in markets in which we elect to provide local channels in HD. The carriage of additional HD signals on our DISH TV services could cause us to experience significant capacity constraints and prevent us from carrying additional popular national channels and/or carrying those national channels in HD.

Distant Signals. Pursuant to STELA, we obtained a waiver of a court injunction that previously prevented us from retransmitting certain distant network signals under a statutory copyright license. Because of that waiver, we may provide distant network signals to eligible subscribers. To qualify for that waiver, we are required to provide local service in all 210 local markets in the United States on an ongoing basis. This condition poses a significant strain on our capacity. Moreover, we may lose that waiver if we are found to have failed to provide local service in any of the 210 local markets. If we lose the waiver, the injunction could be reinstated. Furthermore, depending on the severity of the failure, we may also be subject to other sanctions, which may include, among other things, damages.

Cable Act and Program Access. We purchase a large percentage of our programming from cable-affiliated programmers. Pursuant to the Cable Act, cable providers had been prohibited from entering into exclusive contracts with cable-affiliated programmers. The Cable Act directed that this prohibition expire after a certain period of time unless the FCC determined that the prohibition continued to be necessary. On October 5, 2012, the FCC allowed this prohibition to expire. While the FCC has issued a Further Notice of Proposed Rulemaking aimed at serving some of the same objectives as the prohibition, there can be no assurances that such protections will be adopted or be as effective as the prohibition if they are adopted. In the event that this decision is reconsidered by the FCC or reviewed by a court of appeals, we cannot predict the timing or outcome of any subsequent FCC decision.

As a result of the expiration of this prohibition on exclusivity, we may be limited in our ability to obtain access at all, or on nondiscriminatory terms, to programming from programmers that are affiliated with cable system operators. In addition, any other changes in the Cable Act, and/or the FCC’s rules that implement the Cable Act, that currently limit the ability of cable-affiliated programmers to discriminate against competing businesses such as ours, could adversely affect our ability to acquire cable-affiliated programming at all or to acquire programming on nondiscriminatory terms.

Furthermore, the FCC had imposed program access conditions on certain cable companies as a result of mergers, consolidations or affiliations with programmers. The expiration of the exclusivity prohibition in the Cable Act triggered the termination of certain program access conditions that the FCC had imposed on Liberty Media Corporation (“Liberty”). In July 2012, similar program access conditions that had applied to Time Warner Cable Inc. (“Time Warner Cable”), which was acquired by Charter in 2016, expired as previously scheduled. These developments may adversely affect our ability to obtain Liberty’s and Charter’s programming, or to obtain it on nondiscriminatory terms. In the case of certain types of programming affiliated with Comcast through its control of NBCUniversal Media, LLC (“NBCUniversal”), the prohibition on exclusivity expired in January 2018, and we can no longer rely on these protections. We cannot predict the practical effect of the expiration of these conditions which could have a material adverse effect on our business, results of operations and financial condition or otherwise disrupt our business.

In addition, affiliates of certain cable providers have denied us access to sports programming that they supply to their cable systems terrestrially, rather than by satellite. The FCC has held that new denials of such service are unfair if they have the purpose or effect of significantly hindering us from providing programming to consumers. However, we cannot be sure that we can prevail in a complaint related to such programming and gain access to it. Our continuing failure to access such programming could materially and adversely affect our ability to compete in regions serviced by these cable providers.

MDU Exclusivity. The FCC has found that cable companies should not be permitted to have exclusive relationships with multiple dwelling units (e.g., apartment buildings). In May 2009, the D.C. Circuit upheld the FCC’s decision. While the FCC requested comments in November 2007 on whether DBS and Private Cable Operators should be prohibited from having similar relationships with multiple dwelling units, it has yet to make a formal decision. If the cable exclusivity ban were to be extended to DBS providers, our ability to serve these types of buildings and communities would be adversely affected. We cannot predict the timing or outcome of the FCC’s consideration of this proposal.

Open Internet (also known as “Net Neutrality”). In 2015, the FCC adopted Open Internet rules, which applied to both fixed and mobile broadband access providers and prohibited them, among other things, from blocking or throttling traffic, from paid prioritization, and from unreasonably interfering with, or disadvantaging, consumers’ or content providers’ access to the Internet. In addition, because the FCC reclassified broadband access providers as common carriers, these providers were subject to the general common carrier requirements of reasonableness and nondiscrimination. The rules were affirmed by a panel of the U.S. Court of Appeals for the D.C. Circuit. A number of broadband access providers and their associations have filed a petition for certiorari with the United States Supreme Court. In December 2017, the FCC reversed course and voted to reclassify broadband access providers as information service providers, instead of common carriers. The FCC also voted to eliminate the majority of the Open Internet rules, leaving only certain ISP transparency requirements in place. In October 2019, the U.S. Court of Appeals for the D.C. Circuit upheld the FCC’s authority to eliminate certain open Internet protections, while vacating the FCC’s attempt to preempt state or local open Internet protections and remanding on three other issues. We cannot be certain whether the FCC will reinstate any open Internet protections in the future, or whether it will make further attempts to preempt state or local authority to adopt open Internet laws or regulations.

To the extent that network operators implement usage-based pricing, including meaningful bandwidth caps, or otherwise try to monetize access to their networks by data providers, we could incur greater operating expenses and our Pay TV subscriber count could be negatively impacted. Furthermore, to the extent network operators create tiers of Internet access service and either charge us for or prohibit us from being available through these tiers, our Pay TV business could be negatively impacted. We cannot predict with any certainty the impact to our Pay TV business resulting from changes in how network operators handle and charge for access to data that travels across their networks.

Charter/Time Warner Cable. In May 2016, the FCC and the Department of Justice approved a merger transaction between Charter, Time Warner Cable, and Advance/Newhouse Partnership. The FCC conditioned its approval on, among other things, Charter not imposing data caps or usage-based pricing for its residential broadband service and a requirement that Charter provide settlement-free interconnection. These conditions last for seven years, with Charter having the option after four years to petition to shorten the term to five years. It is uncertain how these conditions may be interpreted or enforced by the FCC; therefore, we cannot predict the practical effect of these conditions. In addition, as these conditions are currently set to expire in 2023, we will not be able to rely on these protections beyond that date.

Definition of MVPD. In December 2014, the FCC issued a Notice of Proposed Rulemaking regarding the definition of an MVPD. Among other things, the FCC is considering whether the definition of an MVPD should apply to Internet-based streaming services, thus making such services subject to the same regulations as an MVPD. The FCC is also considering the appropriate treatment of purely Internet-based linear video programming services that cable operators and DBS providers offer in addition to their traditional video services. We cannot predict the timing or outcome of this rulemaking process.

State and Local Regulation

We are also regulated by state and local authorities. While the FCC has preempted many state and local regulations that impair the installation and use of towers and consumer satellite dishes, our business nonetheless may be subject to state and local regulation, including, among others, zoning regulations that affect the ability to install consumer satellite antennas or build out wireless telecommunications networks.

International Regulation

We are subject to regulation by the International Telecommunication Union (“ITU”). The orbital location and frequencies for certain of our satellites are subject to the frequency registration and coordination process of the ITU. The ITU Radio Regulations define the international rules, regulations, and rights for a satellite and associated earth stations to use specific radio frequencies at a specific orbital location. These rules, which include deadlines for the bringing of satellite networks into use, differ depending on the type of service to be provided and the frequencies to be used by the satellite. On our behalf, various countries have made and may in the future make additional filings for the frequency assignments at particular orbital locations that are used or to be used by our current satellite networks and potential future satellite networks we may build or acquire.

Our satellite services also must conform to the ITU service plans for Region 2 (which includes the United States). If any of our operations are not consistent with this plan, the ITU will only provide authorization on a non-interference basis pending successful modification of the plan or the agreement of all affected administrations to the non-conforming operations. Certain of our satellites are not presently entitled to any interference protection from other satellites that are in conformance with the plan. Accordingly, unless and until the ITU modifies its service plans to include the technical parameters of our non-conforming operations, our non-conforming satellites, along with those of other non-conforming satellite operators, must not cause harmful electrical interference with other assignments that are in conformance with the ITU service plans.

Registration in the UN Registry of Space Objects

The United States and other jurisdictions in which we license satellites are parties to the United Nations (“UN”) Convention on the Registration of Objects Launched into Outer Space. The UN Convention requires a satellite’s launching state to register the satellite as a space object with an UN Registry of Space Objects. The act of registration carries liability for the registering country in the event that the satellite causes third-party damage. Administrations may place certain requirements on satellite licensees in order to procure the necessary launch or operational authorizations that accompany registration of the satellite. In some jurisdictions, these authorizations are separate and distinct, with unique requirements, from the authorization to use a set of frequencies to provide satellite services. There is no guarantee that we will be able to procure such authorizations even if we already possess a frequency authorization.

Export Control Regulation

The delivery of satellites and related technical information for purposes of launch by foreign launch service providers is subject to export control and prior approval requirements. We are required to obtain import and export licenses from the United States government to receive and deliver certain components of direct-to-home satellite television systems. In addition, the delivery of satellites and the supply of certain related ground control equipment, technical services and data, and satellite communication/control services to destinations outside the United States are subject to export control and prior approval requirements from the United States government (including prohibitions on the sharing of certain satellite-related goods and services with China).

Regulations Governing our Wireless Operations

The FCC regulates several aspects of our wireless operations. Generally, the FCC has jurisdiction over the construction, operation, acquisition and transfer of wireless communications systems. All wireless services require use of radio frequency spectrum, the assignment and distribution of which is subject to FCC oversight. For more information regarding our FCC Licenses, see discussion above and Note 16 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K.

Additionally, the FCC and the Federal Aviation Administration regulate the siting, lighting and construction of transmitter towers and antennae. Tower siting and construction are also subject to state and local zoning, as well as federal statutes regarding environmental and historic preservation. The future costs to comply with all relevant regulations are to some extent unknown and changes to regulations, or the applicability of regulations, could result in higher operating and capital expenses, or reduced revenues in the future. Furthermore, the FCC has also imposed certain specific mandates on wireless carriers, including construction and geographic coverage requirements, technical operating standards, provision of enhanced 911 services, roaming obligations and requirements for wireless tower and antenna facilities.

The Federal Trade Commission (“FTC”) and other federal agencies also have jurisdiction over some consumer protection and elimination and prevention of anticompetitive business practices with respect to the provision of non-common carrier services.

Meanwhile, our 5G Network Deployment will involve significant deployment of certain equipment and therefore increase the need for local permitting processes that allow for the placement of equipment on reasonable timelines and terms. While the Communications Act generally preempts state and local governments from regulating the entry of, or the rates charged by, wireless communications services providers, certain state and local governments regulate other terms and conditions of wireless service, including billing, termination of service arrangements and the imposition of early termination fees, advertising, network outages, the use of devices while driving, zoning and land use. The Communications Act also does not prohibit states from regulating the other “terms and conditions” of wireless service. For example, some states attempt to regulate wireless customer billing matters and impose reporting requirements. Several states also have laws or regulations that address safety issues (e.g., use of wireless handsets while driving) and taxation matters. In addition, wireless tower and antenna facilities are often subject to state and local zoning and land use regulation, and securing approvals for new or modified facilities is often a lengthy and expensive process.

PATENTS AND OTHER INTELLECTUAL PROPERTY

Many entities, including some of our competitors, have or may in the future obtain patents and other intellectual property rights that cover or affect products or services that we offer or that we may offer in the future. In general, if a court determines that one or more of our products or services infringe intellectual property rights held by others, we may be required to cease developing or marketing those products or services, to obtain licenses from the holders of the intellectual property rights at a material cost, or to redesign those products or services in such a way as to avoid infringing any patent claims. If those intellectual property rights are held by a competitor, we may be unable to obtain the intellectual property rights at any price, which could adversely affect our competitive position.

We may not be aware of all intellectual property rights that our products or services may potentially infringe. In addition, patent applications in the United States are confidential until the Patent and Trademark Office either publishes the application or issues a patent (whichever arises first) and, accordingly, our products may infringe claims contained in pending patent applications of which we are not aware. Further, the process of determining definitively whether a claim of infringement is valid often involves expensive and protracted litigation, even if we are ultimately successful on the merits.

We cannot estimate the extent to which we may be required in the future to obtain intellectual property licenses or the availability and cost of any such licenses. Those costs, and their impact on our results of operations, could be material. Damages in patent infringement cases can be substantial, and in certain circumstances can be trebled. To the extent that we are required to pay unanticipated royalties to third parties, these increased costs of doing business could negatively affect our liquidity and operating results. We are currently defending multiple patent infringement actions. We cannot be certain the courts will conclude these companies do not own the rights they claim, that our products do not infringe on these rights and/or that these rights are not valid. Further, we cannot be certain that we would be able to obtain licenses from these persons on commercially reasonable terms or, if we were unable to obtain such licenses, that we would be able to redesign our products to avoid infringement.

ENVIRONMENTAL REGULATIONS

We are subject to the requirements of federal, state, local and foreign environmental and occupational safety and health laws and regulations. These include laws regulating air emissions, water discharge and waste management. We attempt to maintain compliance with all such requirements. We do not expect capital or other expenditures for environmental compliance to be material in 2021 or 2022. Environmental requirements are complex, change frequently and have become more stringent over time. Accordingly, we cannot provide assurance that these requirements will not change or become more stringent in the future in a manner that could have a material adverse effect on our business.

SEGMENT REPORTING DATA AND GEOGRAPHIC AREA DATA

For segment reporting data and principal geographic area data for 2020, 2019 and 2018, see Note 17 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K.

HUMAN CAPITAL

We believe that our future success will depend to a significant extent upon the performance of Charles W. Ergen, our Chairman, and certain other executives. The loss of Mr. Ergen or of certain other key executives could have a material adverse effect on our business, financial condition and results of operations. Although all of our executives have executed agreements with certain non-competition restrictions that apply if they leave us, we do not have employment agreements with any of them.

We believe that our wireless business, including our ability to meet build-out requirements, is dependent on our ability to identify, hire, develop, motivate, and retain a new team of highly skilled personnel with knowledge of the wireless industry. Our wireless business will be adversely affected if we fail to effectively identify, hire, develop, motivate, and retain highly skilled personnel with knowledge of the wireless industry.

We had approximately 13,500 employees at December 31, 2020, most of whom were located in the United States. We generally consider relations with our employees to be good. Approximately 35 employees in one of our field offices have voted to have a union represent them in their employment relations with DISH Network. While we are not currently a party to any collective bargaining agreements, we are presently in the negotiating phase with the union, which could result in a collective bargaining agreement with respect to this site.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Exchange Act and accordingly file our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy statements and other information with the SEC. As an electronic filer, our public filings are also maintained on the SEC's Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The address of that website is <http://www.sec.gov>.

WEBSITE ACCESS

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act also may be accessed free of charge through our website as soon as reasonably practicable after we have electronically filed such material with, or furnished it to, the SEC. The address of that website is <https://ir.dish.com/>.

We have adopted a written code of ethics that applies to all of our directors, officers and employees, including our principal executive officer and senior financial officers, in accordance with Section 406 of the Sarbanes-Oxley Act of 2002 and the rules of the SEC promulgated thereunder. Our code of ethics is available on our corporate website at <https://ir.dish.com/>. In the event that we make changes in, or provide waivers of, the provisions of this code of ethics that the SEC requires us to disclose, we intend to disclose these events on our website.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

(furnished in accordance with Item 401(b) of Regulation S-K, pursuant to General Instruction G(3) of Form 10-K)

The following table and information below sets forth the name, age and position with DISH Network of each of our executive officers, the period during which each executive officer has served as such, and each executive officer's business experience during the past five years:

Name	Age	Position
Charles W. Ergen	67	Chairman and Director
W. Erik Carlson	51	President and Chief Executive Officer
Thomas A. Cullen	61	Executive Vice President, Corporate Development
James DeFranco	68	Executive Vice President and Director
Timothy A. Messner	46	Executive Vice President and General Counsel
Paul W. Orban	52	Executive Vice President and Chief Financial Officer
David A. Scott	47	Executive Vice President and Chief Human Resources Officer
John W. Swieringa	43	Executive Vice President and Chief Operating Officer

Charles W. Ergen. Mr. Ergen is our executive Chairman and has been Chairman of the Board of Directors of DISH Network since its formation and, during the past five years, has held executive officer and director positions with DISH Network and its subsidiaries. Mr. Ergen also serves as executive Chairman and Chairman of the Board of Directors of EchoStar. Mr. Ergen co-founded DISH Network with his future spouse, Cantey Ergen, and James DeFranco, in 1980.

W. Erik Carlson. Mr. Carlson has served as President and Chief Executive Officer since December 2017. Mr. Carlson is a DISH Network veteran of more than two decades, and has held numerous roles throughout the company. Most recently, Mr. Carlson served as President and Chief Operating Officer. In this role, Mr. Carlson oversaw the company's day-to-day operations including Human Resources, Operations and Information Technology, Media Sales, Marketing, Programming, Product Management, Acquisition and Retention, and Finance and Accounting organizations. Prior to that, Mr. Carlson managed DISH Network's In-Home Services, Customer Service Centers, Customer Billing, and Information Technology organizations, as well as Manufacturing, which consists of equipment retrieval and refurbishment operations. Mr. Carlson also served as Senior Vice President of Retail Services and Sales where he managed the company's indirect sales operations.

Thomas A. Cullen. Mr. Cullen has served as Executive Vice President, Corporate Development for DISH Network since July 2011. Mr. Cullen previously served as our Executive Vice President, Sales, Marketing and Programming from April 2009 to July 2011 and as our Executive Vice President, Corporate Development from December 2006 to April 2009. Before joining DISH Network, Mr. Cullen held various executive positions in the telecommunications, cable and wireless industries.

James DeFranco. Mr. DeFranco is one of our Executive Vice Presidents and has been one of our vice presidents and a member of the Board of Directors of DISH Network since our formation. During the past five years he has held various executive officer and director positions with our subsidiaries. Mr. DeFranco co-founded DISH Network with Charles W. Ergen and Cantey Ergen, in 1980.

Timothy A. Messner. Mr. Messner has served as Executive Vice President, General Counsel since November 2017 and is responsible for all legal affairs for DISH Network and its subsidiaries. Since joining DISH Network in August 2004, Mr. Messner has held various positions of increasing responsibility in DISH Network's legal department. Most recently, Mr. Messner served as Senior Vice President and Deputy General Counsel for DISH Network.

Paul W. Orban. Mr. Orban has served as Executive Vice President and Chief Financial Officer since July 2019 and is responsible for all aspects of DISH Network's finance, accounting, tax, treasury and internal audit departments. Mr. Orban served as our Senior Vice President and Chief Accounting officer from December 2015 to July 2019, our Senior Vice President and Corporate Controller from September 2006 to December 2015 and as our Vice President and Corporate Controller from September 2003 to September 2006. He also served as EchoStar's Senior Vice President and Corporate Controller from 2008 to 2012 pursuant to a management services agreement between DISH Network and EchoStar. Since joining DISH Network in 1996, Mr. Orban has held various other positions of increasing responsibility in our accounting department. Prior to DISH Network, Mr. Orban was an auditor with Arthur Andersen LLP.

David A. Scott. Mr. Scott has served as Executive Vice President and Chief Human Resources Officer of DISH Network since February 2018 and is responsible for the recruiting, benefits administration, compensation, and leadership and organizational development for DISH Network and its subsidiaries. Prior to DISH Network, Mr. Scott held various positions at Walmart Inc. from 1997 to 2018, including, among others, Senior Vice President, Talent and Organizational Effectiveness from 2016 to 2018, Senior Vice President, Human Resources from 2014 to 2016, and Vice President, Human Resources from 2011 to 2014.

John W. Swieringa. Mr. Swieringa has served as Executive Vice President and Chief Operating Officer since December 2017 and as Group President, Retail Wireless since July 2020. Mr. Swieringa has responsibility for all aspects of DISH Network's Retail Wireless business unit. Mr. Swieringa previously served as Executive Vice President, Operations since December 2015 and has had responsibility for the in-home services operations, customer service and billing, information technology, manufacturing and distribution for DISH Network. Mr. Swieringa previously served as Senior Vice President and Chief Information Officer from March 2014 to December 2015 and as Vice President of Information Technology Customer Applications from March 2010 to March 2014. Mr. Swieringa joined DISH Network in December 2007 serving in our finance department.

There are no arrangements or understandings between any executive officer and any other person pursuant to which any executive officer was selected as such. Pursuant to the Bylaws of DISH Network, executive officers serve at the discretion of the Board of Directors.

Item 1A. RISK FACTORS

The risks and uncertainties described below are not the only ones facing us. We may face other risks described from time to time in periodic and current reports we file with the SEC. If any of the following events occur, our business, financial condition or results of operations could be materially and adversely affected.

COVID-19 Pandemic

The COVID-19 pandemic and its impact on the economic environment generally, and on us specifically, have adversely impacted our business. Furthermore, any continuation or worsening of the pandemic and economic environment could have a material adverse effect on our business, financial condition and results of operations.

A novel strain of coronavirus which causes the disease COVID-19 has resulted in a worldwide health pandemic. To date, COVID-19 has surfaced in nearly all regions around the world and resulted in global travel restrictions and business slowdowns or shutdowns. The COVID-19 pandemic has also created unanticipated circumstances and uncertainty, disruption, and significant volatility in the economic environment generally, which have adversely affected, and may continue to adversely affect, our business operations and could materially and adversely affect our business, financial condition and results of operations.

As the COVID-19 pandemic continues, many of our subscribers are impacted by recommendations and/or mandates from federal, state, and local authorities to practice social distancing, to refrain from gathering in groups and, in some areas, to refrain from non-essential movements outside of their homes. Governmental authorities in affected regions are taking increasingly dramatic action in an effort to slow the spread of COVID-19.

These recommendations and/or mandates have created reduced in person selling opportunities and a reduction in subscribers' willingness to open direct mail marketing, allow our in-home technicians into their homes, and visit our retail wireless locations which has had, and will continue to have, a negative impact on our gross subscriber activations. The removal of such recommendations and/or mandates may not change subscribers' behaviors. The impact from the COVID-19 pandemic on our business, financial condition and results of operations is currently uncertain and not predictable and will depend largely on future developments, including the duration and spread of the pandemic within the United States, the response by all levels of government in their efforts to contain or combat the pandemic and to mitigate the economic disruptions, and the related impact on consumer confidence and spending, all of which are highly uncertain and cannot be predicted. We cannot predict with certainty how long the COVID-19 pandemic will last, how effective vaccines may be or what other government responses may occur.

The following risks and uncertainties related to our business, among others, could be impacted and/or exacerbated by the COVID-19 pandemic and any resulting worsening of the economic environment:

- We have faced, and could continue to face, fewer subscriber activations and increased subscriber churn rate as a result of the COVID-19 pandemic and the worsening of the global business and economic environment due to, among other things, the reduced ability to perform our in-home service operations due to the impact of social distancing, changes to interest rates, downturns in the housing market in the United States (including a decline in housing starts), higher unemployment, which could lead to a lack of consumer confidence and lower discretionary spending, and reduced on-premises operations of our commercial subscribers. For example, our commercial services have been impacted as many bars, restaurants, and other commercial establishments were recommended and/or mandated to suspend all non-essential "in-person" business operations. In addition, airlines and hotels significantly reduced operations as a result of government actions and/or lower consumer demand.
- Our revenue with respect to both our pay-TV and wireless services comes from subscribers whose spending patterns may be affected by economic weakness and uncertainty, including any economic weakness and/or uncertainty related to the COVID-19 pandemic.

- Weakness in the capital markets related to the COVID-19 pandemic could make it more difficult for us to satisfy our substantial long-term payment obligations, including, without limitation, payments related to our 5G Network Deployment, repayment and/or refinancing of existing indebtedness, payments related to certain litigation and other contractual obligations.
- As a result of the COVID-19 pandemic and any resulting worsening of the global business and economic environment, we may not be able to make sufficient investments in staffing, training, information systems, and other initiatives, including in our call center, in-home service and retail wireless operations. For example, the COVID-19 pandemic forced us to reevaluate aspects of our business, particularly within In-Home Services, and caused us to reduce the size of our workforce.
- As a result of the COVID-19 pandemic, a large portion of our employees are working remotely, which could have a material adverse effect on our information technology infrastructure and communications systems, and our ability to monitor, prevent and respond to system failures and/or cyber-attacks. The capacity, reliability and security of our information technology infrastructure (including our billing systems) and communications systems, or those of third parties that we use in our operations, are important to the operation of our current business, which would be significantly disrupted in the event of a system failure or cyber-attack.
- Our supply chain has been impacted by COVID-19, and there have been and could be additional significant and unanticipated interruptions and/or delays in the supply of materials and/or equipment across our supply chain, due to, among other things, surges in COVID-19. Furthermore, we may not be able to diversify sources of supply in a timely manner to mitigate these interruptions and/or delays. These interruptions and/or delays in our supply chain could have a material adverse effect on our business, including our Pay-TV and Retail Wireless operations, our ability to meet our build-out requirement deadlines for our wireless spectrum licenses and our 5G Network Deployment generally.

To the extent the COVID-19 pandemic continues to adversely affect the U.S. and/or global economy and/or adversely affects our businesses, results of operations or financial condition, it may also have the effect of increasing the likelihood and/or magnitude of other risks described below.

Competition and Economic Risks

We face intense and increasing competition from providers of video, broadband and/or wireless services, which may require us to further increase subscriber acquisition and retention spending or accept lower subscriber activations and higher subscriber churn.

Our Pay-TV business faces substantial competition from established pay-TV providers and broadband service providers and increasing competition from companies providing/facilitating the delivery of video content via the Internet to computers, televisions, and other streaming and mobile devices, including wireless service providers. In recent years, the traditional pay-TV industry has matured, and industry consolidation and convergence has created competitors with greater scale and multiple product/service offerings. Some of these services charge nominal or no fees for access to their content, which could adversely affect demand for our Pay-TV services. Moreover, new technologies have been, and will likely continue to be, developed that further increase the number of competitors we face with respect to video services, including competition from piracy-based video offerings. These developments, among others, have contributed to intense and increasing competition, which we expect to continue.

We face increasing competition from content providers and other companies who distribute video directly to consumers over the Internet. These content providers and other companies, as well as traditional satellite television providers, cable companies and large telecommunication companies, are rapidly increasing their Internet-based video offerings. See “*Item 1. Business – Overview – Competition*” and “*Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations – Trends in our Pay-TV Segment*” in this Annual Report on Form 10-K for further information.

Mergers and acquisitions, joint ventures and alliances among cable television providers, telecommunications companies, programming providers and others may result in, among other things, greater scale and financial leverage and increase the availability of offerings from providers capable of bundling video, broadband and/or wireless services in competition with our services, and may exacerbate the risks described herein. Such providers may be able to, among other things, utilize their increased leverage over third-party content owners and programmers to withhold online rights from us and reduce the price they pay for programming at the expense of other MVPDs, including us; thwart our ability to compete in the wireless market, by, among other things, refusing to enter into data roaming agreements with us; underutilize key orbital spectrum resources that could be more efficiently used by us; foreclose or degrade our online video offerings at various points in the broadband pipe; and impose data caps on consumers who access our online video offerings. See “*Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations – Trends in our Pay-TV Segment – Programming*” in this Annual Report on Form 10-K for further information.

We believe that the availability and extent of programming, including unique programming services such as foreign language, sports programming and original content, and other value-added services such as access to video via mobile devices, continue to be significant factors in consumers’ choice among pay-TV providers. Other pay-TV providers may have more successfully marketed and promoted their programming packages and value-added services and may also be better equipped and have greater resources to increase their programming offerings and value-added services to respond to increasing consumer demand. We may be required to make substantial additional investments in infrastructure to respond to competitive pressure to deliver enhanced programming and other value-added services, and there can be no assurance that we will be able to compete effectively with offerings from other pay-TV providers.

Furthermore, this increasingly competitive environment may require us to increase subscriber acquisition and retention spending or accept lower subscriber activations and higher subscriber churn. Increasingly, we must seek to attract a greater proportion of new subscribers from our competitors’ existing subscriber bases rather than from first-time purchasers of pay-TV services. In addition, because other pay-TV providers may be seeking to attract a greater proportion of their new subscribers from our existing subscriber base, we may be required to increase retention spending and/or provide greater discounts or credits to acquire and retain subscribers who may spend less on our services. Our SLING TV subscribers on average purchase lower priced programming services than DISH TV subscribers. Accordingly, an increase in SLING TV subscribers has a negative impact on our Pay-TV average monthly revenue per subscriber (“Pay-TV ARPU”). If our Pay-TV ARPU decreases or does not increase commensurate with increases in programming or other costs, our margins may be reduced and the long-term value of a subscriber would then decrease.

In addition, as a result of this increased competitive environment and the maturation of the pay-TV industry, future growth opportunities of our DISH TV business may be limited and our margins may be reduced, which could have a material adverse effect on our business, results of operations, financial condition and cash flow. Our gross new DISH TV subscriber activations continue to be negatively impacted by stricter subscriber acquisition policies (including a focus on attaining higher quality subscribers) and increased competitive pressures, including aggressive marketing, more aggressive retention efforts, bundled discount offers combining broadband, video and/or wireless services and other discounted promotional offers. There can be no assurance that our gross new DISH TV subscriber activations, net DISH TV subscriber additions, and DISH TV churn rate will not continue to be negatively impacted and that the pace of such negative impact will not accelerate. In the event that our DISH TV subscriber base continues to decline, it could have a material adverse long-term effect on our business, results of operations, financial condition and cash flow.

Changing consumer behavior and new technologies in our Pay-TV business may reduce our subscriber activations and may cause our subscribers to purchase fewer services from us or to cancel our services altogether, resulting in less revenue to us.

New technologies, products and services are driving rapid changes in consumer behavior as consumers seek more control over when, where and how they consume content and access communications services. In particular, through technological advancements and with the large increase in the number of consumers with broadband service, a significant amount of video content has become available through online content providers for users to stream and view on their personal computers, televisions, phones, tablets, videogame consoles, and other devices, in some cases without a fee required to access the content. While our subscribers can use their traditional video subscription to access mobile programming, an increasing number of subscribers are also using mobile devices as the sole means of viewing video, and an increasing number of non-traditional video providers are developing content and technologies to satisfy that demand. For example, these technological advancements, changes in consumer behavior, and the increasing number of choices available to consumers with regard to the means by which consumers obtain video content may cause DISH TV subscribers to disconnect our services (“cord cutting”), downgrade to smaller, less expensive programming packages (“cord shaving”) or elect to purchase through online content providers a certain portion of the services that they would have historically purchased from us, such as pay per view movies. These technological advancements and changes in consumer behavior and/or our failure to effectively anticipate or adapt to such changes, could reduce our gross new Pay-TV subscriber activations and increase our subscriber churn rate, and could have a material adverse effect on our business, results of operations, financial condition and cash flow.

New technologies could also create new competitors for us. For instance, we face increasing consumer demand for the delivery of digital video services via the Internet. We expect to continue to face increased competition from companies who use the Internet to deliver digital video services as the speed and quality of broadband and wireless networks continues to improve.

We face certain risks competing in the wireless services industry and operating a facilities-based wireless services business.

As a result of the recent Boost Mobile and Ting Mobile acquisitions, we have entered the retail wireless business. We have made substantial investments to acquire certain wireless spectrum licenses and related assets. We plan to commercialize our wireless spectrum licenses through the completion of our 5G Network Deployment. A wireless services business presents certain risks. Any of the following risks, among others, may have a material adverse effect on our future business, results of operations and financial condition.

- ***The wireless services industry is competitive.*** We have limited experience in the wireless services industry, which is a competitive industry with increasing subscriber demands for data services that require increasing capital resources to maintain a robust network. The wireless services industry has incumbent and established competitors such as Verizon, AT&T and T-Mobile with substantial market share. These companies have greater financial, marketing and other resources than us, and have existing cost and operational advantages that we lack. Market saturation is expected to continue to cause subscriber growth rates in the wireless services industry to moderate in comparison to historical growth rates, leading to increased competition for subscribers. As the industry matures, competitors increasingly must seek to attract a greater proportion of new subscribers from each other's existing subscriber bases rather than from first-time purchasers of wireless services. Furthermore, the cost of attracting a new subscriber is generally higher than the cost associated with retaining an existing subscriber. In addition, we face increasing competition from wireless telecommunications providers who offer mobile video offerings. Wireless mobile video offerings have become more prevalent in the marketplace as wireless telecommunications providers have expanded the fourth generation of wireless communications and are entering the fifth generation. As previously noted, mergers and acquisitions, joint ventures and alliances among cable television providers, telecommunications companies, programming providers and others may result in, among other things, greater scale and financial leverage and increase the availability of offerings from providers capable of bundling video, broadband and/or wireless services in competition with our services. Such companies may be able to, among other things, pressure third-party content owners and programmers to withhold online rights from us; utilize their increased leverage over third-party content owners and programmers to reduce the price they pay for programming at the expense of other MVPDs, including us; thwart our ability to compete in the wireless market, by, among other things, refusing to enter into data roaming agreements with us; foreclose or degrade our online video offerings at various points in the broadband pipe; and impose data caps on consumers who access our online video offerings. See "Item 1. Business – Overview – Business Strategy Wireless" and "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Wireless – Retail Wireless" in this Annual Report on Form 10-K for further information.
- ***Our ability to compete effectively would be dependent on a number of factors.*** Our ability to compete effectively would depend on, among other things, our network quality, capacity and coverage; the pricing of our products and services; the quality of subscriber service; our development of new and enhanced products and services; the reach and quality of our sales and distribution channels; our ability to predict and adapt to future changes in technologies and changes in consumer demands; and capital resources. It would also depend on how successfully we anticipate and respond to various competitive factors affecting the industry, including, among others, new technologies and business models, products and services that may be introduced by competitors, changes in consumer preferences, the demand for and usage of data, video and other voice and non-voice services, demographic trends, economic conditions, and discount pricing and other strategies that may be implemented by competitors. It may be difficult for us to differentiate our products and services from other competitors in the industry, which may limit our ability to attract subscribers. Our success also may depend on our ability to access and deploy adequate spectrum, deploy new technologies and offer attractive services to subscribers. For example, we may not be able to obtain and offer certain technologies or features that are subject to competitor patents or other exclusive arrangements.

- ***We depend on third parties to provide us with infrastructure and products and services.*** We depend on various key suppliers and vendors to provide us, directly or through other suppliers, with infrastructure, equipment and services, such as switch and network equipment, handsets and other devices and equipment that we would need in order to operate a wireless services business and provide products and services to our subscribers. For example, handset and other device suppliers often rely on one vendor for the manufacture and supply of critical components, such as chipsets, used in their devices. If these suppliers or vendors fail to provide equipment or services on a timely basis or fail to meet performance expectations, we may be unable to provide products and services as and when expected by our subscribers. Any difficulties experienced with these suppliers and vendors could result in additional expense and/or delays in operating our wireless services. Our efforts involve significant expense and require strategic management decisions on, and timely implementation of, equipment choices, network deployment and management, and service offerings. In addition, these suppliers and vendors may also be subject to litigation with respect to technology on which we depend, including litigation involving claims of patent infringement.
- ***Wireless services and our wireless spectrum licenses are subject to government regulation.*** Wireless services and our wireless spectrum licenses are subject to regulation by the FCC and other federal, state and local, as well as international, governmental authorities. These governmental authorities could adopt regulations or take other actions that would adversely affect our business prospects, making it more difficult and/or expensive to complete our 5G Network Deployment and further commercialize our wireless spectrum licenses or acquire additional licenses. The licensing, construction, operation, sale and interconnection arrangements of wireless telecommunications systems are regulated by the FCC and, depending on the jurisdiction, other federal and international, state and local regulatory agencies. In particular, the FCC imposes significant regulation on licensees of wireless spectrum with respect to how radio spectrum is used by licensees, the nature of the services that licensees may offer and how the services may be offered, and resolution of issues of interference between spectrum bands. The FCC grants wireless licenses for terms of generally ten years that are subject to renewal or revocation based on certain factors depending on the license including, among others, public interest considerations, level and quality of services and/or operations provided by the licensee, frequency and duration of any interruptions or outages of services and/or operations provided by the licensee, and the extent to which service is provided to, and/or operation is provided in, rural areas and tribal lands. There can be no assurances that our wireless spectrum licenses will be renewed or that we will be able to obtain additional licenses. Failure to comply with FCC requirements in a given license area could result in revocation of the license for that license area. In addition, the FCC uses its transactional “spectrum screen” to identify prospective wireless transactions that may require additional competitive scrutiny. If a proposed transaction would exceed the spectrum screen threshold, the FCC undertakes a more detailed analysis of relevant market conditions in the impacted geographic areas to determine whether the transaction would reduce competition without offsetting public benefits. If a proposed spectrum acquisition exceeds the spectrum screen trigger, such additional review could extend the duration of the regulatory review process and there can be no assurance that such proposed spectrum acquisition would ultimately be completed, in whole or in part.

Our pay-TV competitors may be able to leverage their relationships with programmers to reduce their programming costs and/or offer exclusive content that will place them at a competitive advantage to us.

The cost of programming represents the largest percentage of our overall Pay-TV costs. Certain of our competitors own directly or are affiliated with companies that own programming content that may enable them to obtain lower programming costs or offer exclusive programming that may be attractive to prospective subscribers. Unlike our larger cable and satellite competitors, some of which also provide IPTV services, we have not made significant investments in programming providers. As a result, it may more difficult for us to obtain access to such programming networks on nondiscriminatory and fair terms, or at all. See “*Changes in the Cable Act, and/or the rules of the FCC that implement the Cable Act, may limit our ability to access programming from cable-affiliated programmers at nondiscriminatory rates,*” below and “*Item 1. Business – Government Regulations – FCC Regulations Governing our Pay-TV Operations – Cable Act and Program Access*” in this Annual Report on Form 10-K for further information.

Through the MNSA, we depend primarily on T-Mobile in providing services to our retail wireless subscribers, and any system failure related to T-Mobile's wireless network, interruption in the services provided by T-Mobile, including the shutdown of its CDMA Network on or around January 1, 2022 and/or the termination of the MNSA could negatively impact our subscriber activations, our subscriber churn rate and our subscriber base, which in turn could have a material adverse effect on our business, financial condition and results of operations.

As we offer retail wireless services and move forward with our 5G Network Deployment, we currently depend on T-Mobile to provide us with network services pursuant to the MNSA. We rely on T-Mobile to maintain their wireless facilities and government authorizations and to comply with government policies and regulations. If T-Mobile fails to do so our subscriber activations and churn rate could be negatively impacted, which in turn could have a material adverse effect on our business, financial condition and results of operations.

Furthermore, T-Mobile notified us that they intend to decommission its CDMA Network on or around January 1, 2022. A majority of our Retail Wireless subscribers currently receive services through T-Mobile's CDMA Network. In the event that this shutdown were to occur before these subscribers were to naturally migrate off of T-Mobile's CDMA Network, these subscribers would have to obtain a new device, a new SIM card or receive a software download in order to continue receiving wireless services from us under the MNSA. These required measures would cause a significant disruption to our Retail Wireless subscriber base which could result in, among other things, a significant increase in our churn rate. Additionally, we would expect to incur substantial costs to implement these measures, and we may be unable to effectively implement them, such as the procurement of an adequate number of replacement devices in a timely fashion. As a result, there can be no assurance that these measures would be successful in reducing or controlling subscriber churn. Moreover, if we implement these measures in anticipation of the CDMA Network shutdown on or around January 1, 2022 and the timing of such shutdown were to be delayed, these measures along with our associated subscriber communications could cause confusion and dissatisfaction within our Retail Wireless subscriber base, which could result in significant subscriber churn. Consequently, the circumstances surrounding T-Mobile's shutdown of its CDMA Network and our efforts in responding to such shutdown could have a material adverse effect on our business, financial condition and results of operations.

Other risks related to T-Mobile's wireless network and infrastructure include, but are not limited to: major equipment failures, breaches of network or information technology security that affect their wireless networks, including transport facilities, communications switches, routers, microwave links, cell sites or other equipment, power surges or outages, software defects and disruptions beyond T-Mobile's control, such as natural disasters and acts of terrorism. Any impact on T-Mobile's wireless network could disrupt our operations, require significant resources, result in a loss of retail wireless subscribers or impair our ability to attract new retail wireless subscribers, which in turn could have a material adverse effect on our business, financial condition and results of operations. Delays or failure to add network capacity, or increased costs of adding capacity or operating the network, could limit our ability to increase our subscriber base, limit our ability to increase our revenues, or cause a deterioration of our operating margin.

Changes in how network operators handle and charge for access to data that travels across their networks could adversely impact our Pay-TV business.

With respect to our Pay-TV business, we rely upon the ability of consumers to access our SLING TV services and certain DISH TV functionality through the Internet. If network operators block, restrict or otherwise impair access to our services over their networks, our business could be negatively affected. To the extent that network operators implement usage-based pricing, including meaningful bandwidth caps, or otherwise try to monetize access to their networks by data providers, we could incur greater operating expenses and our SLING TV subscriber count could be negatively impacted. Furthermore, to the extent network operators create tiers of Internet access service and either charge us for or prohibit us from being available through these tiers, our SLING TV business could be negatively impacted.

In addition, many network operators that provide consumers with broadband service also provide these consumers with video programming, and these network operators may have an incentive to use their network infrastructure in a manner adverse to our continued growth and success. These risks may be exacerbated to the extent network operators are able to provide preferential treatment to their data, including, for example, by offering wireless subscribers access to owned video content over the Internet without counting against a subscriber's monthly data caps ("zero rating"), which may give an unfair advantage to the network operator's own video content.

We cannot predict with any certainty the impact to our business that may result from changes in how network operators handle and charge for access to data that travels across their networks.

Economic weakness and uncertainty may adversely affect our ability to grow or maintain our business.

Our ability to grow or maintain our business may be adversely affected by economic weakness and uncertainty, which could result in the following:

- ***Fewer subscriber activations and increased subscriber churn rate.*** We could face fewer subscriber activations and increased subscriber churn rate due to, among other things: (i) certain economic factors that impact consumers, including, among others, rising interest rates, a potential downturn in the housing market in the United States (including a decline in housing starts) and higher unemployment, which could lead to a lack of consumer confidence and lower discretionary spending; (ii) increased price competition for our products and services; and (iii) the potential loss of independent third-party retailers, who generate a meaningful percentage of our gross new DISH TV and retail wireless subscriber activations, because many of them are small businesses that are more susceptible to the negative effects of economic weakness. In particular, our DISH TV churn rate and retail wireless churn rate may increase with respect to subscribers who purchase our lower tier programming packages and wireless services, and who may be more sensitive to economic weakness, including, among others, our pay-in-advance subscribers.
- ***Higher subscriber acquisition and retention costs.*** Our profits may be adversely affected by increased subscriber acquisition and retention costs necessary to attract and retain subscribers during a period of economic weakness.

Operational and Service Delivery Risks

Any deterioration in our operational performance and subscriber satisfaction could adversely affect our business, financial condition and results of operations.

If our operational performance and subscriber satisfaction with respect to either or both of our Pay-TV or wireless services were to deteriorate, we may experience a decrease in subscriber activations and an increase in our subscriber churn rate, which could have a material adverse effect on our business, financial condition and results of operations. To improve our operational performance, we continue to make investments in staffing, training, information systems, and other initiatives, primarily in our call center, in-home service operations and retail wireless operations. These investments are intended to help combat inefficiencies introduced by the increasing complexity of our business, improve subscriber satisfaction, reduce subscriber churn, increase productivity, and allow us to scale better over the long run. We cannot, however, be certain that our spending will ultimately be successful in improving our operational performance, and if unsuccessful, we may have to incur higher costs to improve our operational performance. While we believe that such costs will be outweighed by longer-term benefits, there can be no assurance when or if we will realize these benefits at all.

If our subscriber activations decrease, or if our subscriber churn rate, subscriber acquisition costs or retention costs increase, our financial performance will be adversely affected.

We may incur increased costs to acquire new subscribers and retain existing subscribers to either or both of our Pay-TV or wireless services. For example, with respect to our Pay-TV business, our gross new DISH TV subscriber activations, net DISH TV subscriber additions, and DISH TV churn rate continue to be negatively impacted by stricter subscriber acquisition and retention policies for our DISH TV subscribers, including an emphasis on acquiring and retaining higher quality subscribers. In addition, our subscriber acquisition costs could increase as a result of increased spending for advertising and, with respect to our DISH TV services, the installation of more DVR receivers, which are generally more expensive than other receivers. Retention costs with respect to our DISH TV services may be driven higher by increased upgrades of existing subscribers' equipment to DVR receivers.

For our retail wireless business, we are currently in the process of integrating our retail wireless operations and making certain operational changes to enhance profitability. We are working to ensure that the subscribers we acquire and retain are profitable under our MVNO economics. As an example, certain subscribers that use high amounts of data, may be profitable for an MNO, but are not profitable under an MNVO. This has caused our net retail wireless subscriber additions to be negatively impacted.

Although we expect to continue to incur expenses, such as providing retention credits and other subscriber acquisition and retention expenses, to attract and retain subscribers, there can be no assurance that our efforts will generate new subscribers or result in a lower churn rate. Additionally, certain of our promotions, including, among others, pay-in-advance, continue to allow consumers with relatively lower credit scores to become subscribers. These subscribers typically churn at a higher rate. Our subscriber acquisition costs and our subscriber retention costs can vary significantly from period to period and can cause material variability to our net income (loss) and free cash flow. Any material increase in subscriber acquisition or retention costs from current levels could have a material adverse effect on our business, financial condition and results of operations.

Programming expenses are increasing for our Pay-TV business, which may adversely affect our future financial condition and results of operations.

Our programming costs represent a significant component of our total expense and we expect these costs to continue to increase on a per subscriber basis. The pay-TV industry has continued to experience an increase in the cost of programming, especially local broadcast channels and sports programming. In addition, certain programming costs are rising at a much faster rate than wages or inflation. These factors may be exacerbated by the increasing trend of consolidation in the media industry, which may further increase our programming expenses. Our ability to compete successfully will depend, among other things, on our ability to continue to obtain desirable programming and deliver it to our subscribers at competitive prices.

When offering new programming, or upon expiration of existing contracts, programming suppliers have historically attempted to increase the rates that they charge us for programming. We expect this practice to continue, which, if successful, would increase our programming costs. In addition, our programming expenses may also increase as we add programming to our video services or distribute existing programming to our subscribers through additional delivery services, such as SLING TV. As a result, our margins may face further pressure if we are unable to renew our long-term programming contracts on acceptable pricing and other economic terms. Alternatively, to attempt to mitigate the effect of price increases or for other reasons, we may elect not to carry or may be unable to carry certain channels, which could adversely affect our net Pay-TV subscriber additions.

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In addition, increases in programming costs cause us to increase the rates that we charge our Pay-TV subscribers, which could in turn cause our existing Pay-TV subscribers to disconnect our service or cause potential new Pay-TV subscribers to choose not to subscribe to our service. Therefore, we may be unable to pass increased programming costs on to our subscribers, which could have a material adverse effect on our business, financial condition and results of operations.

We depend on others to provide the programming that we offer to our Pay-TV subscribers and, if we fail to obtain or lose access to certain programming, our Pay-TV subscriber activations and our subscriber churn rate may be negatively impacted.

We depend on third parties to provide us with programming services. Our programming agreements have remaining terms ranging from less than one to up to several years and contain various renewal, expiration and/or termination provisions. We may not be able to renew these agreements on acceptable terms or at all, and these agreements may be terminated prior to expiration of their original term. In recent years, negotiations over programming carriage contracts generally remain contentious, and certain programmers have, in the past, limited our access to their programming in connection with those negotiations and the scheduled expiration of their programming carriage contracts with us. In recent years, our net Pay-TV subscriber additions have been negatively impacted as a result of programming interruptions and threatened programming interruptions in connection with the scheduled expiration of programming carriage contracts with content providers. We cannot predict with any certainty the impact to our net Pay-TV subscriber additions, gross new DISH TV subscriber activations, and DISH TV churn rate resulting from programming interruptions or threatened programming interruptions that may occur in the future. As a result, we may at times suffer from periods of lower net Pay-TV subscriber additions or higher net Pay-TV subscriber losses.

We typically have a few programming contracts with major content providers up for renewal each year and if we are unable to renew any of these agreements or the other parties terminate the agreements, there can be no assurance that we would be able to obtain substitute programming, or that such substitute programming would be comparable in quality or cost to our existing programming. In addition, failure to obtain access to certain programming or loss of access to programming, particularly programming provided by major content providers and/or programming popular with our subscribers, could have a material adverse effect on our business, financial condition and results of operations, including, among other things, our net Pay-TV subscriber additions.

Our programming signals in our Pay-TV business are subject to theft, and we are vulnerable to other forms of fraud that could require significant expenditures to remedy. Increases in theft of our signal or our competitors' signals could, in addition to reducing gross new DISH TV subscriber activations, also cause our DISH TV churn rate to increase.

We may not be able to obtain necessary retransmission consent agreements at acceptable rates, or at all, from local network stations.

The Copyright Act generally gives satellite companies a statutory copyright license to retransmit local broadcast channels by satellite back into the market from which they originated, subject to obtaining the retransmission consent of local network stations that do not elect "must carry" status, as required by the Communications Act. If we fail to reach retransmission consent agreements with such broadcasters, we cannot carry their signals. This could have an adverse effect on our strategy to compete with cable and other satellite companies that provide local signals. While we have been able to reach retransmission consent agreements with most of these local network stations, from time to time there are stations with which we have not been able to reach an agreement, resulting in the removal of their channels primarily from our DISH TV lineup. There can be no assurance that we will secure these agreements or that we will secure new agreements on acceptable terms, or at all, upon the expiration of our current retransmission consent agreements, some of which are short-term.

In recent years, national broadcasters have used their ownership of certain local broadcast stations to require us to carry additional cable programming in exchange for retransmission consent of their local broadcast stations. These requirements may place constraints on available capacity on our satellites for other programming. Furthermore, the rates we are charged for retransmitting local channels have been increasing substantially and may exceed our ability to increase our prices to our subscribers, which could have a material adverse effect on our business, financial condition and results of operations.

Any failure or inadequacy of our information technology infrastructure and communications systems or those of third parties that we use in our operations, including, without limitation, those caused by cyber-attacks or other malicious activities, could disrupt or harm our business.

The capacity, reliability and security of our information technology hardware and software infrastructure (including our billing systems) and communications systems, or those of third parties that we use in our operations, are important to the operation of our businesses, which would suffer in the event of system failures or cyber-attacks. Likewise, our ability to expand and update our information technology infrastructure in response to our growth and changing needs is important to the continued implementation of our new service offering initiatives. Our inability to expand or upgrade our technology infrastructure could have adverse consequences, which could include, among other things, the delayed implementation of new service offerings, service or billing interruptions, and the diversion of development resources.

We rely on third parties for developing key components of our information technology and communications systems and ongoing service, all of which affect our Pay-TV services and wireless services. Some of our key systems and operations, including those supplied by third-party providers, are not fully redundant, and our disaster recovery planning cannot account for all eventualities. Interruption and/or failure of any of these systems could disrupt our operations, interrupt our services, result in significant financial expenditures and damage our reputation, thus adversely impacting our ability to provide our services, retain our current subscribers and attract new Pay-TV and wireless subscribers and complete our 5G Network Deployment.

In addition, although we take protective measures designed to secure our information technology systems and endeavor to modify such protective measures as circumstances warrant, our information technology hardware and software infrastructure and communications systems, or those of third parties that we use in our operations, may be vulnerable to a variety of interruptions, including, without limitation, natural disasters, terrorist attacks, telecommunications failures, cyber-attacks and other malicious activities such as unauthorized access, physical or electronic break-ins, misuse, computer viruses or other malicious code, computer denial of service attacks and other events that could disrupt or harm our business. These protective measures may not be sufficient for all eventualities and may themselves be vulnerable to hacking, malfeasance, system error or other irregularities.

For example, certain parties may attempt to fraudulently induce employees or subscribers into disclosing usernames, passwords or other sensitive information, which may in turn be used to access our information technology systems. In addition, third-party providers of some of our key systems may also experience interruptions to their information technology hardware and software infrastructure and communications systems that could adversely impact us and over which we may have limited or no control. We may obtain certain confidential, proprietary and personal information about our subscribers, personnel and vendors, and may provide this information to third parties in connection with our business. If one or more of such interruptions or failures occur to us or our third-party providers, it potentially could jeopardize such information and other information processed and stored in, and transmitted through, our or our third-party providers' information technology hardware and software infrastructure and communications systems, or otherwise cause interruptions or malfunctions in our operations, which could result in lawsuits, government claims, investigations or proceedings, significant losses or reputational damage. Due to the fast-moving pace of technology, it may be difficult to detect, contain and remediate every such event.

We may be required to expend significant additional resources to modify our protective measures or to investigate and remediate vulnerabilities or other exposures, and we may be subject to financial losses. Furthermore, the amount and scope of insurance we maintain may not cover all expenses related to such activities or all types of claims that may arise.

As a result of the increasing awareness concerning the importance of safeguarding personal information, the potential misuse of such information and legislation that has been adopted or is being considered regarding the protection, privacy and security of personal information, the potential liability associated with information-related risks is increasing, particularly for businesses like ours that handle personal subscriber data. The occurrence of any network or information system related events or security breaches could have a material adverse effect on our reputation, business, financial condition and results of operations. Significant incidents could result in a disruption of our operations, subscriber dissatisfaction, damage to our reputation or a loss of subscribers and revenues.

Our failure to effectively invest in, introduce, and implement new competitive products and services could cause our products and services to become obsolete and could negatively impact our business.

Technology in the pay-TV and wireless industries changes rapidly as new technologies are developed, which could cause our products and services to become obsolete. We and our suppliers may not be able to keep pace with technological developments. Our operating results are dependent to a significant extent upon our ability to continue to introduce new products and services, to upgrade existing products and services on a timely basis, and to reduce costs of our existing products and services. We may not be able to successfully identify new product or service opportunities or develop and market these opportunities in a timely or cost-effective manner.

The research and development of new, technologically advanced products is a complex and uncertain process requiring high levels of innovation and investment. The success of new product and service development depends on many factors, including among others, the following:

- difficulties and delays in the development, production, timely completion, testing and marketing of products and services;
- the cost of the products and services;
- proper identification of subscriber need and subscriber acceptance of products and services;
- the development of, approval of and compliance with industry standards;
- the amount of resources we must devote to the development of new technologies; and
- the ability to differentiate our products and services and compete with other companies in the same markets.

If the new technologies on which we focus our research and development investments fail to achieve acceptance in the marketplace, our competitive position could be negatively impacted, causing a reduction in our revenues and earnings. For example, our competitors could use proprietary technologies that are perceived by the market as being superior. In addition, delays in the delivery of components or other unforeseen problems associated with our technology may occur that could materially and adversely affect our ability to generate revenue, offer new products and services and remain competitive. Further, after we have incurred substantial costs, one or more of the products or services under our development, or under development by one or more of our strategic partners, could become obsolete prior to it being widely adopted.

If our products and services are not competitive, our business could suffer and our financial performance could be negatively impacted. Our products and services may also experience quality problems, including outages and service slowdowns, from time to time. If the quality of our products and services do not meet our subscribers' expectations, then our business, and ultimately our reputation, could be negatively impacted.

We rely on a single vendor or a limited number of vendors to provide certain key products or services to us, and the inability of these key vendors to meet our needs could have a material adverse effect on our business.

Historically, we have contracted with and rely on a single vendor or a limited number of vendors to provide certain key products or services to us such as information technology support, billing systems, security access devices, and many components that we provide to subscribers in order to deliver our Pay-TV or wireless services. We also rely on a limited number of vendors to supply our wireless handsets that we resell to subscribers. If these vendors are unable to meet our needs because they fail to perform adequately, are no longer in business, are experiencing shortages or discontinue a certain product or service we need, our business, financial condition and results of operations may be adversely affected.

We have experienced in the past and may continue to experience shortages driven by raw material availability (which may be negatively impacted by, among other things, trade protection policies such as tariffs and/or escalating trade tensions, particularly with countries in Asia), manufacturing capacity, labor shortages, industry allocations, natural disasters, logistical delays and significant changes in the financial or business conditions of its suppliers that negatively impact our operations.

While alternative sources for these products and services exist, we may not be able to develop these alternative sources quickly and cost-effectively, which could materially impair our ability to timely deliver our products to our subscribers or operate our business. Furthermore, our vendors may request changes in pricing, payment terms or other contractual obligations between the parties, which could require us to make substantial additional investments.

We depend on independent third parties to solicit orders for our services that represent a meaningful percentage of our total gross new subscriber activations.

While we offer products and services through direct sales channels, a meaningful percentage of our total gross new subscriber activations are generated through independent third parties such as small retailers, direct marketing groups, local and regional consumer electronics stores, nationwide retailers, and telecommunications companies. Most of our independent third-party retailers are not exclusive to us and some of our independent third-party retailers may favor our competitors' products and services over ours based on the relative financial arrangements associated with marketing our products and services and those of our competitors. Furthermore, most of these independent third-party retailers are significantly smaller than we are and may be more susceptible to economic weaknesses that make it more difficult for them to operate profitably. Because our independent third-party retailers receive most of their incentive value at activation and not over an extended period of time, our interests may not always be aligned with our independent third-party retailers. It may be difficult to better align our interests with our independent third-party retailers because of their capital and liquidity constraints. Loss of these relationships could have an adverse effect on our subscriber base and certain of our other key operating metrics because we may not be able to develop comparable alternative distribution channels.

We have limited satellite capacity and failures or reduced capacity could adversely affect our business, financial condition and results of operations.

Operation of our DISH TV services requires that we have adequate satellite transmission capacity for the programming we offer. While we generally have had in-orbit satellite capacity sufficient to transmit our existing channels and some backup capacity to recover the transmission of certain critical programming, our backup capacity is limited.

Our ability to earn revenue from our DISH TV services depends on the usefulness of our owned and leased satellites, each of which has a limited useful life. A number of factors affect the useful lives of the satellites, including, among other things, the quality of their construction, the durability of their component parts, the ability to continue to maintain proper orbit and control over the satellite's functions, the efficiency of the launch vehicle used, and the remaining on-board fuel following orbit insertion. Generally, the minimum design life of each of our owned and leased satellites ranges from 12 to 15 years. We can provide no assurance, however, as to the actual useful lives of any of these satellites. Our operating results could be adversely affected if the useful life of any of our owned or leased satellites were significantly shorter than the minimum design life.

Satellites are subject to significant operational risks while in orbit. These risks include malfunctions, commonly referred to as anomalies, which have occurred in our satellites and the satellites of other operators as a result of various factors, such as manufacturing defects, problems with the power systems or control systems of the satellites and general failures resulting from operating satellites in the harsh environment of space.

In the event of a failure or loss of any of our owned or leased satellites, we may need to acquire or lease additional satellite capacity or relocate one of our other owned or leased satellites and use it as a replacement for the failed or lost satellite, any of which could have a material adverse effect on our business, financial condition and results of operations. Such a failure could result in a prolonged loss of critical programming. A relocation would require FCC approval, and we cannot be certain that we could obtain such FCC approval. If we choose to use a satellite in this manner, such use could adversely affect our ability to satisfy certain operational conditions associated with our authorizations and could result in the loss of such authorizations, which would have an adverse effect on our ability to generate revenues.

From time to time, new satellites need to be built and launched. Satellite construction and launch is subject to significant risks, including construction and launch delays, launch failure and incorrect orbital placement.

Other than in certain limited circumstances, we do not carry commercial in-orbit insurance on any of the satellites we own, and generally do not use commercial insurance to mitigate the potential financial impact of in-orbit failures because we believe that the cost of insurance premiums is uneconomical relative to the risk of such failures. If one or more of our owned in-orbit satellites fail, we could be required to record significant impairment charges.

We may have potential conflicts of interest with EchoStar due to our common ownership and management.

Questions relating to conflicts of interest may arise between EchoStar and us in a number of areas relating to our past and ongoing relationships. Areas in which conflicts of interest between EchoStar and us could arise include, but are not limited to, the following:

- *Cross officerships, directorships and stock ownership.* We have certain overlap in directors and executive officers with EchoStar. These individuals may have actual or apparent conflicts of interest with respect to matters involving or affecting each company. Currently, our Board of Directors and executive officers includes Charles W. Ergen, who serves as the Chairman of EchoStar and our Chairman. Mr. Ergen also has fiduciary duties to EchoStar's shareholders. For example, there is the potential for a conflict of interest when we or EchoStar look at acquisitions and other business opportunities that may be suitable for both companies. In addition, certain of our directors and officers own EchoStar stock. Mr. Ergen beneficially owns approximately 53.5% of EchoStar's total equity securities (assuming conversion of all Class B common stock into Class A common stock) and controls approximately 91.6% of the voting power of EchoStar. These ownership interests could create actual, apparent or potential conflicts of interest when these individuals are faced with decisions that could have different implications for us and EchoStar. Furthermore, Mr. Ergen is employed by both us and EchoStar.

- *Intercompany agreements with EchoStar.* In connection with and following the Spin-off, Share Exchange Agreement and Master Transaction Agreement (as defined in Note 16 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K), we and EchoStar have entered into certain agreements pursuant to which we obtain certain products, services and rights from EchoStar, EchoStar obtains certain products, services and rights from us, and we and EchoStar have indemnified each other against certain liabilities arising from our respective businesses. See Note 20 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information on our Related Party Transactions with EchoStar. The terms of certain of these agreements were established while EchoStar was a wholly-owned subsidiary of us and were not the result of arm's length negotiations. The allocation of assets, liabilities, rights, indemnifications and other obligations between EchoStar and us under the separation and other intercompany agreements we entered into with EchoStar, in connection with the Spin-off, may have been different if agreed to by two unaffiliated parties. Had these agreements been negotiated with unaffiliated third parties, their terms may have been more favorable, or less favorable, to us. In addition, conflicts could arise between us and EchoStar in the interpretation or any extension or renegotiation of these existing agreements.
- *Additional intercompany transactions.* EchoStar and its subsidiaries have and may continue to enter into transactions with us and our subsidiaries. Although the terms of any such transactions will be established based upon negotiations between EchoStar and us and, when appropriate, subject to the approval of a committee of the non-interlocking directors or in certain instances non-interlocking management, there can be no assurance that the terms of any such transactions will be as favorable to us or our subsidiaries or affiliates as may otherwise be obtained between unaffiliated parties.
- *Business opportunities.* We have historically retained, and in the future may acquire, interests in various companies that have subsidiaries or controlled affiliates that own or operate domestic or foreign services that may compete with services offered by EchoStar. We may also compete with EchoStar when we participate in auctions for spectrum or orbital slots for our satellites.

We may not be able to resolve any potential conflicts of interest with EchoStar, and, even if we do so, the resolution may be less favorable to us than if we were dealing with an unaffiliated party. We do not have agreements with EchoStar that would prevent either company from competing with the other.

We rely on highly skilled personnel for our business, and any inability to hire and retain key personnel or hire qualified personnel may negatively affect our business, financial condition and results of operations.

We believe that our future success will depend to a significant extent upon the performance of Charles W. Ergen, our Chairman, and certain other executives. The loss of Mr. Ergen or of certain other key executives could have a material adverse effect on our business, financial condition and results of operations. Although all of our executives have executed agreements with certain non-competition restrictions that apply if they leave us, we do not have employment agreements with any of them. Mr. Ergen also serves as the Chairman of EchoStar. To the extent our officers are performing services for EchoStar, this may divert their time and attention away from our business and may therefore adversely affect our business.

In addition, technological innovation is important to our success and depends, to a significant degree, on the work of technically skilled employees. If we are unable to attract and retain appropriately technically skilled employees, our competitive position could be materially and adversely affected. Furthermore, we believe that our wireless business, including our ability to meet build-out requirements, is dependent on our ability to identify, hire, develop, motivate, and retain a team of highly skilled personnel with knowledge of the wireless industry. Our wireless business will be adversely affected if we fail to effectively identify, hire, develop, motivate, and retain highly skilled personnel with knowledge of the wireless industry.

Acquisition and Capital Structure Risks

We have made substantial investments to acquire certain wireless spectrum licenses and other related assets, and we may be unable to realize a return on these assets.

We have directly invested over \$11 billion to acquire certain wireless spectrum licenses and related assets. See Note 2 and Note 16 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for detailed information regarding these licenses, including certain interim and final build-out requirements, as well as certain renewal requirements.

We will need to make significant additional investments or partner with others to, among other things, complete our 5G Network Deployment and further commercialize, build-out and integrate these licenses and related assets and any additional acquired licenses and related assets, as well as to comply with regulations applicable to such licenses. Depending on the nature and scope of such activities, any such investments or partnerships could vary significantly. In addition, as we complete our 5G Network Deployment we will incur significant additional expenses and will have to make significant investments related to, among other things, research and development, wireless testing and wireless network infrastructure. We may also determine that additional wireless spectrum licenses may be required to complete our 5G Network Deployment and to compete with other wireless service providers. See Note 16 for information regarding our participation in the wireless spectrum auction for the Upper Microwave Flexible Use Service licenses in the 37 GHz, 39 GHz and 47 GHz bands.

There is no assurance that the FCC will find our 5G Network Deployment sufficient to meet the build-out requirements to which our wireless spectrum licenses are subject. Failure to comply with FCC build-out requirements and/or renewal requirements in a given license area could result in revocation of the license for that license area. The revocation of a material portion of our wireless spectrum licenses would have a significant material adverse effect on our 5G Network Deployment and our future business, results of operations and financial condition.

In addition, we may need to raise significant additional capital in the future to fund the efforts described above, which may not be available on acceptable terms or at all. There can be no assurance that we will be able to develop and implement a business model that will realize a return on these wireless spectrum licenses or that we will be able to profitably deploy the assets represented by these wireless spectrum licenses, which may affect the carrying amount of these assets and our future financial condition or results of operations.

Furthermore, the fair values of wireless spectrum licenses and related assets may vary significantly in the future. In particular, valuation swings could occur if:

- consolidation in the wireless industry allows or requires wireless carriers to sell significant portions of their wireless spectrum holdings, which could in turn reduce the value of our spectrum holdings;
- a sale of spectrum by one or more wireless providers occurs;
- the FCC pursues certain policies designed to increase the number of wireless spectrum licenses available in each of our markets; or
- the FCC conducts additional wireless spectrum auctions.

If the fair value of our wireless spectrum licenses were to decline significantly, the value of these licenses could be subject to impairment charges. We assess potential impairments to our indefinite-lived intangible assets annually or more often if indicators of impairment arise to determine whether there is evidence that indicate an impairment condition may exist.

We capitalize our interest expense associated with the acquisition or construction of certain assets, including, among other things, our wireless spectrum licenses. As the carrying amount of these licenses exceeds the carrying value of our long-term debt, materially all of our interest expense is being capitalized. This capitalized interest increases the carrying amount of these licenses for purposes of impairment testing, under which we consider whether it is more likely than not that the fair value of these licenses exceeds the carrying amount of these licenses. An increase in the carrying amount of these licenses combined with other changes in circumstances and/or market conditions could result in an increased risk of an impairment of these licenses in the future and an impairment of these assets may have a material adverse effect on our business, results of operations and financial condition.

We have made substantial non-controlling investments in the Northstar Entities and the SNR Entities related to AWS-3 wireless spectrum licenses, and we may be unable to obtain a profitable return on these investments.

During 2015, through our wholly-owned subsidiaries American II and American III, we initially made over \$10 billion in certain non-controlling investments in Northstar Spectrum, the parent company of Northstar Wireless (collectively, the “Northstar Entities”), and in SNR HoldCo, the parent company of SNR Wireless (collectively, the “SNR Entities”), respectively. Northstar Wireless and SNR Wireless each participated in Auction 97 for the purpose of acquiring certain AWS-3 licenses, and were granted 261 and 244 AWS-3 Licenses (the “AWS-3 Licenses”), respectively, which are subject to certain interim and final build-out requirements. On November 23, 2020, the FCC released a Memorandum Opinion and Order on Remand, FCC 20-160, that found that Northstar Wireless and SNR Wireless are not eligible for bidding credits based on the FCC’s determination that they remain under DISH Network’s *de facto* control. Northstar Wireless and SNR Wireless have appealed the FCC’s order to the D.C. Circuit Court of Appeals. See Note 16 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for detailed information regarding these investments, including the operative agreements governing the investments, the FCC’s determination of our *de facto* control, the potential re-auction payments for certain AWS-3 licenses retained by the FCC, and the build-out requirements for the AWS-3 Licenses.

We do not own or control the Northstar Licenses or the SNR Licenses nor do we control the Northstar Entities or the SNR Entities. We do not have a right to require Northstar Manager or SNR Management to sell their respective ownership interests in Northstar Spectrum and SNR Holdco to us. Northstar Manager, as the sole manager of Northstar Spectrum, and SNR Management, as the sole manager of SNR Holdco, will have the exclusive right and power to manage, operate and control Northstar Spectrum and SNR Holdco, respectively, subject to certain limited protective provisions for the benefit of American II and American III, respectively. Northstar Manager and SNR Management will have the ability, but not the obligation, to require Northstar Spectrum and SNR Holdco, respectively, to purchase Northstar Manager’s and SNR Management’s ownership interests in those respective entities, beginning in the fourth quarter 2020, which was not exercised and expired in January 2021, and beginning in the fourth quarter 2021. Thus, we cannot be certain that the Northstar Licenses or the SNR Licenses will be developed in a manner fully consistent with our current or future business plans.

In addition, we may need to make significant additional loans to the Northstar Entities and the SNR Entities, or they may need to partner with others, so that the Northstar Entities and the SNR Entities may commercialize, build-out and integrate the AWS-3 Licenses, comply with regulations applicable to the AWS-3 Licenses, and make any potential re-auction payments for the AWS-3 licenses retained by the FCC. Depending upon the nature and scope of such commercialization, build-out and integration efforts, regulatory compliance, and potential re-auction payments, any loans, equity contributions or partnerships could vary significantly. There can be no assurance that we will be able to obtain a profitable return on our non-controlling investments in the Northstar Entities and the SNR Entities. Any of the following risks, among others, may have a material adverse effect on our business, results of operations and financial condition.

Furthermore, litigation surrounding designated entity structures, increased regulatory scrutiny or third party or government lawsuits with respect to our non-controlling investments in the Northstar Entities and the SNR Entities could result in fines, and in certain cases, license revocation and/or criminal penalties, which could have a material adverse effect on our business, financial condition or results of operations.

We may pursue acquisitions and other strategic transactions to complement or expand our business that may not be successful, and we may lose up to the entire value of our investment in these acquisitions and transactions.

Our future success may depend on opportunities to buy other businesses or technologies that could complement, enhance or expand our current businesses or products or that might otherwise offer us growth opportunities. To pursue this strategy successfully, we must identify attractive acquisition or investment opportunities and successfully complete transactions, some of which may be large and complex. We may not be able to identify or complete attractive acquisition or investment opportunities due to, among other things, the intense competition for these transactions. If we are not able to identify and complete such acquisition or investment opportunities, our future results of operations and financial condition may be adversely affected.

We may be unable to obtain in the anticipated timeframe, or at all, any regulatory approvals required to complete proposed acquisitions and other strategic transactions. Furthermore, the conditions imposed for obtaining any necessary approvals could delay the completion of such transactions for a significant period of time or prevent them from occurring at all. We may not be able to complete such transactions and such transactions, if executed, pose significant risks and could have a negative effect on our operations. Any transactions that we are able to identify and complete may involve a number of risks, including:

- the diversion of our management's attention from our existing businesses to integrate the operations and personnel of the acquired or combined business or joint venture;
- possible adverse effects on our operating results during the integration process;
- a high degree of risk inherent in these transactions, which could become substantial over time, and higher exposure to significant financial losses if the underlying ventures are not successful;
- our possible inability to achieve the intended objectives of the transaction; and
- the risks associated with complying with contractual provisions and regulations applicable to the acquired business, which may cause us to incur substantial expenses.

In addition, we may not be able to successfully or profitably integrate, operate, maintain and manage our newly acquired operations or employees. We may not be able to maintain uniform standards, controls, procedures and policies, and this may lead to operational inefficiencies. In addition, the integration process may strain our financial and managerial controls and reporting systems and procedures.

New acquisitions, joint ventures and other transactions may require the commitment of significant capital that would otherwise be directed to investments in our existing business. To pursue acquisitions and other strategic transactions, we may need to raise additional capital in the future, which may not be available on acceptable terms or at all.

In addition to committing capital to complete the acquisitions, substantial capital may be required to operate the acquired businesses following their acquisition. These acquisitions may result in significant financial losses if the intended objectives of the transactions are not achieved. Some of the businesses that we have acquired have experienced significant operating and financial challenges in their recent history, which in some cases resulted in these businesses commencing bankruptcy proceedings prior to our acquisition. We may acquire similar businesses in the future.

There is no assurance that we will be able to successfully address the challenges and risks encountered by these businesses following their acquisition. If we are unable to successfully address these challenges and risks, our business, financial condition and/or results of operations may suffer.

We have substantial debt outstanding and may incur additional debt.

As of December 31, 2020, our total long-term debt and finance lease obligations, including the debt of our subsidiaries, was \$15.702 billion. Our debt levels could have significant consequences, including:

- making it more difficult to satisfy our obligations;
- a dilutive effect on our outstanding equity capital or future earnings;
- increasing our vulnerability to general adverse economic conditions, including changes in interest rates;
- requiring us to devote a substantial portion of our cash to make interest and principal payments on our debt, thereby reducing the amount of cash available for other purposes. As a result, we would have limited financial and operating flexibility in responding to changing economic and competitive conditions;
- limiting our ability to raise additional debt because it may be more difficult for us to obtain debt financing on attractive terms; and
- placing us at a disadvantage compared to our competitors that are less leveraged.

In addition, we may incur substantial additional debt in the future. The terms of the indentures relating to our senior notes permit us to incur additional debt. If new debt is added to our current debt levels, the risks we now face could intensify.

We may need additional capital, which may not be available on acceptable terms or at all, to continue investing in our business and to finance acquisitions and other strategic transactions.

We may need to raise significant additional capital in the future, which may not be available on acceptable terms or at all, to among other things, continue investing in our business, complete our 5G Network Deployment and to pursue acquisitions and other strategic transactions (including significant investments in wireless). Weakness in the equity markets could make it difficult for us to raise equity financing without incurring substantial dilution to our existing shareholders. Adverse changes in the credit markets, including rising interest rates, could increase our borrowing costs and/or make it more difficult for us to obtain financing for our operations or refinance existing indebtedness.

In addition, economic weakness or weak results of operations may limit our ability to generate sufficient internal cash to fund investments, capital expenditures, acquisitions and other strategic transactions, as well as to fund ongoing operations and service our debt. We may be unable to generate cash flows from operating activities sufficient to pay the principal, premium, if any, and interest on our debt and other obligations. If we are unable to service our debt and other obligations from cash flows from operating activities, we may need to refinance or restructure all or a portion of such obligations prior to maturity. Any refinancing or restructuring could have a material adverse effect on our business, results of operations and/or financial condition. In addition, we cannot guarantee that any refinancing or restructuring would sufficiently meet any debt or other obligations then due. Furthermore, our borrowing costs can be affected by short and long-term debt ratings assigned by independent rating agencies, which are based, in significant part, on our performance as measured by their credit metrics. A decrease in these ratings would likely increase our cost of borrowing and/or make it more difficult for us to obtain financing. A severe disruption in the global financial markets could impact some of the financial institutions with which we do business, and such instability could also affect our access to financing. As a result, these conditions make it difficult for us to accurately forecast and plan future business activities because we may not have access to funding sources necessary for us to pursue organic and strategic business development opportunities.

The conditional conversion features of our Convertible Notes, if triggered, may adversely affect our financial condition.

In the event the conditional conversion features of the Convertible Notes are triggered, holders of the Convertible Notes will be entitled to convert the Convertible Notes at any time during specified periods at their option. If one or more holders elect to convert their Convertible Notes, unless we elect to satisfy our conversion obligation by delivering solely shares of our Class A common stock, we would be required to make cash payments to satisfy all or a portion of our conversion obligation based on the conversion rate, which could adversely affect our liquidity.

In addition, even if holders do not elect to convert their Convertible Notes, we could be required under applicable accounting rules to reclassify all or a portion of the outstanding principal of the Convertible Notes as a current rather than long-term liability, which could result in a material reduction of our net working capital.

The convertible note hedge and warrant transactions that we entered into in connection with the offering of the Convertible Notes due 2026 may affect the value of the Convertible Notes due 2026 and our Class A common stock.

In connection with the offering of the Convertible Notes due 2026, we entered into convertible note hedge transactions with certain option counterparties (each an “option counterparty”). The convertible note hedge transactions are expected generally to reduce the potential dilution upon conversion of the Convertible Notes due 2026 and/or offset any cash payments we are required to make in excess of the principal amount of converted Convertible Notes due 2026, as the case may be. We also entered into warrant transactions with each option counterparty. The warrant transactions could separately have a dilutive effect on our Class A common stock to the extent that the market price per share of our Class A common stock exceeds the strike price of the warrants, unless we elect to settle the warrants in cash. In connection with establishing its initial hedge of the convertible note hedge and warrant transactions, each option counterparty or an affiliate thereof may have entered into various derivative transactions with respect to our Class A common stock concurrently with or shortly after the pricing of the Convertible Notes due 2026.

This activity could increase (or reduce the size of any decrease in) the market price of our Class A common stock or the Convertible Notes due 2026 at that time. In addition, each option counterparty or an affiliate thereof may modify its hedge position by entering into or unwinding various derivatives with respect to our Class A common stock and/or purchasing or selling our Class A common stock or other securities of ours in secondary market transactions prior to the maturity of the Convertible Notes due 2026 (and is likely to do so during any observation period related to a conversion of the Convertible Notes due 2026). This activity could also cause or avoid an increase or a decrease in the market price of our Class A common stock or the Convertible Notes due 2026. In addition, if any such convertible note hedge and warrant transactions fail to become effective, each option counterparty may unwind its hedge position with respect to our Class A common stock, which could adversely affect the value of our Class A common stock and the value of the Convertible Notes due 2026.

We are subject to counterparty risk with respect to the convertible note hedge transactions.

Each option counterparty to the convertible note hedge transactions is a financial institution, and we will be subject to the risk that it might default under the convertible note hedge transaction. Our exposure to the credit risk of an option counterparty will not be secured by any collateral. Global economic conditions have from time to time resulted in the actual or perceived failure or financial difficulties of many financial institutions, including the bankruptcy filing by Lehman Brothers Holdings Inc. and its various affiliates. If an option counterparty becomes subject to insolvency proceedings, we will become an unsecured creditor in those proceedings with a claim equal to our exposure at that time under our transactions with the option counterparty. Our exposure will depend on many factors but, generally, the increase in our exposure will be correlated to the increase in the market price and in the volatility of our Class A common stock. In addition, upon a default by an option counterparty, we may suffer adverse tax consequences and more dilution than we currently anticipate with respect to our Class A common stock. We can provide no assurances as to the financial stability or viability of any option counterparty.

From time to time a portion of our investment portfolio may be invested in securities that have limited liquidity and may not be immediately accessible to support our financing needs.

From time to time a portion of our investment portfolio may be invested in strategic investments, and as a result, a portion of our portfolio may have restricted liquidity. If the credit ratings of these securities deteriorate or there is a lack of liquidity in the marketplace, we may be required to record impairment charges. Moreover, the uncertainty of domestic and global financial markets can greatly affect the volatility and value of our marketable investment securities. In addition, a portion of our investment portfolio may include strategic and financial investments in debt and equity securities of public companies that are highly speculative and experience volatility. Typically, these investments are concentrated in a small number of companies. The fair value of these investments can be significantly impacted by the risk of adverse changes in securities markets generally, as well as risks related to the performance of the companies whose securities we have invested in, risks associated with specific industries, and other factors. These investments are subject to significant fluctuations in fair value due to the volatility of the securities markets and of the underlying businesses. The concentration of these investments as a percentage of our overall investment portfolio fluctuates from time to time based on, among other things, the size of our investment portfolio and our ability to liquidate these investments. In addition, because our portfolio may be concentrated in a limited number of companies, we may experience a significant loss if any of these companies, among other things, defaults on its obligations, performs poorly, does not generate adequate cash flow to fund its operations, is unable to obtain necessary financing on acceptable terms, or at all, or files for bankruptcy, or if the sectors in which these companies operate experience a market downturn. To the extent we require access to funds, we may need to sell these securities under unfavorable market conditions, record impairment charges and fall short of our financing needs.

We are controlled by one principal stockholder who is also our Chairman.

Charles W. Ergen, our Chairman, beneficially owns approximately 52.0% of our total equity securities (assuming conversion of all Class B common stock into Class A common stock) and controls approximately 90.4% of the total voting power. Through his voting power, Mr. Ergen has the ability to elect a majority of our directors and to control all other matters requiring the approval of our stockholders. As a result, DISH Network is a “controlled company” as defined in the Nasdaq listing rules and is, therefore, not subject to Nasdaq requirements that would otherwise require us to have: (i) a majority of independent directors; (ii) a nominating committee composed solely of independent directors; (iii) compensation of our executive officers determined by a majority of the independent directors or a compensation committee composed solely of independent directors; and (iv) director nominees selected, or recommended for the Board’s selection, either by a majority of the independent directors or a nominating committee composed solely of independent directors. Mr. Ergen is also the principal stockholder and Chairman of EchoStar.

It may be difficult for a third party to acquire us, even if doing so may be beneficial to our shareholders, because of our ownership structure.

Certain provisions of our articles of incorporation and bylaws may discourage, delay or prevent a change in control of our company that a shareholder may consider favorable. These provisions include the following:

- a capital structure with multiple classes of common stock: a Class A that entitles the holders to one vote per share, a Class B that entitles the holders to ten votes per share, a Class C that entitles the holders to one vote per share, except upon a change in control of our company in which case the holders of Class C are entitled to ten votes per share;
- a provision that authorizes the issuance of “blank check” preferred stock, which could be issued by our Board of Directors to increase the number of outstanding shares and thwart a takeover attempt;
- a provision limiting who may call special meetings of shareholders; and

- a provision establishing advance notice requirements for nominations of candidates for election to our Board of Directors or for proposing matters that can be acted upon by shareholders at shareholder meetings.

As discussed above, Charles W. Ergen, our Chairman, controls approximately 90.4% of the total voting power of our company. Such control by Mr. Ergen may make it impractical for any third party to effect a change in control of our company. In addition, pursuant to our articles of incorporation we have a significant amount of authorized and unissued stock which would allow our Board of Directors to issue shares to persons friendly to current management, thereby protecting the continuity of its management, or which could be used to dilute the stock ownership of persons seeking to obtain control of us.

Legal and Regulatory Risks

Our business depends on certain intellectual property rights and on not infringing the intellectual property rights of others.

We rely on our patents, copyrights, trademarks and trade secrets, as well as licenses and other agreements with our vendors and other parties, to use our technologies, conduct our operations and sell our products and services. Legal challenges to our intellectual property rights and claims of intellectual property infringement by third parties could require that we enter into royalty or licensing agreements on unfavorable terms, incur substantial monetary liability or be enjoined preliminarily or permanently from further use of the intellectual property in question or from the continuation of our business as currently conducted, which could require us to change our business practices or limit our ability to compete effectively or could have an adverse effect on our results of operations.

Even if we believe any such challenges or claims are without merit, they can be time-consuming and costly to defend and divert management's attention and resources away from our business. Moreover, because of the rapid pace of technological change, we rely on technologies developed or licensed by third parties, and if we are unable to obtain or continue to obtain licenses from these third parties on reasonable terms, our business, financial condition and results of operations could be adversely affected.

In addition, we work with third parties such as vendors, contractors and suppliers for the development and manufacture of components that are integrated into our products and services, and our products and services may contain technologies provided to us by these third parties or other third parties. We may have little or no ability to determine in advance whether any such technology infringes the intellectual property rights of others. Our vendors, contractors and suppliers may not be required to indemnify us if a claim of infringement is asserted against us, or they may be required to indemnify us only up to a maximum amount, above which we would be responsible for any further costs or damages.

Legal challenges to these intellectual property rights may impair our ability to use the products, services and technologies that we need in order to operate our business and may materially and adversely affect our business, financial condition and results of operations. Furthermore, our digital content offerings depend in part on effective digital rights management technology to control access to digital content. If the digital rights management technology that we use is compromised or otherwise malfunctions, content providers may be unwilling to provide access to their content. Changes in the copyright laws or how such laws may be interpreted could impact our ability to deliver content and provide certain features and functionality, particularly over the Internet.

We are, and may become, party to various lawsuits which, if adversely decided, could have a significant adverse impact on our business, particularly lawsuits regarding intellectual property.

We are, and may become, subject to various legal proceedings and claims which arise in the ordinary course of business, including among other things, intellectual property disputes. Many entities, including some of our competitors, have or may in the future obtain patents and other intellectual property rights that may cover or affect products or services related to those that we offer. In general, if a court determines that one or more of our products or services infringes on intellectual property held by others, we may be required to cease developing or marketing those products or services, to obtain licenses from the holders of the intellectual property at a material cost, or to redesign those products or services in such a way as to avoid infringing the intellectual property. If those intellectual property rights are held by a competitor, we may be unable to obtain the intellectual property at any price, which could adversely affect our competitive position. See “*Item 1. Business – Patents and Other Intellectual Property*” of this Annual Report on Form 10-K for further information. We may not be aware of all intellectual property rights that our services or the products used in connection with our services may potentially infringe. In addition, patent applications in the United States are confidential until the Patent and Trademark Office either publishes the application or issues a patent (whichever arises first). Therefore, it is difficult to evaluate the extent to which our services or the products used in connection with our services may infringe claims contained in pending patent applications. Further, it is sometimes not possible to determine definitively whether a claim of infringement is valid.

Our services depend on FCC licenses that can expire or be revoked or modified and applications for FCC licenses that may not be granted.

If the FCC were to cancel, revoke, suspend, restrict, significantly condition, or fail to renew any of our licenses or authorizations, or fail to grant our applications for FCC licenses that we may file from time to time, it could have a material adverse effect on our business, financial condition and results of operations. As an example, a loss of a frequency authorization would reduce the amount of spectrum available to us, potentially reducing the amount of DISH TV services available to our DISH TV subscribers. The materiality of such a loss of authorizations would vary based upon, among other things, the location of the frequency used or the availability of replacement spectrum. In addition, Congress often considers and enacts legislation that affects us and FCC proceedings to implement the Communications Act and enforce its regulations are ongoing. We cannot predict the outcomes of these legislative or regulatory proceedings or their effect on our business.

Wireless services and our wireless spectrum licenses are subject to regulation by the FCC and, depending on the jurisdiction, other federal, state and local, as well as international, governmental authorities and regulatory agencies, including, among other things, regulations governing the licensing, construction, operation, sale and interconnection arrangements of wireless telecommunications systems. In particular, the FCC imposes significant regulation on licensees of wireless spectrum with respect to how radio spectrum is used by licensees, the nature of the services that licensees may offer and how the services may be offered, and resolution of issues of interference between spectrum bands. The FCC grants wireless licenses for terms of generally 10-12 years that are subject to renewal or revocation. There can be no assurances that our wireless spectrum licenses will be renewed. Failure to comply with FCC build-out requirements in a given license area may result in acceleration of other build-out requirements or in the modification, cancellation, or non-renewal of licenses. See Note 16 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

If our internal controls are not effective, our business, stock price and investor confidence in our financial results may be adversely affected.

We periodically evaluate and test our internal control over financial reporting to satisfy the requirements of Section 404 of the Sarbanes-Oxley Act. Our management has concluded that our internal control over financial reporting was effective as of December 31, 2020. If in the future we are unable to report that our internal control over financial reporting is effective (or if our auditors do not agree with our assessment of the effectiveness of, or are unable to express an opinion on, our internal control over financial reporting), investors, subscribers and business partners could lose confidence in the accuracy of our financial reports, which could in turn have a material adverse effect on our business, investor confidence in our financial results may weaken, and our stock price may suffer.

We may face other risks described from time to time in periodic and current reports we file with the SEC.

Item 1B. UNRESOLVED STAFF COMMENTS

None.

Item 2. PROPERTIES

The following table sets forth certain information concerning our principal properties related to our business segments.

Description/Use/Location	Segment(s)		Leased From	
	Using Property	Owned	EchoStar	Other Third Party
Corporate headquarters, Englewood, Colorado (1)	Pay-TV / Wireless		X	
General offices, Littleton, Colorado (2)	Pay-TV / Wireless	X		
Customer call center, warehouse, service, and remanufacturing center, El Paso, Texas	Pay-TV	X		
Data Center, Cheyenne, Wyoming (2)	Pay-TV / Wireless	X		
Digital broadcast operations center, Cheyenne, Wyoming (3)	Pay-TV	X		
Digital broadcast operations center, Gilbert, Arizona (3)	Pay-TV	X		
Engineering offices and service center, Englewood, Colorado (3)	Pay-TV / Wireless	X		
General offices, Overland Park, Kansas	Wireless			X
Service and remanufacturing center, Spartanburg, South Carolina	Pay-TV / Wireless			X
Warehouse and distribution center, Denver, Colorado	Pay-TV / Wireless			X
Warehouse and distribution center, Atlanta, Georgia	Pay-TV			X
Warehouse, Denver, Colorado	Pay-TV	X		

- (1) See Note 20 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information on our Related Party Transactions with EchoStar.
- (2) These properties were transferred to us in connection with the completion of the Master Transaction Agreement.
- (3) These properties were transferred to us in connection with the completion of the Share Exchange.

In addition to the principal properties listed above, we operate numerous facilities for, among other things, our in-home service operations, customer call centers and digital broadcast operations centers strategically located in regions throughout the United States. Furthermore, we own or lease capacity on 13 satellites, which are a major component of our DISH TV services. See further information under “*Item 1. Business – Satellites*” in this Annual Report on Form 10-K.

Item 3. LEGAL PROCEEDINGS

See Note 16 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for information regarding certain legal proceedings in which we are involved.

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II**Item 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES****Market Information**

Our Class A common stock is quoted on the Nasdaq Global Select Market under the symbol "DISH."

As of February 12, 2021, there were approximately 6,650 holders of record of our Class A common stock, not including stockholders who beneficially own Class A common stock held in nominee or street name. As of February 12, 2021, all of the 238,435,208 outstanding shares of our Class B common stock were beneficially held by Charles W. Ergen, our Chairman, and by certain entities established by Mr. Ergen for the benefit of his family. There is currently no trading market for our Class B common stock.

Securities Authorized for Issuance Under Equity Compensation Plans

See "Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" in this Annual Report on Form 10-K.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

The following table provides information regarding purchases of our Class A common stock made by us for the period from October 1, 2020 through December 31, 2020.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Programs	Maximum Approximate Dollar Value of Shares that May Yet be Purchased Under the Programs (1)
			(In thousands, except share data)	
October 1, 2020 - October 31, 2020	—	\$ —	—	\$ 1,000,000
November 1, 2020 - November 30, 2020	—	\$ —	—	\$ 1,000,000
December 1, 2020 - December 31, 2020	—	\$ —	—	\$ 1,000,000
Total	—	\$ —	—	\$ 1,000,000

- (1) Our Board of Directors previously authorized stock repurchases of up to \$1.0 billion of our outstanding Class A common stock through and including December 31, 2020. On October 30, 2020, our Board of Directors extended this authorization such that we are currently authorized to repurchase up to \$1.0 billion of our outstanding Class A common stock through and including December 31, 2021. Purchases under our repurchase program may be made through open market purchases, privately negotiated transactions, or Rule 10b5-1 trading plans, subject to market conditions and other factors. We may elect not to purchase the maximum amount of shares allowable under this program and we may also enter into additional share repurchase programs authorized by our Board of Directors.

Item 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following management’s discussion and analysis of our financial condition and results of operations together with the audited consolidated financial statements and notes to our financial statements included elsewhere in this Annual Report on Form 10-K. This management’s discussion and analysis is intended to help provide an understanding of our financial condition, changes in financial condition and results of our operations and contains forward-looking statements that involve risks and uncertainties. The forward-looking statements are not historical facts, but rather are based on current expectations, estimates, assumptions and projections about our industry, business and future financial results. Our actual results could differ materially from the results contemplated by these forward-looking statements due to a number of factors, including those discussed under the caption “Item 1A. Risk Factors” and elsewhere in this Annual Report on Form 10-K. Furthermore, such forward-looking statements speak only as of the date of this Annual Report on Form 10-K and we expressly disclaim any obligation to update any forward-looking statements.

Overview

We currently operate two primary business segments, Pay-TV and Wireless. Our Wireless business segment consists of two business units, Retail Wireless and 5G Network Deployment.

Our Pay-TV business strategy is to be the best provider of video services in the United States by providing products with the best technology, outstanding customer service, and great value. We promote our Pay-TV services as providing our subscribers with a better “price-to-value” relationship than those available from other subscription television service providers. In connection with the growth in the OTT industry, we market our SLING TV services to consumers who do not subscribe to traditional satellite and cable pay-TV services, as well as to current and recent traditional pay-TV subscribers who desire a lower cost alternative.

Our Retail Wireless business unit offers prepaid and postpaid retail wireless services to subscribers under our Boost Mobile and Ting Mobile brands, as well as a competitive portfolio of wireless devices. We offer customers value by providing choice and flexibility in our wireless services. We offer competitive consumer plans with no annual service contracts. Our retail wireless business strategy is to expand our current target segments and profitably grow our subscriber base by acquiring and retaining high quality subscribers while we complete our 5G Network Deployment. We intend to acquire high quality subscribers by providing competitive offers, increased consumer value and innovative new value-added services that better meet those subscribers’ needs and budget. We intend on retaining those subscribers through compelling new value-added services and outstanding customer service. As we work to integrate our retail wireless brands one of our focuses will be to ensure that our Pay-TV subscribers are aware of the increased value available to them through our retail wireless brands.

Our 5G Network Deployment business unit strategy is to commercialize our wireless spectrum licenses through the completion of our 5G Network Deployment. To that end, we have undertaken several key steps including identifying markets to build out, making executive and management hires and entering into agreements with key vendors. For example, on November 16, 2020, we announced a long-term agreement with Crown Castle pursuant to which Crown Castle will lease us space on up to 20,000 communication towers. As part of the agreement, we will also receive certain fiber transport services and have the option to utilize Crown Castle for pre-construction services. During December 2020, we completed a successful field validation, utilizing our fully-virtualized standalone 5G core network and the industry’s first O-RAN compliant radio.

Financial Highlights

2020 Consolidated Results of Operations and Key Operating Metrics

- Revenue of \$15.493 billion
- Net income attributable to DISH Network of \$1.763 billion and basic and diluted earnings per share of common stock of \$3.36 and \$3.02, respectively
- Loss of approximately 526,000 net Pay-TV subscribers
- Loss of approximately 408,000 net DISH TV subscribers
- Loss of approximately 118,000 net SLING TV subscribers
- Pay-TV ARPU of \$91.77
- Gross new DISH TV subscriber activations of approximately 1.094 million
- DISH TV churn rate of 1.38%
- DISH TV SAC of \$851
- Gross new wireless subscriber activations of approximately 2.093 million
- Loss of approximately 575,000 net wireless subscribers
- Wireless ARPU of \$38.24

Consolidated Financial Condition as of December 31, 2020

- Cash, cash equivalents and current marketable investment securities of \$3.733 billion
- Total assets of \$38.240 billion
- Total long-term debt and finance lease obligations of \$15.702 billion

Recent Developments

COVID-19 Update

A novel strain of coronavirus which causes the disease COVID-19 has resulted in a worldwide health pandemic. To date, COVID-19 has surfaced in nearly all regions around the world and resulted in global travel restrictions and business slowdowns or shutdowns. The COVID-19 pandemic has also created unanticipated circumstances and uncertainty, disruption, and significant volatility in the economic environment generally, which have adversely affected, and may continue to adversely affect, our business operations and could materially and adversely affect our business, financial condition and results of operations. As the COVID-19 pandemic continues, many of our subscribers are impacted by recommendations and/or mandates from federal, state, and local authorities to practice social distancing, to refrain from gathering in groups and, in some areas, to refrain from non-essential movements outside of their homes. Governmental authorities are taking various actions in an effort to slow the spread of COVID-19. COVID-19 has impacted our business, in particular in the following areas:

- In response to the outbreak and business disruption, first and foremost, we have prioritized the health and safety of our employees. We have implemented increased health and safety practices including, increased use of personal protective equipment for employees to protect them and our subscribers, and temperature checks at certain locations.
- With respect to our wireless business, in March we provided access to certain of our wireless spectrum licenses to AT&T and T-Mobile for no cost for a 60-day period and NorthStar Wireless and SNR Wireless also provided access to certain of their wireless spectrum licenses at no cost to Verizon for a 60-day period. We extended access to certain wireless licenses for T-Mobile through June 30, 2020.

- Our commercial business is impacted as many bars, restaurants, and other commercial establishments have been and continue to be recommended and/or mandated to suspend all non-essential “in-person” business operations and/or operate at reduced capacity. In addition, airlines and hotels significantly reduced operations as a result of government actions and/or related lower consumer demand.
- Beginning in the second half of March 2020, COVID-19 and the related governmental recommendations and/or mandates created reduced in person selling opportunities, and a reduction in subscribers’ willingness to open direct mail marketing and allow in-home technicians into their homes. As a result, we reduced our marketing expenditures and our gross new DISH TV subscribers began to decrease.
- Our Retail Wireless business unit was impacted as governmental recommendations and/or mandates caused temporary retail store closures and reduced in person selling opportunities.
- Our OnTech Smart Services and DISH Smart Home Services brands were impacted as in-home installation and support has been impacted by government actions and/or related lower consumer demand for these services.
- Widespread unemployment may impact our subscribers’ ability to pay for the services they receive and, as a result, we have increased our allowance for credit losses as a component of “Trade accounts receivable, net” as of December 31, 2020 on our Consolidated Balance Sheets. We continue to monitor the health of our business, including the potential impact of widespread unemployment on our subscribers’ ability to pay for the services they receive.
- Our supply chain has been impacted by COVID-19, and there have been and could be additional significant and unanticipated interruptions and/or delays in the supply of materials and/or equipment across our supply chain, due to, among other things, surges in COVID-19. Furthermore, we may not be able to diversify sources of supply in a timely manner to mitigate these interruptions and/or delays. These interruptions and/or delays in our supply chain could have a material adverse effect on our business, including our Pay-TV and Retail Wireless operations, our ability to meet our build-out requirement deadlines for our wireless spectrum licenses and our 5G Network Deployment generally.
- Due to the economic climate, combined with changing needs of our subscribers and how we can best serve them, during the second quarter of 2020, we made the decision to reevaluate our organization. This included a focused set of staffing reductions to align our workforce to best serve our subscribers.

We continue to monitor the rapidly evolving situation and guidance from international and domestic authorities, including federal, state and local public health agencies and may take additional actions based on their recommendations. In these circumstances, there may be developments beyond our control requiring us to adjust our operating plan. As such, given the dynamic nature of this situation, we cannot reasonably estimate the impacts of COVID-19 on our financial condition, results of operations or cash flows in the future.

Acquisitions

We accounted for the Boost Mobile Acquisition and Ting Mobile Acquisition as business combinations. The identifiable assets acquired and liabilities assumed were recorded at their preliminary fair values as of the acquisition date and are consolidated into our financial statements. Our Consolidated Statements of Operations and Comprehensive Income (Loss) includes the results of the Boost Mobile Acquisition from July 1, 2020 and the Ting Mobile Acquisition from August 1, 2020. See Note 6 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Boost Mobile Acquisition

Asset Purchase Agreement. Effective on July 1, 2020, upon the terms and subject to the conditions set forth in the APA and in accordance with the Final Judgment, we completed the Boost Mobile Acquisition and DISH Network officially entered into the retail wireless market, serving more than 9 million customers under the Boost Mobile brand.

In connection with the Boost Mobile Acquisition and the consummation of the Sprint-T-Mobile merger, we, T-Mobile, Sprint, DT and SoftBank came to an agreement with the DOJ on key terms and approval of the Transaction Agreements and our wireless service business and spectrum. On July 26, 2019, the Defendants entered into the Stipulation and Order with the DOJ binding the Defendants to the Proposed Final Judgment, which memorialized the agreement between the DOJ and the Defendants. The Stipulation and Order and the Proposed Final Judgment were filed in the District Court on July 26, 2019 and on April 1, 2020, the Final Judgment was entered with the District Court.

Ting Mobile Acquisition

On August 1, 2020, we completed the Ting Mobile Acquisition. In addition, we entered into a services agreement pursuant to which Tucows will act as a mobile virtual network enabler for certain of our retail wireless subscribers. The consideration for the Ting Mobile Acquisition is an earn out provision and the fair value of the earn out provision has been assigned to a customer relationship intangible that is recorded in “Intangible assets, net” with the offset recorded in “Long-term deferred revenue and other long-term liabilities” on our Consolidated Balance Sheets. See Note 6 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

EXPLANATION OF KEY METRICS AND OTHER ITEMS

Service revenue. “Service revenue” consists principally of Pay-TV subscriber revenue and fixed monthly recurring charges for wireless voice, text, and data services and other fees earned from our retail wireless business unit. Certain of the amounts included in “Service revenue” are not recurring on a monthly basis.

Equipment sales and other revenue. “Equipment sales and other revenue” principally includes the sale of wireless devices and the non-subsidized sales of Pay-TV equipment.

Cost of services. “Cost of services” principally include Pay-TV programming expenses and other operating costs related to our Pay-TV segment, costs of wireless services (including costs incurred under the MNSA), as well as costs associated with our SLING TV services.

Cost of sales - equipment and other. “Cost of sales – equipment and other” principally includes the cost of wireless devices and other related items as well as costs related to the non-subsidized sales of Pay-TV equipment. Costs are generally recognized as products are delivered to customers and the related revenue is recognized.

Selling, general and administrative expenses. “Selling, general and administrative expenses” consists primarily of direct sales costs, advertising, third-party commissions related to the acquisition of subscribers, costs related to the installation of our new Pay-TV subscribers, the cost of subsidized sales of Pay-TV equipment for new subscribers and employee-related costs associated with administrative services such as legal, information systems, and accounting and finance.

Interest expense, net of amounts capitalized. “Interest expense, net of amounts capitalized” primarily includes interest expense (net of capitalized interest), prepayment premiums, amortization of debt discounts and debt issuance costs associated with our long-term debt, and interest expense associated with our finance lease obligations.

Other, net. The main components of “Other, net” are gains and losses realized on the sale and/or conversion of marketable and non-marketable investment securities and derivative instruments, impairment of marketable and non-marketable investment securities, unrealized gains and losses from changes in fair value of certain marketable investment securities and derivative instruments, and equity in earnings and losses of our affiliates.

Earnings before interest, taxes, depreciation and amortization (“EBITDA”). EBITDA is defined as “Net income (loss) attributable to DISH Network” plus “Interest expense, net of amounts capitalized” net of “Interest income,” “Income tax (provision) benefit, net” and “Depreciation and amortization.” This “non-GAAP measure” is reconciled to “Net income (loss) attributable to DISH Network” in our discussion of “Results of Operations” below.

Operating income before depreciation and amortization (“OIBDA”). OIBDA is defined as “Operating income (loss)” plus “Depreciation and amortization.” This “non-GAAP measure” is reconciled to “Operating income (loss)” in our discussion of “Results of Operations” below.

DISH TV subscribers. We include customers obtained through direct sales, independent third-party retailers and other independent third-party distribution relationships in our DISH TV subscriber count. We also provide DISH TV services to hotels, motels and other commercial accounts. For certain of these commercial accounts, we divide our total revenue for these commercial accounts by \$34.99, and include the resulting number, which is substantially smaller than the actual number of commercial units served, in our DISH TV subscriber count.

SLING TV subscribers. We include customers obtained through direct sales and third-party marketing agreements in our SLING TV subscriber count. SLING TV subscribers are recorded net of disconnects. SLING TV customers receiving service for no charge, under certain new subscriber promotions, are excluded from our SLING TV subscriber count. For customers who subscribe to multiple SLING TV packages, each customer is only counted as one SLING TV subscriber.

Pay-TV subscribers. Our Pay-TV subscriber count includes all DISH TV and SLING TV subscribers discussed above. For customers who subscribe to both our DISH TV services and our SLING TV services, each subscription is counted as a separate Pay-TV subscriber.

Pay-TV average monthly revenue per subscriber (“Pay-TV ARPU”). We are not aware of any uniform standards for calculating ARPU and believe presentations of ARPU may not be calculated consistently by other companies in the same or similar businesses. We calculate Pay-TV average monthly revenue per Pay-TV subscriber, or Pay-TV ARPU, by dividing average monthly Pay-TV segment “Service revenue,” excluding revenue from broadband services, for the period by our average number of Pay-TV subscribers for the period. The average number of Pay-TV subscribers is calculated for the period by adding the average number of Pay-TV subscribers for each month and dividing by the number of months in the period. The average number of Pay-TV subscribers for each month is calculated by adding the beginning and ending Pay-TV subscribers for the month and dividing by two. SLING TV subscribers on average purchase lower priced programming services than DISH TV subscribers, and therefore, as SLING TV subscribers increase, it has had a negative impact on Pay-TV ARPU.

DISH TV average monthly subscriber churn rate (“DISH TV churn rate”). We are not aware of any uniform standards for calculating subscriber churn rate and believe presentations of subscriber churn rates may not be calculated consistently by different companies in the same or similar businesses. We calculate DISH TV churn rate for any period by dividing the number of DISH TV subscribers who terminated service during the period by the average number of DISH TV subscribers for the same period, and further dividing by the number of months in the period. The average number of DISH TV subscribers is calculated for the period by adding the average number of DISH TV subscribers for each month and dividing by the number of months in the period. The average number of DISH TV subscribers for each month is calculated by adding the beginning and ending DISH TV subscribers for the month and dividing by two.

DISH TV SAC. Subscriber acquisition cost measures are commonly used by those evaluating traditional companies in the pay-TV industry. We are not aware of any uniform standards for calculating the “average subscriber acquisition costs per new DISH TV subscriber activation,” or DISH TV SAC, and we believe presentations of pay-TV SAC may not be calculated consistently by different companies in the same or similar businesses. Our DISH TV SAC is calculated using all of costs of acquiring DISH TV subscribers (e.g., subsidized equipment, advertising, installation, commissions and direct sales, etc.) which are included in “Selling, general and administrative expenses,” plus capitalized payments made under certain sales incentive programs and the value of equipment capitalized under our lease program for new DISH TV subscribers, divided by gross new DISH TV subscriber activations. We include all new DISH TV subscribers in our calculation, including DISH TV subscribers added with little or no subscriber acquisition costs. Although we no longer have a separate line item for subscriber acquisition costs on our Consolidated Statements of Operations and Comprehensive Income (Loss), our methodology for calculating DISH TV SAC is unchanged from prior periods.

Wireless subscribers. We include prepaid and postpaid customers obtained through direct sales, independent third-party retailers and other independent third-party distribution relationships in our wireless subscriber count.

Wireless average monthly revenue per subscriber (“Wireless ARPU”). We are not aware of any uniform standards for calculating ARPU and believe presentations of ARPU may not be calculated consistently by other companies in the same or similar businesses. We calculate average monthly revenue per wireless subscriber, or Wireless ARPU, by dividing average monthly retail wireless business unit “Service revenue” for the period by our average number of wireless subscribers for the period. The average number of wireless subscribers is calculated for the period by adding the average number of wireless subscribers for each month and dividing by the number of months in the period. The average number of wireless subscribers for each month is calculated by adding the beginning and ending wireless subscribers for the month and dividing by two.

Wireless average monthly subscriber churn rate (“Wireless churn rate”). We are not aware of any uniform standards for calculating subscriber churn rate and believe presentations of subscriber churn rates may not be calculated consistently by different companies in the same or similar businesses. We calculate our “Wireless churn rate” for any period by dividing the number of wireless subscribers who terminated service during the period by the average number of wireless subscribers for the same period, and further dividing by the number of months in the period. The average number of wireless subscribers is calculated for the period by adding the average number of wireless subscribers for each month and dividing by the number of months in the period. The average number of wireless subscribers for each month is calculated by adding the beginning and ending wireless subscribers for the month and dividing by two.

Free cash flow. We define free cash flow as “Net cash flows from operating activities” less “Purchases of property and equipment” and “Capitalized interest related to FCC authorizations,” as shown on our Consolidated Statements of Cash Flows.

RESULTS OF OPERATIONS – Segments

Business Segments

We currently operate two primary business segments: (1) our Pay-TV segment; and (2) our Wireless segment. Our Wireless segment consists of two business units, the Retail Wireless business unit and 5G Network Deployment business unit. Revenue and operating income (loss) by segment are shown in the table below:

Year Ended December 31, 2020 Compared to the Year Ended December 31, 2019.

	For the Years Ended December 31,		Variance	
	2020	2019	Amount	%
	(In thousands)			
Revenue:				
Pay-TV	\$ 12,897,413	\$ 12,810,248	\$ 87,165	0.7
Wireless	2,599,842	1,673	2,598,169	*
Eliminations	(3,820)	(4,237)	417	9.8
Total revenue	\$ 15,493,435	\$ 12,807,684	\$ 2,685,751	21.0
Operating income (loss):				
Pay-TV	\$ 2,903,183	\$ 1,961,700	\$ 941,483	48.0
Wireless	(320,568)	(82,824)	(237,744)	*
Eliminations	—	—	—	*
Total operating income (loss)	\$ 2,582,615	\$ 1,878,876	\$ 703,739	37.5

* Percentage is not meaningful.

Total revenue. Our consolidated revenue totaled \$15.493 billion for the year ended December 31, 2020, an increase of \$2.686 billion or 21.0% compared to the same period in 2019. The increase primarily resulted from the completion of the Boost Mobile Acquisition.

Total operating income (loss). Our consolidated operating income totaled \$2.583 billion for the year ended December 31, 2020, an increase of \$704 million or 37.5% compared to the same period in 2019. The change primarily resulted from an increase in the operating income from our Pay-TV segment and our Retail Wireless business unit, partially offset by an increase in operating losses associated with our 5G Network Deployment business unit, principally related to an “Impairment of long-lived assets” of \$356 million in the first quarter of 2020.

Pay-TV Segment

We offer pay-TV services under the DISH[®] brand and the SLING[®] brand (collectively “Pay-TV” services). As of December 31, 2020, we had 11.290 million Pay-TV subscribers in the United States, including 8.816 million DISH TV subscribers and 2.474 million SLING TV subscribers.

We market our SLING TV services to consumers who do not subscribe to traditional satellite and cable pay-TV services, as well as to current and recent traditional pay-TV subscribers who desire a lower cost alternative. Our SLING TV services require an Internet connection and are available on multiple streaming-capable devices including streaming media devices, TVs, tablets, computers, game consoles and phones. We offer SLING domestic, SLING International, and SLING Latino video programming services.

Trends in our Pay-TV Segment

Competition

Competition has intensified in recent years as the pay-TV industry has matured. We and our competitors increasingly must seek to attract a greater proportion of new subscribers from each other’s existing subscriber bases rather than from first-time purchasers of pay-TV services. We face substantial competition from established pay-TV providers and broadband service providers and increasing competition from companies providing/facilitating the delivery of video content via the Internet to computers, televisions, and other streaming and mobile devices, including wireless service providers. In recent years, industry consolidation and convergence has created competitors with greater scale and multiple product/service offerings. These developments, among others, have contributed to intense and increasing competition, and we expect such competition to continue.

We incur significant costs to retain our existing DISH TV subscribers, mostly as a result of upgrading their equipment to next generation receivers, primarily including our Hopper receivers, and by providing retention credits. Our DISH TV subscriber retention costs may vary significantly from period to period.

Many of our competitors have been especially aggressive by offering discounted programming and services for both new and existing subscribers, including bundled offers combining broadband, video and/or wireless services and other promotional offers. Certain competitors have been able to subsidize the price of video services with the price of broadband and/or wireless services.

Our Pay-TV services also face increased competition from programmers and other companies who distribute video directly to consumers over the Internet, as well as traditional satellite television providers, cable companies and large telecommunications companies that are increasing their Internet-based video offerings. We also face competition from providers of video content, many of which are providers of our programming content, that distribute content over the Internet including services with live-linear television programming, as well as single programmer offerings and offerings of large libraries of on-demand content, including in certain cases original content. These providers include, among others, Netflix, Hulu, Apple, Amazon, Alphabet, Disney, Verizon, AT&T, T-Mobile, ViacomCBS, STARZ, Peacock, Fubo and Philo.

Significant changes in consumer behavior with regard to the means by which consumers obtain video entertainment and information in response to digital media competition could have a material adverse effect on our business, results of operations and financial condition or otherwise disrupt our business. In particular, consumers have shown increased interest in viewing certain video programming in any place, at any time and/or on any broadband-connected device they choose. Online content providers may cause our subscribers to disconnect our DISH TV services (“cord cutting”), downgrade to smaller, less expensive programming packages (“cord shaving”) or elect to purchase through these online content providers a certain portion of the services that they would have historically purchased from us, such as pay per view movies.

Mergers and acquisitions, joint ventures and alliances among cable television providers, telecommunications companies, programming providers and others may result in, among other things, greater scale and financial leverage and increase the availability of offerings from providers capable of bundling video, broadband and/or wireless services in competition with our services and may exacerbate the risks described in our public filings. These transactions may affect us adversely by, among other things, making it more difficult for us to obtain access to certain programming networks on nondiscriminatory and fair terms, or at all.

Our Pay-TV subscriber base has been declining due to, among other things, the factors described above. There can be no assurance that our Pay-TV subscriber base will not continue to decline and that the pace of such decline will not accelerate. As our Pay-TV subscriber base continues to decline, it could have a material adverse long-term effect on our business, results of operations, financial condition and cash flow.

Programming

Our ability to compete successfully will depend, among other things, on our ability to continue to obtain desirable programming and deliver it to our subscribers at competitive prices. Programming costs represent a large percentage of our “Cost of services” and the largest component of our total expense. We expect these costs to continue to increase due to contractual price increases and the renewal of long-term programming contracts on less favorable pricing terms and certain programming costs are rising at a much faster rate than wages or inflation. In particular, the rates we are charged for retransmitting local broadcast channels have been increasing substantially and may exceed our ability to increase our prices to our subscribers. Going forward, our margins may face pressure if we are unable to renew our long-term programming contracts on acceptable pricing and other economic terms or if we are unable to pass these increased programming costs on to our subscribers.

Increases in programming costs have caused us to increase the rates that we charge to our subscribers, which could in turn cause our existing Pay-TV subscribers to disconnect our service or cause potential new Pay-TV subscribers to choose not to subscribe to our service. Additionally, even if our subscribers do not disconnect our services, they may purchase through new and existing online content providers a certain portion of the services that they would have historically purchased from us, such as pay-per-view movies.

Furthermore, our net Pay-TV subscriber additions, gross new DISH TV subscriber activations, and DISH TV churn rate may be negatively impacted if we are unable to renew our long-term programming carriage contracts before they expire. In the past, our net Pay-TV subscriber additions, gross new DISH TV subscriber activations, and DISH TV churn rate have been negatively impacted as a result of programming interruptions and threatened programming interruptions in connection with the scheduled expiration of programming carriage contracts with content providers. For example, in June 2018 and November 2018, Univision Communications Inc. (“Univision”) removed certain of its channels from our DISH TV and SLING TV programming lineup. On March 26, 2019, we and Univision signed a new programming carriage contract which restored certain of these Univision channels to our DISH TV programming lineup. In October 2018, AT&T removed its HBO and Cinemax channels from our DISH TV and SLING TV programming lineup, as we and AT&T have been unable to negotiate the terms and conditions of a new programming carriage contract. AT&T offers its programming, including its HBO and Cinemax channels, directly to consumers over the Internet and provides HBO for free to its subscribers under certain offers. In July 2019, Fox Regional Sports Networks (“RSNs”) also removed certain of its channels from our DISH TV and SLING TV programming lineup. In August 2019, Sinclair Broadcast Group acquired the Fox RSNs. We experienced a higher DISH TV churn rate, higher net Pay-TV subscriber losses and lower gross new DISH TV subscriber activations during 2018 and 2019, when Univision, AT&T and Sinclair RSNs removed certain of their channels from our DISH TV and SLING TV programming lineup. There can be no assurance that channel removals, such as the removal of the channels discussed above or others, will not have a material adverse effect on our business, results of operations and financial condition or otherwise disrupt our business.

We cannot predict with any certainty the impact to our net Pay-TV subscriber additions, gross new DISH TV subscriber activations, and DISH TV churn rate resulting from additional programming interruptions or threatened programming interruptions that may occur in the future. As a result, we may at times suffer from periods of lower net Pay-TV subscriber additions or higher net Pay-TV subscriber losses.

Master Transaction Agreement

On May 19, 2019, we and our wholly-owned subsidiary BSS Merger Sub Inc., (“Merger Sub”), entered into a Master Transaction Agreement (the “Master Transaction Agreement”) with EchoStar and EchoStar BSS Corporation, a wholly-owned subsidiary of EchoStar (“Newco”).

Pursuant to the Master Transaction Agreement, among other things: (i) EchoStar carried out an internal reorganization in which certain assets and liabilities of the EchoStar Satellite Services segment, the business segment of EchoStar that provides broadcast satellite operations and satellite services, as well as certain related licenses, real estate properties and employees (together, the “BSS Business”) were transferred to Newco (the “Pre-Closing Restructuring”); (ii) EchoStar distributed all outstanding shares of common stock, par value \$0.001 per share, of Newco (such stock, “Newco Common Stock”) on a pro rata basis (the “Distribution”), to the holders of record of Class A common stock, par value \$0.001 per share, of EchoStar and Class B common stock, par value \$0.001 per share, of EchoStar; and (iii) upon the consummation of the Pre-Closing Restructuring and the Distribution, Merger Sub merged with and into Newco (the “Merger”) such that, upon consummation of the Merger, Merger Sub ceased to exist and Newco continued as our wholly-owned subsidiary.

Effective September 10, 2019, pursuant to the terms and subject to the conditions set forth in the Master Transaction Agreement, in consideration for the Merger, we issued 22,937,188 shares of our Class A common stock to the holders of Newco Common Stock at a ratio of 0.23523769 of our Class A common stock for each outstanding share of Newco Common Stock. The transaction was structured as a tax-free spin-off and merger.

In addition, as the result of the Merger, we, EchoStar and, as relevant, certain of our or their respective subsidiaries, entered into ancillary agreements involving tax, employment and intellectual property matters, which set forth certain rights and obligations of us and EchoStar and our and their respective subsidiaries related to the Merger with respect to, among other things: (i) the payment of tax liability refunds, and the filing of tax returns related to Newco and the BSS Business; (ii) the allocation of employment-related assets and liabilities between us and EchoStar; (iii) certain employee compensation, equity awards, benefit plans, programs and arrangements relating to employees who are expected to be transferred to us pursuant to the Merger; (iv) a cross-license between us and EchoStar for certain intellectual property either transferred to us as part of the Merger or retained by EchoStar that is also used in the BSS Business; and (v) the provision of certain telemetry, tracking and control services by us and our subsidiaries to EchoStar and its subsidiaries.

The description of the Master Transaction Agreement in this section is qualified in its entirety by reference to the complete text of the Master Transaction Agreement, a copy of which is filed as Exhibit 2.1 to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2019.

The Merger was accounted for as an asset purchase, as substantially all of the fair value of the gross assets acquired was concentrated in a group of similar identifiable assets. As the Merger was between entities that were under common control, we recorded the assets and liabilities received under the Merger at EchoStar’s historical cost basis, with the offsetting amount recorded in “Additional paid-in capital” on our Consolidated Balance Sheets. A significant portion of the assets received under the Merger were historically leased to us by EchoStar. As these assets and the related liabilities have been transferred to us pursuant to the Master Transaction Agreement, they are no longer be included in “Operating lease assets,” “Other current liabilities” and “Operating lease liabilities,” but rather in “Property and equipment, net” on our Consolidated Balance Sheets.

RESULTS OF OPERATIONS – PAY-TV Segment
Year Ended December 31, 2020 Compared to the Year Ended December 31, 2019.

Statements of Operations Data	For the Years Ended December 31,		Variance	
	2020	2019	Amount	%
	(In thousands)			
Revenue:				
Service revenue	\$ 12,702,345	\$ 12,616,442	\$ 85,903	0.7
Equipment sales and other revenue	195,068	193,806	1,262	0.7
Total revenue	12,897,413	12,810,248	87,165	0.7
Costs and expenses:				
Cost of services	7,812,003	8,377,351	(565,348)	(6.7)
% of Service revenue	61.5 %	66.4 %		
Cost of sales - equipment and other	114,780	173,136	(58,356)	(33.7)
Selling, general and administrative expenses	1,453,521	1,676,251	(222,730)	(13.3)
% of Total revenue	11.3 %	13.1 %		
Depreciation and amortization	613,926	621,810	(7,884)	(1.3)
Total costs and expenses	9,994,230	10,848,548	(854,318)	(7.9)
Operating income (loss)	\$ 2,903,183	\$ 1,961,700	\$ 941,483	48.0
Other data:				
Pay-TV subscribers, as of period end (in millions) **	11.290	11.986	(0.696)	(5.8)
DISH TV subscribers, as of period end (in millions) **	8.816	9.394	(0.578)	(6.2)
SLING TV subscribers, as of period end (in millions)	2.474	2.592	(0.118)	(4.6)
Pay-TV subscriber additions (losses), net (in millions)	(0.526)	(0.336)	(0.190)	(56.5)
DISH TV subscriber additions (losses), net (in millions)	(0.408)	(0.511)	0.103	20.2
SLING TV subscriber additions (losses), net (in millions)	(0.118)	0.175	(0.293)	*
Pay-TV ARPU	\$ 91.77	\$ 85.92	\$ 5.85	6.8
DISH TV subscriber additions, gross (in millions)	1.094	1.348	(0.254)	(18.8)
DISH TV churn rate	1.38 %	1.62 %	(0.24)%	(14.8)
DISH TV SAC	\$ 851	\$ 822	\$ 29	3.5
Purchases of property and equipment	\$ 317,196	\$ 393,501	\$ (76,305)	(19.4)
OIBDA	\$ 3,517,109	\$ 2,583,510	\$ 933,599	36.1

* Percentage is not meaningful.

**During the first quarter 2020, we removed approximately 250,000 subscribers representing commercial accounts impacted by COVID-19 from our ending Pay-TV subscriber count. During the year ended December 31, 2020, 80,000 of these subscribers came off pause or had temporary rate relief end and are included in our ending Pay-TV subscriber count as of December 31, 2020. The effect of the removal of these 250,000 subscribers as of March 31, 2020 and the addition of these 80,000 subscribers as of December 31, 2020 was excluded from the calculation of our gross new Pay-TV subscriber activations, net Pay-TV subscriber additions/losses and Pay-TV churn rate for the year ended December 31, 2020. See “Results of Operations – Pay-TV subscribers” for further information.

Pay TV subscribers

DISH TV subscribers. We lost approximately 408,000 net DISH TV subscribers during the year ended December 31, 2020 compared to the loss of approximately 511,000 net DISH TV subscribers during the same period in 2019. This decrease in net DISH TV subscriber losses primarily resulted from a lower DISH TV churn rate, partially offset by lower gross new DISH TV subscriber activations.

SLING TV subscribers. We lost approximately 118,000 net SLING TV subscribers during the year ended December 31, 2020 compared to the addition of approximately 175,000 net SLING TV subscribers during the same period in 2019. This decrease in net SLING TV subscriber additions was primarily related to lower SLING TV subscriber activations, increased competition, including competition from other subscription video on-demand and live-linear OTT service providers, and delays and cancellations of sporting events as a result of COVID-19.

DISH TV subscribers, gross. During the year ended December 31, 2020, we activated approximately 1.094 million gross new DISH TV subscribers compared to approximately 1.348 million gross new DISH TV subscribers during the same period in 2019, a decrease of 18.8%. This decrease in our gross new DISH TV subscriber activations was primarily related to the impact of COVID-19. Beginning in the second half of March 2020, COVID-19 and the related governmental recommendations and/or mandates created reduced in person selling opportunities, and a reduction in customers' willingness to open direct mail marketing and allow in-home technicians into their homes as well as delays and cancellations of sporting events. As a result, beginning in the first quarter 2020, we reduced our marketing expenditures and our gross new DISH TV subscribers began to decrease. We continue to assess the impact of COVID-19 and cannot predict with certainty the impact to our gross new DISH TV subscribers as a result of, among other things, higher unemployment and lower discretionary spending and reduced ability to perform our in-home service operations due to the impact of social distancing. In addition, our gross new DISH TV subscriber activations continue to be negatively impacted by stricter customer acquisition policies for our DISH TV subscribers, including an emphasis on acquiring higher quality subscribers, and by increased competitive pressures, including aggressive short term introductory pricing and bundled offers combining broadband, video and/or wireless services and other discounted promotional offers, and channel removals.

DISH TV churn rate. Our DISH TV churn rate for the year ended December 31, 2020 was 1.38% compared to 1.62% for the same period in 2019. This decrease primarily resulted from the impact of COVID-19, including, among other things, the recommendations and/or mandates from federal, state, and local authorities that customers refrain from non-essential movements outside of their homes and the resulting increased consumption of our Pay-TV services. In addition, COVID-19 had an impact on competitive pressures due to, among other things, a reduction in customers' willingness to allow competitors' technicians into their homes and delays and cancellations of sporting events that reduced the attractiveness of competitors' promotional offers and services. Furthermore, our DISH TV churn rate for the year ended December 31, 2019 was negatively impacted by Univision's removal of certain of their channels from our programming lineup. We continue to assess the impact of COVID-19 and cannot predict with certainty the impact to our DISH TV churn rate as a result of, among other things, higher unemployment and lower discretionary spending and reduced ability to perform our in-home service operations due to the impact of social distancing. In addition, this decrease also resulted from our emphasis on acquiring and retaining higher quality subscribers. Our DISH TV churn rate continues to be adversely impacted by external factors, such as, among other things, increased competitive pressures, including aggressive marketing, bundled discount offers combining broadband, video and/or wireless services and other discounted promotional offers, as well as cord cutting. Our DISH TV churn rate is also impacted by internal factors, such as, among other things, our ability to consistently provide outstanding customer service, price increases, programming interruptions in connection with the scheduled expiration of certain programming carriage contracts, our ability to control piracy and other forms of fraud and the level of our retention efforts.

Beginning in March 2020, several federal, state, and local government agencies implemented recommendations, guidelines, and orders regarding “social distancing” in an attempt to slow or stop the spread of COVID-19. As a result of these actions, many bars, restaurants, and other commercial establishments have been and continue to be recommended and/or ordered to suspend all non-essential “in-person” business operations and/or operate at reduced capacity. In addition, airlines and hotels significantly reduced operations as a result of government actions and/or related lower consumer demand. In an effort to avoid charging commercial customers for services in their establishments which are no longer open to the public, we have paused service or provided temporary rate relief for certain of those commercial accounts. For certain commercial accounts, each subscription is counted as one Pay-TV subscriber. For other commercial accounts, as discussed above, we divide our total revenue for these commercial accounts by \$34.99, and include the resulting number, which is substantially smaller than the actual number of commercial units served, in our Pay-TV subscriber count. During the first quarter 2020, we removed 250,000 subscribers from our ending Pay-TV subscriber count for commercial accounts we placed on pause, or received reduced revenue, or for which we anticipate the account to disconnect due to COVID-19. During the year ended December 31, 2020, 80,000 of these subscribers came off pause or had temporary rate relief end and 69,000 of these subscribers disconnected.

We have not incurred and do not expect to incur any significant expenses in connection with the return of these commercial accounts and accordingly, these commercial accounts were added to our ending subscriber count and were not recorded as gross new Pay-TV subscriber activations. We cannot predict when the remaining commercial accounts will be able to fully reopen, how many will return or when they may return to active subscriber status, and there can be no assurance that they will return. We continue to assess the impact of COVID-19 and cannot predict with certainty the impact to our subscriber base, gross new DISH TV subscribers and our DISH TV churn rate as a result of, among other things, higher unemployment and lower discretionary spending and our reduced ability to perform our in-home service operations due to the impact of social distancing. As such, given the dynamic nature of this situation, we cannot reasonably estimate the impacts of COVID-19 on our financial condition and results of operations.

We cannot predict with any certainty the impact to our net Pay-TV subscriber additions, gross new DISH TV subscriber activations, and DISH TV subscriber churn rate resulting from programming interruptions or threatened programming interruptions that may occur in the future. As a result, we may at times suffer from periods of lower net Pay-TV subscriber additions or higher net Pay-TV subscriber losses.

We have not always met our own standards for performing high-quality installations, effectively resolving subscriber issues when they arise, answering subscriber calls in an acceptable timeframe, effectively communicating with our subscriber base, reducing calls driven by the complexity of our business, improving the reliability of certain systems and subscriber equipment and aligning the interests of certain independent third-party retailers and installers to provide high-quality service. Most of these factors have affected both gross new DISH TV subscriber activations as well as DISH TV subscriber churn rate. Our future gross new DISH TV subscriber activations and our DISH TV subscriber churn rate may be negatively impacted by these factors, which could in turn adversely affect our revenue.

Service revenue. “Service revenue” totaled \$12.702 billion for the year ended December 31, 2020, an increase of \$86 million or 0.7% compared to the same period in 2019. The increase in “Service revenue” compared to the same period in 2019 was primarily related to an increase in Pay-TV ARPU discussed below, partially offset by a lower average Pay-TV subscriber base.

Pay-TV ARPU. Pay-TV ARPU was \$91.77 during the year ended December 31, 2020 versus \$85.92 during the same period in 2019. The \$5.85 or 6.8% increase in Pay-TV ARPU was primarily attributable to the DISH TV programming package price increases in the first quarter 2020 and 2019, the SLING TV programming package price increases in the first quarter 2020 and fourth quarter 2019, higher ad sales revenue and fewer commercial accounts compared to the same period in 2019, which have lower Pay-TV ARPU than residential subscribers.

Cost of services. “Cost of services” totaled \$7.812 billion during the year ended December 31, 2020, a decrease of \$565 million or 6.7% compared to the same period in 2019. The decrease in “Cost of services” was primarily attributable to a lower average Pay-TV subscriber base and the reduction of expense associated with the transfer of certain assets to us pursuant to the Master Transaction Agreement, partially offset by increases in programming costs per subscriber. Programming costs per subscriber increased during the year ended December 31, 2020 due to rate increases in certain of our programming contracts, including the renewal of certain contracts at higher rates, particularly for local broadcast channels. These increases were partially offset by a decrease in programming costs per subscriber due to, among others, Sinclair RSN’s removal of certain of their channels from our programming lineup in July 2019 and multiple one-time programming adjustments in the third quarter 2020. “Cost of services” represented 61.5% and 66.4% of “Service revenue” during the year ended December 31, 2020 and 2019, respectively. See Note 20 in the Notes to our Consolidated Financial Statements for further information on the Master Transaction Agreement.

In the normal course of business, we enter into contracts to purchase programming content in which our payment obligations are generally contingent on the number of Pay-TV subscribers to whom we provide the respective content. Our “Cost of services” have and will continue to face further upward pressure from price increases and the renewal of long-term programming contracts on less favorable pricing terms. In addition, our programming expenses will increase to the extent we are successful in growing our Pay-TV subscriber base.

Selling, general and administrative expenses. “Selling, general and administrative expenses” totaled \$1.454 billion during the year ended December 31, 2020, a \$223 million or 13.3% decrease compared to the same period in 2019. This change was primarily driven by a decrease in subscriber acquisition costs resulting from fewer gross new DISH TV subscriber activations, a \$70 million reduction to litigation expense as a result of the Telemarketing Litigation settlement and cost cutting initiatives in the Pay-TV segment, including a focused set of staffing reductions. See Note 16 in the Notes to our Consolidated Financial Statements for further information on the Telemarketing Litigation.

DISH TV SAC. DISH TV SAC was \$851 during the year ended December 31, 2020 compared to \$822 during the same period in 2019, an increase of \$29 or 3.5%. This change was primarily attributable to fewer commercial additions compared to the same period in 2019 and an increase in advertising costs per subscriber. Commercial activations historically have lower DISH TV SAC than residential activations, and therefore the decrease in commercial activations had a negative impact on DISH TV SAC. Beginning in the first quarter 2020, as a result of COVID-19 and the related governmental recommendations and/or mandates, our in person selling opportunities and our customers’ willingness to open direct mail marketing and allow in-home technicians into their homes were reduced. Accordingly, we reduced our marketing expenditures and our gross new DISH TV subscriber activations began to decrease. Although we reduced our marketing expenditures, gross new DISH TV subscriber activations decreased at a higher rate, resulting in an increase in advertising costs per subscriber during 2020 compared to 2019.

During the year ended December 31, 2020 and 2019, the amount of equipment capitalized under our lease program for new DISH TV subscribers totaled \$151 million and \$191 million, respectively. This decrease in capital expenditures primarily resulted from a decrease in gross new DISH TV subscriber activations.

To remain competitive, we upgrade or replace subscriber equipment periodically as technology changes, and the costs associated with these upgrades may be substantial. To the extent technological changes render a portion of our existing equipment obsolete, we would be unable to redeploy all returned equipment and consequently would realize less benefit from the DISH TV SAC reduction associated with redeployment of that returned lease equipment.

Our “DISH TV SAC” may materially increase in the future to the extent that we, among other things, transition to newer technologies, introduce more aggressive promotions, or provide greater equipment subsidies. See further information under “*Liquidity and Capital Resources – Subscriber Acquisition and Retention Costs.*”

For discussion of the Pay-TV results of operations for the year ended December 31, 2019 compared to the year ended December 31, 2018, see “*Results of Operations - Year Ended December 31, 2019 Compared to the Year Ended December 31, 2018*” in our 2019 Annual Report on Form 10-K.

Wireless Segment

Our Wireless business segment operates in two business units, Retail Wireless and 5G Network Deployment. Revenue, operating income (loss) and purchases of property and equipment by business unit are shown in the table below:

For the Year Ended December 31, 2020	Retail Wireless	5G Network Deployment	Total Wireless
		(In thousands)	
Total revenue	\$ 2,579,057	\$ 20,785	\$ 2,599,842
Operating income (loss)	\$ 162,743	\$ (483,311)	\$ (320,568)
Purchases of property and equipment	\$ 23,210	\$ 72,896	\$ 96,106

Wireless – Retail Wireless

As a result of the Boost Mobile Acquisition and the Ting Mobile Acquisition, we have entered the retail wireless business. See Note 6 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information. We offer nationwide prepaid and postpaid retail wireless services to subscribers under our Boost Mobile and Ting Mobile brands, as well as a competitive portfolio of wireless devices. Prepaid wireless subscribers generally pay in advance for monthly access to wireless talk, text, and data services. Postpaid wireless subscribers generally are qualified to pay after receiving wireless talk, text, and data services. We are currently operating our retail wireless business unit as an MVNO while we build our 5G broadband network. As an MVNO, we depend primarily on T-Mobile to provide us with network services under the MNSA. A majority of our Retail Wireless subscribers currently receive services through T-Mobile's CDMA Network, under the MNSA. We acquired over 9 million subscribers as a result of the Boost Mobile Acquisition and acquired over 200,000 subscribers as a result of the Ting Mobile Acquisition. Our Consolidated Statements of Operations and Comprehensive Income (Loss) includes the results of the Boost Mobile Acquisition from July 1, 2020 and Ting Mobile Acquisition from August 1, 2020. As of December 31, 2020, we had 9.055 million retail wireless subscribers.

Currently, we offer wireless subscribers competitive consumer plans with no annual service contracts and monthly service plans ranging from \$10 for 1GB of high-speed data and unlimited talk and text to \$60 for unlimited data, talk and text. We also offer promotional plans, including, among others, three lines for \$90 for unlimited data, talk and text.

Competition

Boost Mobile operates within the prepaid wireless space and Ting Mobile operates within the postpaid wireless space. Retail Wireless is a mature market with moderate year-over-year organic growth. Competitors include providers who offer similar communication services, such as talk, text and data. Competitive factors within the wireless communications services industry include pricing, market saturation, service and product offerings, customer experience and service quality. We compete with a number of national wireless carriers, including Verizon, AT&T and T-Mobile, all of which are significantly larger than us, serve a significant percentage of all wireless subscribers and enjoy scale advantages compared to us. Verizon, AT&T, and T-Mobile are currently the only nationwide Mobile Network Operators ("MNOs") in the United States. Primary competitors to our Retail Wireless business unit include, but are not limited to, Metro PCS (owned by T-Mobile), Cricket Wireless (owned by AT&T), Tracfone Wireless and other MVNOs such as Consumer Cellular and Mint Mobile. Verizon announced its pending acquisition of Tracfone Wireless in September 2020.

Wireless – 5G Network Deployment

We have directly invested over \$11 billion to acquire certain wireless spectrum licenses and related assets and made over \$10 billion in non-controlling investments in certain entities, for a total of over \$21 billion. The \$21 billion of investments related to wireless spectrum licenses does not include \$6 billion of capitalized interest related to the carrying value of such licenses. See Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information on capitalized interest.

DISH Network Spectrum

We have directly invested over \$11 billion to acquire certain wireless spectrum licenses and related assets. These wireless spectrum licenses are subject to certain interim and final build-out requirements, as well as certain renewal requirements.

We plan to commercialize our wireless spectrum licenses through the completion of our 5G Network Deployment. To that end, we have undertaken several key steps including identifying markets to build out, making executive and management hires and entering into agreements with key vendors. For example, on November 16, 2020, we announced a long-term agreement with Crown Castle pursuant to which Crown Castle will lease us space on up to 20,000 communication towers. As part of the agreement, we will also receive certain fiber transport services and have the option to utilize Crown Castle for pre-construction services. During December 2020, we completed a successful field validation, utilizing our fully-virtualized standalone 5G core network and the industry's first O-RAN compliant radio. We currently expect expenditures for our 5G Network Deployment to be approximately \$10 billion, excluding capitalized interest.

Prior to starting our 5G Network Deployment, we notified the FCC in March 2017 that we planned to deploy a narrowband IoT network on certain of these wireless licenses, which we expected to complete by March 2020, with subsequent phases to be completed thereafter. In light of, among other things, certain developments related to the Sprint-T-Mobile merger, during the first quarter 2020, we determined that the revision of certain of our build-out deadlines was probable and, therefore, we no longer intended to complete our narrowband IoT deployment. The FCC issued an Order effectuating the build-out deadline changes contemplated above on September 11, 2020. During the first quarter 2020, we impaired certain assets that would not be utilized in our 5G Network Deployment, resulting in a \$253 million non-cash impairment charge in "Impairment of long-lived assets" on our Consolidated Statements of Operations and Comprehensive Income (Loss).

We will need to make significant additional investments or partner with others to, among other things, complete our 5G Network Deployment and further commercialize, build-out and integrate these licenses and related assets and any additional acquired licenses and related assets, as well as to comply with regulations applicable to such licenses. Depending on the nature and scope of such activities, any such investments or partnerships could vary significantly. In addition, as we complete our 5G Network Deployment we will incur significant additional expenses and will have to make significant investments related to, among other things, research and development, wireless testing and wireless network infrastructure. We may also determine that additional wireless spectrum licenses may be required to complete our 5G Network Deployment and to compete with other wireless service providers. See Note 2 and Note 16 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

DISH Network Non-Controlling Investments in the Northstar Entities and the SNR Entities Related to AWS-3 Wireless Spectrum Licenses

During 2015, through our wholly-owned subsidiaries American AWS-3 Wireless II L.L.C. (“American II”) and American AWS-3 Wireless III L.L.C. (“American III”), we initially made over \$10 billion in certain non-controlling investments in Northstar Spectrum, LLC (“Northstar Spectrum”), the parent company of Northstar Wireless, L.L.C. (“Northstar Wireless,” and collectively with Northstar Spectrum, the “Northstar Entities”), and in SNR Wireless HoldCo, LLC (“SNR HoldCo”), the parent company of SNR Wireless LicenseCo, LLC (“SNR Wireless,” and collectively with SNR HoldCo, the “SNR Entities”), respectively. On October 27, 2015, the FCC granted certain AWS-3 wireless spectrum licenses (the “AWS-3 Licenses”) to Northstar Wireless and to SNR Wireless, respectively, which are recorded in “FCC authorizations” on our Consolidated Balance Sheets. Under the applicable accounting guidance in Accounting Standards Codification 810, *Consolidation* (“ASC 810”), Northstar Spectrum and SNR HoldCo are considered variable interest entities and, based on the characteristics of the structure of these entities and in accordance with the applicable accounting guidance, we consolidate these entities into our financial statements. See Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

The AWS-3 Licenses are subject to certain interim and final build-out requirements, as well as certain renewal requirements. The Northstar Entities and/or the SNR Entities may need to raise significant additional capital in the future, which may be obtained from third party sources or from us, so that the Northstar Entities and the SNR Entities may commercialize, build-out and integrate these AWS-3 Licenses, comply with regulations applicable to such AWS-3 Licenses, and make any potential Northstar Re-Auction Payment and SNR Re-Auction Payment for the AWS-3 licenses retained by the FCC. Depending upon the nature and scope of such commercialization, build-out and integration efforts, regulatory compliance, and potential Northstar Re-Auction Payment and SNR Re-Auction Payment, any loans, equity contributions or partnerships could vary significantly. See Note 16 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

We may need to raise significant additional capital in the future to fund the efforts described above, which may not be available on acceptable terms or at all. There can be no assurance that we, the Northstar Entities and/or the SNR Entities will be able to develop and implement business models that will realize a return on these wireless spectrum licenses or that we, the Northstar Entities and/or the SNR Entities will be able to profitably deploy the assets represented by these wireless spectrum licenses, which may affect the carrying amount of these assets and our future financial condition or results of operations. See Note 16 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

RESULTS OF OPERATIONS – Wireless Segment – Retail Wireless Business Unit
Year Ended December 31, 2020 Compared to the Year Ended December 31, 2019.

Statements of Operations Data	For the Years Ended December 31,		Variance	
	2020	2019	Amount	%
	(In thousands)			
Revenue:				
Service revenue	\$ 2,143,703	\$ —	\$ 2,143,703	*
Equipment sales and other revenue	435,354	—	435,354	*
Total revenue	2,579,057	—	2,579,057	*
Costs and expenses:				
Cost of services	1,282,022	—	1,282,022	*
% of Service revenue	59.8 %	* %		
Cost of sales - equipment and other	806,198	—	806,198	*
Selling, general and administrative expenses	239,035	—	239,035	*
% of Total revenue	9.3 %	* %		
Depreciation and amortization	89,059	—	89,059	*
Total costs and expenses	2,416,314	—	2,416,314	*
Operating income (loss)	\$ 162,743	\$ —	\$ 162,743	*
Other data:				
Wireless subscribers, as of period end (in millions)	9.055	—	9.055	*
Wireless subscriber additions, gross (in millions)	2.093	—	2.093	*
Wireless subscriber additions (losses), net (in millions)	(0.575)	—	(0.575)	*
Wireless ARPU	\$ 38.24	\$ —	\$ 38.24	*
Wireless churn rate	4.76 %	—	4.76 %	*
OIBDA	\$ 251,802	\$ —	\$ 251,802	*

* Percentage is not meaningful.

The results of the Boost Mobile Acquisition from July 1, 2020 and the Ting Mobile Acquisition from August 1, 2020 are included in our Retail Wireless Business Unit. During the third quarter 2020, we added over 9 million wireless subscribers as a result of these acquisitions. We are currently in the process of integrating our retail wireless operations and have made and continue to make certain changes to our marketing, sales, and operations to further enhance our profitability. We lost 575,000 net wireless subscribers for the year ended December 31, 2020, primarily as a result of these operational changes. Our current results of operations are not necessarily indicative of future results, in part based on the ongoing integration and operational changes we are currently implementing. We are working to ensure that the customers we acquire and retain are profitable under our MVNO economics. As an example, certain subscribers that use high amounts of data, may be profitable for an MNO, but are not profitable under an MVNO.

RESULTS OF OPERATIONS – Wireless Segment – 5G Network Deployment Business Unit

Year Ended December 31, 2020 Compared to the Year Ended December 31, 2019.

Statements of Operations Data	For the Years Ended December 31,		Variance	
	2020	2019	Amount	%
	(In thousands)			
Revenue:				
Equipment sales and other revenue	\$ 20,785	\$ 1,673	\$ 19,112	*
Total revenue	20,785	1,673	19,112	*
Costs and expenses:				
Cost of sales - equipment and other	18,743	19,685	(942)	(4.8)
Selling, general and administrative expenses	117,368	56,045	61,323	*
Depreciation and amortization	11,567	8,767	2,800	31.9
Impairment of long-lived assets	356,418	—	356,418	*
Total costs and expenses	504,096	84,497	419,599	*
Operating income (loss)	\$ (483,311)	\$ (82,824)	\$ (400,487)	*
Other data:				
Purchases of property and equipment	\$ 72,896	\$ 187,580	\$ (114,684)	(61.1)
OIBDA	\$ (471,744)	\$ (74,057)	\$ (397,687)	*

* Percentage is not meaningful.

Equipment sales and other revenue. “Equipment sales and other revenue” totaled \$21 million for the year ended December 31, 2020, an increase of \$19 million compared to the same period in 2019. This increase primarily resulted from leasing a portion of our 600 MHz spectrum licenses to T-Mobile, which began on September 11, 2020. The spectrum lease with T-Mobile will result in \$56 million of annual revenue during its 42 month term, subject to our right to terminate individual licenses prior to 42 months. The specific termination rights vary by license.

Selling, general and administrative expenses “Selling, general and administrative expenses” totaled \$117 million during the year ended December 31, 2020, a \$61 million increase compared to the same period in 2019. This increase was primarily driven by an increase in general and administrative expenses related to our 5G Network Deployment.

Impairment of long-lived assets. “Impairment of long-lived assets” of \$356 million during the year ended December 31, 2020 resulted from impairments of the T1 satellite and D1 satellites, as well as certain wireless equipment and operating lease assets related to our narrowband IoT deployment which we no longer intend to complete. See Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Purchases of property and equipment. “Purchases of property and equipment” totaled \$73 million for the year ended December 31, 2020, a decrease of \$115 million compared to the same period in 2019. The year ended December 31, 2019 was impacted by capital expenditures related to our narrowband IoT deployment for which we determined in the first quarter of 2020 that we would no longer complete. See Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information. Capital expenditures for the year ended December 31, 2020 are related to our 5G Network Deployment. We anticipate expenditures for our 5G Network Deployment to increase substantially throughout 2021 as we ramp up the build-out phase of our 5G Network Deployment.

OTHER CONSOLIDATED RESULTS

Year Ended December 31, 2020 Compared to the Year Ended December 31, 2019.

Statements of Operations Data	For the Years Ended December 31,		Variance	
	2020	2019	Amount	%
	(In thousands)			
Operating income (loss)	\$ 2,582,615	\$ 1,878,876	\$ 703,739	37.5
Other income (expense):				
Interest income	22,734	77,214	(54,480)	(70.6)
Interest expense, net of amounts capitalized	(12,974)	(23,687)	10,713	45.2
Other, net	(20,164)	11,524	(31,688)	*
Total other income (expense)	(10,404)	65,051	(75,455)	*
Income (loss) before income taxes	2,572,211	1,943,927	628,284	32.3
Income tax (provision) benefit, net	(698,275)	(451,358)	(246,917)	(54.7)
Effective tax rate	27.1 %	23.2 %		
Net income (loss)	1,873,936	1,492,569	381,367	25.6
Less: Net income (loss) attributable to noncontrolling interests, net of tax	111,263	93,057	18,206	19.6
Net income (loss) attributable to DISH Network	\$ 1,762,673	\$ 1,399,512	\$ 363,161	25.9

* Percentage is not meaningful.

Interest income. “Interest income” totaled \$23 million during the year ended December 31, 2020, a decrease of \$54 million or 70.6% compared to the same period in 2019. This decrease primarily resulted from lower percentage returns earned on our cash and marketable investment securities, partially offset by higher average cash and marketable investment securities balances during the year ended December 31, 2020.

Other, net. “Other, net” expense totaled \$20 million during the year ended December 31, 2020, a decrease of \$32 million compared to the same period in 2019. This change primarily resulted from a \$22 million decrease in the fair value of our option to purchase certain of T-Mobile’s 800 MHz spectrum licenses under the Spectrum Purchase Agreement. See Note 7 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Income tax (provision) benefit, net. Our income tax provision was \$698 million during the year ended December 31, 2020, an increase of \$247 million compared to the same period in 2019. The increase in the provision was primarily related to an increase in “Income (loss) before income taxes” and an increase in our effective tax rate due to changes in the state apportionment applied to our deferred taxes as a result of the Boost Mobile Acquisition, partially offset by a benefit recognized for the carryback of net operating losses under the CARES Act.

Non-GAAP Performance Measures and Reconciliation

It is management’s intent to provide non-GAAP financial information to enhance the understanding of our GAAP financial information, and it should be considered by the reader in addition to, but not instead of, the financial statements prepared in accordance with GAAP. Each non-GAAP financial measure is presented along with the corresponding GAAP measure so as not to imply that more emphasis should be placed on the non-GAAP measure. We believe that providing these non-GAAP measures in addition to the GAAP measures allows management, investors and other users of our financial information to more fully and accurately assess both consolidated and segment performance. The non-GAAP financial information presented may be determined or calculated differently by other companies and may not be directly comparable to that of other companies.

Consolidated EBITDA

Consolidated EBITDA is not a measure determined in accordance with GAAP and should not be considered a substitute for operating income, net income or any other measure determined in accordance with GAAP. Consolidated EBITDA is used as a measurement of operating efficiency and overall financial performance and we believe it is a helpful measure for those evaluating operating performance in relation to our competitors. Conceptually, EBITDA measures the amount of income generated each period that could be used to service debt, pay taxes and fund capital expenditures. EBITDA should not be considered in isolation or as a substitute for measures of performance prepared in accordance with GAAP.

	For the Years Ended December 31,	
	2020	2019
	(In thousands)	
Consolidated EBITDA	\$ 3,165,740	\$ 2,427,920
Interest, net	9,760	53,527
Income tax (provision) benefit, net	(698,275)	(451,358)
Depreciation and amortization	(714,552)	(630,577)
Net income (loss) attributable to DISH Network	\$ 1,762,673	\$ 1,399,512

The changes in Consolidated EBITDA during the year ended December 31, 2020, compared to the same period in 2019, were primarily a result of the factors described in connection with operating revenues and operating expenses.

Segment OIBDA

Segment OIBDA, which is presented below, is a non-GAAP measure and does not purport to be an alternative to operating income (loss) as a measure of operating performance. We believe this measure is useful to management, investors and other users of our financial information in evaluating operating profitability of our business units on a more variable cost basis as it excludes the depreciation and amortization expenses related primarily to capital expenditures and acquisitions for those business units, as well as in evaluating operating performance in relation to our competitors. Segment OIBDA is calculated by adding back depreciation and amortization expense to business unit operating income (loss). See Note 17 to the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

	For the Years Ended December 31,	
	2020	2019
	(In thousands)	
Pay-TV OIBDA	\$ 3,517,109	\$ 2,583,510
Depreciation and amortization	613,926	621,810
Segment operating income (loss)	\$ 2,903,183	\$ 1,961,700
Retail Wireless OIBDA	\$ 251,802	\$ —
Depreciation and amortization	89,059	—
Segment operating income (loss)	\$ 162,743	\$ —
5G Network Deployment OIBDA	\$ (471,744)	\$ (74,057)
Depreciation and amortization	11,567	8,767
Segment operating income (loss)	\$ (483,311)	\$ (82,824)
Consolidated OIBDA	\$ 3,297,167	\$ 2,509,453
Depreciation and amortization	714,552	630,577
Consolidated operating income (loss)	\$ 2,582,615	\$ 1,878,876

The changes in OIBDA during the year ended December 31, 2020, compared to the same period in 2019, were primarily a result of the factors described in connection with operating revenues and operating expenses.

LIQUIDITY AND CAPITAL RESOURCES

Cash, Cash Equivalents and Current Marketable Investment Securities

We consider all liquid investments purchased within 90 days of their maturity to be cash equivalents. See Note 7 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information regarding our marketable investment securities. As of December 31, 2020, our cash, cash equivalents and current marketable investment securities totaled \$3.733 billion compared to \$2.860 billion as of December 31, 2019, an increase of \$873 million. This increase in cash, cash equivalents and current marketable investment securities primarily resulted from cash generated from operating activities of \$3.312 billion, \$1.986 billion in net proceeds from the issuance of our 0% Convertible Notes due 2025 and \$998 million in net proceeds from the issuance of our 7 3/8% Senior Notes due 2028. These increases were partially offset by the Boost Mobile Acquisition for a net aggregate purchase price of \$1.313 billion, cash used for the redemption of our 5 1/8% Senior Notes due 2020 with an aggregate principal balance of \$1.1 billion, capital expenditures of \$1.193 billion (including capitalized interest related to FCC authorizations), a \$1.048 billion payment to the FCC for the 3550-3650 MHz Licenses and the 37 GHz, 39 GHz and 47 GHz Licenses, and a \$312 million payment for the Northstar Purchase Agreement.

Debt Issuances and Maturity

During the year ended December 31, 2018 and 2019, we repurchased \$83 million and \$22 million, respectively, of our 7 7/8% Senior Notes due 2019 in open market trades. The remaining balance of \$1.295 billion was redeemed on September 3, 2019.

Our 5 1/8% Senior Notes with an aggregate principal balance of \$1.1 billion were redeemed on May 1, 2020.

On July 1, 2020, we issued \$1.0 billion aggregate principal amount of our 7 3/8% Senior Notes due July 1, 2028. Interest accrues at an annual rate of 7 3/8% and is payable semi-annually in cash, in arrears on January 1 and July 1 of each year, commencing on January 1, 2021.

On December 21, 2020, we issued \$2.0 billion aggregate principal amount of the 0% Convertible Notes due December 15, 2025.

Our 6 3/4% Senior Notes due 2021 with an aggregate principal balance of \$2.0 billion mature on June 1, 2021. We expect to fund this obligation from cash and marketable investment securities balances at that time. However, depending on market conditions, we may refinance this obligation in whole or in part.

Stock Rights Offering

During November 2019, we launched a rights offering pursuant to which we distributed transferable subscription rights pro rata to holders of record of our Class A and B common stock, and outstanding convertible notes (based on the applicable conversion ratio for those notes as of the record date) on November 17, 2019. The subscription rights entitled the holder to acquire newly-issued shares of our Class A common stock at a subscription price of \$33.52 per share.

Upon completion of the rights offering on December 13, 2019, we raised approximately \$1.0 billion and issued 29,834,992 shares of DISH Network's Class A common stock.

Cash Flow

The following discussion highlights our cash flow activities during the years ended December 31, 2020 and 2019.

Cash flows from operating activities. We typically reinvest the cash flow from operating activities in our business primarily to grow our subscriber base, expand our infrastructure, make strategic investments, such as significant investments in wireless, including our 5G Network Deployment, and repay debt obligations. For the years ended December 31, 2020 and 2019, we reported “Net cash flows from operating activities” of \$3.312 billion and \$2.662 billion, respectively.

Net cash flows from operating activities from 2019 to 2020 increased \$650 million, primarily attributable to a \$1.569 billion increase in income adjusted to exclude non-cash charges for “Impairment of long-lived assets,” “Depreciation and amortization” expense, “Realized and unrealized losses (gains) on investments and derivatives,” “Non-cash, stock-based compensation” expense, and “Deferred tax expense (benefit).” This increase was partially offset by a decrease in cash flows resulting from changes in operating assets and liabilities principally attributable to timing differences between book expense and cash payments, including taxes. In 2020, changes in operating assets and liabilities were negatively impacted by the \$210 million litigation settlement payment related to the Telemarketing Litigation. See Note 16 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Cash flows from investing activities. Our investing activities generally include purchases and sales of marketable investment securities, acquisitions, strategic investments, including purchases and settlements of derivative financial instruments, and purchases of wireless spectrum licenses, capital expenditures and capitalized interest. For the years ended December 31, 2020 and 2019, we reported outflows from “Net cash flows from investing activities” of \$3.862 billion and \$718 million, respectively.

The year ended December 31, 2020 was impacted by cash outflows primarily related to the closing of the Boost Mobile Acquisition for a net aggregate purchase price of \$1.313 billion, capital expenditures of \$1.193 billion (including capitalized interest related to FCC authorizations), a \$1.048 billion payment to the FCC for the 3550-3650 MHz Licenses and the 37 GHz, 39 GHz and 47 GHz Licenses.

The year ended December 31, 2019 was impacted by cash outflows primarily related to capital expenditures of \$1.482 billion (including \$901 million of capitalized interest related to FCC authorizations) and cash inflows related to \$770 million in net sales of marketable investment securities.

During the years ended December 31, 2020 and 2019, capital expenditures for new and existing DISH TV customer equipment totaled \$211 million and \$280 million, respectively. The decrease in 2020 for new and existing DISH TV customer equipment primarily resulted from lower gross new DISH TV subscriber activations.

Cash flows from financing activities. Our financing activities generally include net proceeds related to the issuance of equity and long-term and convertible debt, cash used for the repurchase, redemption or payment of long-term debt and finance lease obligations, and repurchases of our Class A common stock. For the years ended December 31, 2020 and 2019, we reported “Net cash flows from financing activities” inflows of \$1.499 billion, and outflows of \$328 million, respectively.

The net cash inflows in 2020 primarily related to \$1.986 billion in net proceeds from the issuance of our 0% Convertible Notes due 2025 and \$998 million in net proceeds from the issuance of our 7 3/8% Senior Notes due 2028, partially offset by the redemption of our 5 1/8% Senior Notes due 2020 with an aggregate principal balance of \$1.1 billion, a \$312 million payment for the Northstar Purchase Agreement and repayment of long-term debt and finance lease obligations of \$101 million.

The net cash outflows in 2019 primarily related to the redemption and repurchases of our 7 7/8% Senior Notes due 2019 with an aggregate principal balance of \$1.317 billion, partially offset by net proceeds related to the stock rights offering of \$998 million.

Free Cash Flow

We define free cash flow as “Net cash flows from operating activities” less “Purchases of property and equipment,” and “Capitalized interest related to FCC authorizations,” as shown on our Consolidated Statements of Cash Flows. We believe free cash flow is an important liquidity metric because it measures, during a given period, the amount of cash generated that is available to repay debt obligations, make investments (including strategic wireless investments), fund acquisitions and for certain other activities. Free cash flow is not a measure determined in accordance with GAAP and should not be considered a substitute for “Operating income,” “Net income,” “Net cash flows from operating activities” or any other measure determined in accordance with GAAP. Since free cash flow includes investments in operating assets, we believe this non-GAAP liquidity measure is useful in addition to the most directly comparable GAAP measure “Net cash flows from operating activities.”

Free cash flow can be significantly impacted from period to period by changes in “Net income (loss)” adjusted to exclude certain non-cash charges, operating assets and liabilities, “Purchases of property and equipment,” and “Capitalized interest related to FCC authorizations.” These items are shown in the “Net cash flows from operating activities” and “Net cash flows from investing activities” sections on our Consolidated Statements of Cash Flows included herein. Operating asset and liability balances can fluctuate significantly from period to period and there can be no assurance that free cash flow will not be negatively impacted by material changes in operating assets and liabilities in future periods, since these changes depend upon, among other things, management’s timing of payments and control of inventory levels, and cash receipts. In addition to fluctuations resulting from changes in operating assets and liabilities, free cash flow can vary significantly from period to period depending upon, among other things, subscriber additions (losses), service revenue, subscriber churn, subscriber acquisition and retention costs including amounts capitalized under our equipment lease programs for DISH TV subscribers, operating efficiencies, increases or decreases in purchases of property and equipment, expenditures related to the commercialization of our 5G Network Deployment and other factors.

The following table reconciles free cash flow to “Net cash flows from operating activities.”

	For the Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Free cash flow	\$ 2,119,270	\$ 1,179,953	\$ 1,201,144
Add back:			
Purchases of property and equipment (including capitalized interest related to FCC authorizations)	1,192,506	1,482,448	1,316,697
Net cash flows from operating activities	\$ 3,311,776	\$ 2,662,401	\$ 2,517,841

Operational Liquidity

We make general investments in property such as satellites, wireless devices, set-top boxes, information technology and facilities that support our Pay-TV segment and Retail Wireless business unit. We are also making significant additional investments and will need to continue making these investments and/or partner with others to, among other things, complete our 5G Network Deployment and further commercialize, build-out, and integrate our wireless spectrum licenses and related assets. Moreover, since we are primarily a subscriber-based company, we also make subscriber-specific investments to acquire new subscribers and retain existing subscribers. While the general investments may be deferred without impacting the business in the short-term, the subscriber-specific investments are less discretionary. Our overall objective is to generate sufficient cash flow over the life of each subscriber to provide an adequate return against the upfront investment. Once the upfront investment has been made for each subscriber, the subsequent cash flow is generally positive, but there can be no assurances that over time we will recoup or earn a return on the upfront investment.



There are a number of factors that impact our future cash flow compared to the cash flow we generate at a given point in time. The first factor is our churn rate and how successful we are at retaining our current subscribers. To the extent we lose subscribers from our existing base, the positive cash flow from that base is correspondingly reduced. The second factor is how successful we are at maintaining our service margins. To the extent our “Cost of services” grow faster than our “Service revenue,” the amount of cash flow that is generated per existing subscriber is reduced. Our Pay-TV service margins have been reduced by, among other things, a shift to lower priced Pay-TV programming packages and higher programming costs. Our Retail Wireless service margins are impacted by our MNSA agreement with T-Mobile and the speed with which we are able to convert retail wireless subscribers onto our 5G Network once operational. The third factor is the rate at which we acquire new subscribers. The faster we acquire new subscribers, the more our positive ongoing cash flow from existing subscribers is offset by the negative upfront cash flow associated with acquiring new subscribers. Conversely, the slower we acquire subscribers, the more our operating cash flow is enhanced in that period. Finally, our future cash flow is impacted by the rate at which we complete our 5G Network Deployment, incur litigation expense, and any cash flow from financing activities. Declines in our Pay-TV subscriber base and subscriber related-margins continue to negatively impact our cash flow, and there can be no assurances that these declines will not continue.

Subscriber Base – Pay TV Segment and Retail Wireless Business Unit

See “Results of Operations” above for further information.

Subscriber Acquisition and Retention Costs

We incur significant upfront costs to acquire subscribers, including advertising, independent third-party retailer incentives, payments made to third-parties, equipment and wireless device subsidies, installation services, and/or new customer promotions. While we attempt to recoup these upfront costs over the lives of their subscription, there can be no assurance that we will be successful in achieving that objective. With respect to our DISH TV services, we employ business rules such as minimum credit requirements for prospective customers and contractual commitments to receive service for a minimum term. We strive to provide outstanding customer service to increase the likelihood of customers keeping their Pay-TV services over longer periods of time. Subscriber acquisition costs for SLING TV subscribers are significantly lower than those for DISH TV subscribers. Our subscriber acquisition costs for our Retail Wireless subscribers are primarily related to subsidies on wireless devices. Our subscriber acquisition costs may vary significantly from period to period.

We incur significant costs to retain our existing DISH TV subscribers, mostly as a result of upgrading their equipment to next generation receivers, primarily including our Hopper receivers, and by providing retention credits. As with our subscriber acquisition costs, our retention upgrade spending includes the cost of equipment and installation services. In certain circumstances, we also offer programming at no additional charge and/or promotional pricing for limited periods to existing customers in exchange for a contractual commitment to receive service for a minimum term. A component of our retention efforts includes the installation of equipment for customers who move. Retention costs for Retail Wireless subscribers are primarily related to promotional pricing on upgraded wireless devices for qualified existing subscribers. Our DISH TV subscriber retention costs may vary significantly from period to period.

Seasonality

Historically, the first half of the year generally produces fewer gross new DISH TV subscriber activations than the second half of the year, as is typical in the pay-TV industry. In addition, the first and fourth quarters generally produce a lower DISH TV churn rate than the second and third quarters. However, in recent years, as the pay-TV industry has matured, we and our competitors increasingly must seek to attract a greater proportion of new subscribers from each other’s existing subscriber bases rather than from first-time purchasers of pay-TV services. As a result, historical trends in seasonality described above may not be indicative of future trends.

Our net SLING TV subscriber additions are impacted by, among other things, certain major sporting events and other major television events. The first and third quarters generally produce higher gross new Retail Wireless subscribers. Due to the COVID-19 pandemic the historical trends discussed above, for both net Pay-TV subscriber additions and net Retail Wireless subscriber additions, may not be indicative of future trends.

Satellites

Operation of our DISH TV services requires that we have adequate satellite transmission capacity for the programming that we offer. Moreover, current competitive conditions require that we continue to expand our offering of new programming. While we generally have had in-orbit satellite capacity sufficient to transmit our existing channels and some backup capacity to recover the transmission of certain critical programming, our backup capacity is limited. In the event of a failure or loss of any of our owned or leased satellites, we may need to acquire or lease additional satellite capacity or relocate one of our other satellites and use it as a replacement for the failed or lost satellite. Such a failure could result in a prolonged loss of critical programming or a significant delay in our plans to expand programming as necessary to remain competitive and cause us to expend a significant portion of our cash to acquire or lease additional satellite capacity.

Stock Repurchases

Our Board of Directors previously authorized stock repurchases of up to \$1.0 billion of our outstanding Class A common stock. On October 30, 2020, our Board of Directors extended this authorization such that we are currently authorized to repurchase up to \$1.0 billion of our outstanding Class A common stock through and including December 31, 2021. As of December 31, 2020, we may repurchase up to \$1.0 billion under this program. During the years ended December 31, 2020, 2019 and 2018, there were no repurchases of our Class A common stock.

Covenants and Restrictions Related to our Long-Term Debt

We are subject to the covenants and restrictions set forth in the indentures related to our long-term debt. In particular, the indentures related to our outstanding senior notes issued by DISH DBS Corporation (“DISH DBS”) contain restrictive covenants that, among other things, impose limitations on the ability of DISH DBS and its restricted subsidiaries to: (i) incur additional indebtedness; (ii) enter into sale and leaseback transactions; (iii) pay dividends or make distributions on DISH DBS’ capital stock or repurchase DISH DBS’ capital stock; (iv) make certain investments; (v) create liens; (vi) enter into certain transactions with affiliates; (vii) merge or consolidate with another company; and (viii) transfer or sell assets. Should we fail to comply with these covenants, all or a portion of the debt under the senior notes and our other long-term debt could become immediately payable. The senior notes also provide that the debt may be required to be prepaid if certain change-in-control events occur. In addition, the Convertible Notes provide that, if a “fundamental change” (as defined in the related indenture) occurs, holders may require us to repurchase for cash all or part of their Convertible Notes. As of the date of filing of this Annual Report on Form 10-K, we and DISH DBS were in compliance with the covenants and restrictions related to our respective long-term debt.

Other

We are also vulnerable to fraud, particularly in the acquisition of new subscribers. While we are addressing the impact of subscriber fraud through a number of actions, there can be no assurance that we will not continue to experience fraud, which could impact our subscriber growth and churn. Economic weakness may create greater incentive for signal theft, piracy and subscriber fraud, which could lead to higher subscriber churn and reduced revenue.

Obligations and Future Capital Requirements

Contractual Obligations and Off-Balance Sheet Arrangements

See Note 16 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Future Capital Requirements

We expect to fund our future working capital, capital expenditures and debt service requirements from cash generated from operations, existing cash, cash equivalents and marketable investment securities balances, and cash generated through raising additional capital. We will need to make significant additional investments to, among other things, complete our 5G Network Deployment and further commercialize, build-out and integrate our wireless spectrum licenses and related assets. The amount of capital required to fund our future working capital and capital expenditure needs varies, depending on, among other things, the rate at which we deploy our 5G network and the rate at which we acquire new subscribers and the cost of subscriber acquisition and retention, including capitalized costs associated with our new and existing subscriber equipment lease programs. Certain of our capital expenditures for 2021 are expected to be driven by the rate at which we deploy our 5G network as well as costs associated with subscriber premises equipment. These expenditures are necessary for the deployment of our 5G network as well as to operate and maintain our DISH TV services. Consequently, we consider them to be non-discretionary. Our capital expenditures vary depending on the number of satellites leased or under construction at any point in time and could increase materially as a result of increased competition, significant satellite failures, or economic weakness and uncertainty. Our DISH TV subscriber base has been declining and there can be no assurance that our DISH TV subscriber base will not continue to decline and that the pace of such decline will not accelerate. In the event that our DISH TV subscriber base continues to decline, it will have a material adverse long-term effect on our cash flow. In addition, the Northstar and SNR Operative Agreements, as amended, provide for, among other things, the SNR Put Right and the Northstar Put Right for a purchase price that equals the equity contribution to Northstar Spectrum and SNR HoldCo, respectively, plus a fixed annual rate of return. As of December 31, 2020, Northstar Manager's ownership interest in Northstar Spectrum and SNR Management's ownership interest in SNR HoldCo was \$351 million, recorded as "Redeemable noncontrolling interests" on our Consolidated Balance Sheets.

We expect to incur capital expenditures in 2021 related to our 5G Network Deployment, including capital expenditures associated with our wireless projects and 5G Network Deployment, and potential purchase of additional wireless spectrum licenses. The amount of capital required will also depend on the levels of investment necessary to support potential strategic initiatives that may arise from time to time. These factors, including a reduction in our available future cash flows, could require that we raise additional capital in the future.

Volatility in the financial markets has made it more difficult at times for issuers of high-yield indebtedness, such as us, to access capital markets at acceptable terms. These developments may have a significant effect on our cost of financing and our liquidity position.

Boost Mobile Acquisition

See Note 6 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information

Wireless – 5G Network Deployment

See Note 16 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information.

Availability of Credit and Effect on Liquidity

The ability to raise capital has generally existed for us despite economic weakness and uncertainty. While modest fluctuations in the cost of capital will not likely impact our current operational plans, significant fluctuations could have a material adverse effect on our business, results of operations and financial condition.

Critical Accounting Estimates

The preparation of the consolidated financial statements in conformity with GAAP requires management to make estimates, judgments and assumptions that affect amounts reported therein. Management bases its estimates, judgments and assumptions on historical experience and on various other factors that are believed to be reasonable under the circumstances. Actual results may differ from previously estimated amounts, and such differences may be material to our consolidated financial statements. Estimates and assumptions are reviewed periodically, and the effects of revisions are reflected prospectively in the period they occur. The following represent what we believe are the critical accounting policies that may involve a high degree of estimation, judgment and complexity. For a summary of our significant accounting policies, including those discussed below, see Note 2 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K.

Long-Lived Assets

Valuation of long-lived assets. We review our long-lived assets and identifiable finite-lived intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. For assets which are held and used in operations, the asset would be impaired if the carrying amount of the asset (or asset group) exceeded its undiscounted future net cash flows. Once an impairment is determined, the actual impairment recognized is the difference between the carrying amount and the fair value as estimated using one of the following approaches: income, cost and/or market. The carrying amount of a long-lived asset or asset group is considered impaired when the anticipated undiscounted cash flows from such asset or asset group is less than its carrying amount. In that event, a loss is recorded in "Impairment of long-lived assets" on our Consolidated Statements of Operations and Comprehensive Income (Loss) based on the amount by which the carrying amount exceeds the fair value of the long-lived asset or asset group.

Fair value, using the income approach, is determined primarily using a discounted cash flow model that uses the estimated cash flows associated with the asset or asset group under review, discounted at a rate commensurate with the risk involved. Fair value, utilizing the cost approach, is determined based on the replacement cost of the asset reduced for, among other things, depreciation and obsolescence. Fair value, utilizing the market approach, benchmarks the fair value against the carrying amount. See Note 9 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K. Assets which are to be disposed of are reported at the lower of the carrying amount or fair value less costs to sell. We currently evaluate our DBS satellite fleet for impairment as one asset group whenever events or changes in circumstances indicate that its carrying amount may not be recoverable.

Valuation of intangible assets with indefinite lives. We evaluate the carrying amount of intangible assets with indefinite lives annually, and also when events and circumstances warrant.

DBS Licenses. We combine all of our indefinite-lived DBS licenses that we currently utilize or plan to utilize in the future into a single unit of accounting. For 2020, 2019 and 2018, management performed a qualitative assessment to determine whether it is more likely than not that the fair value of the DBS licenses exceeds its carrying amount. In our assessment, we considered several factors, including, among others, overall financial performance, industry and market considerations, and relevant company specific events. In contemplating all factors in their totality, we concluded that it is more likely than not that the fair value of the DBS licenses exceeds its carrying amount. As such, no further analysis was required.

Wireless Spectrum Licenses. During 2020, we acquired the 37 GHz, 39 GHz, and 47 GHz wireless licenses and during 2019, we acquired the 24 GHz and 28 GHz wireless licenses, together (the “High-Band Licenses”). We currently combine our 600 MHz, 700 MHz, AWS-4, H Block, High-Band Licenses and the Northstar Licenses and SNR Licenses into a single unit of accounting. In 2020 and 2019 (excluding the High-Band Licenses), management performed a qualitative assessment to determine whether it is more likely than not that the fair value of these licenses exceed their carrying amount. In our assessment, we considered several factors, including, among other things, the projected financial performance of our Wireless segment, the business enterprise value of our Wireless segment, and market transactions for wireless spectrum licenses including auction results. In assessing these factors, we considered both macroeconomic conditions and industry and market conditions. In contemplating all factors in their totality, we concluded that it is more likely than not that the fair value of these licenses exceeds their carrying amount.

During 2019, our 24 GHz and 28 GHz wireless spectrum licenses were assessed as a single unit of accounting. These licenses were purchased during the fourth quarter 2019 through our participation in Auction 101 and Auction 102. For 2019, management’s assessment of the fair value of these licenses was determined based on the auction results.

In 2018, we assessed our 600 MHz, 700 MHz, AWS-4, H Block Licenses and the Northstar Licenses and SNR Licenses quantitatively. Our quantitative assessment consisted of both an income approach and a market approach. The income approach estimated the fair value of these licenses using the “Greenfield” approach. The Greenfield approach values the licenses by calculating the cash flow generating potential of a hypothetical start-up company that goes into business with no assets except the licenses to be valued. A discounted cash flow analysis is used to estimate what a marketplace participant would be willing to pay to purchase the aggregated wireless licenses as of the valuation date. The market approach uses prior transactions including auctions to estimate the fair value of the licenses. In conducting this quantitative assessment, we determined that the fair value of these licenses exceeded their carrying amount under both approaches.

During 2020, 2019, and 2018, our multichannel video distribution and data service (“MVDDS”) wireless spectrum licenses were assessed as a single unit of accounting. For 2020 and 2019, management assessed these licenses qualitatively. Our qualitative assessment focused on recent auction results and historical market activity. We concluded that it is more likely than not that the fair value of these licenses exceeded their carrying amount. For 2018, management assessed these licenses quantitatively under a market approach. The market approach uses prior transactions including auctions to estimate the fair value of the licenses. In conducting the quantitative assessment, we determined that the fair value of these licenses exceeded their carrying amount.

Changes in circumstances or market conditions could result in a write-down of any of the above wireless spectrum licenses in the future.

Income Taxes

Our income tax policy is to record the estimated future tax effects of temporary differences between the tax bases of assets and liabilities and amounts reported in the accompanying consolidated balance sheets, as well as operating loss and tax credit carryforwards. Determining necessary valuation allowances requires us to make assessments about the timing of future events, including the probability of expected future taxable income and available tax planning opportunities. We periodically evaluate our need for a valuation allowance based on both historical evidence, including trends, and future expectations in each reporting period. Any such valuation allowance is recorded in either “Income tax (provision) benefit, net” on our Consolidated Statements of Operations and Comprehensive Income (Loss) or “Accumulated other comprehensive income (loss)” within “Stockholders’ equity (deficit)” on our Consolidated Balance Sheets. Future performance could have a significant effect on the realization of tax benefits, or reversals of valuation allowances, as reported in our consolidated results of operations.

Management evaluates the recognition and measurement of uncertain tax positions based on applicable tax law, regulations, case law, administrative rulings and pronouncements and the facts and circumstances surrounding the tax position. Changes in our estimates related to the recognition and measurement of the amount recorded for uncertain tax positions could result in significant changes in our “Income tax provision (benefit), net,” which could be material to our consolidated results of operations.

Contingent Liabilities

A significant amount of management judgment is required in determining when, or if, an accrual should be recorded for a contingency and the amount of such accrual. Estimates generally are developed in consultation with counsel and are based on an analysis of potential outcomes. Due to the uncertainty of determining the likelihood of a future event occurring and the potential financial statement impact of such an event, it is possible that upon further development or resolution of a contingent matter, a charge could be recorded in a future period to “Selling, general and administrative expenses” or “Litigation expense” on our Consolidated Statements of Operations and Comprehensive Income (Loss) that would be material to our consolidated results of operations and financial condition.

Business Combinations

When we acquire a business, we allocate the purchase price to the various components of the acquisition based upon the fair value of each component using various valuation techniques, including the market approach, income approach and/or cost approach. The accounting standard for business combinations requires identifiable assets, liabilities, noncontrolling interests and goodwill acquired to be recorded at acquisition date fair values. Determining the fair value of assets acquired and liabilities assumed requires management’s judgment and often involves the use of significant estimates and assumptions, including assumptions with respect to the amount and timing of estimated future cash flows and the discount rate utilized.

Inflation

Inflation has not materially affected our operations during the past three years. We believe that our ability to increase the prices charged for our products and services in future periods will depend primarily on competitive pressures.

Backlog

We do not have any material backlog of our products.

New Accounting Pronouncements

Debt with Conversion and Other Options and Derivatives and Hedging. In August 2020, the FASB issued ASU 2020-06 *Debt – Debt with Conversion and Other Options and Derivatives and Hedging – Contracts in Entity’s Own Equity* (“ASU 2020-06”), which simplifies the accounting for convertible instruments and contracts in an entity’s own equity. This standard will be effective for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. Early adoption is permitted. We currently expect to early adopt and, as a result of this standard, the equity component related to our Convertible Notes will be reclassified from “Additional paid-in capital” within “Stockholders’ equity (deficit)” to “Long-term debt and finance lease obligations, net of current portion” on our Consolidated Balance Sheets. The adoption of this standard will have no impact on the methodology utilized to calculate diluted earnings per share (“EPS”) as we already use the if-converted method for convertible instruments and will have no impact to our Consolidated Statements of Operations and Comprehensive Income (Loss) as we capitalize materially all of our interest expense.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market Risks Associated with Financial Instruments

Our investments and debt are exposed to market risks, discussed below.

Cash, Cash Equivalents and Current Marketable Investment Securities

As of December 31, 2020, our cash, cash equivalents and current marketable investment securities had a fair value of \$3.733 billion. Of that amount, a total of \$3.733 billion was invested in: (a) cash; (b) money market funds; (c) debt instruments of the United States Government and its agencies; (d) commercial paper and corporate notes with an overall average maturity of less than one year and rated in one of the four highest rating categories by at least two nationally recognized statistical rating organizations; and/or (e) instruments with similar risk, duration and credit quality characteristics to the commercial paper and corporate obligations described above. The primary purpose of these investing activities has been to preserve principal until the cash is required to, among other things, continue investing in our business, pursue acquisitions and other strategic transactions, fund ongoing operations, repay debt obligations and expand our business. Consequently, the size of this portfolio can fluctuate significantly as cash is received and used in our business for these or other purposes. The value of this portfolio is negatively impacted by credit losses; however, this risk is mitigated through diversification that limits our exposure to any one issuer.

Interest Rate Risk

A change in interest rates would affect the fair value of our cash, cash equivalents and current marketable investment securities portfolio; however, we normally hold these investments to maturity. Based on our December 31, 2020 current non-strategic investment portfolio of \$3.733 billion, a hypothetical 10% change in average interest rates would not have a material impact on the fair value due to the limited duration of our investments.

Our cash, cash equivalents and current marketable investment securities had an average annual rate of return for the year ended December 31, 2020 of 0.8%. A change in interest rates would affect our future annual interest income from this portfolio, since funds would be re-invested at different rates as the instruments mature. A hypothetical 10% decrease in average interest rates during 2020 would result in a decrease of approximately \$2 million in annual interest income.

Restricted Cash, Cash Equivalents and Marketable Investment Securities

As of December 31, 2020, we had \$108 million of restricted cash and marketable investment securities invested in: (a) cash; (b) money market funds; (c) debt instruments of the United States Government and its agencies; and/or (d) instruments with similar risk, duration and credit quality characteristics to commercial paper. Based on our December 31, 2020 investment portfolio, a hypothetical 10% increase in average interest rates would not have a material impact on the fair value of our restricted cash and marketable investment securities.

Long-Term Debt

As of December 31, 2020, we had long-term debt of \$16.638 billion, excluding finance lease obligations and unamortized deferred financing costs and debt discounts, on our Consolidated Balance Sheets. We estimated the fair value of this debt to be approximately \$17.099 billion using quoted market prices. The fair value of our debt is affected by fluctuations in interest rates. A hypothetical 10% decrease in assumed interest rates would increase the fair value of our debt by approximately \$220 million. To the extent interest rates increase, our future costs of financing would increase at the time of any future financings. As of December 31, 2020, all of our long-term debt consisted of fixed rate indebtedness.

Derivative Financial Instruments

From time to time, we invest in speculative financial instruments, including derivatives. As of December 31, 2020, we did not hold any derivative financial instruments other than the option to purchase certain T-Mobile's 800 MHz spectrum licenses under the Spectrum Purchase Agreement. See Note 7 in the Notes to our Consolidated Financial Statements in this Annual Report on Form 10-K for further information

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Our consolidated financial statements are included in this Annual Report on Form 10-K beginning on page F-1.

Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not applicable.

Item 9A. CONTROLS AND PROCEDURES

Disclosure controls and procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Principal Financial Officer, we evaluated the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934) as of the end of the period covered by this report. Based upon that evaluation, our Chief Executive Officer and Principal Financial Officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this report.

Changes in internal control over financial reporting

On July 1, 2020, we completed the Boost Mobile Acquisition and on August 1, 2020, we completed the Ting Mobile Acquisition. This resulted in us implementing new processes and internal controls to assist us in the preparation and disclosure of financial information associated with these transactions. Given the magnitude and the complexity of the applicable systems and business processes, we have excluded the Retail Wireless business from our assessment and report on internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Securities Exchange Act). At December 31, 2020 and for the period from acquisition through December 31, 2020, total assets and total revenues of the Retail Wireless business represented 5.4% and 16.7%, respectively, of our consolidated total assets and total revenues as of and for the year ended December 31, 2020. In addition, we are continually monitoring the COVID-19 pandemic and any potential impact to our internal controls.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with United States generally accepted accounting principles.

Our internal control over financial reporting includes those policies and procedures that:

- (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect our transactions and dispositions of our assets;

- (ii) provide reasonable assurance that our transactions are recorded as necessary to permit preparation of our financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and our directors; and
- (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on our financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with policies or procedures may deteriorate.

Our management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). We have excluded the Retail Wireless business from our assessment and report on internal control over financial reporting. Based on this evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2020.

The effectiveness of our internal control over financial reporting as of December 31, 2020 has been audited by KPMG LLP, an independent registered public accounting firm, as stated in their report which appears in Item 15(a) of this Annual Report on Form 10-K.

Item 9B. OTHER INFORMATION

None

PART III

Item 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item will be set forth in our Proxy Statement for the 2021 Annual Meeting of Shareholders, which information is hereby incorporated herein by reference.

The information required by this Item with respect to the identity and business experience of our executive officers is set forth under the caption “Executive Officers of the Registrant” in this Annual Report on Form 10-K

Item 11. EXECUTIVE COMPENSATION

The information required by this Item will be set forth in our Proxy Statement for the 2021 Annual Meeting of Shareholders, which information is hereby incorporated herein by reference.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this Item will be set forth in our Proxy Statement for the 2021 Annual Meeting of Shareholders, which information is hereby incorporated herein by reference.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item will be set forth in our Proxy Statement for the 2021 Annual Meeting of Shareholders, which information is hereby incorporated herein by reference.

Item 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this Item will be set forth in our Proxy Statement for the 2021 Annual Meeting of Shareholders, which information is hereby incorporated herein by reference.

PART IV

Item 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this report:

(1) *Financial Statements*

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Consolidated Statements of Operations and Comprehensive Income (Loss) for the years ended December 31, 2020, 2019 and 2018	F-6
Consolidated Statements of Changes in Stockholders' Equity (Deficit) for the years ended December 31, 2018, 2019 and 2020	F-7
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(2) *Financial Statement Schedules*

None. All schedules have been included in the consolidated financial statements or notes thereto.

(3) *Exhibits*

- 2.1* [Master Transaction Agreement, dated as of May 19, 2019, by and among DISH Network Corporation, BSS Merger Sub Inc., EchoStar Corporation, and EchoStar BSS Corporation \(incorporated by reference from Exhibit 2.1 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed July 29, 2019\).](#)
- 2.2* [Asset Purchase Agreement, dated as of July 26, 2019, by and among T-Mobile US, Inc., Sprint Corporation and DISH Network Corporation \(incorporated by reference from Exhibit 2.2 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed July 29, 2019\).](#)
- 2.3* [First Amendment to the Asset Purchase Agreement, dated June 17, 2020, by and between DISH Network and NTM \(incorporated by reference from Exhibit 99.1 of the Current Report on Form 8-K of DISH Network Corporation filed June 17, 2020\).](#)
- 3.1(a)* [Amended and Restated Articles of Incorporation of DISH Network Corporation \(incorporated by reference to Exhibit 3.1\(a\) on the Quarterly Report on Form 10-Q of DISH Network Corporation for the quarter ended June 30, 2003\), as amended by the Certificate of Amendment to the Articles of Incorporation of DISH Network Corporation \(incorporated by reference to Annex 1 on DISH Network Corporation's Definitive Information Statement on Schedule 14C filed on December 31, 2007\) and as further amended by the Certificate of Amendment to the Articles of Incorporation of DISH Network Corporation, effective November 3, 2015 \(incorporated by reference from Exhibit 3.1 to the Current Report on Form 8-K of DISH Network Corporation filed November 3, 2015\).](#)

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- 3.1(b)* [Amended and Restated Bylaws of DISH Network Corporation \(incorporated by reference from Exhibit 99.1 to the Current Report on Form 8-K of DISH Network Corporation filed November 7, 2019\).](#)
- 3.2(a)* [Articles of Incorporation of DISH DBS Corporation \(incorporated by reference from Exhibit 3.4\(a\) to the Registration Statement on Form S-4 of DISH DBS Corporation\), as amended by the Certificate of Amendment of the Articles of Incorporation of DISH DBS Corporation, dated as of August 25, 2003 \(incorporated by reference from Exhibit 3.1\(b\) to the Annual Report on Form 10-K of DISH DBS Corporation for the year ended December 31, 2003\), and as further amended by the Amendment of the Articles of Incorporation of DISH DBS Corporation, effective December 12, 2008 \(incorporated by reference from Exhibit 3.1 to the Current Report on Form 8-K of DISH DBS Corporation filed December 12, 2008\).](#)
- 3.2(b)* [Bylaws of DISH DBS Corporation \(incorporated by reference from Exhibit 3.4\(b\) to the Registration Statement on Form S-4 of DISH DBS Corporation\).](#)
- 4.1* Registration Rights Agreement by and between DISH Network Corporation and Charles W. Ergen (incorporated by reference from Exhibit 4.8 to the Registration Statement on Form S-1 of DISH Network Corporation, Registration No. 33-91276). P
- 4.2* [Indenture, relating to the 6 3/4% Senior Notes due 2021, dated as of May 5, 2011, among DISH DBS Corporation, the guarantors named on the signature pages thereto and Wells Fargo Bank, National Association, as trustee \(incorporated by reference from Exhibit 4.1 to the Current Report on Form 8-K of DISH Network Corporation filed May 5, 2011\).](#)
- 4.3* [Indenture, relating to the 5 7/8% Senior Notes due 2022, dated as of May 16, 2012 among DISH DBS Corporation, the guarantors named on the signature pages thereto and Wells Fargo Bank, National Association, as Trustee \(incorporated by reference from Exhibit 4.2 to the Current Report on Form 8-K of DISH Network Corporation filed May 16, 2012\).](#)
- 4.4* [Indenture, relating to the 5% Senior Notes due 2023, dated as of December 27, 2012 among DISH DBS Corporation, the guarantors named on the signature pages thereto and Wells Fargo Bank, National Association, as Trustee \(incorporated by reference from Exhibit 4.1 to the Current Report on Form 8-K of DISH Network Corporation filed December 27, 2012\).](#)
- 4.5* [Indenture, relating to the 5 7/8% Senior Notes due 2024, dated as of November 20, 2014 among DISH DBS Corporation, the guarantors named on the signature pages thereto and U.S. Bank National Association, as Trustee \(incorporated by reference from Exhibit 4.1 to the Current Report on Form 8-K of DISH Network Corporation filed November 21, 2014\).](#)
- 4.6* [Indenture, relating to the 7 3/4% Senior Notes due 2026, dated as of June 13, 2016, among DISH DBS Corporation, the guarantors named on the signature pages thereto and U.S. Bank National Association, as Trustee \(incorporated by reference from Exhibit 4.1 to the Current Report on Form 8-K of DISH Network Corporation filed June 13, 2016\).](#)
- 4.7* [Indenture, relating to the 2 3/8% Convertible Notes due 2024, dated as of March 17, 2017, by and between DISH Network Corporation and U.S. Bank National Association, as Trustee \(incorporated by reference from Exhibit 4.1 to the Current Report on Form 8 K of DISH Network Corporation filed March 20, 2017\).](#)
- 4.8* [Indenture, relating to the 3 3/8% Convertible Notes due 2026, dated as of August 8, 2016, by and between DISH Network Corporation and U.S. Bank National Association, as Trustee \(incorporated by reference from Exhibit 4.1 to the Current Report on Form 8-K of DISH Network Corporation filed August 8, 2016\).](#)

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- 4.9* [Supplemental Indenture relating to the 6 3/4% Senior Notes due 2021 \(incorporated by reference from Exhibit 4.12 to the Annual Report on Form 10-K of DISH DBS Corporation filed March 29, 2018\).](#)
- 4.10* [Supplemental Indenture relating to the 5 7/8% Senior Notes due 2022 \(incorporated by reference from Exhibit 4.13 to the Annual Report on Form 10-K of DISH DBS Corporation filed March 29, 2018\).](#)
- 4.11* [Supplemental Indenture relating to the 5% Senior Notes due 2023 \(incorporated by reference from Exhibit 4.14 to the Annual Report on Form 10-K of DISH DBS Corporation filed March 29, 2018\).](#)
- 4.12* [Supplemental Indenture relating to the 5 7/8% Senior Notes due 2024 \(incorporated by reference from Exhibit 4.15 to the Annual Report on Form 10-K of DISH DBS Corporation filed March 29, 2018\).](#)
- 4.13* [Supplemental Indenture relating to the 7 3/4% Senior Notes due 2026 \(incorporated by reference from Exhibit 4.16 to the Annual Report on Form 10-K of DISH DBS Corporation filed March 29, 2018\).](#)
- 4.14* [Description of Securities \(incorporated by reference from Exhibit 4.16 to the Annual Report on Form 10-K of DISH Network Corporation filed February 19, 2020\).](#)
- 4.15* [Indenture, relating to the 7 3/8% Senior Notes due 2028, dated as of July 1, 2020, among DISH DBS Corporation, the guarantors named on the signature pages thereto and U.S. Bank National Association, as Trustee \(incorporated by reference from Exhibit 4.1 to the Current Report on Form 8-K of DISH Network Corporation filed July 1, 2020\).](#)
- 4.16* [Registration Rights Agreement, dated as of July 1, 2020, by and between DISH DBS Corporation and J.P. Morgan Securities LLC \(incorporated by reference from Exhibit 4.2 to the Current Report on Form 8-K of DISH Network Corporation filed July 1, 2020\).](#)
- 4.17* [Indenture, relating to the 0% Convertible Notes due 2025, dated as of December 21, 2020, by and between DISH Network Corporation and U.S. Bank National Association, as Trustee \(incorporated by reference from Exhibit 4.1 to the Current Report on Form 8-K of DISH Network Corporation filed December 22, 2020\).](#)
- 10.1* [2002 Class B CEO Stock Option Plan \(incorporated by reference from Appendix A to DISH Network Corporation's Definitive Proxy Statement on Schedule 14A dated April 9, 2002\). **](#)
- 10.2* [Whole RF Channel Service Agreement, dated February 4, 2004, between Telesat Canada and DISH Network Corporation \(incorporated by reference from Exhibit 10.4 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed May 6, 2004\). ***](#)
- 10.3* [Letter Amendment to Whole RF Channel Service Agreement, dated March 25, 2004, between Telesat Canada and DISH Network Corporation \(incorporated by reference to Exhibit 10.5 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed May 6, 2004\). ***](#)
- 10.4* [Second Amendment to Whole RF Channel Service Agreement, dated May 5, 2004, between Telesat Canada and DISH Network Corporation \(incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed August 9, 2004\). ***](#)
- 10.5* [Third Amendment to Whole RF Channel Service Agreement, dated October 12, 2004, between Telesat Canada and DISH Network Corporation \(incorporated by reference to Exhibit 10.22 to the Annual Report on Form 10-K of DISH Network Corporation filed March 16, 2005\). ***](#)

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- 10.6* [Incentive Stock Option Agreement \(Form A\) \(incorporated by reference to Exhibit 99.1 to the Current Report on Form 8-K of DISH Network Corporation filed July 7, 2005\).](#) **
- 10.7* [Incentive Stock Option Agreement \(Form B\) \(incorporated by reference to Exhibit 99.2 to the Current Report on Form 8-K of DISH Network Corporation filed July 7, 2005\).](#) **
- 10.8* [Restricted Stock Unit Agreement \(Form A\) \(incorporated by reference to Exhibit 99.3 to the Current Report on Form 8-K of DISH Network Corporation filed July 7, 2005\).](#) **
- 10.9* [Restricted Stock Unit Agreement \(Form B\) \(incorporated by reference to Exhibit 99.4 to the Current Report on Form 8-K of DISH Network Corporation filed July 7, 2005\).](#) **
- 10.10* [Nonemployee Director Stock Option Agreement \(incorporated by reference to Exhibit 99.6 to the Current Report on Form 8-K of DISH Network Corporation filed July 7, 2005\).](#) **
- 10.11* [Separation Agreement between EchoStar Corporation and DISH Network Corporation \(incorporated by reference from Exhibit 2.1 to the Amendment No. 1 to the Form 10 of EchoStar Corporation filed December 12, 2007\).](#)
- 10.12* [Tax Sharing Agreement between EchoStar Corporation and DISH Network Corporation \(incorporated by reference from Exhibit 10.2 to the Amendment No. 1 to the Form 10 of EchoStar Corporation filed December 12, 2007\).](#)
- 10.13* [Employee Matters Agreement between EchoStar Corporation and DISH Network Corporation \(incorporated by reference from Exhibit 10.3 to the Amendment No. 1 to the Form 10 of EchoStar Corporation filed December 12, 2007\).](#)
- 10.14* [Intellectual Property Matters Agreement between EchoStar Corporation, EchoStar Acquisition L.L.C., Echosphere L.L.C., DISH DBS Corporation, EIC Spain SL, EchoStar Technologies L.L.C. and DISH Network Corporation \(incorporated by reference from Exhibit 10.4 to the Amendment No. 1 to the Form 10 of EchoStar Corporation filed December 12, 2007\).](#)
- 10.15* [Form of Satellite Capacity Agreement between EchoStar Corporation and DISH Network L.L.C. \(incorporated by reference from Exhibit 10.28 to the Amendment No. 2 to Form 10 of EchoStar Corporation filed December 26, 2007\).](#)
- 10.16* [DISH Network Corporation 2009 Stock Incentive Plan \(incorporated by reference to Appendix A to DISH Network Corporation's Definitive Proxy Statement on Form 14A filed September 19, 2014\).](#) **
- 10.17* [Amended and Restated DISH Network Corporation 2001 Nonemployee Director Stock Option Plan \(incorporated by reference to Appendix B to DISH Network Corporation's Definitive Proxy Statement on Form 14A filed March 31, 2009\).](#) **
- 10.18* [Amended and Restated DISH Network Corporation 1999 Stock Incentive Plan \(incorporated by reference to Appendix C to DISH Network Corporation's Definitive Proxy Statement on Form 14A filed March 31, 2009\).](#) **
- 10.19* [NIMIQ 5 Whole RF Channel Service Agreement, dated September 15, 2009, between Telesat Canada and EchoStar Corporation \(incorporated by reference from Exhibit 10.30 to the Annual Report on Form 10-K of EchoStar Corporation filed March 1, 2010\).](#) ***

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- 10.20* [Professional Services Agreement, dated August 4, 2009, between EchoStar Corporation and DISH Network Corporation \(incorporated by reference from Exhibit 10.3 to the Quarterly Report on Form 10-Q of EchoStar Corporation filed November 9, 2009\).](#) ***
- 10.21* [Amended and Restated Investment Agreement, dated as of February 24, 2011, and First Amendment to Amended and Restated Investment Agreement, dated as of March 15, 2011, between DISH Network Corporation and DBSD North America, Inc. \(incorporated by reference from Exhibit 10.1 to the Current Report on Form 8-K of ICO Global Communications \(Holdings\) Limited filed March 17, 2011\).](#)
- 10.22* [Implementation Agreement, dated as of March 15, 2011, between DISH Network and ICO Global Communications \(Holdings\) Limited \(incorporated by reference from Exhibit 10.2 to the Current Report on Form 8-K of ICO Global Communications \(Holdings\) Limited filed March 17, 2011\).](#)
- 10.23* [Restructuring Support Agreement, dated as of March 15, 2011, between DISH Network and ICO Global Communications \(Holdings\) Limited \(incorporated by reference from Exhibit 10.3 to the Current Report on Form 8-K of ICO Global Communications \(Holdings\) Limited filed March 17, 2011\).](#)
- 10.24* [Purchase Agreement, dated as of June 14, 2011, by and among TerreStar Networks Inc., TerreStar License Inc., TerreStar National Services Inc., TerreStar Networks Holdings \(Canada\) Inc., TerreStar Networks \(Canada\) Inc., 0887729 B.C. Ltd., and Gamma Acquisition L.L.C. and DISH Network Corporation \(solely with respect to Section 6.19 thereof\) \(incorporated by reference from Exhibit 99.1 to the Current Report on Form 8-K of DISH Network Corporation filed June 16, 2011\).](#)
- 10.25* [Description of the 2013 Long-Term Incentive Plan dated November 30, 2012 \(incorporated by reference to the Current Report on Form 8-K of DISH Network Corporation filed December 6, 2012\).](#) **
- 10.26* [First Amended and Restated Credit Agreement dated October 13, 2014, among American AWS-3 Wireless II L.L.C., Northstar Wireless, LLC and Northstar Spectrum, LLC, as amended on February 12, 2015 \(incorporated by reference from Exhibit 10.1 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed May 11, 2015\).](#) ***
- 10.27* [First Amended and Restated Credit Agreement dated October 13, 2014, among American AWS-3 Wireless III L.L.C., SNR Wireless LicenseCo, LLC and SNR Wireless HoldCo, LLC, as amended on February 12, 2015 \(incorporated by reference from Exhibit 10.2 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed May 11, 2015\).](#) ***
- 10.28* [First Amended and Restated Limited Liability Company Agreement dated October 13, 2014, among Northstar Spectrum, LLC, Northstar Manager, LLC and American AWS-3 Wireless II L.L.C., as amended on February 12, 2015 \(incorporated by reference from Exhibit 10.3 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed May 11, 2015\).](#) ***
- 10.29* [First Amended and Restated Limited Liability Company Agreement dated October 13, 2014, among SNR Wireless HoldCo, LLC, SNR Wireless Management, LLC and American AWS-3 Wireless III L.L.C., as amended on February 12, 2015 \(incorporated by reference from Exhibit 10.4 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed May 11, 2015\).](#) ***
- 10.30* [Management Services Agreement dated September 12, 2014, between American AWS-3 Wireless II L.L.C. and Northstar Wireless, LLC \(incorporated by reference from Exhibit 10.5 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed May 11, 2015\).](#) ***

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- 10.31* [Management Services Agreement dated September 12, 2014, between American AWS-3 Wireless III L.L.C. and SNR Wireless LicenseCo, LLC \(incorporated by reference from Exhibit 10.6 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed May 11, 2015\).](#) ***
- 10.32* [Second Amendment, dated October 1, 2015, to the First Amended and Restated Credit Agreement dated October 13, 2014, among American AWS-3 Wireless II L.L.C., Northstar Wireless, LLC and Northstar Spectrum, LLC, as first amended on February 12, 2015 \(incorporated by reference from Exhibit 10.1 to the Current Report on Form 8-K of DISH Network Corporation filed October 2, 2015\).](#)
- 10.33* [Guaranty of Certain Obligations to FCC, dated as of October 1, 2015, made by DISH Network Corporation in favor of the Federal Communications Commission \(Northstar Wireless\) \(incorporated by reference from Exhibit 10.2 to the Current Report on Form 8-K of DISH Network Corporation filed October 2, 2015\).](#)
- 10.34* [Second Amendment, dated October 1, 2015, to the First Amended and Restated Credit Agreement dated October 13, 2014, among American AWS-3 Wireless III L.L.C., SNR Wireless LicenseCo, LLC and SNR Wireless HoldCo, LLC, as first amended on February 12, 2015 \(incorporated by reference from Exhibit 10.3 to the Current Report on Form 8-K of DISH Network Corporation filed October 2, 2015\).](#)
- 10.35* [Guaranty of Certain Obligations to FCC, dated as of October 1, 2015, made by DISH Network Corporation in favor of the Federal Communications Commission \(SNR Wireless\) \(incorporated by reference from Exhibit 10.4 to the Current Report on Form 8-K of DISH Network Corporation filed October 2, 2015\).](#)
- 10.36* [Form of Base/Additional Note Hedge Transaction Confirmation \(incorporated by reference from Exhibit 10.1 to the Current Report on Form 8-K of DISH Network Corporation filed August 8, 2016\).](#)
- 10.37* [Form of Base/Additional Warrant Transaction Confirmation \(incorporated by reference from Exhibit 10.2 to the Current Report on Form 8-K of DISH Network Corporation filed August 8, 2016\).](#)
- 10.38* [Description of the 2017 Long-Term Incentive Plan dated December 2, 2016 \(incorporated by reference from the Current Report on Form 8-K of DISH Network Corporation filed December 8, 2016\).](#) **
- 10.39* [Share Exchange Agreement dated January 31, 2017, between DISH Network Corporation, DISH Network L.L.C., DISH Operating L.L.C., EchoStar Corporation, EchoStar Broadcasting Holding Parent L.L.C., EchoStar Broadcasting Holding Corporation, EchoStar Technologies Holding Corporation, and EchoStar Technologies L.L.C. \(incorporated by reference from Exhibit 10.1 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed May 1, 2017\).](#) ***
- 10.40* [Second Amended and Restated Credit Agreement, dated March 31, 2018, by and among American AWS-3 Wireless II L.L.C., Northstar Wireless, LLC and Northstar Spectrum, LLC \(incorporated by reference from Exhibit 10.1 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed May 8, 2018\).](#)
- 10.41* [Second Amended and Restated Credit Agreement, dated March 31, 2018, by and among American AWS-3 Wireless III L.L.C., SNR Wireless LicenseCo, LLC and SNR Wireless HoldCo, LLC \(incorporated by reference from Exhibit 10.2 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed May 8, 2018\).](#)
- 10.42* [Second Amended and Restated Limited Liability Company Agreement of Northstar Spectrum, LLC, dated March 31, 2018, by and between Northstar Manager, LLC and American AWS-3 Wireless II L.L.C.](#)

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- [\(incorporated by reference from Exhibit 10.3 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed May 8, 2018\).](#)
- 10.43* [Second Amended and Restated Limited Liability Company Agreement of SNR Wireless HoldCo, LLC, dated March 31, 2018, by and between SNR Wireless Management, LLC, John Muleta and American AWS-3 Wireless III L.L.C. \(incorporated by reference from Exhibit 10.4 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed May 8, 2018\).](#)
- 10.44* [Third Amended and Restated Credit Agreement, dated June 7, 2018, by and among American AWS-3 Wireless II L.L.C., Northstar Wireless, LLC and Northstar Spectrum, LLC \(incorporated by reference from Exhibit 10.1 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed August 3, 2018\).](#)
- 10.45* [Third Amended and Restated Credit Agreement, dated June 7, 2018, by and among American AWS-3 Wireless III L.L.C., SNR Wireless LicenseCo, LLC and SNR Wireless HoldCo, LLC \(incorporated by reference from Exhibit 10.2 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed August 3, 2018\).](#)
- 10.46* [Third Amended and Restated Limited Liability Company Agreement of Northstar Spectrum, LLC, dated June 7, 2018, by and between Northstar Manager, LLC and American AWS-3 Wireless II L.L.C. \(incorporated by reference from Exhibit 10.3 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed August 3, 2018\).](#)
- 10.47* [Third Amended and Restated Limited Liability Company Agreement of SNR Wireless HoldCo, LLC, dated June 7, 2018, by and between SNR Wireless Management, LLC, John Muleta and American AWS-3 Wireless III L.L.C. \(incorporated by reference from Exhibit 10.4 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed August 3, 2018\).](#)
- 10.48* [Description of the 2019 Long-Term Incentive Plan dated August 17, 2018 \(incorporated by reference from the Current Report on Form 8-K of DISH Network Corporation filed August 23, 2018\).](#) **
- 10.49* [Incentive Stock Option Agreement \(incorporated by reference from Exhibit 10.1 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed November 6, 2020\).](#) **
- 10.50* [Non-Qualified Stock Option Agreement \(incorporated by reference from Exhibit 10.2 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed November 6, 2020\).](#) **
- 10.51* [Restricted Stock Unit Agreement \(incorporated by reference from Exhibit 10.3 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed November 6, 2020\).](#) **
- 10.52* [Master Network Service Agreement, dated as of July 1, 2020, by and among DISH Network Corporation, DISH Purchasing Corporation, and T-Mobile USA, Inc. \(incorporated by reference from Exhibit 10.4 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed November 6, 2020\).](#)
- 10.53* [License Purchase Agreement, dated as of July 1, 2020, by and among DISH Network Corporation and T-Mobile USA, Inc. \(incorporated by reference from Exhibit 10.5 to the Quarterly Report on Form 10-Q of DISH Network Corporation filed November 6, 2020\).](#)
- 10.54□ [Purchase Agreement dated December 30, 2020, by and among American AWS-3 Wireless II L.L.C., Northstar Manager, LLC and Northstar Spectrum, LLC.](#)
- 21□ [Subsidiaries of DISH Network Corporation.](#)

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- 23 [Consent of KPMG LLP, Independent Registered Public Accounting Firm.](#)
- 24 [Power of Attorney authorizing Timothy A. Messner as signatory for Charles W. Ergen, Kathleen Q. Abernathy, George R. Brokaw, James DeFranco, Cantey M. Ergen, Afshin Mohebbi, Tom A. Ortolf, Joseph T. Proietti and Carl E. Vogel.](#)
- 31.1 [Section 302 Certification of Chief Executive Officer.](#)
- 31.2 [Section 302 Certification of Chief Financial Officer.](#)
- 32.1 [Section 906 Certification of Chief Executive Officer.](#)
- 32.2 [Section 906 Certification of Chief Financial Officer.](#)
- 101 The following materials from the Annual Report on Form 10-K of DISH Network Corporation for the year ended December 31, 2020, filed on February 22, 2021, formatted in Inline eXtensible Business Reporting Language (“iXBRL”): (i) Consolidated Balance Sheets, (ii) Consolidated Statements of Operations and Comprehensive Income (Loss), (iii) Consolidated Statement of Changes in Stockholders’ Equity (Deficit), (iv) Consolidated Statements of Cash Flows, and (v) related notes to these financial statements.
- 104 Cover Page Interactive Data File (the cover page XBRL tags are embedded in the Inline XBRL document).

Filed herewith.

* Incorporated by reference.

** Constitutes a management contract or compensatory plan or arrangement.

*** Certain portions of the exhibit have been omitted and separately filed with the Securities and Exchange Commission with a request for confidential treatment.

Item 16. FORM 10-K SUMMARY

None

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

DISH NETWORK CORPORATION

By: /s/ Paul W. Orban

Paul W. Orban

Executive Vice President and Chief Financial Officer

Date: February 22, 2021

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ W. Erik Carlson</u> W. Erik Carlson	President and Chief Executive Officer (Principal Executive Officer)	February 22, 2021
<u>/s/ Paul W. Orban</u> Paul W. Orban	Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	February 22, 2021
<u>*</u> Charles W. Ergen	Chairman	February 22, 2021
<u>*</u> Kathleen Q. Abernathy	Director	February 22, 2021
<u>*</u> George R. Brokaw	Director	February 22, 2021
<u>*</u> James DeFranco	Director	February 22, 2021
<u>*</u> Cantey M. Ergen	Director	February 22, 2021
<u>*</u> Afshin Mohebbi	Director	February 22, 2021
<u>*</u> Tom A. Ortolf	Director	February 22, 2021
<u>*</u> Joseph T. Proietti	Director	February 22, 2021
<u>*</u> Carl E. Vogel	Director	February 22, 2021

* By: /s/ Timothy A. Messner
Timothy A. Messner
Attorney-in-Fact

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors
DISH Network Corporation:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated balance sheets of DISH Network Corporation and subsidiaries (the Company) as of December 31, 2020 and 2019, the related consolidated statements of operations and comprehensive income (loss), changes in stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020 based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

The Company acquired Boost Mobile and Ting Mobile (the Retail Wireless business) during 2020, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2020, the Retail Wireless business' internal control over financial reporting associated with total assets of 5.4% and total revenues of 16.7% included in the consolidated financial statements of the Company as of and for the year ended December 31, 2020. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of the Retail Wireless business.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company has changed its method of accounting for leases in 2019 due to the adoption of Accounting Standards Update No. 2016-02, Leases, as amended.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying *Management's Annual Report on Internal Control Over Financial Reporting*. Our responsibility is to express an opinion on the Company's consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Identification of related party transactions with EchoStar Corporation.

As discussed in Note 20 to the consolidated financial statements, a substantial majority of the voting power of the shares of both the Company and EchoStar Corporation and subsidiaries (EchoStar) is owned beneficially by the Chairman of the Company. The Company has engaged, and continues to engage, in related party transactions with EchoStar.

We identified the evaluation of the identification of related party transactions with EchoStar as a critical audit matter. Subjective auditor judgement was required in assessing the sufficiency of the results of the procedures performed to determine such transactions were identified by the Company.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's related party process, including controls related to the identification of the Company's related party transactions with EchoStar. We evaluated the identification of related party transactions with EchoStar by:

- confirming related party amounts between EchoStar and the Company with EchoStar
- reading public filings from the Company, EchoStar, and external news for information related to transactions between the Company and EchoStar
- reading the Company's minutes from meetings of the Board of Directors
- inquired of executive officers, key members of the Company, and the Board of Directors
- performing a keyword search of the Company's customer and vendor databases for new relationships with EchoStar
- reading the transcripts to quarterly earnings conference calls for the Company and EchoStar.

We evaluated the sufficiency of audit evidence obtained by assessing the results of procedures performed over the identification of related party transactions with EchoStar.

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Boost Mobile Acquisition

As described in Note 6 to the consolidated financial statements, the Company completed the acquisition of certain assets and liabilities associated with Sprint’s Boost Mobile and Sprint-branded prepaid mobile services business (the “Boost Mobile Acquisition”) during 2020 for a total purchase price of \$1.4 billion. The Boost Mobile Acquisition was accounted for as a business combination and the identifiable assets acquired and liabilities assumed were recorded at their preliminary fair values as of the acquisition date. The Company used projected financial information to estimate the fair value of the acquired subscriber relationships intangible asset of \$458 million. As of December 31, 2020, the purchase price allocation was preliminary.

We identified the assessment of the fair value of the subscriber relationships intangible asset acquired through the Boost Mobile Acquisition as a critical audit matter. Assessing the determination of fair value of the subscriber relationships was complex due to the significant estimation uncertainty related to the projected revenues and the discount rate assumptions applied. Evaluating the reasonableness of these assumptions and the fair value estimate of subscriber relationships required a high degree of auditor judgment and extent of audit effort, including the need to involve valuation professionals with specialized skills and knowledge.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company’s business combination process. This included controls related to the amount and timing of projected revenues and the selection of the discount rate. We assessed the reasonableness of the Company’s projected revenues by comparing the projected revenues to actual results and to external and internal communications, including federal and state government regulators and the Company’s board of directors. We involved our valuation professionals with specialized skills and knowledge, who assisted in:

- comparing the projected revenue to publicly available market data for certain comparable companies
- evaluating the reasonableness of the discount rate utilized by (1) testing the source information underlying the determination of the discount rate, and (2) assessing the Company’s discount rate by comparing it against a discount rate range that was independently developed using publicly available market data for comparable companies.

/s/ KPMG LLP

We have served as the Company’s auditor since 2002.

Denver, Colorado
February 21, 2021

DISH NETWORK CORPORATION
CONSOLIDATED BALANCE SHEETS
(Dollars in thousands, except share amounts)

	As of December 31,	
	2020	2019
Assets		
<i>Current Assets:</i>		
Cash and cash equivalents	\$ 3,370,092	\$ 2,443,643
Marketable investment securities	362,953	416,704
Trade accounts receivable, net of allowance for credit losses and allowance for doubtful accounts of \$72,278 and \$19,280, respectively	1,104,202	588,358
Inventory	380,349	322,898
Other current assets	1,804,562	243,497
Total current assets	7,022,158	4,015,100
<i>Noncurrent Assets:</i>		
Restricted cash, cash equivalents and marketable investment securities	108,369	61,067
Property and equipment, net	2,182,333	2,706,182
FCC authorizations	26,903,939	25,779,503
Other investment securities	149,706	160,074
Operating lease assets	104,271	144,330
Other noncurrent assets, net	1,009,045	228,264
Intangible assets, net (Note 9)	760,126	136,415
Total noncurrent assets	31,217,789	29,215,835
Total assets	\$ 38,239,947	\$ 33,230,935
Liabilities and Stockholders' Equity (Deficit)		
<i>Current Liabilities:</i>		
Trade accounts payable	\$ 395,397	\$ 280,645
Deferred revenue and other	855,718	681,484
Accrued programming	1,388,407	1,308,531
Accrued interest	264,118	236,087
Other accrued expenses	1,095,486	817,978
Current portion of long-term debt and finance lease obligations	2,085,620	1,171,366
Total current liabilities	6,084,746	4,496,091
<i>Long-Term Obligations, Net of Current Portion:</i>		
Long-term debt and finance lease obligations, net of current portion	13,616,408	12,968,229
Deferred tax liabilities	3,869,570	2,870,655
Operating lease liabilities	63,526	84,795
Long-term deferred revenue and other long-term liabilities	474,404	695,018
Total long-term obligations, net of current portion	18,023,908	16,618,697
Total liabilities	24,108,654	21,114,788
Commitments and Contingencies (Note 16)		
Redeemable noncontrolling interests (Note 2)	350,648	552,075
<i>Stockholders' Equity (Deficit):</i>		
Class A common stock, \$.01 par value, 1,600,000,000 shares authorized, 287,720,957 and 284,603,818 shares issued and outstanding, respectively	2,877	2,846
Class B common stock, \$.01 par value, 800,000,000 shares authorized, 238,435,208 shares issued and outstanding	2,384	2,384
Additional paid-in capital	5,400,774	4,947,007
Accumulated other comprehensive income (loss)	(855)	(18)
Accumulated earnings (deficit)	8,374,975	6,612,302
Total DISH Network stockholders' equity (deficit)	13,780,155	11,564,521
Noncontrolling interests	490	(449)
Total stockholders' equity (deficit)	13,780,645	11,564,072
Total liabilities and stockholders' equity (deficit)	\$ 38,239,947	\$ 33,230,935

The accompanying notes are an integral part of these consolidated financial statements.

DISH NETWORK CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME (LOSS)
(Dollars in thousands, except per share amounts)

	For the Years Ended December 31,		
	2020	2019	2018
Revenue:			
Service revenue	\$ 14,846,024	\$ 12,616,442	\$ 13,456,088
Equipment sales and other revenue	647,411	191,242	165,214
Total revenue	<u>15,493,435</u>	<u>12,807,684</u>	<u>13,621,302</u>
Costs and Expenses (exclusive of depreciation):			
Cost of services	9,094,007	8,377,341	9,178,772
Cost of sales - equipment and other	939,721	192,821	145,604
Selling, general and administrative expenses	1,806,122	1,728,069	1,437,281
Impairment of long-lived assets (Note 2)	356,418	—	—
Depreciation and amortization	714,552	630,577	712,024
Total costs and expenses	<u>12,910,820</u>	<u>10,928,808</u>	<u>11,473,681</u>
Operating income (loss)	<u>2,582,615</u>	<u>1,878,876</u>	<u>2,147,621</u>
Other Income (Expense):			
Interest income	22,734	77,214	44,759
Interest expense, net of amounts capitalized	(12,974)	(23,687)	(15,006)
Other, net	(20,164)	11,524	11,801
Total other income (expense)	<u>(10,404)</u>	<u>65,051</u>	<u>41,554</u>
Income (loss) before income taxes	2,572,211	1,943,927	2,189,175
Income tax (provision) benefit, net	(698,275)	(451,358)	(533,684)
Net income (loss)	1,873,936	1,492,569	1,655,491
Less: Net income (loss) attributable to noncontrolling interests, net of tax	111,263	93,057	80,400
Net income (loss) attributable to DISH Network	<u>\$ 1,762,673</u>	<u>\$ 1,399,512</u>	<u>\$ 1,575,091</u>
Weighted-average common shares outstanding - Class A and B common stock:			
Basic	<u>524,761</u>	<u>479,657</u>	<u>467,350</u>
Diluted	<u>584,360</u>	<u>537,964</u>	<u>525,832</u>
Earnings per share - Class A and B common stock:			
Basic net income (loss) per share attributable to DISH Network	<u>\$ 3.36</u>	<u>\$ 2.92</u>	<u>\$ 3.37</u>
Diluted net income (loss) per share attributable to DISH Network	<u>\$ 3.02</u>	<u>\$ 2.60</u>	<u>\$ 3.00</u>
Comprehensive Income (Loss):			
Net income (loss)	<u>\$ 1,873,936</u>	<u>\$ 1,492,569</u>	<u>\$ 1,655,491</u>
<i>Other comprehensive income (loss):</i>			
Foreign currency translation adjustments	(827)	223	(1,343)
Unrealized holding gains (losses) on available-for-sale debt securities	(29)	1,127	(529)
Recognition of previously unrealized (gains) losses on available-for-sale securities included in net income (loss)	(62)	(299)	(8)
Deferred income tax (expense) benefit, net	81	(195)	124
Total other comprehensive income (loss), net of tax	<u>(837)</u>	<u>856</u>	<u>(1,756)</u>
Comprehensive income (loss)	1,873,099	1,493,425	1,653,735
Less: Comprehensive income (loss) attributable to noncontrolling interests, net of tax	111,263	93,057	80,400
Comprehensive income (loss) attributable to DISH Network	<u>\$ 1,761,836</u>	<u>\$ 1,400,368</u>	<u>\$ 1,573,335</u>

The accompanying notes are an integral part of these consolidated financial statements.

DISH NETWORK CORPORATION
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT)
(In thousands)

	Class A and B Common Stock	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Earnings (Deficit)	Noncontrolling Interests	Total	Redeemable Noncontrolling Interests
Balance, December 31, 2017	\$ 4,664	\$ 3,296,488	\$ 882	\$ 3,635,380	\$ 492	\$ 6,937,906	\$ 383,390
Issuance of Class A common stock:							
Exercise of stock awards	3	4,243	—	—	—	4,246	—
Employee benefits	6	27,316	—	—	—	27,322	—
Employee Stock Purchase Plan	6	15,729	—	—	—	15,735	—
Non-cash, stock-based compensation	—	36,261	—	—	—	36,261	—
Change in unrealized holding gains (losses) on available-for-sale debt securities, net	—	—	(537)	—	—	(537)	—
Deferred income tax (expense) benefit attributable to other comprehensive income (loss)	—	—	124	—	—	124	—
Foreign currency translation	—	—	(1,343)	—	—	(1,343)	—
ASU 2014-09 cumulative catch-up adjustment	—	—	—	2,319	—	2,319	—
Net income (loss) attributable to noncontrolling interests	—	—	—	—	3,722	3,722	76,678
Net income (loss) attributable to DISH Network	—	—	—	1,575,091	—	1,575,091	—
Other	—	(944)	—	—	(5,713)	(6,657)	—
Balance, December 31, 2018	\$ 4,679	\$ 3,379,093	\$ (874)	\$ 5,212,790	\$ (1,499)	\$ 8,594,189	\$ 460,068
Issuance of Class A common stock:							
Exercise of stock awards	7	19,361	—	—	—	19,368	—
Employee benefits	11	26,993	—	—	—	27,004	—
Employee Stock Purchase Plan	6	17,061	—	—	—	17,067	—
Non-cash, stock-based compensation	—	14,262	—	—	—	14,262	—
Change in unrealized holding gains (losses) on available-for-sale debt securities, net	—	—	828	—	—	828	—
Deferred income tax (expense) benefit attributable to other comprehensive income (loss)	—	—	(195)	—	—	(195)	—
Foreign currency translation	—	—	223	—	—	223	—
Master Transaction Agreement, net of deferred tax of \$166,161	229	496,916	—	—	—	497,145	—
Stock Rights Offering	298	998,110	—	—	—	998,408	—
Net income (loss) attributable to noncontrolling interests	—	—	—	—	1,050	1,050	92,007
Net income (loss) attributable to DISH Network	—	—	—	1,399,512	—	1,399,512	—
Other	—	(4,789)	—	—	—	(4,789)	—
Balance, December 31, 2019	\$ 5,230	\$ 4,947,007	\$ (18)	\$ 6,612,302	\$ (449)	\$ 11,564,072	\$ 552,075
Issuance of Class A common stock:							
Exercise of stock awards	15	9,425	—	—	—	9,440	—
Employee benefits	8	28,293	—	—	—	28,301	—
Employee Stock Purchase Plan	8	17,966	—	—	—	17,974	—
Non-cash, stock-based compensation	—	64,954	—	—	—	64,954	—
Change in unrealized holding gains (losses) on available-for-sale debt securities, net	—	—	(91)	—	—	(91)	—
Deferred income tax (expense) benefit attributable to other comprehensive income (loss)	—	—	81	—	—	81	—
Foreign currency translation	—	—	(827)	—	—	(827)	—
Initial equity component of our 0% convertibles due 2025, net of deferred taxes of \$99,823	—	329,409	—	—	—	329,409	—
Northstar Spectrum LLC Purchase Agreement	—	—	—	—	—	—	(311,735)
Net income (loss) attributable to noncontrolling interests	—	—	—	—	955	955	110,308
Net income (loss) attributable to DISH Network	—	—	—	1,762,673	—	1,762,673	—
Other	—	3,720	—	—	(16)	3,704	—
Balance, December 31, 2020	\$ 5,261	\$ 5,400,774	\$ (855)	\$ 8,374,975	\$ 490	\$ 13,780,645	\$ 350,648

The accompanying notes are an integral part of these consolidated financial statements.

DISH NETWORK CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	For the Years Ended December 31,		
	2020	2019	2018
Cash Flows From Operating Activities:			
Net income (loss)	\$ 1,873,936	\$ 1,492,569	\$ 1,655,491
<i>Adjustments to reconcile net income (loss) to net cash flows from operating activities:</i>			
Depreciation and amortization	714,552	630,577	712,024
Impairment of long-lived assets (Note 2)	356,418	—	—
Realized and unrealized losses (gains) on investments and derivatives	21,822	(4,121)	(11,908)
Non-cash, stock-based compensation	64,954	14,262	36,261
Deferred tax expense (benefit)	899,173	228,250	454,699
Allowance for credit losses and allowance for doubtful accounts, respectively	28,622	2,314	(1,270)
Change in long-term deferred revenue and other long-term liabilities	(244,660)	228,557	(3,303)
Other, net	4,735	92,471	(70,900)
Changes in current assets and current liabilities, net			
Trade accounts receivable	(25,172)	49,183	14,724
Prepaid and accrued income taxes	(84,633)	50,101	93,618
Inventory	58,291	(79,542)	14,788
Other current assets	(271,227)	67,398	(46,772)
Trade accounts payable	73,268	46,892	(160,952)
Deferred revenue and other	(499)	26,172	(98,179)
Accrued programming and other accrued expenses	(157,804)	(182,682)	(70,480)
Net cash flows from operating activities	3,311,776	2,662,401	2,517,841
Cash Flows From Investing Activities:			
Purchases of marketable investment securities	(1,902,599)	(1,029,858)	(1,403,890)
Sales and maturities of marketable investment securities	1,944,748	1,799,966	730,210
Purchases of property and equipment	(413,302)	(581,081)	(393,938)
Capitalized interest related to FCC authorizations (Note 2)	(779,204)	(901,367)	(922,759)
Purchases of FCC authorizations, including deposits (Note 16)	(1,047,542)	(12,155)	(2,500)
Boost Mobile Acquisition (Note 6)	(1,312,500)	—	—
Other, net	(351,173)	6,659	17,604
Net cash flows from investing activities	(3,861,572)	(717,836)	(1,975,273)
Cash Flows From Financing Activities:			
Proceeds from issuance of convertible notes	2,000,000	—	—
Redemption and repurchases of senior notes	(1,100,000)	(1,317,372)	(1,108,489)
Northstar Spectrum LLC Purchase Agreement	(311,735)	—	—
Repayment of long-term debt and finance lease obligations	(100,536)	(41,548)	(42,767)
Proceeds from issuance of senior notes	1,000,000	—	—
Net proceeds from Class A common stock options exercised and stock issued under the Employee Stock Purchase Plan	27,414	36,435	19,981
Stock Rights Offering	—	998,408	—
Debt issuance costs	(15,675)	—	—
Other, net	2	(4,092)	(3,270)
Net cash flows from financing activities	1,499,470	(328,169)	(1,134,545)
Net increase (decrease) in cash, cash equivalents, restricted cash and cash equivalents	949,674	1,616,396	(591,977)
Cash, cash equivalents, restricted cash and cash equivalents, beginning of period (Note 7)	2,504,320	887,924	1,479,901
Cash, cash equivalents, restricted cash and cash equivalents, end of period (Note 7)	<u>\$ 3,453,994</u>	<u>\$ 2,504,320</u>	<u>\$ 887,924</u>

The accompanying notes are an integral part of these consolidated financial statements.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Organization and Business Activities

Principal Business

DISH Network Corporation is a holding company. Its subsidiaries (which together with DISH Network Corporation are referred to as “DISH Network,” the “Company,” “we,” “us” and/or “our,” unless otherwise required by the context) operate two primary business segments, Pay-TV and Wireless. Our Wireless business segment operates in two business units, Retail Wireless and 5G Network Deployment.

Pay-TV

We offer pay-TV services under the DISH® brand and the SLING® brand (collectively “Pay-TV” services). The DISH branded pay-TV service consists of, among other things, FCC licenses authorizing us to use direct broadcast satellite (“DBS”) and Fixed Satellite Service (“FSS”) spectrum, our owned and leased satellites, receiver systems, broadcast operations, customer service facilities, a leased fiber optic network, in-home service and call center operations, and certain other assets utilized in our operations (“DISH TV”). We also design, develop and distribute receiver systems and provide digital broadcast operations, including satellite uplinking/downlinking, transmission and other services to third-party pay-TV providers. The SLING branded pay-TV services consist of, among other things, multichannel, live-linear streaming over-the-top (“OTT”) Internet-based domestic, international and Latino video programming services (“SLING TV”). As of December 31, 2020, we had 11.290 million Pay-TV subscribers in the United States, including 8.816 million DISH TV subscribers and 2.474 million SLING TV subscribers.

Wireless – Retail Wireless

As a result of the Boost Mobile Acquisition and the Ting Mobile Acquisition (as defined below), we have entered the retail wireless business. See Note 6 for further information. We offer nationwide prepaid and postpaid retail wireless services to subscribers under our Boost Mobile and Ting Mobile brands, as well as a competitive portfolio of wireless devices. Prepaid wireless subscribers generally pay in advance for monthly access to wireless talk, text, and data services. Postpaid wireless subscribers generally are qualified to pay after receiving wireless talk, text, and data services. We are currently operating our retail wireless business unit as a mobile virtual network operator (“MVNO”) while we build our 5G broadband network. As an MVNO, we depend primarily on T-Mobile US, Inc., (“T-Mobile”) to provide us with network services under the MNSA. We acquired over 9 million subscribers as a result of the Boost Mobile Acquisition and acquired over 200,000 subscribers as a result of the Ting Mobile Acquisition. Our Consolidated Statements of Operations and Comprehensive Income (Loss) includes the results of the Boost Mobile Acquisition from July 1, 2020 and Ting Mobile Acquisition from August 1, 2020. As of December 31, 2020, we had 9.055 million retail wireless subscribers.

Wireless – 5G Network Deployment

We have directly invested over \$11 billion to acquire certain wireless spectrum licenses and related assets and made over \$10 billion in non-controlling investments in certain entities, for a total of over \$21 billion, as described further below. The \$21 billion of investments related to wireless spectrum licenses does not include \$6 billion of capitalized interest related to the carrying value of such licenses. See Note 2 for further information on capitalized interest.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

DISH Network Spectrum

We have directly invested over \$11 billion to acquire certain wireless spectrum licenses and related assets. These wireless spectrum licenses are subject to certain interim and final build-out requirements, as well as certain renewal requirements. We plan to commercialize our wireless spectrum licenses through the completion of the nation's first cloud-native, Open Radio Access Network ("O-RAN") based 5G network (our "5G Network Deployment"). To that end, we have undertaken several key steps including identifying markets to build out, making executive and management hires and entering into agreements with key vendors. For example, on November 16, 2020, we announced a long-term agreement with Crown Castle pursuant to which Crown Castle will lease us space on up to 20,000 communication towers. As part of the agreement, we will also receive certain fiber transport services and have the option to utilize Crown Castle for pre-construction services. During December 2020, we completed a successful field validation, utilizing our fully-virtualized standalone 5G core network and the industry's first O-RAN compliant radio. We currently expect expenditures for our 5G Network Deployment to be approximately \$10 billion, excluding capitalized interest.

Prior to starting our 5G Network Deployment, we notified the FCC in March 2017 that we planned to deploy a narrowband IoT network on certain of these wireless licenses, which we expected to complete by March 2020, with subsequent phases to be completed thereafter. In light of, among other things, certain developments related to the Sprint-T-Mobile merger, during the first quarter 2020, we determined that the revision of certain of our build-out deadlines was probable and, therefore, we no longer intended to complete our narrowband IoT deployment. The FCC issued an Order effectuating the build-out deadline changes contemplated above on September 11, 2020. During the first quarter 2020, we impaired certain assets that would not be utilized in our 5G Network Deployment, resulting in a \$253 million non-cash impairment charge in "Impairment of long-lived assets" on our Consolidated Statements of Operations and Comprehensive Income (Loss).

We will need to make significant additional investments or partner with others to, among other things, complete our 5G Network Deployment and further commercialize, build-out and integrate these licenses and related assets and any additional acquired licenses and related assets, as well as to comply with regulations applicable to such licenses. Depending on the nature and scope of such activities, any such investments or partnerships could vary significantly. In addition, as we complete our 5G Network Deployment we will incur significant additional expenses and will have to make significant investments related to, among other things, research and development, wireless testing and wireless network infrastructure. We may also determine that additional wireless spectrum licenses may be required to complete our 5G Network Deployment and to compete with other wireless service providers. See Note 2 and Note 16 for further information.

DISH Network Non-Controlling Investments in the Northstar Entities and the SNR Entities Related to AWS-3 Wireless Spectrum Licenses

During 2015, through our wholly-owned subsidiaries American AWS-3 Wireless II L.L.C. ("American II") and American AWS-3 Wireless III L.L.C. ("American III"), we initially made over \$10 billion in certain non-controlling investments in Northstar Spectrum, LLC ("Northstar Spectrum"), the parent company of Northstar Wireless, L.L.C. ("Northstar Wireless," and collectively with Northstar Spectrum, the "Northstar Entities"), and in SNR Wireless HoldCo, LLC ("SNR HoldCo"), the parent company of SNR Wireless LicenseCo, LLC ("SNR Wireless," and collectively with SNR HoldCo, the "SNR Entities"), respectively. On October 27, 2015, the FCC granted certain AWS-3 wireless spectrum licenses (the "AWS-3 Licenses") to Northstar Wireless and to SNR Wireless, respectively, which are recorded in "FCC authorizations" on our Consolidated Balance Sheets. Under the applicable accounting guidance in Accounting Standards Codification 810, *Consolidation* ("ASC 810"), Northstar Spectrum and SNR HoldCo are considered variable interest entities and, based on the characteristics of the structure of these entities and in accordance with the applicable accounting guidance, we consolidate these entities into our financial statements. See Note 2 for further information.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

The AWS-3 Licenses are subject to certain interim and final build-out requirements, as well as certain renewal requirements. The Northstar Entities and/or the SNR Entities may need to raise significant additional capital in the future, which may be obtained from third party sources or from us, so that the Northstar Entities and the SNR Entities may commercialize, build-out and integrate these AWS-3 Licenses, comply with regulations applicable to such AWS-3 Licenses, and make any potential Northstar Re-Auction Payment and SNR Re-Auction Payment for the AWS-3 licenses retained by the FCC. Depending upon the nature and scope of such commercialization, build-out and integration efforts, regulatory compliance, and potential Northstar Re-Auction Payment and SNR Re-Auction Payment, any loans, equity contributions or partnerships could vary significantly. There can be no assurance that we will be able to obtain a profitable return on our non-controlling investments in the Northstar Entities and the SNR Entities. See Note 16 for further information.

Recent Developments

We accounted for the Boost Mobile Acquisition and Ting Mobile Acquisition as business combinations. The identifiable assets acquired and liabilities assumed were recorded at their preliminary fair values as of the acquisition date and are consolidated into our financial statements. Our Consolidated Statements of Operations and Comprehensive Income (Loss) includes the results of the Boost Mobile Acquisition from July 1, 2020 and the Ting Mobile Acquisition from August 1, 2020. See Note 6 for further information.

Boost Mobile Acquisition

Asset Purchase Agreement

On July 26, 2019, we entered into an Asset Purchase Agreement (the “APA”) with T-Mobile and Sprint Corporation (“Sprint” and together with T-Mobile, the “Sellers” and given the consummation of the Sprint-T-Mobile merger, sometimes referred to as “NTM”) to acquire from NTM certain assets and liabilities associated with Sprint’s Boost Mobile and Sprint-branded prepaid mobile services businesses (the “Prepaid Business”) for an aggregate purchase price of \$1.4 billion as adjusted for specific categories of net working capital on the closing date (the “Boost Mobile Acquisition”). Effective July 1, 2020 (the “Closing Date”), upon the terms and subject to the conditions set forth in the APA and in accordance with the Final Judgment (as defined below), we and T-Mobile completed the Boost Mobile Acquisition.

In connection with the Boost Mobile Acquisition and the consummation of the Sprint-T-Mobile merger, we, T-Mobile, Sprint, Deutsche Telekom AG (“DT”) and SoftBank Group Corporation (“SoftBank”) came to an agreement with the United States Department of Justice (the “DOJ”) on key terms and approval of the Transaction Agreements (as defined below) and our wireless service business and spectrum. On July 26, 2019, we, T-Mobile, Sprint, DT and SoftBank (collectively, the “Defendants”) entered into a Stipulation and Order (the “Stipulation and Order”) with the DOJ binding the Defendants to a Proposed Final Judgment (the “Proposed Final Judgment”) which memorialized the agreement between the DOJ and the Defendants. The Stipulation and Order and the Proposed Final Judgment were filed in the United States District Court for the District of Columbia (the “District Court”) on July 26, 2019 and on April 1, 2020, the Proposed Final Judgment was entered with the District Court (the Proposed Final Judgment as so entered with the District Court, the “Final Judgment”) and the Sellers consummated the Sprint-T-Mobile merger.

The term of the Final Judgment is seven years from the date of its entry with the District Court or five years if the DOJ gives notice that the divestitures, build-outs and other requirements have been completed to its satisfaction. A Monitoring Trustee has been appointed by the District Court that has the power and authority to monitor the Defendants’ compliance with the Final Judgment and settle disputes among the Defendants regarding compliance with the provisions of the Final Judgment and may recommend action to the DOJ in the event a party fails to comply with the Final Judgment. See Note 6 for further information on the Stipulation and Order and the Final Judgment, including our build-out commitments.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Also in connection with the closing of the Boost Mobile Acquisition, we and T-Mobile entered into a transition services agreement under which we will receive certain transitional services (the “TSA”), a master network services agreement for the provision of network services by T-Mobile to us (the “MNSA”), an option agreement entitling us to acquire certain decommissioned cell sites and retail stores of T-Mobile (the “Option Agreement”) and an agreement under which we would purchase all of Sprint’s 800 MHz spectrum licenses, totaling approximately 13.5 MHz of nationwide wireless spectrum for an additional approximately \$3.59 billion (the “Spectrum Purchase Agreement” and together with the APA, the TSA, the MNSA and the Option Agreement, the “Transaction Agreements”). See Note 6 for further information on the Transaction Agreements.

Ting Mobile Acquisition

On August 1, 2020, we entered into an asset purchase agreement with Tucows Inc. (“Tucows”) pursuant to which we purchased the assets of Ting Mobile, including over 200,000 Ting Mobile subscribers (the “Ting Mobile Acquisition”). In addition, we entered into a services agreement pursuant to which Tucows will act as a mobile virtual network enabler for certain of our retail wireless subscribers. The consideration for the Ting Mobile Acquisition is an earn out provision and the fair value of the earn out provision has been assigned to a customer relationship intangible that is recorded in “Intangible assets, net” with the offset recorded in “Long-term deferred revenue and other long-term liabilities” on our Consolidated Balance Sheets. See Note 6 for further information.

2. Summary of Significant Accounting Policies

Principles of Consolidation and Basis of Presentation

We consolidate all majority owned subsidiaries, investments in entities in which we have controlling influence and variable interest entities where we have been determined to be the primary beneficiary. Minority interests are recorded as noncontrolling interests or redeemable noncontrolling interests. See below for further information. Non-consolidated investments are accounted for using the equity method when we have the ability to significantly influence the operating decisions of the investee. When we do not have the ability to significantly influence the operating decisions of an investee, these equity securities are classified as either marketable investment securities or other investments and recorded at fair value with changes recognized in “Other, net” within “Other Income (Expense)” on our Consolidated Statements of Operations and Comprehensive Income (Loss). All significant intercompany accounts and transactions have been eliminated in consolidation. Certain prior period amounts have been reclassified to conform to the current period presentation.

Specifically, as a result of our entrance into the retail wireless industry, we have reclassified certain items on our Consolidated Statements of Operations and Comprehensive Income (Loss). The reclassifications include:

- (a) “Subscriber-related revenue” has been retitled “Service revenue.”
- (b) “Subscriber-related expenses” has been retitled “Cost of services.”
- (c) “Satellite and transmission expenses” has been reclassified to “Cost of services.”
- (d) A new caption entitled “Selling, general and administrative expenses” has been created that includes historical “General and administrative expenses,” as well as “Subscriber acquisition costs.”

All prior periods have been reclassified to conform to the current period presentation for these changes.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Redeemable Noncontrolling Interests

Northstar Wireless. Northstar Wireless is a wholly-owned subsidiary of Northstar Spectrum, which is an entity owned by Northstar Manager, LLC (“Northstar Manager”) and us. Under the applicable accounting guidance in ASC 810, Northstar Spectrum is considered a variable interest entity and, based on the characteristics of the structure of this entity and in accordance with the applicable accounting guidance, we consolidate Northstar Spectrum into our financial statements. The Northstar Operative Agreements, as amended, provide for, among other things, that Northstar Manager has the ability, but not the obligation, to require Northstar Spectrum to purchase Northstar Manager’s ownership interests in Northstar Spectrum (the “Northstar Put Right”) for a purchase price that equals its equity contribution to Northstar Spectrum plus a fixed annual rate of return. The First Northstar Put Window began in the fourth quarter 2020 and the Second Northstar Put Window will begin in the fourth quarter 2021.

Northstar Purchase Agreement. On December 30, 2020, through our wholly owned subsidiary American II, we entered into a Purchase Agreement (the “Northstar Purchase Agreement”) with Northstar Manager and Northstar Spectrum, pursuant to which American II purchased 80% of Northstar Manager’s Class B Common Interests in Northstar Spectrum (the “Northstar Transaction”) for a purchase price of approximately \$312 million. As a result of the Northstar Transaction, through American II, we hold 97% of the Class B Common Interests in Northstar Spectrum and Northstar Manager holds 3% of the Class B Common Interests in Northstar Spectrum. Other than the change in ownership percentage of Northstar Spectrum, the Northstar Transaction did not modify or amend in any way the existing arrangements between or among the Northstar parties. In the Northstar Purchase Agreement, Northstar Manager waived its right to exercise the Northstar Put Right under the First Northstar Put Window. Northstar Manager retains its right to exercise the Northstar Put Right during the Second Northstar Put Window.

In the event that the Northstar Put Right is exercised by Northstar Manager, the consummation of the sale will be subject to FCC approval. Northstar Spectrum does not have a call right with respect to Northstar Manager’s ownership interests in Northstar Spectrum. Although Northstar Manager is the sole manager of Northstar Spectrum, Northstar Manager’s ownership interest is considered temporary equity under the applicable accounting guidance and is thus recorded as part of “Redeemable noncontrolling interests” in the mezzanine section of our Consolidated Balance Sheets. Northstar Manager’s ownership interest in Northstar Spectrum was initially accounted for at fair value. Subsequently, Northstar Manager’s ownership interest in Northstar Spectrum is increased by the fixed annual rate of return through “Redeemable noncontrolling interests” on our Consolidated Balance Sheets, with the offset recorded in “Net income (loss) attributable to noncontrolling interests, net of tax” on our Consolidated Statements of Operations and Comprehensive Income (Loss). The operating results of Northstar Spectrum attributable to Northstar Manager are recorded as “Redeemable noncontrolling interests” on our Consolidated Balance Sheets, with the offset recorded in “Net income (loss) attributable to noncontrolling interests, net of tax” on our Consolidated Statements of Operations and Comprehensive Income (Loss). See Note 16 for further information.

SNR Wireless. SNR Wireless is a wholly-owned subsidiary of SNR HoldCo, which is an entity owned by SNR Wireless Management, LLC (“SNR Management”) and us. Under the applicable accounting guidance in ASC 810, SNR HoldCo is considered a variable interest entity and, based on the characteristics of the structure of this entity and in accordance with the applicable accounting guidance, we consolidate SNR HoldCo into our financial statements. The SNR Operative Agreements, as amended, provide for, among other things, that SNR Management has the ability, but not the obligation, to require SNR HoldCo to purchase SNR Management’s ownership interests in SNR HoldCo (the “SNR Put Right”) for a purchase price that equals its equity contribution to SNR HoldCo plus a fixed annual rate of return. The First SNR Put Window began in the fourth quarter 2020, was not exercised and expired in January 2021. The Second SNR Put Window will begin in the fourth quarter 2021.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

In the event that the SNR Put Right is exercised by SNR Management, the consummation of the sale will be subject to FCC approval. SNR HoldCo does not have a call right with respect to SNR Management's ownership interests in SNR HoldCo. Although SNR Management is the sole manager of SNR HoldCo, SNR Management's ownership interest is considered temporary equity under the applicable accounting guidance and is thus recorded as part of "Redeemable noncontrolling interests" in the mezzanine section of our Consolidated Balance Sheets. SNR Management's ownership interest in SNR HoldCo was initially accounted for at fair value. Subsequently, SNR Management's ownership interest in SNR HoldCo is increased by the fixed annual rate of return through "Redeemable noncontrolling interests" on our Consolidated Balance Sheets, with the offset recorded in "Net income (loss) attributable to noncontrolling interests, net of tax" on our Consolidated Statements of Operations and Comprehensive Income (Loss). The operating results of SNR HoldCo attributable to SNR Management are recorded as "Redeemable noncontrolling interests" on our Consolidated Balance Sheets, with the offset recorded in "Net income (loss) attributable to noncontrolling interests, net of tax" on our Consolidated Statements of Operations and Comprehensive Income (Loss). See Note 16 for further information.

As of December 31, 2020 and December 31, 2019, Northstar Manager's ownership interest in Northstar Spectrum and SNR Management's ownership interest in SNR HoldCo was \$351 million and \$552 million, respectively, recorded as "Redeemable noncontrolling interests" on our Consolidated Balance Sheets.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States ("GAAP") requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expense for each reporting period. Estimates are used in accounting for, among other things, allowances for credit losses (including those related to our installment billing programs), self-insurance obligations, deferred taxes and related valuation allowances, uncertain tax positions, loss contingencies, fair value of financial instruments, fair value of options granted under our stock-based compensation plans, fair value of assets and liabilities acquired in business combinations, the fair value of our option to purchase T-Mobile's 800 MHz spectrum, relative standalone selling prices of performance obligations, finance leases, asset impairments, estimates of future cash flows used to evaluate and recognize impairments, useful lives of property, equipment and intangible assets, independent third-party retailer incentives, programming expenses and subscriber lives. Economic conditions may increase the inherent uncertainty in the estimates and assumptions indicated above. Actual results may differ from previously estimated amounts, and such differences may be material to our consolidated financial statements. Estimates and assumptions are reviewed periodically, and the effects of revisions are reflected prospectively in the period they occur.

Cash and Cash Equivalents

We consider all liquid investments purchased with a remaining maturity of 90 days or less at the date of acquisition to be cash equivalents. Cash equivalents as of December 31, 2020 and 2019 may consist of money market funds, government bonds, corporate notes and commercial paper. The cost of these investments approximates their fair value.

Marketable Investment Securities

All equity securities are carried at fair value, with changes in fair value recognized in "Other, net" within "Other Income (Expense)" on our Consolidated Statements of Operations and Comprehensive Income (Loss).

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

All debt securities are classified as available-for-sale and are recorded at fair value. Historically, we reported temporary unrealized gains and losses as a separate component of “Accumulated other comprehensive income (loss)” within “Total stockholders’ equity (deficit),” net of related deferred income tax on our Consolidated Balance Sheets. Subsequent to the adoption of ASU 2016-13 *Financial Instruments – Credit Losses, Measurement of Credit Losses on Financial Instruments* (“ASU 2016-13”) during the first quarter of 2020, we report the temporary unrealized gains and losses related to changes in market conditions of marketable debt securities as a separate component of “Accumulated other comprehensive income (loss)” within “Total stockholders’ equity (deficit),” net of related deferred income tax on our Consolidated Balance Sheets. The changes in the fair value of marketable debt securities, which are determined to be company specific credit losses are recorded in “Other, net” within “Other Income (Expense)” on our Consolidated Statements of Operations and Comprehensive Income (Loss).

We evaluate our debt investment portfolio to determine whether declines in the fair value of these securities are related to credit loss. Management estimates credit losses on marketable debt securities utilizing a credit loss impairment model on a quarterly basis. We estimate the expected credit losses, measured over the contractual life of marketable debt securities considering relevant issuer specific factors, including, but not limited to, a decrease in credit ratings or an entities ability to pay.

Trade Accounts Receivable

General Accounts Receivable

Prior to January 1, 2020, management estimated the amount of allowance for doubtful accounts for potential non-collectability of accounts receivable based upon past collection experience and consideration of other relevant factors.

Subsequent to January 1, 2020 due to the adoption of ASU 2016-13, trade accounts receivable are recorded at cost less an allowance for expected credit losses that are not expected to be recovered. We maintain allowances for credit losses resulting from the expected failure or inability of our customers to make required payments. We recognize the allowance for expected credit losses at inception and reassess quarterly based on management’s expectation of the asset’s collectability. Management estimates credit losses on financial assets, including our trade accounts receivable, utilizing a current expected credit loss impairment model. We estimate the expected credit losses, measured over the contractual life of an asset considering relevant historical loss information, credit quality of the customer base, current economic conditions and forecasts of future economic conditions.

In determining the allowance for credit losses, management groups similar types of financial assets with consistent risk characteristics. Pools identified by management include but are not limited to residential customers, commercial customers and advertising services. The risk characteristics of the financial asset portfolios are monitored by management and reviewed periodically. The forecasts for future economic conditions are based on several factors including, but not limited to, changes in the unemployment rate, external economic forecasts and current collection rates. Our estimates of the allowance for credit losses may not be indicative of our actual credit losses requiring additional charges to be incurred to reflect the actual amount collected.

BoostUP! Receivable

We offer certain long-term subscribers of Boost Mobile the option to pay for their devices under an installment plan (“BoostUP!”), which is generally over a period of 18 months. The BoostUP! receivable is presented in our Consolidated Balance Sheets at its net realizable value, which is net of an allowance for credit losses. The allowance for credit losses is estimated based on among other factors, historical loss information and current economic conditions as well as forecasts of future economic conditions. As of December 31, 2020, “Trade accounts receivable, net” on our Consolidated Balance Sheets includes \$114 million of BoostUP! receivables, net of allowance for credit losses of \$20 million.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Subscribers that participate in the BoostUP! program typically make a down payment and satisfy their obligation by providing equal monthly payments during the duration of their financing arrangement. As Boost Mobile subscribers are on a month to month contract for service with Boost Mobile and the BoostUP! arrangement provides that upon an installment plan subscribers's termination of the service the installment balance becomes due and payable immediately, we do not impute interest on these instruments as the financial instruments are short term in nature.

Inventory

Inventory is stated at the lower of cost or net realizable value. Cost is determined using the first-in, first-out method. The cost of manufactured inventory includes the cost of materials, labor, freight-in, royalties and manufacturing overhead. Net realizable value is calculated as the estimated selling price less reasonable costs necessary to complete, sell, transport and dispose of the inventory.

Property and Equipment

Property and equipment, including capitalized expenditures related to our wireless projects and 5G Network Deployment, are stated at cost less depreciation and impairment losses, if any. Our set-top boxes are generally capitalized when they are installed in customers' homes. If a satellite were to fail while in-orbit, the resultant loss would be charged to expense in the period such loss was incurred. The amount of any such loss would be reduced to the extent of insurance proceeds estimated to be received, if any. Depreciation is recorded on a straight-line basis over useful lives ranging from two to 40 years. Repair and maintenance costs are charged to expense when incurred. Renewals and improvements that add value or extend the asset's useful life are capitalized. Costs related to the procurement and development of software for internal-use are capitalized and amortized using the straight-line method over the estimated useful life of the software.

Derivative Instruments

We have the option to purchase certain of T-Mobile's 800 MHz spectrum licenses from T-Mobile at a fixed price in the future as part of the Boost Mobile Acquisition. See Note 6 for further information. This instrument meets the definition of a derivative and was valued at its acquisition date fair value of \$713 million. The derivative is remeasured quarterly. All changes in the derivative's fair value are recorded in "Other, net" in our Consolidated Statements of Operations and Comprehensive Income (Loss).

Impairment of Long-Lived Assets

We review our long-lived assets and identifiable finite-lived intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. For assets which are held and used in operations, the asset would be impaired if the carrying amount of the asset (or asset group) exceeded its undiscounted future net cash flows. Once an impairment is determined, the actual impairment recognized is the difference between the carrying amount and the fair value as estimated using one of the following approaches: income, cost and/or market. Assets which are to be disposed of are reported at the lower of the carrying amount or fair value less costs to sell.

The carrying amount of a long-lived asset or asset group is considered impaired when the anticipated undiscounted cash flows from such asset or asset group is less than its carrying amount. In that event, a loss is recorded in "Impairment of long-lived assets" on our Consolidated Statements of Operations and Comprehensive Income (Loss) based on the amount by which the carrying amount exceeds the fair value of the long-lived asset or asset group. Fair value, using the income approach, is determined primarily using a discounted cash flow model that uses the estimated cash flows associated with the asset or asset group under review, discounted at a rate commensurate with the risk involved. Fair value, utilizing the cost approach, is determined based on the replacement cost of the asset reduced for, among other things, depreciation and obsolescence. Fair value, utilizing the market approach, benchmarks the fair value against the carrying amount. See Note 9 for further information.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

DBS Satellites. We currently evaluate our DBS satellite fleet for impairment as one asset group whenever events or changes in circumstances indicate that its carrying amount may not be recoverable. We do not believe any triggering event has occurred which would indicate impairment as of December 31, 2020 and 2019. We will continue to monitor the DBS satellite fleet for indicators of impairment, including monitoring the impact of the COVID-19 pandemic on all aspects of our business.

AWS-4 Satellites. We historically have evaluated our AWS-4 satellite fleet for impairment whenever events or changes in circumstances indicate that its carrying amount may not be recoverable. In light of, among other things, certain developments related to the Sprint-T-Mobile merger, during the first quarter 2020, we determined that revisions to the AWS-4 build-out deadlines were probable, which we determined to be a triggering event. Accordingly, we quantitatively assessed the value of the AWS-4 satellites (T1 and D1) and wrote down the fair value of the satellites to their estimated fair value of zero, resulting in a \$103 million non-cash impairment charge in “Impairment of long-lived assets” on our Consolidated Statements of Operations and Comprehensive Income (Loss). We did not believe any triggering event occurred which would indicate impairment as of December 31, 2019. See Note 9 for further information.

Narrowband IoT network. As discussed in Note 16, in March 2017 we notified the FCC that we planned to deploy a narrowband IoT network. In October 2019, we paused work on the narrowband IoT deployment. In light of, among other things, certain developments related to the Sprint-T-Mobile merger, during the first quarter 2020, we determined that the revision of certain of our build-out deadlines were probable. Based on this, we no longer intended to complete our narrowband IoT deployment, which we considered a triggering event. As such, during the first quarter 2020, we reviewed the capitalized costs of equipment, labor and other assets related to the narrowband IoT deployment, including our operating lease assets, and impaired those items that would not be utilized in our ongoing 5G Network Deployment, resulting in a \$253 million non-cash impairment charge in “Impairment of long-lived assets” on our Consolidated Statements of Operations and Comprehensive Income (Loss). See Note 9 and Note 10 for further information.

Impairment of long-lived assets recorded during the year ended December 31, 2020 consisted of the following:

	For the Year Ended
	December 31, 2020
	(In thousands)
T1 satellite	\$ 48,120
D1 satellite	55,000
Construction in progress related to narrowband IoT deployment	226,742
Operating lease assets related to narrowband IoT deployment	26,556
Impairment of long-lived assets	\$ 356,418

Boost Mobile Intangible Assets. Intangible assets include subscriber relationships, the Boost Mobile tradename and certain below market contracts. The recorded fair value of intangible assets are amortized over their respective useful lives which range from one to 10 years.

Ting Mobile Intangible Assets. The preliminary fair value of the customer relationships and the trade name at the acquisition date of Ting Mobile are recorded in “Intangible assets” on our Consolidated Balance Sheets. These assets are amortized over their respective useful lives which range from two to 10 years.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Indefinite-Lived Intangible Assets and Goodwill

We do not amortize indefinite-lived intangible assets and goodwill but test these assets for impairment annually, during the fourth quarter or more often if indicators of impairment arise. We have the option to first perform a qualitative assessment to determine whether it is necessary to perform a quantitative impairment test. However, we may elect to bypass the qualitative assessment in any period and proceed directly to performing the quantitative impairment test. Intangible assets that have finite lives are amortized over their estimated useful lives and tested for impairment as described above for long-lived assets. Our intangible assets with indefinite lives primarily consist of FCC licenses. Generally, we have determined that our FCC licenses have indefinite useful lives due to the following:

- FCC licenses are a non-depleting asset;
- existing FCC licenses are integral to our business segments and will contribute to cash flows indefinitely;
- replacement DBS satellite applications are generally authorized by the FCC subject to certain conditions, without substantial cost under a stable regulatory, legislative and legal environment;
- maintenance expenditures to obtain future cash flows are not significant;
- FCC licenses are not technologically dependent; and
- we intend to use these assets indefinitely.

DBS Licenses. We combine all of our indefinite-lived DBS licenses that we currently utilize or plan to utilize in the future into a single unit of accounting. For 2020, 2019 and 2018, management performed a qualitative assessment to determine whether it is more likely than not that the fair value of the DBS licenses exceeds its carrying amount. In our assessment, we considered several factors, including, among others, overall financial performance, industry and market considerations, and relevant company specific events. In contemplating all factors in their totality, we concluded that it is more likely than not that the fair value of the DBS licenses exceeds its carrying amount. As such, no further analysis was required.

Wireless Spectrum Licenses. During 2020, we acquired the 37 GHz, 39 GHz, and 47 GHz wireless licenses and during 2019, we acquired the 24 GHz and 28 GHz wireless licenses, together (the “High-Band Licenses”). We currently combine our 600 MHz, 700 MHz, AWS-4, H Block, High-Band Licenses and the Northstar Licenses and SNR Licenses into a single unit of accounting. In 2020 and 2019 (excluding the High-Band Licenses), management performed a qualitative assessment to determine whether it is more likely than not that the fair value of these licenses exceed their carrying amount. In our assessment, we considered several factors, including, among other things, the projected financial performance of our Wireless segment, the business enterprise value of our Wireless segment, and market transactions for wireless spectrum licenses including auction results. In assessing these factors, we considered both macroeconomic conditions and industry and market conditions. In contemplating all factors in their totality, we concluded that it is more likely than not that the fair value of these licenses exceeds their carrying amount.

During 2019, our 24 GHz and 28 GHz wireless spectrum licenses were assessed as a single unit of accounting. These licenses were purchased during the fourth quarter 2019 through our participation in Auction 101 and Auction 102. For 2019, management’s assessment of the fair value of these licenses was determined based on the auction results.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

In 2018, we assessed our 600 MHz, 700 MHz, AWS-4, H Block Licenses and the Northstar Licenses and SNR Licenses quantitatively. Our quantitative assessment consisted of both an income approach and a market approach. The income approach estimated the fair value of these licenses using the “Greenfield” approach. The Greenfield approach values the licenses by calculating the cash flow generating potential of a hypothetical start-up company that goes into business with no assets except the licenses to be valued. A discounted cash flow analysis is used to estimate what a marketplace participant would be willing to pay to purchase the aggregated wireless licenses as of the valuation date. The market approach uses prior transactions including auctions to estimate the fair value of the licenses. In conducting this quantitative assessment, we determined that the fair value of these licenses exceeded their carrying amount under both approaches.

During 2020, 2019, and 2018, our multichannel video distribution and data service (“MVDDS”) wireless spectrum licenses were assessed as a single unit of accounting. For 2020 and 2019, management assessed these licenses qualitatively. Our qualitative assessment focused on recent auction results and historical market activity. We concluded that it is more likely than not that the fair value of these licenses exceeded their carrying amount. For 2018, management assessed these licenses quantitatively under a market approach. The market approach uses prior transactions including auctions to estimate the fair value of the licenses. In conducting the quantitative assessment, we determined that the fair value of these licenses exceeded their carrying amount.

Changes in circumstances or market conditions could result in a write-down of any of the above wireless spectrum licenses in the future.

Goodwill. Goodwill represents the excess of the consideration transferred over the estimated fair values of assets acquired and liabilities assumed as of the acquisition date. Substantially all our goodwill relates to our Wireless segment.

In conducting our annual impairment test for 2020 and 2019, we performed a qualitative assessment, which considered several factors, including, among others, macroeconomic conditions, industry and market conditions, and relevant company specific events and perception of the market. In contemplating all factors in their totality, we determined that the fair value of our wireless segment, which consists of a single reporting unit, was in excess of the carrying amount.

Capitalized Interest

We capitalize interest associated with the acquisition or construction of certain assets, including, among other things, our wireless spectrum licenses, build-out costs associated with our 5G Network Deployment and satellites. Capitalization of interest begins when, among other things, steps are taken to prepare the asset for its intended use and ceases when the asset is ready for its intended use or when these activities are substantially suspended.

We are currently preparing for the commercialization of our wireless spectrum licenses, and Northstar Wireless and SNR Wireless are also preparing for the commercialization of their AWS-3 Licenses. As a result, the interest expense related to the carrying amount of these wireless spectrum licenses is being capitalized. As the carrying amount of these wireless spectrum licenses exceeds the carrying value of our long-term debt and finance lease obligations, materially all of our interest expense is being capitalized.

Business Combinations

When we acquire a business, we allocate the purchase price to the various components of the acquisition based upon the fair value of each component using various valuation techniques, including the market approach, income approach and/or cost approach. The accounting standard for business combinations requires identifiable assets, liabilities, noncontrolling interests and goodwill acquired to be recorded at acquisition date fair values. Transaction costs related to the acquisition of the business are expensed as incurred. Costs associated with the issuance of debt associated with a business combination are capitalized and included as a yield adjustment to the underlying debt’s stated rate.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Acquired intangible assets other than goodwill are amortized over their estimated useful lives unless the lives are determined to be indefinite. Amortization of these intangible assets in general are recognized on a straight-line basis over an average finite useful life primarily ranging from approximately one to 20 years or in relation to the estimated discounted cash flows over the life of the intangible asset. See Note 6 for further information on the Boost Mobile Acquisition and Ting Mobile Acquisition.

Long-Term Deferred Revenue and Other Long-Term Liabilities

Certain programmers provide us up-front payments. Such amounts are deferred and recognized as reductions to “Cost of services” on a straight-line basis over the relevant remaining contract term (generally up to ten years). The current and long-term portions of these deferred credits are recorded on our Consolidated Balance Sheets in “Deferred revenue and other” and “Long-term deferred revenue and other long-term liabilities,” respectively.

Sales Taxes

We account for sales taxes imposed on our goods and services on a net basis on our Consolidated Statements of Operations and Comprehensive Income (Loss). Since we primarily act as an agent for the governmental authorities, the amount charged to the customer is collected and remitted directly to the appropriate jurisdictional entity.

Income Taxes

We establish a provision for income taxes currently payable or receivable and for income tax amounts deferred to future periods. Deferred tax assets and liabilities are recorded for the estimated future tax effects of differences that exist between the book and tax basis of assets and liabilities. Deferred tax assets are offset by valuation allowances when we believe it is more likely than not that such net deferred tax assets will not be realized.

From time to time, we engage in transactions where the tax consequences may be subject to uncertainty. We record a liability when, in management’s judgment, a tax filing position does not meet the more likely than not threshold. For tax positions that meet the more likely than not threshold, we may record a liability depending on management’s assessment of how the tax position will ultimately be settled. We adjust our estimates periodically for ongoing examinations by and settlements with various taxing authorities, as well as changes in tax laws, regulations and precedent. We classify interest and penalties, if any, associated with our uncertain tax positions as a component of “Interest expense, net of amounts capitalized” and “Other, net,” respectively, on our Consolidated Statements of Operations and Comprehensive Income (Loss).

Fair Value Measurements

We determine fair value based on the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants. Market or observable inputs are the preferred source of values, followed by unobservable inputs or assumptions based on hypothetical transactions in the absence of market inputs. We apply the following hierarchy in determining fair value:

- Level 1, defined as observable inputs being quoted prices in active markets for identical assets;
- Level 2, defined as observable inputs other than quoted prices included in Level 1, including quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar instruments in markets that are not active; and derivative financial instruments indexed to marketable investment securities; and
- Level 3, defined as unobservable inputs for which little or no market data exists, consistent with reasonably available assumptions made by other participants therefore requiring assumptions based on the best information available.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

As of December 31, 2020 and 2019, the carrying amount for cash and cash equivalents, trade accounts receivable (net of allowance for credit losses or net of allowance for doubtful accounts) and current liabilities (excluding the “Current portion of long-term debt and finance lease obligations”) was equal to or approximated fair value due to their short-term nature or proximity to current market rates. See Note 7 for the fair value of our marketable investment securities and derivative instruments.

Fair values for our publicly traded debt securities are based on quoted market prices, when available. The fair values of private debt are based on, among other things, available trade information, and/or an analysis in which we evaluate market conditions, related securities, various public and private offerings, and other publicly available information. In performing this analysis, we make various assumptions regarding, among other things, credit spreads, and the impact of these factors on the value of the debt securities. See Note 11 for the fair value of our long-term debt.

Deferred Debt Issuance Costs and Debt Discounts

In accordance with accounting guidance on embedded conversion features, we value and bifurcate the conversion option associated with convertible notes from the host debt instrument. The resulting debt discount is deferred and amortized to interest expense using the effective interest rate method over the terms of the respective notes.

Costs of issuing debt are generally deferred and amortized to interest expense using the effective interest rate method over the terms of the respective notes.

See Note 11 for further information.

Revenue Recognition

Pay-TV Segment

Our Pay-TV segment revenue is primarily derived from Pay-TV programming services that we provide to our subscribers. We also generate revenue from equipment rental fees and other hardware related fees, including DVRs and fees from subscribers with multiple receivers; advertising services; fees earned from our in-home service operations; broadband services; warranty services; sales of digital receivers and related equipment to third-party pay-TV providers; satellite uplink and telemetry, tracking and control (“TT&C”) services; and revenue from in-home services. See Note 17 for further information, including revenue disaggregated by major source.

Our residential video subscribers contract for individual services or combinations of services, as discussed above, the majority of which are generally distinct and are accounted for as separate performance obligations. We consider our installations for first time DISH TV subscribers to be a service. However, since we provide a significant integration service combining the installation with programming services, we have concluded that the installation is not distinct from programming and thus the installation and programming services are accounted for as a single performance obligation. We generally satisfy these performance obligations and recognize revenue as the services are provided, for example as the programming is broadcast to subscribers, as this best represents the transfer of control of the services to the subscriber.

In cases where a subscriber is charged certain nonrefundable upfront fees, those fees are generally considered to be material rights to the subscriber related to the subscriber’s option to renew without having to pay an additional fee upon renewal. These fees are deferred and recognized over the estimated period of time during which the fee remains material to the customer, which we estimate to be less than one year. Revenues arising from our in-home services that are separate from the initial installation, such as mounting a TV on a subscriber’s wall, are generally recognized when these services are performed.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

For our residential video subscribers, we have concluded that the contract term under Accounting Standard Codification Topic 606, *Revenue from Contracts with Customers* (“ASC 606”) is one month and as a result the revenue recognized for these subscribers for a given month is equal to the amount billed in that month, except for certain nonrefundable upfront fees that are accounted for as material rights, as discussed above.

Revenues from our advertising services are typically recognized as the advertisements are broadcast. Sales of equipment to subscribers or other third parties are recognized when control is transferred under the contract. Revenue from our commercial video subscribers typically follows the residential model described above, with the exception that the contract term for most of our commercial subscribers exceeds one month and can be multiple years in length. However, commercial subscribers typically do not receive time-limited discounts or free service periods and accordingly, while they may have multiple performance obligations, revenue is equal to the amount billed in a given month.

Wireless Segment

Our Wireless segment revenue is primarily derived from providing wireless services and selling wireless devices to prepaid and postpaid subscribers. The majority of our subscribers are prepaid under the Boost Mobile brand with a smaller subset of postpaid subscribers serviced under the Ting Mobile brand. Prepaid subscribers prepay for their monthly service on a month-to-month contract. Postpaid subscribers are qualified to pay for their service after it has been provided. For both our prepaid and postpaid customers the contract term was determined to be one month.

We have both an indirect sales channel, which includes third-party owned retail stores and big box stores, as well as a direct sales channel, which services customers online. Through the indirect sales channel, we utilize direct distribution partners to facilitate product delivery to the third party Boost Mobile retailers. Although our retail wireless business offers both products and services, we have determined that no bundled arrangements exist as the wireless device and service sold are sold at different times, and in the case of the indirect sales channel, have different customers. In the indirect channel, the customer for the wireless device is the direct distribution partner whereas for the service the subscriber is the end consumer. Service revenues may also include other value added services to subscribers, which may be recorded either gross or net within our Consolidated Statements of Operations and Comprehensive Income (Loss) depending on whether we are deemed to be the principal or agent in the relationship with the subscriber. Service revenues are recognized when the service has been provided and no further obligation exists. Concessions given to subscribers are recorded as a reduction to revenue.

Equipment revenues are primarily related to the sale of wireless devices. Equipment revenue is recognized when control of the product is transferred to our subscriber, either the direct distribution partner for the indirect sales channel or the end user in the direct sales channel. Sales of equipment in the indirect sales channel often include credits subsequently paid to the direct distribution partner as a reimbursement for any discount promotions offered to the end consumer. These credits (payments to a customer) are accounted for as variable consideration when estimating the amount of revenue to recognize from the sales of equipment to indirect dealers and are estimated based on historical experience and other factors, such as expected promotional activity. For wireless devices sold with a right of return, we defer a portion of equipment revenue and cost of sales to reflect this variable consideration.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Contract Balances

The timing of revenue recognition generally differs from the timing of invoicing to customers. When revenue is recognized prior to invoicing, we record a receivable. When revenue is recognized subsequent to invoicing, we record deferred revenue. Our residential video subscribers are typically billed monthly, and the contract balances for those customers arise from the timing of the monthly billing cycle. Our current wireless subscribers, the majority of which are prepaid, generate deferred revenue. We do not adjust the amount of consideration for financing impacts as we apply a practical expedient when we anticipate that the period between transfer of goods and services and eventual payment for those goods and services will be less than one year. See Note 18 for further information, including balance and activity detail about our allowance for credit losses and deferred revenue related to contracts with subscribers.

Assets Recognized Related to the Costs to Obtain a Contract with a Subscriber

We recognize an asset for the incremental costs of obtaining a contract with a subscriber if we expect the benefit of those costs to be longer than one year. We have determined that certain sales incentive programs in both our Pay-TV and Wireless segments, including those with our independent third-party retailers, meet the requirements to be capitalized, and payments made under these programs are capitalized and amortized to expense over the estimated subscriber life. During the years ended December 31, 2020 and 2019, we capitalized \$316 million and \$207 million, respectively, under these programs. The amortization expense related to these programs was \$160 million and \$76 million for the years ended December 31, 2020 and 2019, respectively. As of December 31, 2020 and 2019, we had a total of \$456 million and \$300 million, respectively, capitalized on our Consolidated Balance Sheets. These amounts are capitalized in “Other current assets” and “Other noncurrent assets, net” on our Consolidated Balance Sheets, and then amortized in “Selling, general and administrative expenses” on our Consolidated Statements of Operations and Comprehensive Income (Loss).

Leases

We enter into operating and finance leases for, among other things, wireless towers, satellites, office space, warehouses and distribution centers, vehicles and other equipment. Our leases have remaining lease terms from one to 16 years, some of which include renewal options, and some of which include options to terminate the leases within one year.

We determine if an arrangement is a lease and classify that lease as either an operating or finance lease at inception. Operating leases are included in “Operating lease assets,” “Other accrued expenses” and “Operating lease liabilities” on our Consolidated Balance Sheets. Finance leases are included in “Property and equipment, net,” “Current portion of long-term debt and finance lease obligations” and “Long-term debt and finance lease obligations, net of current portion” on our Consolidated Balance Sheets. Leases with an initial term of 12 months or less are not recorded on the balance sheet and we recognize lease expense for these leases on a straight-line basis over the lease term on our Consolidated Statements of Operations and Comprehensive Income (Loss). See Note 10 for further information on our lease expenses.

Right of use (“ROU”) assets represent our right to use an underlying asset for the lease term and lease liabilities represent the present value of our obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. When our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments. The operating lease ROU asset also includes the impact of prepaid or deferred lease payments. The length of our lease term may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. Lease expense for operating lease payments is recognized on a straight-line basis over the lease term.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

We currently lease and historically have leased certain assets from EchoStar, including, among other things, satellites, office space and data centers. See Note 20 for further information on our Related Party Transactions with EchoStar. On May 19, 2019, we entered into a Master Transaction Agreement (as defined in Note 16) with EchoStar and effective September 10, 2019, certain satellites and real estate assets leased from EchoStar were transferred to us. See Note 20 for further information on the Master Transaction Agreement.

We have lease agreements with lease and non-lease components, which are generally accounted for separately. Our variable lease payments are immaterial and our lease agreements do not contain any material residual value guarantees or material restrictive covenants.

DISH TV subscribers have the choice of leasing or purchasing the satellite receiver and other equipment necessary to receive our DISH TV services. Most of our new DISH TV subscribers choose to lease equipment and thus we retain title to such equipment. Equipment leased to new and existing DISH TV subscribers is capitalized and depreciated over their estimated useful lives.

For equipment leased to new and existing DISH TV subscribers, we made an accounting policy election to combine the equipment with our programming services as a single performance obligation in accordance with the revenue recognition guidance as the programming services are the predominant component. The revenue related to equipment leased to new and existing DISH TV subscribers would have otherwise been accounted for as an operating lease.

Impact of Adoption of ASU 2016-02

In February 2016, the Financial Accounting Standards Board (“FASB”) issued ASU 2016-02 *Leases* (“ASU 2016-02”) and has modified the standard thereafter. We adopted ASU 2016-02, as modified, on January 1, 2019 using the modified retrospective method. Under the modified retrospective method, we applied the new guidance to all leases that commenced before and were existing as of January 1, 2019.

The adoption of ASU 2016-02 had no impact on our Consolidated Statements of Operations and Comprehensive Income (Loss) and cash flows from operating, investing and financing activities on our Consolidated Statements of Cash Flows.

Cost of Services

“Cost of services” on our Consolidated Statements of Operations and Comprehensive Income (Loss) principally include Pay-TV programming expenses and other operating costs related to our Pay-TV segment, costs of wireless services (including costs incurred under the MNSA), as well as costs associated with our SLING TV services.

The cost of television programming distribution rights is generally incurred on a per subscriber basis and various upfront carriage payments are recognized when the related programming is distributed to subscribers. Long-term flat rate programming contracts are generally charged to expense using the straight-line method over the term of the agreement. The cost of television programming rights to distribute live sporting events for a season or tournament is charged to expense using the straight-line method over the course of the season or tournament. Costs incurred under the MNSA are recognized as the services are performed or as incurred.

Cost of Sales – Equipment and Other

“Cost of sales – equipment and other” on our Consolidated Statements of Operations and Comprehensive Income (Loss) principally includes the cost of wireless devices and other related items as well as costs related to the non-subsidized sales of Pay-TV equipment. Costs are generally recognized as products are delivered to customers and the related revenue is recognized.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Advertising Costs

We recognize advertising expense when incurred as selling, general and administrative expense. Advertising expenses totaled \$528 million, \$520 million and \$426 million for the years ended December 31, 2020, 2019 and 2018, respectively.

Research and Development

Research and development costs are expensed as incurred and included in “Selling, general and administrative expenses” on our Consolidated Statements of Operations and Comprehensive Income (Loss). Research and development costs totaled \$24 million, \$21 million and \$24 million for the years ended December 31, 2020, 2019 and 2018, respectively.

New Accounting Pronouncements

Debt with Conversion and Other Options and Derivatives and Hedging. In August 2020, the FASB issued ASU 2020-06 *Debt – Debt with Conversion and Other Options and Derivatives and Hedging – Contracts in Entity’s Own Equity* (“ASU 2020-06”), which simplifies the accounting for convertible instruments and contracts in an entity’s own equity. This standard will be effective for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. Early adoption is permitted. We currently expect to early adopt and, as a result of this standard, the equity component related to our Convertible Notes will be reclassified from “Additional paid-in capital” within “Stockholders’ equity (deficit)” to “Long-term debt and finance lease obligations, net of current portion” on our Consolidated Balance Sheets. The adoption of this standard will have no impact on the methodology utilized to calculate diluted EPS (as defined below) as we already use the if-converted method for convertible instruments and will have no impact to our Consolidated Statements of Operations and Comprehensive Income (Loss) as we capitalize materially all of our interest expense.

3. Basic and Diluted Net Income (Loss) Per Share

We present both basic earnings per share (“EPS”) and diluted EPS. Basic EPS excludes potential dilution and is computed by dividing “Net income (loss) attributable to DISH Network” by the weighted-average number of common shares outstanding for the period. Diluted EPS reflects the potential dilution that could occur if stock awards were exercised and if our 3 3/8% Convertible Notes due 2026 issued August 8, 2016 (the “Convertible Notes due 2026”), our 2 3/8% Convertible Notes due 2024 issued March 17, 2017 (the “Convertible Notes due 2024”) and our 0% Convertible Notes due 2025 issued December 21, 2020 (the “Convertible Notes due 2025,” and collectively with the Convertible Notes due 2026 and the Convertible Notes due 2024, the “Convertible Notes”) were converted. The potential dilution from stock awards is accounted for using the treasury stock method based on the average market value of our Class A common stock. The potential dilution from conversion of the Convertible Notes is accounted for using the if-converted method, which requires that all of the shares of our Class A common stock issuable upon conversion of the Convertible Notes will be included in the calculation of diluted EPS assuming conversion of the Convertible Notes at the beginning of the reporting period (or at time of issuance, if later).

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

The following table presents EPS amounts for all periods and the basic and diluted weighted-average shares outstanding used in the calculation.

	For the Years Ended December 31,		
	2020	2019	2018
	(In thousands, except per share amounts)		
Net income (loss)	\$ 1,873,936	\$ 1,492,569	\$ 1,655,491
Less: Net income (loss) attributable to noncontrolling interests, net of tax	111,263	93,057	80,400
Net income (loss) attributable to DISH Network - Basic	1,762,673	1,399,512	1,575,091
Interest on dilutive Convertible Notes, net of tax (1)	—	—	—
Net income (loss) attributable to DISH Network - Diluted	\$ 1,762,673	\$ 1,399,512	\$ 1,575,091

Weighted-average common shares outstanding - Class A and B common stock:

Basic (2)	524,761	479,657	467,350
Dilutive impact of Convertible Notes (3)	59,526	58,192	58,192
Dilutive impact of stock awards outstanding	73	115	290
Diluted	584,360	537,964	525,832

Earnings per share - Class A and B common stock:

Basic net income (loss) per share attributable to DISH Network	\$ 3.36	\$ 2.92	\$ 3.37
Diluted net income (loss) per share attributable to DISH Network	\$ 3.02	\$ 2.60	\$ 3.00

- (1) For the years ended December 31, 2020, 2019 and 2018, materially all of our interest expense was capitalized. See Note 2 for further information.
- (2) The 2020 increase resulted from the Master Transaction Agreement, as discussed in Note 20, and the stock rights offering as discussed in Note 13.
- (3) The impact of the potential dilution from conversion of our 0% Convertible Notes due 2025, as discussed above, is included assuming conversion as of the December 21, 2020 issuance date, and is convertible into approximately 48.8 million shares of our Class A common stock.

Certain stock awards to acquire our Class A common stock are not included in the weighted-average common shares outstanding above, as their effect is anti-dilutive. In addition, vesting of performance based options and rights to acquire shares of our Class A common stock granted pursuant to our performance based stock incentive plans (“Restricted Performance Units”) are both contingent upon meeting certain goals, some of which are not yet probable of being achieved. Furthermore, the warrants that we issued to certain option counterparties in connection with the Convertible Notes due 2026 are only exercisable at their expiration if the market price per share of our Class A common stock is greater than the strike price of the warrants, which is approximately \$86.08 per share, subject to adjustments. As a consequence, the following are not included in the diluted EPS calculation.

	As of December 31,		
	2020	2019	2018
	(In thousands)		
Anti-dilutive stock awards	9,083	5,471	4,377
Performance based options (1)	17,403	7,966	8,970
Restricted Performance Units/Awards	1,755	1,484	1,726
Common stock warrants	46,029	46,029	46,029
Total	74,270	60,950	61,102

- (1) The increase primarily resulted from the grant of the Ergen 2020 Performance Award during the fourth quarter 2020. See Note 15 for further information.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

4. Supplemental Data - Statements of Cash Flows

The following table presents certain supplemental cash flow and other non-cash data. See Note 10 for supplemental cash flow and non-cash data related to leases.

	For the Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Cash paid for interest (including capitalized interest)	\$ 778,448	\$ 900,125	\$ 921,238
Cash received for interest	5,945	40,795	15,037
Cash paid for income taxes	150,885	30,552	31,308
Capitalized interest (1)	924,644	980,299	1,012,177
Initial equity component of our 0% Convertible Notes due 2025, net of deferred taxes of \$99,823	329,409	—	—
Master Transaction Agreement, net of deferred tax of \$166,161 (2)	—	497,145	—
Employee benefits paid in Class A common stock	28,301	27,004	27,322
Vendor financing	74,895	—	—

- (1) See Note 2 for further information.
(2) See Note 20 for further information.

5. Other Comprehensive Income (Loss)

The following table presents the tax effect on each component of “Other comprehensive income (loss).”

	For the Years Ended December 31,								
	2020			2019			2018		
	Before Tax	Tax (Expense) Benefit	Net of Tax	Before Tax	Tax (Expense) Benefit	Net of Tax	Before Tax	Tax (Expense) Benefit	Net of Tax
	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount
	(In thousands)								
Foreign currency translation adjustments	\$ (827)	\$ 61	\$ (766)	\$ 223	\$ —	\$ 223	\$ (1,343)	\$ —	\$ (1,343)
Unrealized holding gains (losses) on available-for-sale securities	(29)	7	(22)	1,127	(265)	862	(529)	122	(407)
Recognition of previously unrealized (gains) losses on available-for-sale securities included in net income (loss)	(62)	13	(49)	(299)	70	(229)	(8)	2	(6)
Other comprehensive income (loss)	\$ (918)	\$ 81	\$ (837)	\$ 1,051	\$ (195)	\$ 856	\$ (1,880)	\$ 124	\$ (1,756)

The “Accumulated other comprehensive income (loss)” is detailed in the following table, net of tax:

Accumulated Other Comprehensive Income (Loss)	Foreign Currency Translation Adjustment	Unrealized/ Recognized Gains (Losses)	Total
	(In thousands)		
Balance as of December 31, 2018	\$ (316)	\$ (558)	\$ (874)
Foreign currency translation adjustments	223	—	223
Other comprehensive income (loss) before reclassification	—	862	862
Amounts reclassified from accumulated other comprehensive income (loss)	—	(229)	(229)
Balance as of December 31, 2019	\$ (93)	\$ 75	\$ (18)
Foreign currency translation adjustments	(766)	—	(766)
Other comprehensive income (loss) before reclassification	—	(22)	(22)
Amounts reclassified from accumulated other comprehensive income (loss)	—	(49)	(49)
Balance as of December 31, 2020	\$ (859)	\$ 4	\$ (855)

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

6. Acquisitions

When we acquire a business, we recognize the assets acquired, liabilities assumed and any noncontrolling interests at fair value. We expense all transaction costs related to the acquisition as incurred.

Boost Mobile Acquisition

Asset Purchase Agreement

Effective on July 1, 2020, upon the terms and subject to the conditions set forth in the APA and in accordance with the Final Judgment, we completed the Boost Mobile Acquisition and DISH Network officially entered into the retail wireless market, serving more than 9 million customers under the Boost Mobile brand.

Consideration Transferred

The acquisition date fair value of consideration transferred in the Boost Mobile Acquisition totaled \$1.346 billion, summarized in the following table:

	<u>As of July 1, 2020</u>	
	(In thousands)	
Cash consideration (1)	\$	1,400,000
Net working capital (2)		33,524
Other funding (3)		(87,500)
Total consideration transferred	\$	<u>1,346,024</u>

- (1) Represents agreed upon purchase price pursuant to the APA paid to T-Mobile on July 1, 2020.
- (2) Represents estimated net working capital acquired under the APA. We have not settled the net working capital under the APA as certain amounts are currently in dispute and could ultimately change the net working capital settlement.
- (3) Represents receipt of payment from Softbank in connection with the Boost Mobile Acquisition on July 1, 2020.

Fair Value of Assets Acquired and Liabilities Assumed

We accounted for the Boost Mobile Acquisition as a business combination. The identifiable assets acquired and liabilities assumed were recorded at their preliminary fair values as of the acquisition date and are consolidated into our financial statements. The assignment of fair value requires significant judgments regarding the estimates and assumptions used to value the acquired assets and liabilities assumed. For the preliminary fair values of the assets acquired and liabilities assumed, we utilized the cost, income and market approaches from the perspective of a market participant.

The following table summarizes the preliminary fair values for each major class of assets acquired and liabilities assumed at the acquisition date. We used third-party valuation professionals to aid in the determination of the acquisition date fair values of certain assets acquired. We are in the process of finalizing the purchase price allocation associated with this transaction, including income tax related amounts. In addition, we have not settled the net working capital under the APA as noted above. Any change in the preliminary net working capital presented above is expected to result in a change to the assigned value of goodwill. As such, the preliminary purchase allocation set forth below is subject to revision as additional information is obtained and the valuation process is completed.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

	As of July 1, 2020	
	(In thousands)	
Trade accounts receivable	\$	514,786
Inventory		141,718
Other current assets		3,000
Intangibles		591,000
Goodwill		91,220
Other noncurrent assets		713,000
Total assets		2,054,724
Trade accounts payable and other accrued expenses		533,967
Deferred revenue and other		174,733
Total liabilities		708,700
Total purchase price	\$	1,346,024

Acquired Receivables. The fair value of assets acquired, which represents the gross contractual amount, includes accounts receivable of \$539 million, with an associated allowance for credit losses of \$24 million. Accounts receivable is comprised of receivables due from master agents, BoostUp! receivables and other receivables. These amounts are provisional and have been updated as of December 31, 2020. See Note 2 for further discussion of BoostUP! receivables.

Inventory. Inventory assets include \$142 million of wireless devices.

Intangible Assets and Goodwill. Intangible assets includes \$458 million of subscriber relationships, the Boost Mobile tradename of \$96 million and certain below market contracts for \$37 million. The intangible assets will be amortized over their respective useful lives which range from one to ten years. Goodwill has an assigned value of \$91 million, which represents the excess of the consideration transferred over the estimated fair values of assets acquired and liabilities assumed. The preliminary goodwill recognized includes, among other things, the assembled workforce of Boost Mobile and intangible assets that do not qualify for separate recognition. The goodwill resulting from the Boost Mobile Acquisition included in the wireless segment is expected to be deductible for tax purposes. All of the goodwill acquired is allocated to the Retail Wireless reporting unit.

Other Noncurrent Assets. Other noncurrent assets includes our option to purchase certain T-Mobile's 800 MHz spectrum licenses with an assigned fair value of \$713 million. This instrument meets the definition of a derivative and all subsequent changes in the derivative's fair value are recorded in "Other, net" in our Consolidated Statements of Operations and Comprehensive Income (Loss) until the option is either exercised or expires.

Liabilities. Liabilities include accounts payable, deferred revenue and accrued expenses.

Indemnification Assets and Contingent Liabilities. Pursuant to the APA, T-Mobile agreed to indemnify us against certain specified matters and losses. As of the closing of the transaction and December 31, 2020, we have not recorded either an indemnification asset or liability as the potential liabilities and associated reimbursement by T-Mobile cannot be reasonably estimated. We expect that any liability incurred related to these indemnified matters would be indemnified and reimbursed by T-Mobile. See Note 16 for further information.

Sales of equipment to indirect dealers often include credits subsequently paid to the dealer as a reimbursement for promotions offered to the end consumer. These credits are accounted for as variable consideration when estimating the amount of revenue to recognize from the sales of equipment to indirect dealers. At acquisition, we recorded a contingent obligation related to these credits, based upon historical experience and other factors, such as expected promotional activity. This amounts is recorded in "Other accrued expenses" on our Consolidated Balance Sheets.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Transaction Costs

We recognized transaction costs of \$13 million for the year ended December 31, 2020. These costs are primarily related to professional service costs which are recorded in “Selling, general and administrative expenses” in our Consolidated Statements of Operations and Comprehensive Income (Loss).

Ting Mobile Acquisition

On August 1, 2020, we completed the Ting Mobile Acquisition. In addition, we entered into a services agreement pursuant to which Tucows will act as a mobile virtual network enabler for certain of our retail wireless subscribers. The consideration for the Ting Mobile Acquisition is an earn out provision and the fair value of the earn out provision has been assigned to a customer relationship intangible that is recorded in “Intangible assets, net” with the offset recorded in “Long-term deferred revenue and other long-term liabilities” on our Consolidated Balance Sheets.

Pro Forma Information

The following pro forma financial information gives effect to the Boost Mobile Acquisition and the Ting Mobile Acquisition (the “2020 Acquisitions”) as if they had been completed as of January 1, 2019. The unaudited pro forma information was based on the historical results of DISH Network and the estimated results from the 2020 Acquisitions. The results of the Boost Mobile Acquisition were adjusted to include the estimated expense associated with an MNSA arrangement and certain selling, general and administrative expenses that historically were not recorded within the Prepaid Business’ financial statements. The results of the Ting Mobile Acquisition were adjusted for the consideration given for the earn out provision. The pro forma results do not include any anticipated synergies or other expected benefits of the 2020 Acquisitions.

	For the Years Ended December 31,	
	2020	2019
	(Unaudited)	
	(In thousands)	
Total revenue	\$ 18,042	\$ 17,917
Net income (loss) attributable to DISH Network	\$ 1,572	\$ 1,116

Assumptions and nonrecurring pro forma adjustments include:

- Boost Mobile network costs were estimated based on the forecasted costs on a per subscriber basis that DISH Network expects to incur prospectively to utilize the T-Mobile network.
- Boost Mobile selling, general and administrative expenses were estimated based on the costs to be incurred by DISH Network per the TSA arrangement with T-Mobile.
- Transaction costs of \$13 million for the year ended December 31, 2020 were recorded in “Selling, general and administrative expenses” in our Consolidated Statements of Operations and Comprehensive Income (Loss) and are not recurring.

The selective unaudited pro forma financial information is provided for informational purposes and does not represent the actual results from operation had the 2020 Acquisitions occurred on January 1, 2019.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Agreements in Connection with the APA

In connection with the Boost Mobile Acquisition and the consummation of the Sprint-T-Mobile merger, we, T-Mobile, Sprint, DT and SoftBank came to an agreement with the DOJ on key terms and approval of the Transaction Agreements and our wireless service business and spectrum. On July 26, 2019, the Defendants entered into the Stipulation and Order with the DOJ binding the Defendants to the Proposed Final Judgment, which memorialized the agreement between the DOJ and the Defendants. The Stipulation and Order and the Proposed Final Judgment were filed in the District Court on July 26, 2019 and on April 1, 2020, the Final Judgment was entered with the District Court.

The term of the Final Judgment is seven years from the date of its entry with the District Court or five years if the DOJ gives notice that the divestitures, build-outs and other requirements have been completed to its satisfaction. A Monitoring Trustee has been appointed by the District Court that has the power and authority to monitor the Defendants' compliance with the Final Judgment and settle disputes among the Defendants regarding compliance with the provisions of the Final Judgment and may recommend action to the DOJ in the event a party fails to comply with the Final Judgment.

Also in connection with the closing of the Boost Mobile Acquisition, we and T-Mobile entered into the TSA, the MNSA, the Option Agreement, and the Spectrum Purchase Agreement for an additional approximately \$3.59 billion.

Transition Services Agreement

T-Mobile and DISH Network entered into the TSA upon the Closing Date of the Boost Mobile Acquisition, pursuant to which T-Mobile provides certain transition services to us for the Prepaid Business for a period of two years from July 1, 2020. Additionally, under the Final Judgment, we may apply to the DOJ for one or more extensions of the term of the TSA, which the DOJ can approve or deny in its sole discretion, and the TSA contemplates the option to renew the TSA for a third or additional years. The transition services are provided at cost, which shall not exceed a specific amount in the first year, plus certain pass-through costs and out-of-pocket expenses, during the first two years. If any transition services are renewed for a third year, the transition services will be provided at cost plus a certain mark-up, plus certain additional costs.

Master Network Services Agreement

T-Mobile and DISH Network entered into an MNSA upon the Closing Date of the Boost Mobile Acquisition, pursuant to which we also receive network services from T-Mobile for a period of seven years. As set forth in the MNSA, T-Mobile provides to us, among other things, (i) legacy network services for Boost Mobile and certain other prepaid end users on the Sprint network, (ii) T-Mobile network services for certain end users that have been migrated to the T-Mobile network or provisioned on the T-Mobile network by or on behalf of us and (iii) infrastructure mobile network operator services to assist in the access and integration of our network.

Pursuant to the terms of the MNSA, we face certain restrictions on making offerings that may combine the access to services provided under the MNSA with access to the facilities or services provided by certain third parties, subject to certain exceptions and carve-outs. We have the right to offer differentiated pricing, products and features to our end users under our brands in conjunction with the services provided under the MNSA, subject to certain qualifications and restrictions. We have certain restrictions on our ability to wholesale, sub-distribute or resell the services provided under the MNSA to third parties. During and after the term of the MNSA, T-Mobile has agreed to certain restrictions with respect to the use of certain information in the targeting of subscribers.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

In the event of a “change of control” of DISH Network, the MNSA will terminate upon the earlier of two years following the consummation of the change of control or the date on which the MNSA would have otherwise terminated or expired in accordance with its terms. However, we would remain able to provision new users for six months after the change of control and also retain access to roaming services on the T-Mobile network for both new and existing users for the remainder of the original term of the MNSA. Generally, a change of control would occur in the first 36 months of the term of the MNSA if (A) certain “permitted owners” no longer own 50% or more of our voting power or a person or group of persons who are not permitted owners beneficially owns more than 50% of our aggregate economic value or (B) we sell more than 50% of our wireless communications business assets (excluding our wireless terrestrial spectrum licenses and entities that own our wireless terrestrial spectrum licenses). A permitted owner generally includes Charles W. Ergen (including his family and certain related trusts and entities) and certain financial investors. Following the first 36 months of the term of the MNSA (or earlier in certain circumstances), a change of control would generally occur if any restricted persons own (1) more than 50% of our voting power or economic value or (2) a majority of our wireless communications business assets (excluding our wireless terrestrial spectrum licenses and entities that own our wireless terrestrial spectrum licenses). A “restricted person” generally includes certain U.S. wireless providers and U.S. cable companies (with certain exceptions), as well as any other entities that do not enter into a network usage agreement with T-Mobile restricting such person from generally engaging in certain activities that are detrimental to the T-Mobile network.

Spectrum Purchase Agreement

Pursuant to the Spectrum Purchase Agreement that was entered into upon the Closing Date of the Boost Mobile Acquisition, we are expected to purchase all of Sprint’s 800 MHz spectrum (approximately 13.5 MHz of nationwide spectrum). The covered spectrum must be divested within the later of three years from the Closing Date and five days after receipt of FCC approval for the transfer, following an application for FCC approval to be filed three years following the closing of the Sprint-T-Mobile merger. The DOJ may in its sole discretion agree to extend the deadline for the spectrum divestiture for up to 60 days pursuant to the Final Judgment. T-Mobile may exercise an option to lease back 4 MHz (2 MHz downlink + 2 MHz uplink) of the spectrum for two years following the closing of the 800 MHz spectrum sale at the same per-Pop rate used to calculate the purchase price paid by us to T-Mobile – a rate of approximately \$68 million per year.

We and T-Mobile have made customary representations, warranties and covenants pursuant to the Spectrum Purchase Agreement, including representations by T-Mobile regarding the validity of the licenses for the purchased spectrum. Pursuant to the Spectrum Purchase Agreement, we and T-Mobile each indemnify the other against losses suffered as a result of breaches of the other’s representations and warranties or covenants. The indemnification provisions are subject to certain deductible and cap limitations and time limitations with respect to recovery for losses.

If we breach the Spectrum Purchase Agreement prior to the closing or fail to deliver the purchase price following the satisfaction or waiver of all closing conditions, our sole liability to T-Mobile will be to pay T-Mobile a fee of approximately \$72 million. If T-Mobile fails to sell the spectrum to us following the satisfaction or waiver of all closing conditions, our sole recourse will be to seek specific performance, and if (and only if) specific performance is unavailable, to seek damages of up to approximately \$72 million.

Option Agreement

The Option Agreement, which was entered into upon the Closing Date of the Boost Mobile Acquisition, provides us an exclusive option to assume certain assets and liabilities under certain circumstances for any of the cell sites and retail stores that T-Mobile decommissions during the term of the Option Agreement. T-Mobile must make a minimum of 20,000 cell sites and 400 retail stores available to us pursuant to the Final Judgment. With respect to each decommissioned site, we may choose to acquire: (a) only the lease for such site, (b) the lease and a predetermined list of equipment at the site or (c) the lease and all of the equipment at the site.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Under the Final Judgment, T-Mobile must provide a detailed schedule which identifies each cell site that is scheduled to be decommissioned within five years of the Closing Date. The Option Agreement will remain in place for five years following the Closing Date.

Agreement with the DOJ: The Stipulation and Order and the Final Judgment

Certain of the provisions of the Stipulation and Order and the Final Judgment are also reflected in the terms of the Transaction Agreements. In addition to the terms reflected in the Transaction Agreements, the Stipulation and Order and the Final Judgment provide for other rights and obligations of the Sellers and us, including the following:

- For a period of one year after the Closing Date, if we determine that certain assets not included in the divestiture were previously used by the Prepaid Business and are reasonably necessary for the continued competitiveness of the Prepaid Business, subject to certain carve-outs, we may request that such assets be transferred to us, which the DOJ can approve or deny in its sole discretion.
- Within one year of the Closing Date, we are required to offer nationwide postpaid retail mobile wireless service.
- If we elect not to purchase the 800 MHz licenses pursuant to the Spectrum Purchase Agreement, we must pay \$360 million (equal to 10% of the Spectrum Purchase Agreement purchase price) to the United States. However, we will not be required to make such payment if we have deployed a core network and offered 5G service to at least 20% of the U.S. population within three years of the Closing Date.
- If we buy the 800 MHz spectrum pursuant to the Spectrum Purchase Agreement but fail to deploy all of the 800 MHz spectrum licenses for use in the provision of retail mobile wireless services by the expiration of the Final Judgment, the DOJ may require us to forfeit to the FCC any of the 800 MHz licenses for spectrum that are not being used to provide retail mobile wireless services, unless we are already providing nationwide retail wireless service.
- We and T-Mobile were required to negotiate in good faith to reach an agreement for T-Mobile to lease some or all of our 600 MHz spectrum licenses for deployment to retail consumers by T-Mobile. On September 11, 2020, we and T-Mobile entered into an agreement to lease a portion of our 600 MHz spectrum licenses for an annual lease payment of approximately \$56 million.
- We and T-Mobile must agree to support eSIM technology on smartphones.
- The Sellers must introduce the suppliers and distributors of the Prepaid Business to us and the Sellers may not interfere in our negotiations with such suppliers and distributors.
- On the first day of the fiscal quarter following the entry of the Final Judgment and of each 180-day period thereafter, we are obligated to provide the DOJ with a description of our deployment efforts over the prior quarter including: (i) the number of towers and small cells deployed, (ii) the spectrum bands on which we have deployed equipment, (iii) progress in obtaining devices that operate on our spectrum frequencies, (iv) POPs coverage of our network, (v) the number of our mobile wireless subscriptions, (vi) the amount of traffic transmitted to our subscribers using our network and using T-Mobile's network, and (vii) whether there are or have been any efforts by T-Mobile to interfere with our efforts to deploy and operate our network.
- We cannot sell, lease or otherwise provide the right to use any of the divested assets to any national facilities-based mobile wireless provider and may not sell any of the divested assets or similar assets back to T-Mobile during the term of the Final Judgment, except that we may lease back to T-Mobile up to 4 MHz of the 800 MHz spectrum we will acquire (as discussed above).

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

- We must comply with the June 14, 2023 AWS-4, Lower 700 MHz E Block, AWS H Block, and nationwide 5G broadband network build-out commitments made to the FCC, subject to verification by the FCC (as described below). If we fail to comply with such build-out commitments, we may be subject to civil contempt in addition to the substantial voluntary contributions and license forfeitures described below if we fail to meet these commitments (as described below).

FCC Build-Out Commitments

In a letter filed with the FCC on July 26, 2019, we voluntarily committed to deploy a nationwide 5G broadband network and meet revised timelines relating to the build-out of our AWS-4, Lower 700 MHz E Block, AWS H Block and 600 MHz spectrum assets, subject to certain penalties. Pursuant to these commitments, we requested multi-year extensions to deploy our AWS-4, Lower 700 MHz E Block, and AWS H Block spectrum, and we have committed to build-out our 600 MHz licenses on an accelerated schedule to better align with our 5G deployment. We have also committed to offer 5G broadband service to certain population coverage targets, along with minimum core network, tower and spectrum use targets, and have waived our right to deploy any technology of our choice under the FCC's "flexible use" rules with respect to these spectrum bands. Failure to meet the various commitments would require us to pay voluntary contributions totaling up to \$2.2 billion to the FCC and would subject certain licenses in the AWS-4, Lower 700 MHz E Block, and AWS H Block spectrum to forfeiture. We have also agreed not to sell our AWS-4 and 600 MHz spectrum for six years without prior DOJ and FCC approval (unless such sale is part of a change of control of DISH Network). Additionally, we have agreed not to lease a certain percentage of network capacity on our AWS-4 and 600 MHz spectrum for six years to the three largest U.S. wireless carriers (i.e., AT&T, Verizon and T-Mobile), without prior FCC approval. On November 5, 2019, the FCC released an Order that, among other things, approved the Sprint-T-Mobile merger, tolled our existing March 7, 2020 build-out deadline for our AWS-4 and Lower 700 MHz E Block Licenses, and directed the FCC's Wireless Telecommunications Bureau to adopt our commitments after a 30 day review period (the "FCC Merger Order").

On September 11, 2020, the FCC's Wireless Telecommunications Bureau issued an Order adopting these commitments. Our 5G deployment obligations for each of the four spectrum bands are generally set forth below.

- With respect to the 600 MHz licenses, we must offer 5G broadband service to at least 70% of the U.S. population and have deployed a core network no later than June 14, 2023, and offer 5G broadband service to at least 75% of the population in each Partial Economic Area (which are service areas established by the FCC) no later than June 14, 2025. Note that these commitments are earlier than the current 600 MHz Final Build-Out Requirement date of June 2029. See Note 16 for further information.
- With respect to the AWS-4 licenses, we must offer 5G broadband service to at least 20% of the U.S. population and have deployed a core network no later than June 14, 2022, and offer 5G broadband service to at least 70% of the U.S. population no later than June 14, 2023.
- With respect to the Lower 700 MHz E Block licenses, we must offer 5G broadband service to at least 20% of the U.S. population who are covered by such licenses and have deployed a core network no later than June 14, 2022, and offer 5G broadband service to at least 70% of the U.S. population who are covered by such licenses no later than June 14, 2023.
- With respect to the AWS H Block licenses, we must offer 5G broadband service to at least 20% of the U.S. population and have deployed a core network no later than June 14, 2022, and offer 5G broadband service to at least 70% of the U.S. population no later than June 14, 2023.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

7. Marketable Investment Securities, Restricted Cash and Cash Equivalents, and Other Investment Securities

Our marketable investment securities, restricted cash and cash equivalents, and other investment securities consisted of the following:

	As of December 31,	
	2020	2019
	(In thousands)	
Marketable investment securities:		
Current marketable investment securities:		
Strategic - available-for-sale	\$ 195	\$ 196
Other	362,758	416,508
Total current marketable investment securities	362,953	416,704
Restricted marketable investment securities (1)	24,467	390
Total marketable investment securities	387,420	417,094
Restricted cash and cash equivalents (1)	83,902	60,677
Other investment securities:		
Other investment securities	149,706	160,074
Total other investment securities	149,706	160,074
Total marketable investment securities, restricted cash and cash equivalents, and other investment securities	\$ 621,028	\$ 637,845

(1) Restricted marketable investment securities and restricted cash and cash equivalents are included in “Restricted cash, cash equivalents and marketable investment securities” on our Consolidated Balance Sheets.

Marketable Investment Securities

Our marketable investment securities portfolio may consist of debt and equity instruments. All equity securities are carried at fair value, with changes in fair value recognized in “Other, net” within “Other Income (Expense)” on our Consolidated Statements of Operations and Comprehensive Income (Loss). All debt securities are classified as available-for-sale and are recorded at fair value. We report the temporary unrealized gains and losses related to changes in market conditions of marketable debt securities as a separate component of “Accumulated other comprehensive income (loss)” within “Total stockholders’ equity (deficit),” net of related deferred income tax on our Consolidated Balance Sheets. The corresponding changes in the fair value of marketable debt securities, which are determined to be company specific credit losses are recorded in “Other, net” within “Other Income (Expense)” on our Consolidated Statements of Operations and Comprehensive Income (Loss). See Note 2 for further information.

Current Marketable Investment Securities - Strategic

Our current strategic marketable investment securities portfolio includes and may include strategic and financial debt and/or equity investments in private and public companies that are highly speculative and have experienced and continue to experience volatility. As of December 31, 2020, this portfolio consisted of securities of a small number of issuers, and as a result the value of that portfolio depends, among other things, on the performance of those issuers. The fair value of certain of the debt and equity securities in this portfolio can be adversely impacted by, among other things, the issuers’ respective performance and ability to obtain any necessary additional financing on acceptable terms, or at all.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Current Marketable Investment Securities - Other

Our current other marketable investment securities portfolio includes investments in various debt instruments including, among others, commercial paper, corporate securities and United States treasury and/or agency securities.

Commercial paper consists mainly of unsecured short-term, promissory notes issued primarily by corporations with maturities ranging up to 365 days. Corporate securities consist of debt instruments issued by corporations with various maturities normally less than 18 months. U. S. Treasury and agency securities consist of debt instruments issued by the federal government and other government agencies.

Restricted Cash, Cash Equivalents and Marketable Investment Securities

As of December 31, 2020 and 2019, our restricted marketable investment securities, together with our restricted cash and cash equivalents, included amounts required as collateral for our letters of credit and trusts.

Other Investment Securities

We have strategic investments in certain debt and/or equity securities that are included in noncurrent “Other investment securities” on our Consolidated Balance Sheets. Our debt securities are classified as available-for-sale and our equity securities are accounted for using the equity method of accounting or recorded at fair value. Certain of our equity method investments are detailed below.

NagraStar L.L.C. We own a 50% interest in NagraStar L.L.C. (“NagraStar”), a joint venture that is our primary provider of encryption and related security systems intended to assure that only authorized customers have access to our programming.

Invidi Technologies Corporation. In November 2016, we, DIRECTV, LLC, a wholly-owned indirect subsidiary of AT&T Inc., and Cavendish Square Holding B.V., an affiliate of WPP plc, entered into a series of agreements to acquire Invidi Technologies Corporation (“Invidi”), an entity that provides proprietary software for the addressable advertising market. The transaction closed in January 2017.

TerreStar Solutions, Inc. In March 2019, we closed a transaction with TerreStar Solutions, Inc. (“TSI”) to acquire additional equity securities of TSI, an entity that holds certain 2 GHz wireless spectrum licenses in Canada, in exchange for certain Canadian assets, including, among other things, a portion of the satellite capacity on our T1 satellite, which we had acquired from TerreStar Networks, Inc. in 2012.

Our ability to realize value from our strategic investments in securities that are not publicly traded depends on the success of the issuers’ businesses and their ability to obtain sufficient capital, on acceptable terms or at all, and to execute their business plans. Because private markets are not as liquid as public markets, there is also increased risk that we will not be able to sell these investments, or that when we desire to sell them we will not be able to obtain fair value for them.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Unrealized Gains (Losses) on Marketable Investment Securities

As of December 31, 2020 and 2019, we had accumulated net unrealized gains, net of related tax effect, of less than \$1 million and less than \$1 million, respectively. All of these amounts are included in “Accumulated other comprehensive income (loss)” within “Total stockholders’ equity (deficit).” The components of our available-for-sale investments are summarized in the table below.

	As of December 31,							
	2020				2019			
	Marketable Investment Securities	Unrealized		Net	Marketable Investment Securities	Unrealized		Net
	Gains	Losses			Gains	Losses		
(In thousands)								
Debt securities (including restricted):								
U.S. Treasury and agency securities	\$ 65,992	\$ 3	\$ —	\$ 3	\$ 10,016	\$ 32	\$ —	\$ 32
Commercial paper	298,435	—	—	—	369,397	2	—	2
Corporate securities	22,552	1	—	1	28,796	4	(1)	3
Other	441	—	—	—	8,885	58	—	58
Total	\$ 387,420	\$ 4	\$ —	\$ 4	\$ 417,094	\$ 96	\$ (1)	\$ 95

As of December 31, 2020, restricted and non-restricted marketable investment securities included debt securities of \$387 million with contractual maturities within one year. Actual maturities may differ from contractual maturities as a result of our ability to sell these securities prior to maturity.

Fair Value Measurements

Our investments measured at fair value on a recurring basis were as follows:

	As of December 31,							
	2020				2019			
	Total	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3
(In thousands)								
Cash equivalents (including restricted)	\$ 3,330,296	\$ 363,123	\$ 2,967,173	\$ —	\$ 2,436,545	\$ 246,876	\$ 2,189,669	\$ —
Debt securities (including restricted):								
U.S. Treasury and agency securities	\$ 65,992	\$ 65,992	\$ —	\$ —	\$ 10,016	\$ 10,016	\$ —	\$ —
Commercial paper	298,435	—	298,435	—	369,397	—	369,397	—
Corporate securities	22,552	—	22,552	—	28,796	—	28,796	—
Other	441	—	246	195	8,885	—	8,689	196
Total	\$ 387,420	\$ 65,992	\$ 321,233	\$ 195	\$ 417,094	\$ 10,016	\$ 406,882	\$ 196

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Derivative Instruments

We have the option to purchase certain of T-Mobile's 800 MHz spectrum licenses from T-Mobile at a fixed price in the future as part of the Boost Mobile Acquisition. See Note 6 for further information. This instrument meets the definition of a derivative and was valued based upon, among other things, our estimate of the underlying asset price, the expected term, volatility and the risk free rate of return at its acquisition date fair value of \$713 million. The derivative is remeasured quarterly. As of December 31, 2020, the derivative's fair value was \$691 million on our Consolidated Balance Sheets. All changes in the derivative's fair value are recorded in "Other, net" in our Consolidated Statements of Operations and Comprehensive Income (Loss) until the option is either exercised or expires. See table below. We account for our option to purchase certain T-Mobile's 800 MHz spectrum licenses under the Spectrum Purchase Agreement as a Level 3 derivative.

Gains and Losses on Sales and Changes in Carrying Amounts of Investments

"Other, net" within "Other Income (Expense)" included on our Consolidated Statements of Operations and Comprehensive Income (Loss) is as follows:

Other, net:	For the Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Marketable investment securities - realized and unrealized gains (losses)	\$ 178	\$ 4,604	\$ 8,165
Derivative instruments - net realized and/or unrealized gains (losses)	(22,000)	—	—
Costs related to early redemption of debt	—	(483)	(3,261)
Gain (loss) on sale of subsidiary	—	—	7,004
Equity in earnings (losses) of affiliates	410	(3,714)	(2,110)
Other	1,248	11,117	2,003
Total	\$ (20,164)	\$ 11,524	\$ 11,801

8. Inventory

Inventory consisted of the following:

	As of December 31,	
	2020	2019
	(In thousands)	
Finished goods	\$ 337,787	\$ 255,155
Work-in-process and service repairs	25,621	34,120
Raw materials	16,941	33,623
Total inventory	\$ 380,349	\$ 322,898

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

9. Property and Equipment and Intangible Assets

Property and Equipment

Property and equipment consisted of the following:

	Depreciable Life (In Years)		As of December 31,	
			2020	2019
(In thousands)				
Equipment leased to customers	2	- 5	\$ 1,736,660	\$ 1,861,668
Satellites (1)	2	- 15	1,734,024	1,855,096
Satellites acquired under finance lease agreements	10	- 15	888,940	888,940
Furniture, fixtures, equipment and other	2	- 20	2,091,271	2,010,094
Buildings and improvements	5	- 40	370,941	349,347
Land	-	-	17,810	17,810
Construction in progress (1)	-	-	126,303	278,083
Total property and equipment			6,965,949	7,261,038
Accumulated depreciation			(4,783,616)	(4,554,856)
Property and equipment, net			\$ 2,182,333	\$ 2,706,182

- (1) During the year ended December 31, 2020, we wrote down the T1 satellite net book value of \$48 million (net of accumulated depreciation of \$18 million) and the D1 satellite net book value of \$55 million to their estimated fair value of zero. In addition, during the year ended December 31, 2020, we impaired \$227 million for capitalized costs of equipment, labor and other assets related to the narrowband IoT deployment that would not be utilized in our 5G Network Deployment. As a result, we recorded a \$330 million non-cash impairment charge in “Impairment of long-lived assets” on our Consolidated Statements of Operations and Comprehensive Income (Loss). See Note 2 for further information.

Construction in progress consisted of the following:

	As of December 31,	
	2020	2019
(In thousands)		
Software	\$ 43,555	\$ 51,493
Wireless (1)	72,817	207,814
Other	9,931	18,776
Total construction in progress	\$ 126,303	\$ 278,083

- (1) During the year ended December 31, 2020, we impaired the capitalized costs of equipment, labor and other assets related to the narrowband IoT deployment that would not be utilized in our 5G Network Deployment, resulting in a \$227 million non-cash impairment charge in “Impairment of long-lived assets” on our Consolidated Statements of Operations and Comprehensive Income (Loss). See Note 2 for further information.

Depreciation and amortization expense consisted of the following:

	For the Years Ended December 31,		
	2020	2019	2018
(In thousands)			
Equipment leased to customers	\$ 290,081	\$ 371,292	\$ 444,928
Satellites (1)	202,724	115,100	100,343
Buildings, furniture, fixtures, equipment and other	128,876	136,783	137,055
Intangible assets (2)	92,871	7,402	29,698
Total depreciation and amortization	\$ 714,552	\$ 630,577	\$ 712,024

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

- (1) The increase in 2020 resulted from the Master Transaction Agreement pursuant to which, on September 10, 2019, certain satellites were transferred to us. See Note 20 for further information.
- (2) The increase in 2020 resulted from the completion of the Boost Mobile Acquisition and the Ting Mobile Acquisition. See Note 6 for further information.

Cost of sales and operating expense categories included in our accompanying Consolidated Statements of Operations and Comprehensive Income (Loss) do not include depreciation expense related to satellites or equipment leased to customers.

Satellites

Pay-TV Satellites. We currently utilize 13 satellites in geostationary orbit approximately 22,300 miles above the equator, eight of which we own and depreciate over their estimated useful life. We currently utilize certain capacity on one satellite that we lease from EchoStar, which is accounted for as an operating lease. We also lease four satellites from third parties: Ciel II, which is accounted for as an operating lease, and Anik F3, Nimiq 5 and QuetzSat-1, which are accounted for as financing leases, are each depreciated over their economic life.

As of December 31, 2020, our pay-TV satellite fleet consisted of the following:

Satellites	Launch Date	Degree Orbital Location	Lease Termination Date
Owned:			
EchoStar VII (1)	February 2002	119	N/A
EchoStar X (1)	February 2006	110	N/A
EchoStar XI (1)	July 2008	110	N/A
EchoStar XIV (1)	March 2010	119	N/A
EchoStar XV	July 2010	61.5	N/A
EchoStar XVI (1)	November 2012	61.5	N/A
EchoStar XVIII	June 2016	61.5	N/A
EchoStar XXIII (1)	March 2017	67.9	N/A
Leased from EchoStar (2):			
EchoStar IX	August 2003	121	Month to month
Leased from Other Third Party:			
Anik F3	April 2007	118.7	April 2022
Ciel II	December 2008	129	January 2022
Nimiq 5 (1)	September 2009	72.7	September 2024
QuetzSat-1 (1)	September 2011	77	November 2021

- (1) Pursuant to the Master Transaction Agreement, on September 10, 2019 these satellites and satellite service agreements were transferred to us. See Note 20 for further information.
- (2) See Note 20 for further information on our Related Party Transactions with EchoStar.

AWS-4 Satellites. On March 2, 2012, the FCC approved the transfer of 40 MHz of wireless spectrum licenses held by DBSD North America, Inc. (“DBSD North America”) and TerreStar Networks, Inc. (“TerreStar”) to us. On March 9, 2012, we completed the acquisitions of 100% of the equity of reorganized DBSD North America and substantially all of the assets of TerreStar, pursuant to which we acquired, among other things, certain satellite assets and 40 MHz of spectrum licenses held by DBSD North America (the “DBSD Transaction”) and TerreStar (the “TerreStar Transaction”), which licenses the FCC modified in March 2013 to add AWS-4 authority (“AWS-4”). See Note 16 for further information. As a result of the DBSD Transaction and the TerreStar Transaction, we acquired three AWS-4 satellites, including two in-orbit satellites (D1 and T1) and one satellite under construction (T2). During the fourth quarter 2014, EchoStar purchased our rights to the T2 satellite for \$55 million.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Satellites	Launch Date	Degree Orbital Location	Estimated Useful Life (Years)
Owned:			
T1	July 2009	111.1	14.25
D1	April 2008	92.85	N/A

GAAP requires that a long-lived asset be reviewed for impairment when circumstances indicate that the carrying amount of the asset might not be recoverable.

During the first quarter 2020, in light of, among other things, certain developments related to the Sprint-T-Mobile merger, we determined that revisions to the AWS-4 build-out deadlines were probable, which we determined to be a triggering event. Accordingly, we quantitatively assessed the value of the AWS-4 satellites (T1 and D1) and wrote down the fair value of the satellites to their estimated fair value of zero, resulting in a \$103 million non-cash charge recorded in “Impairment of long-lived assets” during the year ended December 31, 2020 on our Consolidated Statements of Operations and Comprehensive Income (Loss). As of December 31, 2019 and 2018, management concluded that no triggering event occurred for either year for the AWS-4 satellites.

Satellite Anomalies

Operation of our DISH TV services requires that we have adequate satellite transmission capacity for the programming that we offer. While we generally have had in-orbit satellite capacity sufficient to transmit our existing channels and some backup capacity to recover the transmission of certain critical programming, our backup capacity is limited.

In the event of a failure or loss of any of our owned or leased satellites, we may need to acquire or lease additional satellite capacity or relocate one of our other owned or leased satellites and use it as a replacement for the failed or lost satellite. Such a failure could result in a prolonged loss of critical programming or a significant delay in our plans to expand programming as necessary to remain competitive and thus may have a material adverse effect on our business, financial condition and results of operations.

In the past, certain of our owned and leased satellites have experienced anomalies, some of which have had a significant adverse impact on their remaining useful life and/or commercial operation. There can be no assurance that future anomalies will not impact the remaining useful life and/or commercial operation of any of the owned and leased satellites in our fleet. See Note 2 for further information on evaluation of impairment. There can be no assurance that we can recover critical transmission capacity in the event one or more of our owned or leased in-orbit satellites were to fail. We generally do not carry commercial launch or in-orbit insurance on any of the satellites that we own and therefore, we will bear the risk associated with any uninsured launch or in-orbit satellite failures.

Intangible Assets

As of December 31, 2020 and 2019, our identifiable intangibles subject to amortization consisted of the following:

	As of December 31,			
	2020		2019	
	Intangible Assets	Accumulated Amortization	Intangible Assets	Accumulated Amortization
	(In thousands)			
Technology-based	\$ 63,078	\$ (58,453)	\$ 63,077	\$ (57,414)
Trademarks (1)	133,428	(40,283)	37,010	(32,619)
Contract-based (1)	41,500	(23,000)	4,500	(4,500)
Customer relationships (1)	515,576	(89,301)	23,633	(23,633)
Total	\$ 753,582	\$ (211,037)	\$ 128,220	\$ (118,166)

(1) The increase in intangible assets resulted from the completion of the Boost Mobile Acquisition and the Ting Mobile Acquisition. See Note 6 for further information.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

These identifiable intangibles are included in “Intangible assets” on our Consolidated Balance Sheets. Amortization of these intangible assets is recorded on a straight-line basis over an average finite useful life primarily ranging from approximately one to 20 years. Amortization was \$93 million, \$7 million and \$10 million for the years ended December 31, 2020, 2019 and 2018, respectively. The increase in amortization expense during 2020 primarily resulted from the Boost Mobile Acquisition and the Ting Mobile Acquisition.

Estimated future amortization of our identifiable intangible assets as of December 31, 2020 is as follows (in thousands):

For the Years Ended December 31,	
2021	\$ 157,105
2022	130,198
2023	127,809
2024	69,512
2025	11,676
Thereafter	46,245
Total	\$ 542,545

Goodwill

Goodwill represents the excess of the consideration transferred over the estimated fair values of assets acquired and liabilities assumed as of the acquisition date and is not subject to amortization but is subject to impairment testing annually or whenever indicators of impairment arise. The non-recurring measurement of fair value of goodwill is classified as Level 3 in the fair value hierarchy. As of December 31, 2020 and 2019, our goodwill was \$218 million and \$126 million, respectively, which substantially all relates to our wireless segment. The increase in goodwill during 2020 resulted from the completion of the Boost Mobile Acquisition. See Note 6 for further information.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

FCC Authorizations

As of December 31, 2020 and 2019, our FCC Authorizations consisted of the following:

	As of December 31,	
	2020	2019
	(In thousands)	
Owned:		
DBS Licenses	\$ 677,409	\$ 677,409
700 MHz Licenses	711,871	711,871
MVDDS Licenses	24,000	24,000
AWS-4 Licenses	1,940,000	1,940,000
H Block Licenses	1,671,506	1,671,506
600 MHz Licenses	6,211,154	6,211,154
28 GHz Licenses	2,883	2,883
24 GHz Licenses	11,772	11,772
37 GHz, 39 GHz & 47 GHz Licenses	202,533	—
Subtotal	11,453,128	11,250,595
Non-controlling Investments:		
Northstar	5,618,930	5,618,930
SNR	4,271,459	4,271,459
Total AWS-3 Licenses	9,890,389	9,890,389
Capitalized Interest (1)	5,560,422	4,638,519
Total	\$ 26,903,939	\$ 25,779,503

(1) See Note 2 for further information.

10. Leases

We enter into operating and finance leases for, among other things, wireless towers, satellites, office space, warehouses and distribution centers, vehicles and other equipment. Our leases have remaining lease terms from one to 16 years, some of which include renewal options, and some of which include options to terminate the leases within one year.

Our Anik F3, Nimiq 5 and QuetzSat-1 satellites are accounted for as financing leases. Substantially all of our remaining leases are accounted for as operating leases.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

The components of lease expense were as follows:

	For the Years Ended December 31,	
	2020	2019
	(In thousands)	
Operating lease cost (1)	\$ 71,863	\$ 223,825
Short-term lease cost (2)	11,870	12,077
Finance lease cost:		
Amortization of right-of-use assets	71,318	35,004
Interest on lease liabilities	21,007	10,800
Total finance lease cost	92,325	45,804
Total lease costs	\$ 176,058	\$ 281,706

(1) Pursuant to the Master Transaction Agreement, effective September 10, 2019, approximately \$495 million of previously reported operating lease assets and the related liabilities for satellites and real estate assets were transferred to us. See Note 20 for further information. These satellite and real estate assets are no longer included in “Operating lease assets,” “Other current liabilities” and “Operating lease liabilities,” but rather in “Property and equipment, net” on our Consolidated Balance Sheets. Lease expense related to these satellites and real estate assets for the year ended December 31, 2019 were \$159 million.

(2) Leases that have terms of 12 months or less.

Supplemental cash flow information related to leases was as follows:

	For the Years Ended December 31,	
	2020	2019
	(In thousands)	
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	\$ 72,352	\$ 227,451
Operating cash flows from finance leases	\$ 21,007	\$ 10,800
Financing cash flows from finance leases	\$ 65,979	\$ 34,358
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	\$ 47,225	\$ 118,381
Finance leases	\$ —	\$ 187,339
Right-of-use assets and liabilities recognized at January 1, 2019 upon adoption of ASC 842		\$ 733,584

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Supplemental balance sheet information related to leases was as follows:

	As of December 31,	
	2020	2019
	(In thousands)	
Operating Leases:		
Operating lease assets (1)	\$ 104,271	\$ 144,330
Other current liabilities	\$ 56,856	\$ 57,910
Operating lease liabilities	63,526	84,795
Total operating lease liabilities	\$ 120,382	\$ 142,705
Finance Leases:		
Property and equipment, gross	\$ 889,708	\$ 890,598
Accumulated depreciation	(754,292)	(683,271)
Property and equipment, net	\$ 135,416	\$ 207,327
Other current liabilities	\$ 58,379	\$ 61,493
Other long-term liabilities	103,795	171,706
Total finance lease liabilities	\$ 162,174	\$ 233,199
Weighted Average Remaining Lease Term:		
Operating leases	2.8 years	3.1 years
Finance leases	3.1 years	3.8 years
Weighted Average Discount Rate:		
Operating leases	4.2%	5.0%
Finance leases	10.4%	10.2%

- (1) During the year ended December 31, 2020, we impaired the operating lease assets related to the narrowband IoT deployment that would not be utilized in our 5G Network Deployment, resulting in a \$27 million non-cash impairment charge in "Impairment of long-lived assets" on our Consolidated Statements of Operations and Comprehensive Income (Loss). See Note 2 for further information.

Maturities of lease liabilities as of December 31, 2020 were as follows:

For the Years Ending December 31,	Maturities of Lease Liabilities		
	Operating Leases	Finance Leases	Total
	(In thousands)		
2021	\$ 71,614	\$ 70,302	\$ 141,916
2022	35,074	48,307	83,381
2023	16,908	40,942	57,850
2024	9,850	30,707	40,557
2025	3,205	—	3,205
Thereafter	1,490	—	1,490
Total lease payments	138,141	190,258	328,399
Less: Imputed interest	(17,759)	(28,084)	(45,843)
Total	120,382	162,174	282,556
Less: Current portion	(56,856)	(58,379)	(115,235)
Long-term portion of lease obligations	\$ 63,526	\$ 103,795	\$ 167,321

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

11. Long-Term Debt and Finance Lease Obligations

Fair Value of our Long-Term Debt

The following table summarizes the carrying amount and fair value of our debt facilities as of December 31, 2020 and 2019:

	As of December 31,			
	2020		2019	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
	(In thousands)			
5 1/8% Senior Notes due 2020 (1)	\$ —	\$ —	\$ 1,100,000	\$ 1,110,208
6 3/4% Senior Notes due 2021 (2)	2,000,000	2,047,260	2,000,000	2,109,420
5 7/8% Senior Notes due 2022	2,000,000	2,095,820	2,000,000	2,129,580
5% Senior Notes due 2023	1,500,000	1,566,300	1,500,000	1,543,770
5 7/8% Senior Notes due 2024	2,000,000	2,099,580	2,000,000	2,049,080
2 3/8% Convertible Notes due 2024	1,000,000	949,350	1,000,000	918,720
0% Convertible Notes due 2025	2,000,000	2,010,000	—	—
7 3/4% Senior Notes due 2026	2,000,000	2,236,520	2,000,000	2,128,900
3 3/8% Convertible Notes due 2026	3,000,000	2,886,330	3,000,000	2,907,870
7 3/8% Senior Notes due 2028	1,000,000	1,070,130	—	—
Other notes payable	137,809	137,809	70,946	70,946
Subtotal	16,637,809	\$ 17,099,099	14,670,946	\$ 14,968,494
Unamortized debt discount on the Convertible Notes	(1,061,203)		(735,811)	
Unamortized deferred financing costs and other debt discounts, net	(36,752)		(28,739)	
Finance lease obligations (3)	162,174		233,199	
Total long-term debt and finance lease obligations (including current portion)	\$ 15,702,028		\$ 14,139,595	

- (1) On May 1, 2020, we redeemed the principal balance of our 5 1/8% Senior Notes due 2020.
- (2) Our 6 3/4% Senior Notes due 2021 mature on June 1, 2021 and have been reclassified to “Current portion of long-term debt and finance lease obligations” on our Consolidated Balance Sheets as of December 31, 2020.
- (3) Disclosure regarding fair value of finance leases is not required.

We estimated the fair value of our publicly traded long-term debt using market prices in less active markets (Level 2).

Our Senior Notes are:

- general unsecured senior obligations of DISH DBS Corporation (“DISH DBS”);
- ranked equally in right of payment with all of DISH DBS’ and the guarantors’ existing and future unsecured senior debt; and
- ranked effectively junior to our and the guarantors’ current and future secured senior indebtedness up to the value of the collateral securing such indebtedness.

The indentures related to our Senior Notes contain restrictive covenants that, among other things, impose limitations on the ability of DISH DBS and its restricted subsidiaries to:

- incur additional debt;
- pay dividends or make distributions on DISH DBS’ capital stock or repurchase DISH DBS’ capital stock;
- make certain investments;
- create liens or enter into sale and leaseback transactions;
- enter into transactions with affiliates;
- merge or consolidate with another company; and
- transfer or sell assets.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

In the event of a change of control, as defined in the related indentures, we would be required to make an offer to repurchase all or any part of a holder's Senior Notes at a purchase price equal to 101% of the aggregate principal amount thereof, together with accrued and unpaid interest thereon, to the date of repurchase.

6 3/4% Senior Notes due 2021

On May 5, 2011, we issued \$2.0 billion aggregate principal amount of our ten-year 6 3/4% Senior Notes due June 1, 2021. Interest accrues at an annual rate of 6 3/4% and is payable semi-annually in cash, in arrears on June 1 and December 1 of each year.

The 6 3/4% Senior Notes are redeemable, in whole or in part, at any time at a redemption price equal to 100% of the principal amount plus a "make-whole" premium, as defined in the related indenture, together with accrued and unpaid interest.

5 7/8% Senior Notes due 2022

On May 16, 2012 and July 26, 2012, we issued \$1.0 billion and \$1.0 billion, respectively, aggregate principal amount of our ten-year 5 7/8% Senior Notes due July 15, 2022. Interest accrues at an annual rate of 5 7/8% and is payable semi-annually in cash, in arrears on January 15 and July 15 of each year.

The 5 7/8% Senior Notes due 2022 are redeemable, in whole or in part, at any time at a redemption price equal to 100% of the principal amount plus a "make-whole" premium, as defined in the related indenture, together with accrued and unpaid interest.

5% Senior Notes due 2023

On December 27, 2012, we issued \$1.5 billion aggregate principal amount of our 5% Senior Notes due March 15, 2023. Interest accrues at an annual rate of 5% and is payable semi-annually in cash, in arrears on March 15 and September 15 of each year.

The 5% Senior Notes are redeemable, in whole or in part, at any time at a redemption price equal to 100% of the principal amount plus a "make-whole" premium, as defined in the related indenture, together with accrued and unpaid interest.

5 7/8% Senior Notes due 2024

On November 20, 2014, we issued \$2.0 billion aggregate principal amount of our ten-year 5 7/8% Senior Notes due November 15, 2024. Interest accrues at an annual rate of 5 7/8% and is payable semi-annually in cash, in arrears on May 15 and November 15 of each year.

The 5 7/8% Senior Notes due 2024 are redeemable, in whole or in part, at any time at a redemption price equal to 100% of the principal amount plus a "make-whole" premium, as defined in the related indenture, together with accrued and unpaid interest.

7 3/4% Senior Notes due 2026

On June 13, 2016, we issued \$2.0 billion aggregate principal amount of our ten-year 7 3/4% Senior Notes due July 1, 2026. Interest accrues at an annual rate of 7 3/4% and is payable semi-annually in cash, in arrears on January 1 and July 1 of each year.

The 7 3/4% Senior Notes are redeemable, in whole or in part, at any time at a redemption price equal to 100% of the principal amount plus a "make-whole" premium, as defined in the related indenture, together with accrued and unpaid interest.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

7 3/8% Senior Notes due 2028

On July 1, 2020, we issued \$1.0 billion aggregate principal amount of our 7 3/8% Senior Notes due July 1, 2028. Interest accrues at an annual rate of 7 3/8% and is payable semi-annually in cash, in arrears on January 1 and July 1 of each year, commencing on January 1, 2021.

The 7 3/8% Senior Notes are redeemable, in whole or in part, at any time prior to July 1, 2023 at a redemption price equal to 100% of the principal amount plus a “make-whole” premium, as defined in the related indenture, together with accrued and unpaid interest. On or after July 1, 2023, we may redeem the Notes, in whole or in part, at any time at the redemption prices specified under the related indenture, together with accrued and unpaid interest. Prior to July 1, 2023, we may also redeem up to 35% of the 7 3/8% Senior Notes at a specified premium with the net cash proceeds from certain equity offerings or capital contributions.

2 3/8% Convertible Notes due 2024

On March 17, 2017, we issued \$1.0 billion aggregate principal amount of the Convertible Notes due March 15, 2024 in a private placement. Interest accrues at an annual rate of 2 3/8% and is payable semi-annually in cash, in arrears on March 15 and September 15 of each year.

The Convertible Notes due 2024 are:

- our general unsecured obligations;
- ranked senior in right of payment to any future indebtedness that is expressly subordinated in right of payment to the Convertible Notes due 2024;
- ranked equally in right of payment with all of our existing and future unsecured senior indebtedness;
- ranked effectively junior to any of our existing and future secured indebtedness to the extent of the value of the assets securing such indebtedness;
- ranked structurally junior to all indebtedness and other liabilities of our subsidiaries; and
- not guaranteed by our subsidiaries.

We may not redeem the Convertible Notes due 2024 prior to the maturity date. If a “fundamental change” (as defined in the related indenture) occurs prior to the maturity date of the Convertible Notes due 2024, holders may require us to repurchase for cash all or part of their Convertible Notes due 2024 at a repurchase price equal to 100% of the principal amount of such Convertible Notes due 2024, plus accrued and unpaid interest to, but not including, the fundamental change repurchase date.

The indenture related to the Convertible Notes due 2024 does not contain any financial covenants and does not restrict us from paying dividends, issuing or repurchasing our other securities, issuing new debt (including secured debt) or repaying or repurchasing our debt.

Subject to the terms of the related indenture, the Convertible Notes due 2024 may be converted at an initial conversion rate of 12.1630 shares of our Class A common stock per \$1,000 principal amount of Convertible Notes due 2024 (equivalent to an initial conversion price of approximately \$82.22 per share of our Class A common stock) (the “Initial Conversion Rate”), at any time on or after October 15, 2023 through the second scheduled trading day preceding the maturity date. Holders of the Convertible Notes due 2024 will also have the right to convert the Convertible Notes due 2024 at the Initial Conversion Rate prior to October 15, 2023, but only upon the occurrence of specified events described in the related indenture. The conversion rate is subject to anti-dilution adjustments if certain events occur. Upon any conversion, we will settle our conversion obligation in cash, shares of our Class A common stock or a combination of cash and shares of our Class A common stock, at our election.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

In accordance with accounting guidance on cash conversion features, we valued and allocated the residual proceeds to the conversion option associated with the Convertible Notes due 2024 (the “equity component”) from the host debt instrument. The \$252 million initial value of the equity component on the Convertible Notes due 2024 was recorded in “Additional paid-in capital” within “Stockholders’ equity (deficit)” on our Consolidated Balance Sheets with the offset being recorded as the debt discount. The resulting debt discount on the Convertible Notes due 2024 is being amortized to interest expense at an effective interest rate of 7% over the seven-year term of the Convertible Notes due 2024. This interest expense was recorded in “Interest expense, net of amounts capitalized” within “Other Income (Expense)” on our Consolidated Statements of Operations and Comprehensive Income (Loss). See Note 2 for further information.

0% Convertible Notes due 2025

On December 21, 2020, we issued \$2.0 billion aggregate principal amount of the Convertible Notes due December 15, 2025 in a private placement. These notes will not bear interest, and the principal amount of the Notes will not accrete.

The Convertible Notes due 2025 are:

- our general unsecured obligations;
- ranked senior in right of payment to any future indebtedness that is expressly subordinated in right of payment to the Convertible Notes due 2025;
- ranked equally in right of payment with all of our existing and future unsecured senior indebtedness;
- ranked effectively junior to any of our existing and future secured indebtedness to the extent of the value of the assets securing such indebtedness;
- ranked structurally junior to all indebtedness and other liabilities of our subsidiaries; and
- not guaranteed by our subsidiaries.

We may not redeem the Convertible Notes due 2025 prior to the maturity date. If a “fundamental change” (as defined in the related indenture) occurs prior to the maturity date of the Convertible Notes due 2025, holders may require us to repurchase for cash all or part of their Convertible Notes due 2025 at a repurchase price equal to 100% of the principal amount of such Convertible Notes due 2025, plus accrued and unpaid interest to, but not including, the fundamental change repurchase date.

The indenture related to the Convertible Notes due 2025 does not contain any financial covenants and does not restrict us from paying dividends, issuing or repurchasing our other securities, issuing new debt (including secured debt) or repaying or repurchasing our debt.

Subject to the terms of the related indenture, the Convertible Notes due 2025 may be converted at an initial conversion rate of 24.4123 shares of our Class A common stock per \$1,000 principal amount of the Convertible Notes due 2025 (equivalent to an initial conversion price of approximately \$40.96 per share of our Class A common stock) (the “Initial Conversion Rate”), at any time on or after July 15, 2025 through the second scheduled trading day preceding the maturity date. Holders of the Convertible Notes due 2025 will also have the right to convert the Convertible Notes due 2025 at the Initial Conversion Rate prior to July 15, 2025, but only upon the occurrence of specified events described in the related indenture. The conversion rate is subject to anti-dilution adjustments if certain events occur. Upon any conversion, we will settle our conversion obligation in cash, shares of our Class A common stock or a combination of cash and shares of our Class A common stock, at our election.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

In accordance with accounting guidance on cash conversion features, we valued and allocated the residual proceeds to the conversion option associated with the Convertible Notes due 2025 (the “equity component”) from the host debt instrument. The \$433 million initial value of the equity component on the Convertible Notes due 2025 was recorded in “Additional paid-in capital” within “Stockholders’ equity (deficit)” on our Consolidated Balance Sheets with the offset being recorded as the debt discount. The resulting debt discount on the Convertible Notes due 2025 is being amortized to interest expense at an effective interest rate of 5% over the five-year term of the Convertible Notes due 2025. This interest expense was recorded in “Interest expense, net of amounts capitalized” within “Other Income (Expense)” on our Consolidated Statements of Operations and Comprehensive Income (Loss). See Note 2 for further information.

3 3/8% Convertible Notes due 2026

On August 8, 2016, we issued \$3.0 billion aggregate principal amount of the Convertible Notes due August 15, 2026 in a private unregistered offering. Interest accrues at an annual rate of 3 3/8% and is payable semi-annually in cash, in arrears on February 15 and August 15 of each year.

The Convertible Notes due 2026 are:

- our general unsecured obligations;
- ranked senior in right of payment to any future indebtedness that is expressly subordinated in right of payment to the Convertible Notes due 2026;
- ranked equally in right of payment with all of our existing and future unsecured senior indebtedness;
- ranked effectively junior to any of our existing and future secured indebtedness to the extent of the value of the assets securing such indebtedness;
- ranked structurally junior to all indebtedness and other liabilities of our subsidiaries; and
- not guaranteed by our subsidiaries.

We may not redeem the Convertible Notes due 2026 prior to the maturity date. If a “fundamental change” (as defined in the related indenture) occurs prior to the maturity date of the Convertible Notes due 2026, holders may require us to repurchase for cash all or part of their Convertible Notes due 2026 at a specified make-whole price equal to 100% of the principal amount of such Convertible Notes due 2026, plus accrued and unpaid interest to, but not including, the fundamental change repurchase date.

The indenture related to the Convertible Notes due 2026 does not contain any financial covenants and does not restrict us from paying dividends, issuing or repurchasing our other securities, issuing new debt (including secured debt) or repaying or repurchasing our debt.

Subject to the terms of the related indenture, the Convertible Notes due 2026 may be converted at an initial conversion rate of 15.3429 shares of our Class A common stock per \$1,000 principal amount of Convertible Notes due 2026 (equivalent to an initial conversion price of approximately \$65.18 per share of our Class A common stock) (the “Initial Conversion Rate”), at any time on or after March 15, 2026 through the second scheduled trading day preceding the maturity date. Holders of the Convertible Notes due 2026 will also have the right to convert the Convertible Notes due 2026 at the Initial Conversion Rate prior to March 15, 2026, but only upon the occurrence of specified events described in the related indenture. The conversion rate is subject to anti-dilution adjustments if certain events occur. Upon any conversion, we will settle our conversion obligation in cash, shares of our Class A common stock or a combination of cash and shares of our Class A common stock, at our election.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

In accordance with accounting guidance on cash conversion features, we valued and allocated the residual proceeds to the conversion option associated with the Convertible Notes due 2026 (the “equity component”) from the host debt instrument. The \$774 million initial value of the equity component on the Convertible Notes due 2026 was recorded in “Additional paid-in capital” within “Stockholders’ equity (deficit)” on our Consolidated Balance Sheets with the offset being recorded as the debt discount. The resulting debt discount on the Convertible Notes due 2026 is being amortized to interest expense at an effective interest rate of 7% over the ten-year term of the Convertible Notes due 2026. This interest expense was recorded in “Interest expense, net of amounts capitalized” within “Other Income (Expense)” on our Consolidated Statements of Operations and Comprehensive Income (Loss). See Note 2 for further information.

Convertible Note Hedge and Warrant Transactions

In connection with the offering of the Convertible Notes due 2026, we entered into convertible note hedge transactions with certain option counterparties. The convertible note hedge transactions cover, subject to anti-dilution adjustments substantially similar to those applicable to the Convertible Notes due 2026, the number of shares of our Class A common stock underlying the Convertible Notes due 2026, which initially gives us the option to purchase approximately 46 million shares of our Class A common stock at a price of approximately \$65.18 per share. The total cost of the convertible note hedge transactions was \$635 million. Concurrently with entering into the convertible note hedge transactions, we also entered into warrant transactions with each option counterparty whereby we sold to such option counterparty warrants to purchase, subject to customary anti-dilution adjustments, up to the same number of shares of our Class A common stock, which initially gives the option counterparties the option to purchase approximately 46 million shares of our Class A common stock at a price of approximately \$86.08 per share. We received \$376 million in cash proceeds from the sale of these warrants. For us, the economic effect of these transactions is to effectively raise the initial conversion price from approximately \$65.18 per share of our Class A common stock to approximately \$86.08 per share of our Class A common stock (thus effectively raising the conversion premium on the Convertible Notes due 2026 from approximately 32.5% to approximately 75%). In accordance with accounting guidance on hedge and warrant transactions, the net cost incurred in connection with the convertible note hedge and warrant transactions are recorded as a reduction in “Additional paid-in capital” within “Stockholders’ equity (deficit)” on our Consolidated Balance Sheets as of December 31, 2016.

We will not be required to make any cash payments to each option counterparty or its affiliates upon the exercise of the options that are a part of the convertible note hedge transactions, but will be entitled to receive from them a number of shares of Class A common stock, an amount of cash or a combination thereof. This consideration is generally based on the amount by which the market price per share of Class A common stock, as measured under the terms of the convertible note hedge transactions, is greater than the strike price of the convertible note hedge transactions during the relevant valuation period under the convertible note hedge transactions. Additionally, if the market price per share of Class A common stock, as measured under the terms of the warrant transactions, exceeds the strike price of the warrants during the measurement period at the maturity of the warrants, we will owe each option counterparty a number of shares of Class A common stock in an amount based on the excess of such market price per share of Class A common stock over the strike price of the warrants. However, as specified under the terms of the warrant transactions, we may elect to settle the warrants in cash.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Interest on Long-Term Debt

	Semi-Annual Payment Dates	Annual Debt Service Requirements (In thousands)
6 3/4% Senior Notes due 2021 (1)	June 1 and December 1	\$ 135,000
5 7/8% Senior Notes due 2022	January 15 and July 15	\$ 117,500
5% Senior Notes due 2023	March 15 and September 15	\$ 75,000
5 7/8 % Senior Notes due 2024	May 15 and November 15	\$ 117,500
2 3/8% Convertible Notes due 2024	March 15 and September 15	\$ 23,750
7 3/4 % Senior Notes due 2026	January 1 and July 1	\$ 155,000
3 3/8 % Convertible Notes due 2026	February 15 and August 15	\$ 101,250
7 3/8% Senior Notes due 2028	January 1 and July 1	\$ 73,750

(1) Our 6 3/4% Senior Notes due 2021 mature on June 1, 2021 and have been reclassified to “Current portion of long-term debt and finance lease obligations” on our Consolidated Balance Sheets as of December 31, 2020.

Materially all of our interest expense is being capitalized, including the interest expense associated with the amortization of the debt discounts on our Convertible Notes. See Note 2 for further information.

Our ability to meet our debt service requirements will depend on, among other factors, the successful execution of our business strategy, which is subject to uncertainties and contingencies beyond our control.

Other Long-Term Debt and Finance Lease Obligations

Other long-term debt and finance lease obligations consisted of the following:

	As of December 31,	
	2020	2019
	(In thousands)	
Satellites and other finance lease obligations	\$ 162,174	\$ 233,199
Notes payable related to satellite vendor financing and other debt payable in installments through 2032 with interest rates ranging from approximately 4.0% to 8.8%	137,809	70,946
Total	299,983	304,145
Less: current portion	(85,620)	(71,366)
Other long-term debt and finance lease obligations, net of current portion	\$ 214,363	\$ 232,779

Finance Lease Obligations

Anik F3. Anik F3, an FSS satellite, was launched and commenced commercial operation in April 2007. This satellite is accounted for as a finance lease and depreciated over the term of the satellite service agreement. We lease 100% of the Ku-band capacity on Anik F3 for a period of 15 years, which expires in April 2022.

Nimiq 5. On May 19, 2019, we entered into a Master Transaction Agreement pursuant to which, on September 10, 2019, the satellite service agreement for Nimiq 5 was transferred to us. Nimiq 5 was launched in September 2009 and commenced commercial operation at the 72.7 degree west longitude orbital location during October 2009. This satellite is accounted for as a finance lease and depreciated over the term of the satellite service agreement. We lease 100% of the capacity on Nimiq 5, and this lease expires in September 2024. See Note 20 for further information.

QuetzSat-1. On May 19, 2019, we entered into a Master Transaction Agreement pursuant to which, on September 10, 2019, the satellite service agreement for QuetzSat-1 was transferred to us. QuetzSat-1 was launched on September 29, 2011 and in January 2013, QuetzSat-1 was moved to the 77 degree orbital location and commenced commercial operations at that location in February 2013. This satellite is accounted for as a finance lease and depreciated over the term of the satellite service agreement. We lease 100% of the capacity on QuetzSat-1, and this lease expires in November 2021. See Note 20 for further information.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Ciel II. Ciel II, a Canadian DBS satellite, was launched in December 2008 and commenced commercial operation in February 2009. This satellite was previously accounted for as a finance lease and depreciated over the term of the satellite service agreement, however, as a result of an amendment, which was effective during the first quarter 2019, Ciel II is now accounted for as an operating lease. We lease 100% of the capacity on Ciel II. The initial 10 year term expired in January 2019 and as a result of an amendment, we renewed this lease through January 2022.

The summary of future maturities of our outstanding long-term debt as of December 31, 2020 is included in the commitments table in Note 16.

12. Income Taxes and Accounting for Uncertainty in Income Taxes

Income Taxes

Our income tax policy is to record the estimated future tax effects of temporary differences between the tax bases of assets and liabilities and amounts reported on our Consolidated Balance Sheets, as well as probable operating loss, tax credit and other carryforwards. Deferred tax assets are offset by valuation allowances when we believe it is more likely than not that net deferred tax assets will not be realized. We periodically evaluate our need for a valuation allowance. Determining necessary valuation allowances requires us to make assessments about historical financial information as well as the timing of future events, including the probability of expected future taxable income and available tax planning opportunities.

We file consolidated tax returns in the United States. The income taxes of domestic and foreign subsidiaries not included in the United States tax group are presented in our consolidated financial statements on a separate return basis for each tax paying entity.

As of December 31, 2020, we had \$2 million net operating loss carryforwards (“NOLs”) for federal income tax purposes and \$127 million of NOL carryforwards for state income tax purposes, which are partially offset by a valuation allowance. In addition, there are \$71 million of tax benefits related to credit carryforwards which are partially offset by a valuation allowance. Portions of the state NOL and credit carryforwards expired in 2020.

The components of the (benefit from) provision for income taxes were as follows:

	For the Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Current (benefit) provision:			
Federal	\$ (230,935)	\$ 173,326	\$ 44,451
State	22,566	43,579	29,918
Foreign	7,471	6,203	4,616
Total current (benefit) provision	(200,898)	223,108	78,985
Deferred (benefit) provision:			
Federal	610,528	204,403	383,096
State	243,216	21,732	64,000
Increase (decrease) in valuation allowance	45,429	2,115	7,603
Total deferred (benefit) provision	899,173	228,250	454,699
Total (benefit) provision	\$ 698,275	\$ 451,358	\$ 533,684

Our \$2.572 billion of “Income (loss) before income taxes” on our Consolidated Statements of Operations and Comprehensive Income (Loss) included income of \$18 million related to our foreign operations.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

The following table shows the principal reasons for the difference between the effective income tax rate and the statutory federal tax rate:

	For the Years Ended December 31,		
	2020	2019	2018
	% of pre-tax income/(loss)		
Statutory rate	21.0	21.0	21.0
State income taxes, net of federal benefit	4.6	3.2	4.6
State apportionment changes	5.4	—	—
Cares Act NOL Carryback	(2.3)	—	—
Other, net	(1.6)	(1.0)	(1.2)
Total (benefit) provision for income taxes	27.1	23.2	24.4

Deferred taxes arise because of the differences in the book and tax bases of certain assets and liabilities. Significant components of deferred tax assets and liabilities were as follows:

	As of December 31,	
	2020	2019
	(In thousands)	
Deferred tax assets:		
NOL, interest, credit and other carryforwards	\$ 128,968	\$ 368,545
Accrued and prepaid expenses	—	8,488
Stock-based compensation	17,962	19,821
Unrealized (gains) losses on available for sale and other investments	9,862	4,137
Deferred revenue	26,977	17,238
Total deferred tax assets	183,769	418,229
Valuation allowance	(73,788)	(28,359)
Deferred tax asset after valuation allowance	109,981	389,870
Deferred tax liabilities:		
Depreciation	(467,922)	(583,374)
Accrued and prepaid expenses	(72,314)	—
FCC authorizations and other intangible amortization	(2,542,887)	(2,040,885)
Bases difference in partnerships and cost method investments (1)	(744,911)	(573,548)
Discount on convertible notes and convertible note hedge transaction, net	(151,517)	(62,718)
Total deferred tax liabilities	(3,979,551)	(3,260,525)
Net deferred tax asset (liability)	\$ (3,869,570)	\$ (2,870,655)

- (1) Included in this line item are deferred taxes related to, among other things, our non-controlling investments in Northstar Spectrum and SNR HoldCo, including deferred taxes created by the tax amortization of the Northstar Licenses and SNR Licenses.

Accounting for Uncertainty in Income Taxes

In addition to filing federal income tax returns, we and one or more of our subsidiaries file income tax returns in all states that impose an income tax and a small number of foreign jurisdictions where we have immaterial operations. We are subject to United States federal, state and local income tax examinations by tax authorities for the years beginning in 2008 due to the carryover of previously incurred NOLs. We are currently under a federal income tax examination for fiscal years 2008 through 2016.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

A reconciliation of the beginning and ending amount of unrecognized tax benefits included in “Long-term deferred revenue and other long-term liabilities” on our Consolidated Balance Sheets was as follows:

Unrecognized tax benefit	For the Years Ended December 31,		
	2020	2019	2018
		(In thousands)	
Balance as of beginning of period	\$ 674,207	\$ 385,394	\$ 393,916
Additions based on tax positions related to the current year	233	244,257	10,350
Additions based on tax positions related to prior years	1,999	61,909	1,670
Reductions based on tax positions related to prior years	(296,265)	(13,028)	(6,291)
Reductions based on tax positions related to settlements with taxing authorities	(831)	(2,362)	(8,328)
Reductions based on tax positions related to the lapse of the statute of limitations	(876)	(1,963)	(5,923)
Balance as of end of period	\$ 378,467	\$ 674,207	\$ 385,394

We have \$351 million in unrecognized tax benefits that, if recognized, could favorably affect our effective tax rate. We do not expect any material portion of this amount to be paid or settled within the next twelve months. During the year ended December 31, 2019, we recorded \$274 million of additional uncertain tax benefits related to a tax position for certain provisions of the Tax Reform Act. As of December 31, 2020, these amounts were reversed as new Federal Tax Regulations released in 2020 resolved these uncertainties. The position relates to a timing difference and resolution with respect to the position did not impact our effective tax rate. Accrued interest and penalties on uncertain tax positions are recorded as a component of “Interest expense, net of amounts capitalized” and “Other, net,” respectively, on our Consolidated Statements of Operations and Comprehensive Income (Loss). During the years ended December 31, 2020, 2019 and 2018, we recorded \$13 million, \$22 million and \$13 million in net interest and penalty expense to earnings, respectively. Accrued interest and penalties were \$88 million and \$75 million at December 31, 2020 and 2019, respectively. The above table excludes these amounts.

13. Stockholders’ Equity (Deficit)

Capital Stock and Additional Paid-In Capital

Our certificate of incorporation authorizes the following capital stock: (i) 1,600,000,000 shares of Class A common stock, par value \$0.01 per share; (ii) 800,000,000 shares of Class B common stock, par value \$0.01 per share; (iii) 800,000,000 shares of Class C common stock, par value \$0.01 per share; and (iv) 20,000,000 shares of preferred stock, par value \$0.01 per share. As of December 31, 2020 and 2019, there were no outstanding shares of Class C common stock or preferred stock.

The Class A, Class B and Class C common stock are equivalent except for voting rights. Holders of Class A and Class C common stock are entitled to one vote per share and holders of Class B common stock are entitled to 10 votes per share. Each share of Class B and Class C common stock is convertible, at the option of the holder, into one share of Class A common stock. Our Class A common stock is publicly traded on the Nasdaq Global Select Market under the symbol “DISH.” Upon a change in control of DISH Network, each holder of outstanding shares of Class C common stock is entitled to 10 votes for each share of Class C common stock held. Our principal stockholder and certain entities established by him for the benefit of his family beneficially own all outstanding Class B common stock. Together with all other stockholders, he also owns outstanding Class A common stock.

Common Stock Repurchase Program

Our Board of Directors previously authorized stock repurchases of up to \$1.0 billion of our outstanding Class A common stock. On October 30, 2020, our Board of Directors extended this authorization such that we are currently authorized to repurchase up to \$1.0 billion of our outstanding Class A common stock through and including December 31, 2021. As of December 31, 2020, we may repurchase up to \$1.0 billion under this program. During the years ended December 31, 2020, 2019 and 2018, there were no repurchases of our Class A common stock.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Stock Rights Offering

During November 2019, we launched a rights offering pursuant to which we distributed transferable subscription rights pro rata to holders of record of our Class A and B common stock, and outstanding convertible notes (based on the applicable conversion ratio for those notes as of the record date) on November 17, 2019. The subscription rights entitled the holder to acquire newly-issued shares of our Class A common stock at a subscription price of \$33.52 per share.

Upon completion of the rights offering on December 13, 2019, we raised approximately \$1.0 billion and issued 29,834,992 shares of DISH Network's Class A common stock.

14. Employee Benefit Plans**Employee Stock Purchase Plan**

Our employees may participate in the DISH Network employee stock purchase plan (the "ESPP"), in which we are authorized to issue up to 6.8 million shares of Class A common stock. At December 31, 2020, we had 2.4 million shares of Class A common stock which remain available for issuance under the ESPP. Substantially all full-time employees who have been employed by us for at least one calendar quarter are eligible to participate in the ESPP. Employee stock purchases are made through payroll deductions. Under the terms of the ESPP, employees may not deduct an amount which would permit such employee to purchase our capital stock under all of our stock purchase plans at a rate which would exceed \$25,000 in fair value of capital stock in any one year. The purchase price of the stock is 85% of the closing price of the Class A common stock on the last business day of each calendar quarter in which such shares of Class A common stock are deemed sold to an employee under the ESPP. During the years ended December 31, 2020, 2019 and 2018, employee purchases of Class A common stock through the ESPP totaled approximately 0.8 million, 0.6 million and 0.6 million shares, respectively.

401(k) Employee Savings Plan

We sponsor a 401(k) Employee Savings Plan (the "401(k) Plan") for eligible employees. Voluntary employee contributions to the 401(k) Plan may be matched 50% by us, subject to a maximum annual contribution of \$2,500 per employee. Forfeitures of unvested participant balances which are retained by the 401(k) Plan may be used to fund matching and discretionary contributions. Our Board of Directors may also authorize an annual discretionary contribution to the 401(k) plan, subject to the maximum deductible limit provided by the Internal Revenue Code of 1986, as amended. These contributions may be made in cash or in our stock.

The following table summarizes the expense associated with our matching contributions and discretionary contributions:

Expense Recognized Related to the 401(k) Plan	For the Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Matching contributions, net of forfeitures	\$ 11,549	\$ 11,181	\$ 10,300
Discretionary stock contributions, net of forfeitures	\$ 29,784	\$ 28,774	\$ 27,048

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

15. Stock-Based Compensation

Stock Incentive Plans

We maintain stock incentive plans to attract and retain officers, directors and key employees. Stock awards under these plans include both performance and non-performance based stock incentives. As of December 31, 2020, we had outstanding under these plans stock options to acquire 27.2 million shares of our Class A common stock and 1.9 million restricted stock units and awards. Stock options granted on or prior to December 31, 2020 were granted with exercise prices equal to or greater than the market value of our Class A common stock at the date of grant and with a maximum term of approximately ten years. While historically we have issued stock awards subject to vesting, typically at the rate of 20% per year, some stock awards have been granted with immediate vesting and other stock awards vest only upon the achievement of certain company-specific subscriber, operational and/or financial goals. In addition, the Ergen 2020 Performance Award is subject to the achievement of specified stock price targets. As of December 31, 2020, we had 63.6 million shares of our Class A common stock available for future grant under our stock incentive plans.

Exercise prices for stock options outstanding and exercisable as of December 31, 2020 were as follows:

As of December 31, 2020										
Options Outstanding					Options Exercisable					
		Number Outstanding	Weighted- Average Remaining Contractual Life	Weighted- Average Exercise Price			Number Exercisable	Weighted- Average Remaining Contractual Life	Weighted- Average Exercise Price	
\$	10.01 - \$	20.00	244,500	8.30	\$	18.70	8,336	7.75	\$	18.70
\$	20.01 - \$	30.00	13,563,775	9.63	\$	27.68	694,722	1.60	\$	27.17
\$	30.01 - \$	40.00	8,911,281	7.44	\$	35.49	2,930,928	7.14	\$	35.49
\$	40.01 - \$	50.00	1,436,028	6.55	\$	47.48	659,500	6.30	\$	47.30
\$	50.01 - \$	60.00	2,034,878	5.49	\$	57.53	488,752	4.73	\$	56.88
\$	60.01 - \$	70.00	1,058,200	5.41	\$	64.24	411,000	5.07	\$	65.18
\$	10.01 - \$	70.00	<u>27,248,662</u>	8.27	\$	34.85	<u>5,193,238</u>	5.90	\$	40.21

Stock Award Activity

Our stock option activity was as follows:

	For the Years Ended December 31,					
	2020		2019		2018	
	Options	Weighted- Average Exercise Price	Options	Weighted- Average Exercise Price	Options	Weighted- Average Exercise Price
Total options outstanding, beginning of period	13,715,612	\$ 41.71	14,202,039	\$ 42.08	8,847,734	\$ 43.90
Granted (1)	15,410,500	\$ 28.71	1,538,250	\$ 33.44	7,494,012	\$ 38.41
Exercised	(714,595)	\$ 17.44	(714,061)	\$ 27.46	(267,905)	\$ 16.43
Forfeited and cancelled	(1,162,855)	\$ 45.17	(1,310,616)	\$ 43.72	(1,871,802)	\$ 39.67
Total options outstanding, end of period	<u>27,248,662</u>	<u>\$ 34.85</u>	<u>13,715,612</u>	<u>\$ 41.71</u>	<u>14,202,039</u>	<u>\$ 42.08</u>
Performance/market based options outstanding, end of period (2)	<u>17,403,339</u>	<u>\$ 32.59</u>	<u>7,965,501</u>	<u>\$ 40.10</u>	<u>8,969,886</u>	<u>\$ 40.34</u>
Exercisable at end of period	<u>5,193,238</u>	<u>\$ 40.21</u>	<u>2,507,834</u>	<u>\$ 44.93</u>	<u>1,781,153</u>	<u>\$ 41.41</u>

- (1) Includes the Ergen 2020 Performance Award of 12,500,000 options granted on November 6, 2020.
(2) These stock options are included in the caption "Total options outstanding, end of period." See discussion of the 2013 LTIP, 2017 LTIP, 2019 LTIP, Ergen 2020 Performance Award and Other Employee Performance Awards below.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

We realized tax benefits from stock awards exercised as follows:

	For the Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Tax benefit from stock awards exercised	\$ 7,576	\$ 1,239	\$ 1,664

Based on the closing market price of our Class A common stock on December 31, 2020, the aggregate intrinsic value of our stock options was as follows:

	As of December 31, 2020	
	Options Outstanding	Options Exercisable
	(In thousands)	
Aggregate intrinsic value	\$ 66,497	\$ 3,719

Our restricted stock unit and award activity was as follows:

	For the Years Ended December 31,					
	2020		2019		2018	
	Restricted Stock Units/Awards	Weighted- Average Grant Date Fair Value	Restricted Stock Units/Awards	Weighted- Average Grant Date Fair Value	Restricted Stock Units/Awards	Weighted- Average Grant Date Fair Value
Total restricted stock units/awards outstanding, beginning of period	1,504,370	\$ 50.81	1,760,225	\$ 52.15	2,484,720	\$ 51.16
Granted	1,696,000	\$ 33.07	—	\$ —	—	\$ —
Vested (1)	(916,315)	\$ 53.82	(11,175)	\$ 63.49	(11,935)	\$ 63.49
Forfeited and cancelled	(420,945)	\$ 42.56	(244,680)	\$ 59.82	(712,560)	\$ 48.51
Total restricted stock units/awards outstanding, end of period	1,863,110	\$ 35.04	1,504,370	\$ 50.81	1,760,225	\$ 52.15
Restricted Performance Units/Awards outstanding, end of period (2)	1,755,125	\$ 34.89	1,483,800	\$ 50.64	1,726,250	\$ 51.92

- (1) This change resulted from certain Other Employee Performance Awards that vested during the third quarter 2020.
- (2) These stock units/awards are included in the caption “Total restricted stock units/awards outstanding, end of period.” See discussion of the 2013 LTIP and Other Employee Performance Awards below.

Long-Term Performance-Based Plans

2013 LTIP. During 2013, we adopted a long-term, performance-based stock incentive plan (the “2013 LTIP”). The 2013 LTIP provides stock options and restricted stock units in combination, which vest based on company-specific subscriber and financial performance conditions. Exercise of the stock awards is contingent on achieving these performance conditions by September 30, 2022.

Although no awards vest until the Company attains the performance goals described above, compensation related to the 2013 LTIP will be recorded based on management’s assessment of the probability of meeting the remaining performance conditions. If the remaining performance conditions are probable of being achieved, we will begin recognizing the associated non-cash, stock-based compensation expense on our Consolidated Statements of Operations and Comprehensive Income (Loss) over the estimated period to achieve the performance condition.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

During the years ended December 31, 2015, 2014 and 2013, we determined that 30%, 10% and 20%, respectively, of the 2013 LTIP performance conditions were probable of achievement. During the years ended December 31, 2018, 2017 and 2016, no additional 2013 LTIP performance conditions were deemed probable of achievement. During 2018, management determined the 2013 LTIP performance conditions were neither probable nor improbable of achievement. As a result, we are no longer recording non-cash, stock-based compensation expense for the 2013 LTIP. We recorded non-cash, stock-based compensation expense for the years ended December 31, 2020, 2019 and 2018, as indicated in the table below titled “Non-Cash, Stock-Based Compensation Expense Recognized.” As of December 31, 2018, approximately 20% of the 2013 LTIP awards had vested.

2017 LTIP. On December 2, 2016, we adopted a long-term, performance-based stock incentive plan (the “2017 LTIP”). The 2017 LTIP provided stock options, which were subject to vesting based on company-specific subscriber and financial performance conditions. Awards were initially granted under the 2017 LTIP as of January 1, 2017. Exercise of the stock awards was contingent on achieving these performance conditions by December 31, 2020, however, none of the performance conditions were achieved.

During both the years ended December 31, 2018 and 2017, we determined that 75% of the 2017 LTIP performance conditions were probable of achievement. During 2019, management determined the 2017 LTIP performance conditions were not probable of achievement and as a result, we reversed \$13 million of non-cash, stock-based compensation expense. In 2020, no non-cash, stock-based compensation expense was recognized for the 2017 LTIP. We recorded non-cash, stock-based compensation expense for the years ended December 31, 2020, 2019 and 2018, as indicated in the table below titled “Non-Cash, Stock-Based Compensation Expense Recognized.”

2019 LTIP. On August 17, 2018, we adopted a long-term, performance-based stock incentive plan (the “2019 LTIP”). The 2019 LTIP provides stock options, which vest based on certain company-specific subscriber, operational and/or financial performance conditions. Vesting of the stock awards is contingent on achieving these conditions by December 31, 2023.

Although no awards vest until the Company attains the performance conditions described above, compensation related to the 2019 LTIP will be recorded based on management’s assessment of the probability of meeting the performance conditions. If the performance conditions are probable of being achieved, we will begin recognizing the associated non-cash, stock-based compensation expense on our Consolidated Statements of Operations and Comprehensive Income (Loss) over the estimated period to achieve the performance condition.

During the years ended December 31, 2020, 2019 and 2018, we determined that 95%, 90% and 82%, respectively, of the 2019 LTIP performance conditions were probable of achievement. As a result, non-cash, stock-based compensation expense was recorded for the years ended December 31, 2020, 2019 and 2018, as indicated in the table below titled “Non-Cash, Stock-Based Compensation Expense Recognized.” As of December 31, 2020, approximately 58% of the 2019 LTIP awards had vested.

Ergen 2020 Performance Award. On November 4, 2020, our Executive Compensation Committee of the Board of Directors approved an award to Charles W. Ergen, our Chairman, of long-term performance-based options (the “Ergen 2020 Performance Award”) to purchase up to 12,500,000 shares of DISH Network’s Class A common stock. The award is subject to the achievement of specified stock price targets during the approximate ten-year period following the date of grant. The award was granted on November 6, 2020 and will expire on February 6, 2031.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Although no awards will vest until the market conditions are satisfied, as of December 31, 2020, we are recording non-cash, stock-based compensation expense for each vesting tranche based on the estimated achievement date of the specified stock price target. The valuation and probability of achievement for each tranche is determined using a Monte Carlo simulation. The same Monte Carlo simulation is used as the basis for determining the expected achievement date. As the probability of achievement is factored in as part of the Monte Carlo simulation, the expense for these tranches will be recognized concurrently over each tranche’s estimated achievement date even if some or all of the options never vest. If the related milestone for a tranche is achieved earlier than is expected, all unamortized expense for such tranche will be recognized immediately.

Other Employee Performance Awards. In addition to the above long-term, performance stock incentive plans, we have other stock awards that vest based on certain other company-specific subscriber, operational and/or financial performance conditions. Exercise of these stock awards is contingent on achieving certain performance conditions.

Additional compensation related to these awards will be recorded based on management’s assessment of the probability of meeting the remaining performance conditions. If the remaining performance conditions are probable of being achieved, we will begin recognizing the associated non-cash, stock-based compensation expense on our Consolidated Statements of Operations and Comprehensive Income (Loss) over the estimated period to achieve the performance condition. See the table below titled “Estimated Remaining Non-Cash, Stock-Based Compensation Expense.”

Although no awards vest until the performance conditions are attained, we determined that certain performance conditions described above were probable of achievement and, as a result, recorded non-cash, stock-based compensation expense for the years ended December 31, 2020, 2019 and 2018, as indicated in the table below titled “Non-Cash, Stock-Based Compensation Expense Recognized.”

The non-cash, stock-based compensation expense associated with these awards was as follows:

Non-Cash, Stock-Based Compensation Expense Recognized (1)	For the Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
2019 LTIP	\$ 13,088	\$ 15,300	\$ 3,534
2017 LTIP	-	(13,974)	3,334
2013 LTIP	(819)	(1,313)	(2,471)
Ergen 2020 Performance Award	5,029	—	—
Other employee performance awards	29,181	(569)	17,945
Total non-cash, stock-based compensation expense recognized for performance based awards	\$ 46,479	\$ (556)	\$ 22,342

(1) “Non-Cash, Stock-Based Compensation Expense Recognized” includes forfeitures.

Estimated Remaining Non-Cash, Stock-Based Compensation Expense	2019 LTIP	2017 LTIP	2013 LTIP	Ergen 2020 Performance Award	Other Employee Performance Awards
	(In thousands)				
Expense estimated to be recognized during 2021	\$ 3,566	\$ —	\$ —	\$ 28,113	\$ 15,939
Estimated contingent expense subsequent to 2021	6,611	—	29,176	58,745	20,246
Total estimated remaining expense over the term of the plan	\$ 10,177	\$ —	\$ 29,176	\$ 86,858	\$ 36,185

Given the competitive nature of our business, small variations in subscriber churn, gross new subscriber activation rates and certain other factors can significantly impact subscriber growth. Consequently, while it was determined that achievement of certain other company-specific subscriber, operational and/or financial performance conditions were not probable as of December 31, 2020, that assessment could change in the future.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Of the 27.2 million stock options and 1.9 million restricted stock units and awards outstanding under our stock incentive plans as of December 31, 2020, the following awards were outstanding pursuant to our performance-based stock incentive plans:

	As of December 31, 2020	
	Number of Awards	Weighted-Average Grant Price
Performance Based Stock Options		
2019 LTIP	1,996,268	\$ 34.75
2017 LTIP	2,034,571	\$ 56.89
2013 LTIP	872,500	\$ 40.82
Ergen 2020 Performance Award	12,500,000	\$ 27.71
Total	17,403,339	\$ 32.59
Restricted Performance Units/Awards		
2013 LTIP	436,250	
Other employee performance awards	1,318,875	
Total	1,755,125	

Stock-Based Compensation

Total non-cash, stock-based compensation expense for all of our employees is shown in the following table for the years ended December 31, 2020, 2019 and 2018 and was allocated to the same expense categories as the base compensation for such employees:

	For the Years Ended December 31,		
	2020	2019	2018
		(In thousands)	
Cost of services	\$ 7,419	\$ 883	\$ 1,412
Selling, general and administrative	57,535	13,379	34,849
Total non-cash, stock-based compensation	\$ 64,954	\$ 14,262	\$ 36,261

As of December 31, 2020, our total unrecognized compensation cost related to our non-performance based unvested stock awards was \$44 million and will be recognized over a weighted-average period of approximately 3.6 years. Share-based compensation expense is recognized based on stock awards ultimately expected to vest.

Valuation

The fair value of each stock option granted (excluding the Ergen 2020 Performance Award) for the years ended December 31, 2020, 2019 and 2018 was estimated at the date of the grant using a Black-Scholes option valuation model with the following assumptions:

Stock Options	For the Years Ended December 31,								
	2020			2019			2018		
Risk-free interest rate	0.17 %	-	1.72 %	1.51 %	-	2.53 %	2.09 %	-	2.98 %
Volatility factor	28.91 %	-	48.08 %	28.86 %	-	32.08 %	23.33 %	-	30.22 %
Expected term of options in years	3.3	-	5.5	4.3	-	5.5	2.8	-	5.5
Fair value of options granted	\$ 5.50	-	\$ 12.10	\$ 7.58	-	\$ 12.45	\$ 7.10	-	\$ 12.53

While we currently do not intend to declare dividends on our common stock, we may elect to do so from time to time. Accordingly, the dividend yield percentage used in the Black-Scholes option valuation model was set at zero for all periods. The Black-Scholes option valuation model was developed for use in estimating the fair value of traded stock options which have no vesting restrictions and are fully transferable. Consequently, our estimate of fair value may differ from other valuation models. Further, the Black-Scholes option valuation model requires the input of

DISH NETWORK CORPORATION
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highly subjective assumptions. Changes in these subjective input assumptions can materially affect the fair value estimate.

We will continue to evaluate the assumptions used to derive the estimated fair value of our stock options as new events or changes in circumstances become known.

16. Commitments and Contingencies

Commitments

As of December 31, 2020, future maturities of our long-term debt, finance lease and contractual obligations are summarized as follows:

	Payments due by period						
	Total	2021	2022	2023	2024	2025	Thereafter
	(In thousands)						
Long-term debt obligations	\$ 16,637,809	\$ 2,027,604	\$ 2,027,112	\$ 1,528,030	\$ 3,027,186	\$ 2,007,641	\$ 6,020,236
Interest expense on long-term debt	3,178,253	733,927	666,192	510,411	460,223	330,000	477,500
Finance lease obligations (1)	162,174	58,379	38,993	35,478	29,324	—	—
Interest expense on finance lease obligations (1)	28,084	11,923	9,314	5,464	1,383	—	—
Other long-term obligations (2)	4,349,902	350,154	99,048	136,544	173,146	196,000	3,395,010
Operating lease obligations (1)	138,141	71,614	35,074	16,908	9,850	3,205	1,490
Purchase obligations	1,933,440	1,897,777	26,947	8,716	—	—	—
Total	<u>\$ 26,427,803</u>	<u>\$ 5,151,378</u>	<u>\$ 2,902,680</u>	<u>\$ 2,241,551</u>	<u>\$ 3,701,112</u>	<u>\$ 2,536,846</u>	<u>\$ 9,894,236</u>

- (1) See Note 10 for further information on leases and the adoption of ASC 842.
- (2) Represents minimum payments related to tower obligations, certain 5G Network Deployment commitments and satellite related and other obligations.

In certain circumstances the dates on which we are obligated to make these payments could be delayed.

The table above does not include \$378 million of liabilities associated with unrecognized tax benefits that were accrued, as discussed in Note 12 and are included on our Consolidated Balance Sheets as of December 31, 2020. We do not expect any portion of this amount to be paid or settled within the next twelve months.

The table above does not include all potential expenses we expect to incur for our 5G Network Deployment. We currently expect expenditures for our 5G Network Deployment to be approximately \$10 billion, excluding capitalized interest, of which approximately \$340 million is included in the table above in "Other long-term obligations." For further discussion see below.

During the first quarter 2021, we entered into an agreement to pay approximately \$50 million to acquire certain assets and liabilities that are intended to be used in our wireless business. The closing is subject to certain customary closing conditions. This amount is not included in the table above.

Wireless – 5G Network Deployment

We have directly invested over \$11 billion to acquire certain wireless spectrum licenses and related assets and made over \$10 billion in non-controlling investments in certain entities, for a total of over \$21 billion. The \$21 billion of investments related to wireless spectrum licenses does not include \$6 billion of capitalized interest related to the carrying value of such licenses. See Note 2 for further information on capitalized interest.

DISH NETWORK CORPORATION
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Recent Wireless Spectrum Acquisitions

37 GHz, 39 GHz and 47 GHz. The auction for the Upper Microwave Flexible Use Service licenses in the 37 GHz, 39 GHz and 47 GHz bands (“Auction 103”) began on December 10, 2019 and ended January 30, 2020. On March 12, 2020, the FCC announced that Window Wireless L.L.C. (“Window”), a wholly-owned subsidiary of DISH Network, was the winning bidder of 50 wireless spectrum licenses in the 37-39 GHz band and 2,601 wireless spectrum licenses in the 47 GHz band, for a total of 2,651 wireless spectrum licenses, with Window’s aggregate winning bids totaling approximately \$203 million. On October 22, 2019, we paid \$68 million to the FCC as a deposit for Auction 103. On April 9, 2020, we paid the remaining balance of our winning bids of approximately \$135 million. On June 4, 2020, the FCC issued an order granting Window’s application to acquire the 37 GHz, 39 GHz and 47 GHz licenses (the “37 GHz, 39 GHz and 47 GHz Licenses”).

3550-3650 MHz. The auction for the Priority Access Licenses for the 3550-3650 MHz band (“Auction 105”) began on July 23, 2020 and ended on August 25, 2020. On September 2, 2020, the FCC announced that Wetterhorn Wireless L.L.C. (“Wetterhorn”), a wholly-owned subsidiary of DISH Network, was the winning bidder of 5,492 Priority Access Licenses in the 3550-3650 MHz band, with Wetterhorn’s aggregate winning bids totaling approximately \$913 million. During the second and third quarters 2020, we paid \$83 million and \$100 million, respectively, to the FCC for our winning bids. On October 1, 2020, we paid the remaining balance of our winning bids of approximately \$730 million. These amounts are included in “Other current assets” on our Consolidated Balance Sheets as of December 31, 2020. The FCC has not yet issued the licenses to Wetterhorn.

Wireless Spectrum Licenses

These wireless spectrum licenses are subject to certain interim and final build-out requirements, as well as certain renewal requirements that are summarized in the table below:

	As of December 31, 2020	Build-Out Deadlines		Expiration Date
	Carrying Amount (In thousands)	Interim	Final	
Owned:				
DBS Licenses (1)	\$ 677,409			
700 MHz Licenses	711,871	June 14, 2022 (2)	June 14, 2023 (4)	June 2023
AWS-4 Licenses	1,940,000	June 14, 2022 (2)	June 14, 2023 (4)	June 2023
H Block Licenses	1,671,506	June 14, 2022 (2)	June 14, 2023 (5)	June 2023
600 MHz Licenses	6,211,154		June 14, 2025 (6)	June 2029
MVDDS Licenses (1)	24,000			August 2024
LMDS Licenses (1)	—			September 2028
28 GHz Licenses	2,883		October 2, 2029 (7)	October 2029
24 GHz Licenses	11,772		December 11, 2029 (7)	December 2029
37 GHz, 39 GHz and 47 GHz Licenses	202,533		June 4, 2030 (7)	June 2030
Subtotal	11,453,128			
Non-controlling Investments:				
Northstar	5,618,930	October 2021 (3)	October 2027 (8)	October 2027 (8)
SNR	4,271,459	October 2021 (3)	October 2027 (8)	October 2027 (8)
Total AWS-3 Licenses	9,890,389			
Capitalized Interest (9)	5,560,422			
Total	\$ 26,903,939			

- (1) The build-out deadlines for these licenses have been met.
- (2) For these licenses, we must offer 5G broadband service to at least 20% of the United States population and have developed a core network by this date.
- (3) For these licenses, Northstar Wireless and SNR Wireless must provide reliable signal coverage and offer service to at least 40% of the population of each license area by this date.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

- (4) For these licenses, we must offer 5G broadband service to 70% of the United States population by this date; provided, however, if by June 14, 2023, we are offering 5G broadband service with respect to these licenses to at least 50% of the population of the United States, the final deadline shall be further extended automatically to June 14, 2025, for us to construct and offer 5G broadband service to at least 70% of the population in each Economic Area (which is a service area established by the FCC) with respect to these licenses.
- (5) For these licenses, we must offer 5G broadband service to at least 70% of the United States population by this date; provided, however, that if by June 14, 2023, we are offering 5G Broadband Service with respect to these licenses to at least 50% of the population of the United States, the final deadline shall be further extended automatically to June 14, 2025, for us to construct and offer 5G broadband service to at least 75% of the population in each Economic Area with respect to these licenses.
- (6) For these licenses, we must offer 5G broadband service to at least 75% of the population in each Partial Economic Area (which are service areas established by the FCC) by this date.
- (7) There are a variety of build-out options and associated build-out metrics associated with these licenses.
- (8) For these licenses, Northstar Wireless and SNR Wireless must provide reliable signal coverage and offer service to at least 75% of the population of each license area by this date. If the AWS-3 interim build-out requirement is not met, the AWS-3 expiration date and the AWS-3 final build-out requirement may be accelerated by two years (from October 2027 to October 2025) for each AWS-3 License area in which Northstar Wireless and SNR Wireless do not meet the requirement.
- (9) See Note 2 for further information.

Commercialization of Our Wireless Spectrum Licenses and Related Assets. We plan to commercialize our wireless spectrum licenses through our 5G Network Deployment. To that end, we have undertaken several key steps including identifying markets to build out, making executive and management hires and entering into agreements with key vendors. For example, on November 16, 2020, we announced a long-term agreement with Crown Castle pursuant to which Crown Castle will lease us space on up to 20,000 communication towers. As part of the agreement, we will also receive certain fiber transport services and have the option to utilize Crown Castle for pre-construction services. During December 2020, we completed a successful field validation, utilizing our fully-virtualized standalone 5G core network and the industry's first O-RAN compliant radio. We currently expect expenditures for our 5G Network Deployment to be approximately \$10 billion, excluding capitalized interest.

Prior to starting our 5G Network Deployment, we notified the FCC in March 2017 that we planned to deploy a narrowband IoT network on certain of these wireless licenses, which we expected to complete by March 2020, with subsequent phases to be completed thereafter. In light of, among other things, certain developments related to the Sprint-T-Mobile merger, during the first quarter 2020, we determined that the revision of certain of our build-out deadlines was probable and, therefore, we no longer intended to complete our narrowband IoT deployment. The FCC issued an Order effectuating the build-out deadline changes contemplated above on September 11, 2020. During the first quarter 2020, we impaired certain assets that would not be utilized in our 5G Network Deployment, resulting in a \$253 million non-cash impairment charge in "Impairment of long-lived assets" on our Consolidated Statements of Operations and Comprehensive Income (Loss).

We will need to make significant additional investments or partner with others to, among other things, complete our 5G Network Deployment and further commercialize, build-out and integrate these licenses and related assets and any additional acquired licenses and related assets, as well as to comply with regulations applicable to such licenses. Depending on the nature and scope of such activities, any such investments or partnerships could vary significantly. In addition, as we complete our 5G Network Deployment we will incur significant additional expenses and will have to make significant investments related to, among other things, research and development, wireless testing and wireless network infrastructure. We may also determine that additional wireless spectrum licenses may be required to complete our 5G Network Deployment and to compete with other wireless service providers. For example, on September 22, 2020, we filed an application with the FCC to participate as a potential bidder in the wireless spectrum auction for the Flexible-Use Service Licenses in the 3.7-3.98 GHz Band ("Auction 107"). On November 12, 2020, the FCC announced that we and 56 other applicants were qualified to participate in Auction 107.

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The auction commenced on December 8, 2020. The FCC determined that bidding in this auction will be “anonymous,” which means that prior to and during the course of the auction the FCC will not make public any information about a specific applicant’s upfront deposit or its bids. In addition, FCC rules restrict information that bidders may disclose about their participation in the auction.

We may need to raise significant additional capital in the future to fund the efforts described above, which may not be available on acceptable terms or at all. There can be no assurance that we will be able to develop and implement a business model that will realize a return on these wireless spectrum licenses or that we will be able to profitably deploy the assets represented by these wireless spectrum licenses, which may affect the carrying amount of these assets and our future financial condition or results of operations.

DISH Network Non-Controlling Investments in the Northstar Entities and the SNR Entities Related to AWS-3 Wireless Spectrum Licenses

Non-Controlling Investments

During 2015, through our wholly-owned subsidiaries American II and American III, we initially made over \$10 billion in certain non-controlling investments in Northstar Spectrum, the parent company of Northstar Wireless, and in SNR HoldCo, the parent company of SNR Wireless, respectively. Under the applicable accounting guidance in ASC 810, Northstar Spectrum and SNR HoldCo are considered variable interest entities and, based on the characteristics of the structure of these entities and in accordance with the applicable accounting guidance, we consolidate these entities into our financial statements. See Note 2 for further information.

Northstar Investment. As of 2015, through American II, we owned a non-controlling interest in Northstar Spectrum, which was comprised of 85% of the Class B Common Interests and 100% of the Class A Preferred Interests of Northstar Spectrum. Northstar Manager is the sole manager of Northstar Spectrum and owns a controlling interest in Northstar Spectrum, which was comprised of 15% of the Class B Common Interests of Northstar Spectrum. As of March 31, 2018, the total equity contributions from American II and Northstar Manager to Northstar Spectrum were approximately \$7.621 billion and \$133 million, respectively. As of March 31, 2018, the total loans from American II to Northstar Wireless under the Northstar Credit Agreement (as defined below) for payments to the FCC related to the Northstar Licenses (as defined below) were approximately \$500 million. See below for further information.

Northstar Purchase Agreement. On December 30, 2020, through our wholly-owned subsidiary American II, we entered into a Purchase Agreement (the “Northstar Purchase Agreement”) with Northstar Manager and Northstar Spectrum, pursuant to which American II purchased 80% of Northstar Manager’s Class B Common Interests in Northstar Spectrum (the “Northstar Transaction”) for a purchase price of approximately \$312 million. As a result of the Northstar Transaction, through American II, we hold 97% of the Class B Common Interests in Northstar Spectrum and Northstar Manager holds 3% of the Class B Common Interests in Northstar Spectrum. Other than the change in ownership percentage of Northstar Spectrum, the Northstar Transaction did not modify or amend in any way the existing arrangements between or among the Northstar parties. In the Northstar Purchase Agreement, Northstar Manager waived its right to exercise the Northstar Put Right under the First Northstar Put Window. Northstar Manager retains its right to exercise the Northstar Put Right during the Second Northstar Put Window. See below for further information.

SNR Investment. As of 2015, through American III, we own a non-controlling interest in SNR HoldCo, which is comprised of 85% of the Class B Common Interests and 100% of the Class A Preferred Interests of SNR HoldCo. SNR Management is the sole manager of SNR HoldCo and owns a controlling interest in SNR HoldCo, which is comprised of 15% of the Class B Common Interests of SNR HoldCo. As of March 31, 2018, the total equity contributions from American III and SNR Management to SNR HoldCo were approximately \$5.590 billion and \$93 million, respectively. As of March 31, 2018, the total loans from American III to SNR Wireless under the SNR Credit Agreement (as defined below) for payments to the FCC related to the SNR Licenses (as defined below) were approximately \$500 million. See below for further information.

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AWS-3 Auction

Northstar Wireless and SNR Wireless each filed applications with the FCC to participate in Auction 97 (the “AWS-3 Auction”) for the purpose of acquiring certain AWS-3 Licenses. Each of Northstar Wireless and SNR Wireless applied to receive bidding credits of 25% as designated entities under applicable FCC rules. Northstar Wireless was the winning bidder for AWS-3 Licenses with gross winning bid amounts totaling approximately \$7.845 billion, which after taking into account a 25% bidding credit, was approximately \$5.884 billion. SNR Wireless was the winning bidder for AWS-3 Licenses with gross winning bid amounts totaling approximately \$5.482 billion, which after taking into account a 25% bidding credit, was approximately \$4.112 billion. In addition to the net winning bids, SNR Wireless made a bid withdrawal payment of approximately \$8 million.

FCC Order and October 2015 Arrangements. On August 18, 2015, the FCC released a *Memorandum Opinion and Order*, FCC 15-104 (the “Order”) in which the FCC determined, among other things, that DISH Network has a controlling interest in, and is an affiliate of, Northstar Wireless and SNR Wireless, and therefore DISH Network’s revenues should be attributed to them, which in turn makes Northstar Wireless and SNR Wireless ineligible to receive the 25% bidding credits (approximately \$1.961 billion for Northstar Wireless and \$1.370 billion for SNR Wireless). On November 23, 2020, the FCC released a *Memorandum Opinion and Order on Remand*, FCC 20-160, that found that Northstar Wireless and SNR Wireless are not eligible for bidding credits based on the FCC’s determination that they remain under DISH Network’s *de facto* control. Northstar Wireless and SNR Wireless have appealed the FCC’s order to the D.C. Circuit Court of Appeals.

Letters Exchanged between Northstar Wireless and the FCC Wireless Bureau. As outlined in letters exchanged between Northstar Wireless and the Wireless Telecommunications Bureau of the FCC (the “FCC Wireless Bureau”), Northstar Wireless paid the gross winning bid amounts for 261 AWS-3 Licenses (the “Northstar Licenses”) totaling approximately \$5.619 billion through the application of funds already on deposit with the FCC. Northstar Wireless also notified the FCC that it would not be paying the gross winning bid amounts for 84 AWS-3 Licenses totaling approximately \$2.226 billion. As a result of the nonpayment of those gross winning bid amounts, the FCC retained those licenses and Northstar Wireless owed the FCC an additional interim payment of approximately \$334 million (the “Northstar Interim Payment”), which is equal to 15% of \$2.226 billion. The Northstar Interim Payment was recorded as an expense during the fourth quarter 2015. Northstar Wireless immediately satisfied the Northstar Interim Payment through the application of funds already on deposit with the FCC and an additional loan from American II of approximately \$69 million. As a result, the FCC will not deem Northstar Wireless to be a “current defaulter” under applicable FCC rules.

In addition, the FCC Wireless Bureau acknowledged that Northstar Wireless’ nonpayment of those gross winning bid amounts does not constitute action involving gross misconduct, misrepresentation or bad faith. Therefore, the FCC concluded that such nonpayment will not affect the eligibility of Northstar Wireless, its investors (including DISH Network) or their respective affiliates to participate in future spectrum auctions (including Auction 1000 and any re-auction of the AWS-3 licenses retained by the FCC). At this time, DISH Network (through itself, a subsidiary or another entity in which it may hold a direct or indirect interest) expects to participate in any re-auction of those AWS-3 licenses.

If the winning bids from re-auction or other award of the AWS-3 licenses retained by the FCC are greater than or equal to the winning bids of Northstar Wireless, no additional amounts will be owed to the FCC. However, if those winning bids are less than the winning bids of Northstar Wireless, then Northstar Wireless will be responsible for the difference less any overpayment of the Northstar Interim Payment (which will be recalculated as 15% of the winning bids from re-auction or other award) (the “Northstar Re-Auction Payment”). For example, if the winning bids in a re-auction are \$1, the Northstar Re-Auction Payment would be approximately \$1.892 billion, which is calculated as the difference between \$2.226 billion (the Northstar winning bid amounts) and \$1 (the winning bids from re-auction) less the resulting \$334 million overpayment of the Northstar Interim Payment. As discussed above, at this time, DISH Network (through itself, a subsidiary or another entity in which it may hold a direct or indirect interest) expects to participate in any re-auction. We cannot predict with any degree of certainty the timing or outcome of any re-auction or the amount of any Northstar Re-Auction Payment.

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DISH Network Guaranty in Favor of the FCC for Certain Northstar Wireless Obligations. On October 1, 2015, DISH Network entered into a guaranty in favor of the FCC (the “FCC Northstar Guaranty”) with respect to the Northstar Interim Payment (which was satisfied on October 1, 2015) and any Northstar Re-Auction Payment. The FCC Northstar Guaranty provides, among other things, that during the period between the due date for the payments guaranteed under the FCC Northstar Guaranty and the date such guaranteed payments are paid: (i) Northstar Wireless’ payment obligations to American II under the Northstar Credit Agreement will be subordinated to such guaranteed payments; and (ii) DISH Network or American II will withhold exercising certain rights as a creditor of Northstar Wireless.

Letters Exchanged between SNR Wireless and the FCC Wireless Bureau. As outlined in letters exchanged between SNR Wireless and the FCC Wireless Bureau, SNR Wireless paid the gross winning bid amounts for 244 AWS-3 Licenses (the “SNR Licenses”) totaling approximately \$4.271 billion through the application of funds already on deposit with the FCC and a portion of an additional loan from American III in an aggregate amount of approximately \$344 million (which included an additional bid withdrawal payment of approximately \$3 million). SNR Wireless also notified the FCC that it would not be paying the gross winning bid amounts for 113 AWS-3 Licenses totaling approximately \$1.211 billion.

As a result of the nonpayment of those gross winning bid amounts, the FCC retained those licenses and SNR Wireless owed the FCC an additional interim payment of approximately \$182 million (the “SNR Interim Payment”), which is equal to 15% of \$1.211 billion. The SNR Interim Payment was recorded as an expense during the fourth quarter 2015. SNR Wireless immediately satisfied the SNR Interim Payment through a portion of an additional loan from American III in an aggregate amount of approximately \$344 million. As a result, the FCC will not deem SNR Wireless to be a “current defaulter” under applicable FCC rules.

In addition, the FCC Wireless Bureau acknowledged that SNR Wireless’ nonpayment of those gross winning bid amounts does not constitute action involving gross misconduct, misrepresentation or bad faith. Therefore, the FCC concluded that such nonpayment will not affect the eligibility of SNR Wireless, its investors (including DISH Network) or their respective affiliates to participate in future spectrum auctions (including Auction 1000 and any re-auction of the AWS-3 licenses retained by the FCC). At this time, DISH Network (through itself, a subsidiary or another entity in which it may hold a direct or indirect interest) expects to participate in any re-auction of those AWS-3 licenses.

If the winning bids from re-auction or other award of the AWS-3 licenses retained by the FCC are greater than or equal to the winning bids of SNR Wireless, no additional amounts will be owed to the FCC. However, if those winning bids are less than the winning bids of SNR Wireless, then SNR Wireless will be responsible for the difference less any overpayment of the SNR Interim Payment (which will be recalculated as 15% of the winning bids from re-auction or other award) (the “SNR Re-Auction Payment”). For example, if the winning bids in a re-auction are \$1, the SNR Re-Auction Payment would be approximately \$1.029 billion, which is calculated as the difference between \$1.211 billion (the SNR winning bid amounts) and \$1 (the winning bids from re-auction) less the resulting \$182 million overpayment of the SNR Interim Payment. As discussed above, at this time, DISH Network (through itself, a subsidiary or another entity in which it may hold a direct or indirect interest) expects to participate in any re-auction. We cannot predict with any degree of certainty the timing or outcome of any re-auction or the amount of any SNR Re-Auction Payment.

DISH Network Guaranty in Favor of the FCC for Certain SNR Wireless Obligations. On October 1, 2015, DISH Network entered into a guaranty in favor of the FCC (the “FCC SNR Guaranty”) with respect to the SNR Interim Payment (which was satisfied on October 1, 2015) and any SNR Re-Auction Payment. The FCC SNR Guaranty provides, among other things, that during the period between the due date for the payments guaranteed under the FCC SNR Guaranty and the date such guaranteed payments are paid: (i) SNR Wireless’ payment obligations to American III under the SNR Credit Agreement will be subordinated to such guaranteed payments; and (ii) DISH Network or American III will withhold exercising certain rights as a creditor of SNR Wireless.

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FCC Licenses. On October 27, 2015, the FCC granted the Northstar Licenses to Northstar Wireless and the SNR Licenses to SNR Wireless, respectively, which are recorded in “FCC authorizations” on our Consolidated Balance Sheets. The AWS-3 Licenses are subject to certain interim and final build-out requirements. By October 2021, Northstar Wireless and SNR Wireless must provide reliable signal coverage and offer service to at least 40% of the population in each area covered by an individual AWS-3 License (the “AWS-3 Interim Build-Out Requirement”). By October 2027, Northstar Wireless and SNR Wireless must provide reliable signal coverage and offer service to at least 75% of the population in each area covered by an individual AWS-3 License (the “AWS-3 Final Build-Out Requirement”). If the AWS-3 Interim Build-Out Requirement is not met, the AWS-3 License term and the AWS-3 Final Build-Out Requirement may be accelerated by two years (from October 2027 to October 2025) for each AWS-3 License area in which Northstar Wireless and SNR Wireless do not meet the requirement. If the AWS-3 Final Build-Out Requirement is not met, the authorization for each AWS-3 License area in which Northstar Wireless and SNR Wireless do not meet the requirement may terminate. These wireless spectrum licenses expire in October 2027 unless they are renewed by the FCC. There can be no assurances that the FCC will renew these wireless spectrum licenses.

Qui Tam. On September 23, 2016, the United States District Court for the District of Columbia unsealed a qui tam complaint that was filed by Vermont National Telephone Company (“Vermont National”) against us; our wholly-owned subsidiaries, American AWS-3 Wireless I L.L.C., American II, American III, and DISH Wireless Holding L.L.C.; Charles W. Ergen (our Chairman) and Cantey M. Ergen (a member of our board of directors); Northstar Wireless; Northstar Spectrum; Northstar Manager; SNR Wireless; SNR HoldCo; SNR Management; and certain other parties. See “Contingencies – Litigation – Vermont National Telephone Company” for further information.

D.C. Circuit Court Opinion. On August 29, 2017, the United States Court of Appeals for the District of Columbia Circuit (the “D.C. Circuit”) in *SNR Wireless LicenseCo, LLC, et al. v. Federal Communications Commission*, 868 F.3d 1021 (D.C. Cir. 2017) (the “Appellate Decision”) affirmed the Order in part, and remanded the matter to the FCC to give Northstar Wireless and SNR Wireless an opportunity to seek to negotiate a cure of the issues identified by the FCC in the Order (a “Cure”). On January 26, 2018, SNR Wireless and Northstar Wireless filed a petition for a writ of certiorari, asking the United States Supreme Court to hear an appeal from the Appellate Decision, which the United States Supreme Court denied on June 25, 2018.

Order on Remand. On January 24, 2018, the FCC released an Order on Remand, DA 18-70 (the “Order on Remand”) purporting to establish a procedure to afford Northstar Wireless and SNR Wireless the opportunity to implement a Cure pursuant to the Appellate Decision. The Order on Remand provided that Northstar Wireless and SNR Wireless each had until April 24, 2018 to file the necessary documentation to demonstrate that, in light of such changes, each of Northstar Wireless and SNR Wireless qualifies for the very small business bidding credit that it sought in the AWS-3 Auction. Additionally, the Order on Remand provides that if either Northstar Wireless or SNR Wireless needs additional time to negotiate new or amended agreements, it may request to extend the deadline for such negotiations for an additional 45 days (extending the deadline to June 8, 2018). On April 16, 2018, the FCC approved Northstar Wireless’ and SNR Wireless’ requests to extend the deadline for such negotiations for an additional 45 days to June 8, 2018. On June 8, 2018, Northstar Wireless and SNR Wireless each filed amended agreements to demonstrate that, in light of such changes, each of Northstar Wireless and SNR Wireless qualifies for the very small business bidding credit that it sought in the AWS-3 Auction. The Order on Remand also provided, among other things, until July 23, 2018 for certain third-parties to file comments about any changes to the agreements proposed by Northstar Wireless and SNR Wireless and several third-parties filed comments (with one opposition). On October 22, 2018, Northstar Wireless and SNR Wireless filed a response to the third-party comments.

Northstar Wireless and SNR Wireless filed a Joint Application for Review of the Order on Remand requesting, among other things, an iterative negotiation process with the FCC regarding a Cure, which was denied on July 12, 2018.

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Northstar Operative Agreements

Northstar LLC Agreement. Northstar Spectrum is governed by a limited liability company agreement by and between American II and Northstar Manager (the “Northstar Spectrum LLC Agreement”). Pursuant to the Northstar Spectrum LLC Agreement, American II and Northstar Manager made pro-rata equity contributions in Northstar Spectrum.

On March 31, 2018, American II, Northstar Spectrum, and Northstar Manager amended and restated the Northstar Spectrum LLC Agreement, to, among other things: (i) exchange \$6.870 billion of the amounts outstanding and owed by Northstar Wireless to American II pursuant to the Northstar Credit Agreement (as defined below) for 6,870,493 Class A Preferred Interests in Northstar Spectrum (the “Northstar Preferred Interests”); (ii) replace the existing investor protection provisions with the investor protections described by the FCC in Baker Creek Communications, LLC, Memorandum Opinion and Order, 13 FCC Rcd 18709, 18715 (1998); (iii) delete the obligation of Northstar Manager to consult with American II regarding budgets and business plans; and (iv) remove the requirement that Northstar Spectrum’s systems be interoperable with ours. The Northstar Preferred Interests: (a) are non-voting; (b) have a 12 percent mandatory quarterly distribution, which can be paid in cash or additional face amount of Northstar Preferred Interests at the sole discretion of Northstar Manager; and (c) have a liquidation preference equal to the then-current face amount of the Northstar Preferred Interests plus accrued and unpaid mandatory quarterly distributions in the event of certain liquidation events or deemed liquidation events (e.g., a merger or dissolution of Northstar Spectrum, or a sale of substantially all of Northstar Spectrum’s assets). As a result of the exchange noted in (i) above, a principal amount of \$500 million of debt remains under the Northstar Credit Agreement, as described below.

On June 7, 2018, American II, Northstar Spectrum, and Northstar Manager amended and restated the Second Amended and Restated Limited Liability Company Agreement, dated March 31, 2018, by and among American II, Northstar Spectrum, and Northstar Manager, to, among other things: (i) reduce the mandatory quarterly distribution for the Northstar Preferred Interests from 12 percent to eight percent from and after June 7, 2018; (ii) increase the window for Northstar Manager to “put” its interest in Northstar Spectrum to Northstar Spectrum after October 27, 2020 from 30 days to 90 days; (iii) provide an additional 90-day window for Northstar Manager to put its interest in Northstar Spectrum to Northstar Spectrum commencing on October 27, 2021; (iv) provide a right for Northstar Manager to require an appraisal of the fair market value of its interest in Northstar Spectrum at any time from October 27, 2022 through October 27, 2024, coupled with American II having the right to accept the offer to sell from Northstar Manager; (v) allow Northstar Manager to sell its interest in Northstar Spectrum without American II’s consent any time after October 27, 2020 (previously October 27, 2025); (vi) allow Northstar Spectrum to conduct an initial public offering without American II’s consent any time after October 27, 2022 (previously October 27, 2029); (vii) remove American II’s rights of first refusal with respect to Northstar Manager’s sale of its interest in Northstar Spectrum or Northstar Spectrum’s sale of any AWS-3 Licenses; and (viii) remove American II’s tag along rights with respect to Northstar Manager’s sale of its interest in Northstar Spectrum. Northstar Manager had the right to put its interest in Northstar Spectrum to Northstar Spectrum for a 90-day period beginning October 27, 2020, which Northstar Manager waived in connection with the Northstar Purchase Agreement.

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Northstar Wireless Credit Agreement. On October 1, 2015, American II, Northstar Wireless and Northstar Spectrum amended the First Amended and Restated Credit Agreement dated October 13, 2014, by and among American II, as Lender, Northstar Wireless, as Borrower, and Northstar Spectrum, as Guarantor (as amended, the “Northstar Credit Agreement”), to provide, among other things, that: (i) the Northstar Interim Payment and any Northstar Re-Auction Payment will be made by American II directly to the FCC and will be deemed as loans under the Northstar Credit Agreement; (ii) the FCC is a third-party beneficiary with respect to American II’s obligation to pay the Northstar Interim Payment and any Northstar Re-Auction Payment; (iii) in the event that the winning bids from re-auction or other award of the AWS-3 licenses retained by the FCC are less than the winning bids of Northstar Wireless, the purchaser, assignee or transferee of any AWS-3 Licenses from Northstar Wireless is obligated to pay its pro-rata share of the difference (and Northstar Wireless remains jointly and severally liable for such pro-rata share); and (iv) during the period between the due date for the payments guaranteed under the FCC Northstar Guaranty (as discussed below) and the date such guaranteed payments are paid, Northstar Wireless’ payment obligations to American II under the Northstar Credit Agreement will be subordinated to such guaranteed payments.

On March 31, 2018, American II, Northstar Wireless, and Northstar Spectrum amended and restated the Northstar Credit Agreement, to, among other things: (i) lower the interest rate on the remaining \$500 million principal balance under the Northstar Credit Agreement from 12 percent per annum to six percent per annum; (ii) eliminate the higher interest rate that would apply in the case of an event of default; and (iii) modify and/or remove certain obligations of Northstar Wireless to prepay the outstanding loan amounts.

On June 7, 2018, American II, Northstar Wireless, and Northstar Spectrum amended and restated the Northstar Credit Agreement to, among other things: (i) extend the maturity date on the remaining loan balance from seven years to ten years; and (ii) remove the obligation of Northstar Wireless to obtain American II’s consent for unsecured financing and equipment financing in excess of \$25 million.

SNR Operative Agreements

SNR LLC Agreement. SNR HoldCo is governed by a limited liability company agreement by and between American III and SNR Management (the “SNR HoldCo LLC Agreement”). Pursuant to the SNR HoldCo LLC Agreement, American III and SNR Management made pro-rata equity contributions in SNR HoldCo.

On March 31, 2018, American III, SNR Holdco, SNR Wireless Management, and John Muleta amended and restated the SNR HoldCo LLC Agreement, to, among other things: (i) exchange \$5.065 billion of the amounts outstanding and owed by SNR Wireless to American III pursuant to the SNR Credit Agreement (as defined below) for 5,065,415 Class A Preferred Interests in SNR Holdco (the “SNR Preferred Interests”); (ii) replace the existing investor protection provisions with the investor protections described by the FCC in Baker Creek Communications, LLC, Memorandum Opinion and Order, 13 FCC Rcd 18709, 18715 (1998); (iii) delete the obligation of SNR Management to consult with American III regarding budgets and business plans; and (iv) remove the requirement that SNR Management’s systems be interoperable with ours. The SNR Preferred Interests: (a) are non-voting; (b) have a 12 percent mandatory quarterly distribution, which can be paid in cash or additional face amount of SNR Preferred Interests at the sole discretion of SNR Management; and (c) have a liquidation preference equal to the then-current face amount of the SNR Preferred Interests plus accrued and unpaid mandatory quarterly distributions in the event of certain liquidation events or deemed liquidation events (e.g., a merger or dissolution of SNR Holdco, or a sale of substantially all of SNR Holdco’s assets). As a result of the exchange noted in (i) above, a principal amount of \$500 million of debt remains under the SNR Credit Agreement, as described below.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

On June 7, 2018, American III, SNR Holdco, SNR Management, and John Muleta amended and restated the Second Amended and Restated Limited Liability Company Agreement, dated March 31, 2018, by and among American III, SNR Holdco, SNR Management and John Muleta, to, among other things: (i) reduce the mandatory quarterly distribution for the SNR Preferred Interests from 12 percent to eight percent from and after June 7, 2018; (ii) increase the window for SNR Management to “put” its interest in SNR Holdco to SNR Holdco after October 27, 2020 from 30 days to 90 days; (iii) provide an additional 90-day window for SNR Management to put its interest in SNR Holdco to SNR Holdco commencing on October 27, 2021; (iv) provide a right for SNR Management to require an appraisal of the fair market value of its interest in SNR Holdco at any time from October 27, 2022 through October 27, 2024, coupled with American III having the right to accept the offer to sell from SNR Management; (v) allow SNR Management to sell its interest in SNR Holdco without American III’s consent any time after October 27, 2020 (previously October 27, 2025); (vi) allow SNR Holdco to conduct an initial public offering without American III’s consent any time after October 27, 2022 (previously October 27, 2029); (vii) remove American III’s rights of first refusal with respect to SNR Management’s sale of its interest in SNR Holdco or SNR Holdco’s sale of any AWS-3 Licenses; and (viii) remove American III’s tag along rights with respect to SNR Management’s sale of its interest in SNR Holdco. SNR Management had the right to put its interest in SNR Holdco to SNR Holdco for a 90-day period from October 27, 2020. The First SNR Put Window was not exercised and expired in January 2021.

SNR Credit Agreement. On October 1, 2015, American III, SNR Wireless and SNR HoldCo amended the First Amended and Restated Credit Agreement dated October 13, 2014, by and among American III, as Lender, SNR Wireless, as Borrower, and SNR HoldCo, as Guarantor (as amended, the “SNR Credit Agreement”), to provide, among other things, that: (i) the SNR Interim Payment and any SNR Re-Auction Payment will be made by American III directly to the FCC and will be deemed as loans under the SNR Credit Agreement; (ii) the FCC is a third-party beneficiary with respect to American III’s obligation to pay the SNR Interim Payment and any SNR Re-Auction Payment; (iii) in the event that the winning bids from re-auction or other award of the AWS-3 licenses retained by the FCC are less than the winning bids of SNR Wireless, the purchaser, assignee or transferee of any AWS-3 Licenses from SNR Wireless is obligated to pay its pro-rata share of the difference (and SNR Wireless remains jointly and severally liable for such pro-rata share); and (iv) during the period between the due date for the payments guaranteed under the FCC SNR Guaranty (as discussed below) and the date such guaranteed payments are paid, SNR Wireless’ payment obligations to American III under the SNR Credit Agreement will be subordinated to such guaranteed payments.

On March 31, 2018, American III, SNR Wireless, and SNR Holdco amended and restated the SNR Credit Agreement, to, among other things: (i) lower the interest rate on the remaining \$500 million principal balance under the SNR Credit Agreement from 12 percent per annum to six percent per annum; (ii) eliminate the higher interest rate that would apply in the case of an event of default; and (iii) modify and/or remove certain obligations of SNR Wireless to prepay the outstanding loan amounts.

On June 7, 2018, American III, SNR Wireless, and SNR Holdco amended and restated the SNR Credit Agreement to, among other things: (i) extend the maturity date on the remaining loan balance from seven years to ten years; and (ii) remove the obligation of SNR Wireless to obtain American III’s consent for unsecured financing and equipment financing in excess of \$25 million.

As of December 31, 2020 and December 31, 2019, Northstar Manager’s ownership interest in Northstar Spectrum and SNR Management’s ownership interest in SNR HoldCo was \$351 million and \$552 million, respectively, recorded as “Redeemable noncontrolling interests” on our Consolidated Balance Sheets.

The Northstar Entities and/or the SNR Entities may need to raise significant additional capital in the future, which may be obtained from third party sources or from us, so that the Northstar Entities and the SNR Entities may commercialize, build-out and integrate these AWS-3 Licenses, comply with regulations applicable to such AWS-3 Licenses, and make any potential Northstar Re-Auction Payment and SNR Re-Auction Payment for the AWS-3 licenses retained by the FCC. Depending upon the nature and scope of such commercialization, build-out and integration efforts, regulatory compliance, and potential Northstar Re-Auction Payment and SNR Re-Auction Payment, any loans, equity contributions or partnerships could vary significantly. There can be no assurance that we

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

will be able to obtain a profitable return on our non-controlling investments in the Northstar Entities and the SNR Entities.

Satellite Insurance

We generally do not carry commercial launch or in-orbit insurance on any of the satellites we own. We generally do not use commercial insurance to mitigate the potential financial impact of launch or in-orbit failures because we believe that the cost of insurance premiums is uneconomical relative to the risk of such failures. While we generally have had in-orbit satellite capacity sufficient to transmit our existing channels and some backup capacity to recover the transmission of certain critical programming, our backup capacity is limited. In the event of a failure or loss of any of our owned or leased satellites, we may need to acquire or lease additional satellite capacity or relocate one of our other owned or leased satellites and use it as a replacement for the failed or lost satellite.

Purchase Obligations

Our 2021 purchase obligations primarily consist of binding purchase orders for certain fixed contractual commitments to purchase programming content, receiver systems and related equipment, broadband equipment, digital broadcast operations, transmission costs, streaming delivery technology and infrastructure, engineering services, and other products and services related to the operation of our Pay-TV services. In addition, our 2021 purchase obligations also include wireless devices related to our retail wireless business as well as transition services pursuant to the TSA with T-Mobile. Furthermore, our 2021 purchase obligations include equipment related to our 5G Network Deployment, such as software and hardware necessary to complete our wireless broadband network. Our purchase obligations may fluctuate significantly from period to period due to, among other things, management's timing of payments and inventory purchases as well as expenditures related to our wireless projects and 5G Network Deployment, and can materially impact our future operating asset and liability balances, and our future working capital requirements.

Programming Contracts

In the normal course of business, we enter into contracts to purchase programming content in which our payment obligations are generally contingent on the number of Pay-TV subscribers to whom we provide the respective content. These programming commitments are not included in the "Commitments" table above. The terms of our contracts typically range from one to ten years with annual rate increases. Our programming expenses will increase to the extent we are successful in growing our Pay-TV subscriber base. In addition, programming costs per subscriber continue to increase due to contractual price increases and the renewal of long-term programming contracts on less favorable pricing terms.

MNSA Commitments

In connection with the Boost Mobile Acquisition, we and T-Mobile entered into an MNSA, pursuant to which we receive network services from T-Mobile for a period of seven years. Our payment obligations are generally contingent on, among other things, the number of Retail Wireless subscribers. The commitment under the MSNA is not included in the "Commitments" table above.

Rent Expense

Total rent expense for operating leases was \$99 million, \$273 million and \$383 million in 2020, 2019 and 2018, respectively.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Patents and Intellectual Property

Many entities, including some of our competitors, have or may in the future obtain patents and other intellectual property rights that cover or affect products or services that we offer or that we may offer in the future. We may not be aware of all intellectual property rights that our products or services may potentially infringe. Damages in patent infringement cases can be substantial, and in certain circumstances can be trebled. Further, we cannot estimate the extent to which we may be required in the future to obtain licenses with respect to patents held by others and the availability and cost of any such licenses. Various parties have asserted patent and other intellectual property rights with respect to components of our products and services. We cannot be certain that these persons do not own the rights they claim, that our products do not infringe on these rights, and/or that these rights are not valid. Further, we cannot be certain that we would be able to obtain licenses from these persons on commercially reasonable terms or, if we were unable to obtain such licenses, that we would be able to redesign our products to avoid infringement.

Contingencies

Separation Agreement

On January 1, 2008, we completed the distribution of our technology and set-top box business and certain infrastructure assets (the “Spin-off”) into a separate publicly-traded company, EchoStar. In connection with the Spin-off, we entered into a separation agreement with EchoStar that provides, among other things, for the division of certain liabilities, including liabilities resulting from litigation. Under the terms of the separation agreement, EchoStar has assumed certain liabilities that relate to its business, including certain designated liabilities for acts or omissions that occurred prior to the Spin-off. Certain specific provisions govern intellectual property related claims under which, generally, EchoStar will only be liable for its acts or omissions following the Spin-off and we will indemnify EchoStar for any liabilities or damages resulting from intellectual property claims relating to the period prior to the Spin-off, as well as our acts or omissions following the Spin-off. On February 28, 2017, we and EchoStar and certain of our respective subsidiaries completed the transactions contemplated by the Share Exchange Agreement (the “Share Exchange Agreement”) that was previously entered into on January 31, 2017 (the “Share Exchange”), pursuant to which certain assets that were transferred to EchoStar in the Spin-off were transferred back to us. On September 10, 2019, we and EchoStar and certain of our respective subsidiaries completed the transactions contemplated by the Master Transaction Agreement (the “Master Transaction Agreement”) that was previously entered into on May 19, 2019, pursuant to which certain assets that were transferred to EchoStar in the Spin-off were transferred back to us. The Share Exchange Agreement and the Master Transaction Agreement contain additional indemnification provisions between us and EchoStar for certain liabilities and legal proceedings.

Litigation

We are involved in a number of legal proceedings (including those described below) concerning matters arising in connection with the conduct of our business activities. Many of these proceedings are at preliminary stages, and many of these proceedings seek an indeterminate amount of damages. We regularly evaluate the status of the legal proceedings in which we are involved to assess whether a loss is probable or there is a reasonable possibility that a loss or an additional loss may have been incurred and to determine if accruals are appropriate. If accruals are not appropriate, we further evaluate each legal proceeding to assess whether an estimate of the possible loss or range of possible loss can be made.

For certain cases described on the following pages, management is unable to provide a meaningful estimate of the possible loss or range of possible loss because, among other reasons, (i) the proceedings are in various stages; (ii) damages have not been sought; (iii) damages are unsupported and/or exaggerated; (iv) there is uncertainty as to the outcome of pending appeals or motions; (v) there are significant factual issues to be resolved; and/or (vi) there are novel legal issues or unsettled legal theories to be presented or a large number of parties. For these cases, however, management does not believe, based on currently available information, that the outcomes of these proceedings will have a material adverse effect on our financial condition, though the outcomes could be material to our operating results for any particular period, depending, in part, upon the operating results for such period.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

American Patents

On November 23, 2020, American Patents LLC, filed a complaint against us, our wholly-owned subsidiaries DISH Network L.L.C. and Dish Network Service L.L.C., and a third party, Arcadyan Technology Corporation, in the United States District Court for the Eastern District of Texas. The complaint alleges infringement of United States Patent No. 7,088,782 (the “782 patent”), entitled “Time and Frequency Synchronization In Multi-Input and Multi-Output (MIMO) Systems”; United States Patent No. 7,310,304 (the “304 patent”), entitled “Estimating Channel Parameters in Multi-Input, Multi-Output (MIMO) Systems”; United States Patent No. 7,706,458 (the “458 patent”), entitled “Time And Frequency Synchronization in Multi-Input, Multi-Output (MIMO) Systems”; and United States Patent No. 6,847,803 (the “803 patent”), entitled “Method for Reducing Interference in a Receiver.” The four patents are asserted against wireless 802.11 standard-compliant devices.

We intend to vigorously defend this case. In the event that a court ultimately determines that we infringe the asserted patents, we may be subject to substantial damages, which may include treble damages, and/or an injunction that could require us to materially modify certain features that we currently offer to consumers. We cannot predict with any degree of certainty the outcome of the suit or determine the extent of any potential liability or damages. The plaintiff is an entity that seeks to license a patent portfolio without itself practicing any of the claims recited therein.

Broadband iTV

On December 19, 2019, Broadband iTV, Inc. filed a complaint against our wholly-owned subsidiary DISH Network L.L.C. in the United States District Court for the Western District of Texas. The complaint alleges infringement of United States Patent No. 10,028,026 (the “026 patent”), entitled “System for addressing on-demand TV program content on TV services platform of a digital TV services provider”; United States Patent No. 10,506,269 (the “269 patent”), entitled “System for addressing on-demand TV program content on TV services platform of a digital TV services provider”; United States Patent No. 9,998,791 (“the 791 patent”), entitled “Video-on-demand content delivery method for providing video-on-demand services to TV service subscribers”; and United States Patent No. 9,648,388 (the “388 patent”), entitled “Video-on-demand content delivery system for providing video-on-demand services to TV services subscribers.” Generally, the asserted patents relate to providing video on demand content to subscribers.

On July 10, 2020, July 20, 2020, July 24, 2020 and July 31, 2020, DISH Network L.L.C. filed petitions with the United States Patent and Trademark Office challenging the validity of, respectively, the 026 patent, the 791 patent, the 269 patent and the 388 patent. On January 21, 2021, the United States Patent and Trademark Office agreed to institute proceedings on one of the petitions challenging the 026 patent; on January 27, 2021, it agreed to institute proceedings on one of the petitions challenging the 269 patent; on February 4, 2021, it agreed to institute proceedings on one of the petitions challenging the 791 patent; and on February 12, 2021, it agreed to institute proceedings on one of the petitions challenging the 388 patent.

We intend to vigorously defend this case. In the event that a court ultimately determines that we infringe the asserted patents, we may be subject to substantial damages, which may include treble damages, and/or an injunction that could require us to materially modify certain features that we currently offer to consumers. We cannot predict with any degree of certainty the outcome of the suit or determine the extent of any potential liability or damages.

Bunker

On January 27, 2021, Bunker IP LLC filed a complaint against our wholly-owned subsidiary, DISH Wireless L.L.C., in the United States District Court for the Northern District of Illinois. The complaint alleges infringement of U.S. Patent No. 7,181,237 (the “237 patent”), entitled “Control of a Multi-Mode, Multi-Band Mobile Telephone via a Single Hardware and Software Man Machine Interface; and U.S. Patent No. 8,843,641 (the “641 patent”), entitled “Plug-In Connector System for Protected Establishment of a Network Connection.” Generally, the 237 patent relates to a mobile phone that can switch between two different protocols within a single chipset, and the 641 patent relates to a plug-in connector to a device, where the connector’s presence is authenticated to ensure protected access to network resources.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

We intend to vigorously defend this case. In the event that a court ultimately determines that we infringe the asserted patents, we may be subject to substantial damages, which may include treble damages, and/or an injunction that could require us to materially modify certain features that we currently offer to consumers. We cannot predict with any degree of certainty the outcome of the suit or determine the extent of any potential liability or damages. The plaintiff is an entity that seeks to license a patent portfolio without itself practicing any of the claims recited therein.

Cedar Lane

On October 13, 2020, Cedar Lane Technologies filed a complaint against our wholly-owned subsidiary, DISH Network L.L.C., in the United States District Court for the Western District of Texas. The complaint alleges infringement of United States Patent No. 6,502,194 (the “194 patent”), entitled “System for playback of network audio material on demand”; United States Patent No. 6,526,411 (the “411 patent”), entitled “System and method for creating dynamic playlists”; United States Patent No. 6,721,489 (the “489 patent”), entitled “Play list manager”; United States Patent No. 7,173,177 (the “177 patent”), entitled “User interface for simultaneous management of owned and unowned inventory”; United States Patent No. 7,642,443 (the “443 patent”), entitled “User interface for simultaneous management of owned and unowned inventory”; and United States Patent No. 8,165,867 (the “867 patent”), entitled “Methods for translating a device command.” Generally, the asserted patents relate to streaming digital audio to a home audio system; aspects of play lists and purchased content; and voice control. Cedar Lane Technologies is a non-practicing entity that has filed more than 75 patent infringement lawsuits.

We intend to vigorously defend this case. In the event that a court ultimately determines that we infringe the asserted patents, we may be subject to substantial damages, which may include treble damages, and/or an injunction that could require us to materially modify certain features that we currently offer to consumers. We cannot predict with any degree of certainty the outcome of the suit or determine the extent of any potential liability or damages.

City of Hallandale Beach Police Officers’ and Firefighters’ Personnel Retirement Trust

On July 2, 2019, a putative class action lawsuit was filed by a purported EchoStar stockholder in the District Court of Clark County, Nevada under the caption *City of Hallandale Beach Police Officers’ and Firefighters’ Personnel Retirement Trust v. Ergen, et al.*, Case No. A-19-797799-B. The lawsuit named as defendants Mr. Ergen, the other members of the EchoStar Board, as well as EchoStar, certain of its officers, DISH Network and certain of DISH Network’s and EchoStar’s affiliates. Plaintiff alleges, among other things, breach of fiduciary duties in approving the transactions contemplated under the Master Transaction Agreement for inadequate consideration and pursuant to an unfair and conflicted process, and that EchoStar, DISH Network and certain other defendants aided and abetted such breaches. In the operative First Amended Complaint, filed on October 11, 2019, the plaintiff dropped as defendants the EchoStar board members other than Mr. Ergen. The trial of this matter is scheduled to start sometime during the five-week “stack” beginning September 7, 2021. See Note 20 for further information on the Master Transaction Agreement. Plaintiff seeks equitable relief, including the issuance of additional DISH Network Class A common stock, monetary relief and other costs and disbursements, including attorneys’ fees.

We intend to vigorously defend this case, but cannot predict with any degree of certainty the outcome of this suit or determine the extent of any potential liability or damages.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

ClearPlay, Inc.

On March 13, 2014, ClearPlay, Inc. (“ClearPlay”) filed a complaint against us, our wholly-owned subsidiary DISH Network L.L.C., EchoStar, and its then wholly-owned subsidiary EchoStar Technologies L.L.C., in the United States District Court for the District of Utah. The complaint alleges willful infringement of United States Patent Nos. 6,898,799 (the “799 patent”), entitled “Multimedia Content Navigation and Playback”; 7,526,784 (the “784 patent”), entitled “Delivery of Navigation Data for Playback of Audio and Video Content”; 7,543,318 (the “318 patent”), entitled “Delivery of Navigation Data for Playback of Audio and Video Content”; 7,577,970 (the “970 patent”), entitled “Multimedia Content Navigation and Playback”; and 8,117,282 (the “282 patent”), entitled “Media Player Configured to Receive Playback Filters From Alternative Storage Mediums.” ClearPlay alleges that the AutoHop™ feature of our Hopper set-top box infringes the asserted patents. On February 11, 2015, the case was stayed pending various third-party challenges before the United States Patent and Trademark Office regarding the validity of certain of the patents asserted in the action. In those third-party challenges, the United States Patent and Trademark Office found that all claims of the 282 patent are unpatentable, and that certain claims of the 784 patent and 318 patent are unpatentable. ClearPlay appealed as to the 784 patent and the 318 patent, and on August 23, 2016, the United States Court of Appeals for the Federal Circuit affirmed the findings of the United States Patent and Trademark Office. On October 31, 2016, the stay was lifted. On October 16, October 21, November 2, 2020 and November 9, 2020, DISH Network L.L.C. filed petitions with the United States Patent and Trademark Office requesting ex parte reexamination of the validity of, respectively, the 784 patent, the 799 patent, the 318 patent and the 970 patent; and on November 2, November 20, December 14 and December 15, 2020, the United States Patent and Trademark Office granted each request for reexamination. The trial date, which had been reset to September 26, 2021, has been vacated while the District Court weighs a fully-briefed motion to stay the case pending resolution of the ex parte reexamination proceedings. The report issued by ClearPlay’s damages expert contends that ClearPlay is entitled to \$543 million in damages.

We intend to vigorously defend this case. In the event that a court ultimately determines that we infringe the asserted patents, we may be subject to substantial damages, which may include treble damages, and/or an injunction that could require us to materially modify certain features that we currently offer to consumers. We cannot predict with any degree of certainty the outcome of the suit or determine the extent of any potential liability or damages.

Contemporary Display LLC

On June 4, 2018, Contemporary Display LLC (“Contemporary”) filed a complaint against us and DISH Network L.L.C. in the United States District Court for the Western District of Texas. The complaint alleges infringement of United States Patent No. 6,028,643 (the “643 patent”), entitled “Multiple-Screen Video Adapter with Television Tuner”; United States Patent No. 6,429,903 (the “903 patent”), entitled “Video Adapter for Supporting at Least One Television Monitor”; United States Patent No. 6,492,997 (the “997 patent”), entitled “Method and System for Providing Selectable Programming in a Multi-Screen Mode”; United States Patent No. 7,500,202 (the “202 patent”), entitled “Remote Control for Navigating Through Content in an Organized and Categorized Fashion”; and United States Patent No. 7,809,842 (the “842 patent”), entitled “Transferring Sessions Between Devices.” The 643 patent and the 903 patent are directed to video adapters for use with multiple displays. The 997 patent is directed to a system for presenting multiple video programs on a display device simultaneously. The 202 patent is directed to a remote control for interacting with a set-top box having programmable features and “operational controls” on at least three sides of the remote control. The 842 patent is directed to a system for managing online communication sessions between multiple devices. Contemporary is an entity that seeks to license a patent portfolio without itself practicing any of the claims recited therein.

In a First Amended Complaint filed on August 6, 2018, Contemporary added our wholly-owned subsidiary DISH Network L.L.C. as a defendant. In a Second Amended Complaint filed on October 9, 2018, Contemporary named only our wholly-owned subsidiary DISH Network L.L.C. as a defendant and dropped certain indirect infringement allegations. On June 10, 2019, DISH Network L.L.C. filed petitions with the United States Patent and Trademark Office challenging the validity of the asserted claims of the 842 patent, the 903 patent, the 643 patent and the 997 patent.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

On December 13, 2019 and January 7, 2020, the United States Patent and Trademark Office agreed to institute proceedings on each of our petitions. Following Contemporary's decision not to file Patent Owner Responses to DISH Network L.L.C.'s petitions on the 842 patent and the 903 patent, on April 24, 2020, the United States Patent and Trademark Office entered judgments granting those petitions and canceling the challenged claims of those patents. On November 25, 2020 and December 18, 2020, respectively, the United States Patent and Trademark Office issued final written decisions invalidating all challenged claims of the 643 patent and the 997 patent. On July 11, 2019, the Court entered an order staying the case pending resolution of the petitions. On January 31, 2020, pursuant to the parties' joint motion, the Court dismissed all claims arising from the 202 patent, and extended its stay of the litigation pending non-appealable determinations on all of the petitions before the United States Patent and Trademark Office.

We intend to vigorously defend this case. In the event that a court ultimately determines that we infringe the asserted patents, we may be subject to substantial damages, which may include treble damages, and/or an injunction that could require us to materially modify certain features that we currently offer to consumers. We cannot predict with any degree of certainty the outcome of the suit or determine the extent of any potential liability or damages.

Customedia Technologies, L.L.C.

On February 10, 2016, Customedia Technologies, L.L.C. ("Customedia") filed a complaint against us and our wholly-owned subsidiary DISH Network L.L.C. in the United States District Court for the Eastern District of Texas. The complaint alleges infringement of four patents: United States Patent No. 8,719,090 (the "090 patent"); United States Patent No. 9,053,494 (the "494 patent"); United States Patent No. 7,840,437 (the "437 patent"); and United States Patent No. 8,955,029 (the "029 patent"). Each patent is entitled "System for Data Management And On-Demand Rental And Purchase Of Digital Data Products." Customedia alleges infringement in connection with our addressable advertising services, our DISH Anywhere feature, and our Pay-Per-View and video-on-demand offerings. Customedia is an entity that seeks to license a patent portfolio without itself practicing any of the claims recited therein.

In December 2016 and January 2017, DISH Network L.L.C. filed petitions with the United States Patent and Trademark Office challenging the validity of the asserted claims of each of the asserted patents. On June 12, 2017, the United States Patent and Trademark Office agreed to institute proceedings on our petitions challenging the 090 patent and the 437 patent; on July 18, 2017, it agreed to institute proceedings on our petitions challenging the 029 patent; and on July 28, 2017, it agreed to institute proceedings on our petitions challenging the 494 patent. These instituted proceedings cover all asserted claims of each of the asserted patents. The litigation in the District Court has been stayed since August 8, 2017 pending resolution of the proceedings at the United States Patent and Trademark Office.

Pursuant to an agreement between the parties, on December 20, 2017, DISH Network L.L.C. dismissed its petitions challenging the 029 patent in the United States Patent and Trademark Office, and on January 9, 2018, the parties dismissed their claims, counterclaims and defenses as to that patent in the litigation. On March 5, 2018, the United States Patent and Trademark Office conducted a trial on the remaining petitions. On June 11, 2018, the United States Patent and Trademark Office issued final written decisions on DISH Network L.L.C.'s petitions challenging the 090 patent and it invalidated all of the asserted claims. On July 25, 2018, the United States Patent and Trademark Office issued final written decisions on DISH Network L.L.C.'s petitions challenging the 437 patent and the 494 patent and it invalidated all of the asserted claims. Customedia appealed its losses before the United States Patent and Trademark Office. The Court of Appeals for the Federal Circuit heard oral argument on November 6, 2019 on the appeal involving the 437 patent, and summarily affirmed the patent's invalidity on November 8, 2019. On January 7, 2020, Customedia petitioned the Court of Appeals for rehearing or rehearing en banc, raising issues about the constitutionality of the appointment of the administrative patent judges that heard the petition before the Patent and Trademark Office, but the Court of Appeals denied rehearing on March 5, 2020. On July 31, 2020, Customedia filed a petition with the United States Supreme Court asking it to hear a further appeal, but its petition was denied on October 13, 2020. On November 6, 2020, it filed a petition for rehearing on the United States Supreme Court's decision not to hear a further appeal, but on November 17, 2020, the Supreme Court rejected that filing.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

The Court of Appeals heard oral argument on the appeal involving the 090 patent and the 494 patent on December 3, 2019, and affirmed those patents' invalidity on March 6, 2020. On May 5, 2020, Customedia filed petitions in the Federal Circuit for rehearing and rehearing en banc, seeking to reverse our appellate victories on the 090 and 494 patents, but those petitions were denied on June 9, 2020. On November 6, 2020, Customedia served a petition to the United States Supreme Court asking it to hear a further appeal.

We intend to vigorously defend this case. In the event that a court ultimately determines that we infringe the asserted patents, we may be subject to substantial damages, which may include treble damages, and/or an injunction that could require us to materially modify certain features that we currently offer to consumers. We cannot predict with any degree of certainty the outcome of the suit or determine the extent of any potential liability or damages.

Innovative Foundry Technologies LLC

On December 20, 2019, Innovative Foundry Technologies LLC filed a complaint against us (as well as Semiconductor Manufacturing International Corporation; Broadcom Incorporated; Broadcom Corporation; and Cypress Semiconductor Corporation) in the United States District Court for the Western District of Texas. The complaint alleges infringement of United States Patent No. 6,580,122 (the "122 patent"), entitled "Transistor Device Having an Enhanced Width Dimension and a Method of Making Same"; United States Patent No. 6,806,126 (the "126 patent"), entitled "Method of Manufacturing a Semiconductor Component"; United States Patent No. 6,933,620 (the "620 patent"), entitled "Semiconductor Component and Method of Manufacture"; and United States Patent No. 7,009,226 (the "226 patent"), entitled "In-Situ Nitride/Oxynitride Processing with Reduced Deposition Surface Pattern Sensitivity." On April 9, 2020, Semiconductor Manufacturing International Corporation filed a petition with the United States Patent and Trademark Office challenging the validity of the asserted claims of the 226 patent, and on April 14, 2020, it filed petitions challenging the validity of the asserted claims of the 126 patent and 620 patent. On December 30, 2020, the Court entered an order severing and staying the claims against us and certain other defendants not involved in the manufacturing of the accused chips.

We intend to vigorously defend this case. In the event that a court ultimately determines that we infringe the asserted patents, we may be subject to substantial damages, which may include treble damages, and/or an injunction that could require us to materially modify certain features that we currently offer to consumers. We cannot predict with any degree of certainty the outcome of the suit or determine the extent of any potential liability or damages. The plaintiff is an entity that seeks to license a patent portfolio without itself practicing any of the claims recited therein.

Mobile Networking Solutions

On August 12, 2019, Mobile Networking Solutions, LLC ("Mobile Networking Solutions") filed a complaint against our wholly-owned subsidiary Sling Media L.L.C. for infringement of two patents: United States Patent No. 7,543,177 (the "177 patent") and United States Patent No. 7,958,388 (the "388 patent"), each entitled "Methods and Systems for a Storage System." Mobile Networking Solutions alleges infringement in connection with Sling Media L.L.C.'s use of a Hadoop Distributed File System for storage and processing of large data files. Pursuant to a stipulation of the parties, on December 16, 2019, the Court entered an order staying the case for six months so the parties may discuss settling the case. On May 12, 2020, pursuant to the parties' joint request, the Court ordered dismissal of the case with prejudice. This matter is now concluded.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Multimedia Content Management LLC

On July 25, 2018, Multimedia Content Management LLC (“Multimedia”) filed a complaint against us in the United States District Court for the Western District of Texas. Multimedia alleges that we infringe United States Patent No. 8,799,468 (the “468 patent”), entitled “System for Regulating Access to and Distributing Content in a Network,” and United States Patent No. 9,465,925 (the “925 patent”), entitled “System for Regulating Access to and Distributing Content in a Network,” in connection with impulse pay per view content offerings on certain set-top boxes. Multimedia is an entity that seeks to license a patent portfolio without itself practicing any of the claims recited therein. On March 7, 2019, pursuant to stipulation, the Court substituted our wholly-owned subsidiary DISH Network L.L.C. as the defendant in our place. On April 23, 2019, DISH Network L.L.C. filed petitions with the United States Patent and Trademark Office challenging the validity of the asserted claims of each of the asserted patents. On November 13, 2019, the United States Patent and Trademark Office denied institution on both of the petitions, which the United States Patent and Trademark Office denied on March 10, 2020. On March 26, 2020, pursuant to the parties’ joint request, the Court dismissed the matter with prejudice. This matter is now concluded.

Optic153

On January 29, 2021, Optic153 LLC filed a complaint in the United States District Court for the Western District of Texas against us and our wholly-owned subsidiaries DISH Network L.L.C and Dish Network Service L.L.C. The complaint alleges infringement of U.S. Patent No. 6,115,174 (the “174 patent”), entitled “Optical Signal Varying Devices”; U.S. Patent No. 6,236,487 (the “487 patent”), entitled “Optical Communication Control System”; U.S. Patent No. 6,344,922 (the “922 patent”), entitled “Optical Signal Varying Devices”; U.S. Patent No. 6,356,383 (the “383 patent”), entitled “Optical Transmission Systems Including Optical Amplifiers Apparatuses and Methods”; U.S. Patent No. 6,587,261 (the “261 patent”), entitled “Optical Transmission Systems Including Optical Amplifiers Apparatuses and Methods of Use Therein”; and U.S. Patent No. 6,771,413 (the “413 patent”), entitled “Optical Transmission Systems Including Optical Amplifiers, Apparatuses and Methods.” In general, the patents relate to various aspects of the provisioning of fiber optics communications.

We intend to vigorously defend this case. In the event that a court ultimately determines that we infringe the asserted patents, we may be subject to substantial damages, which may include treble damages, and/or an injunction that could require us to materially modify certain features that we currently offer to consumers. We cannot predict with any degree of certainty the outcome of the suit or determine the extent of any potential liability or damages.

Realtime Data LLC and Realtime Adaptive Streaming LLC

On June 6, 2017, Realtime Data LLC d/b/a IXO (“Realtime”) filed an amended complaint in the United States District Court for the Eastern District of Texas (the “Original Texas Action”) against us; our wholly-owned subsidiaries DISH Network L.L.C., DISH Technologies L.L.C. (then known as EchoStar Technologies L.L.C.), Sling TV L.L.C. and Sling Media L.L.C.; EchoStar, and EchoStar’s wholly-owned subsidiary Hughes Network Systems, L.L.C. (“HNS”); and Arris Group, Inc. Realtime’s initial complaint in the Original Texas Action, filed on February 14, 2017, had named only EchoStar and HNS as defendants.

The amended complaint in the Original Texas Action alleges infringement of United States Patent No. 8,717,204 (the “204 patent”), entitled “Methods for encoding and decoding data”; United States Patent No. 9,054,728 (the “728 patent”), entitled “Data compression systems and methods”; United States Patent No. 7,358,867 (the “867 patent”), entitled “Content independent data compression method and system”; United States Patent No. 8,502,707 (the “707 patent”), entitled “Data compression systems and methods”; United States Patent No. 8,275,897 (the “897 patent”), entitled “System and methods for accelerated data storage and retrieval”; United States Patent No. 8,867,610 (the “610 patent”), entitled “System and methods for video and audio data distribution”; United States Patent No. 8,934,535 (the “535 patent”), entitled “Systems and methods for video and audio data storage and distribution”; and United States Patent No. 8,553,759 (the “759 patent”), entitled “Bandwidth sensitive data compression and decompression.”

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Realtime alleges that we, SLING TV, Sling Media and Arris streaming video products and services compliant with various versions of the H.264 video compression standard infringe the 897 patent, the 610 patent and the 535 patent, and that the data compression system in Hughes' products and services infringe the 204 patent, the 728 patent, the 867 patent, the 707 patent and the 759 patent.

On July 19, 2017, the Court severed Realtime's claims against us, DISH Network L.L.C., Sling TV L.L.C., Sling Media L.L.C. and Arris Group, Inc. (alleging infringement of the 897 patent, the 610 patent and the 535 patent) from the Original Texas Action into a separate action in the United States District Court for the Eastern District of Texas (the "Second Texas Action"). On August 31, 2017, Realtime dismissed the claims against us, Sling TV L.L.C., Sling Media Inc., and Sling Media L.L.C. from the Second Texas Action and refiled these claims (alleging infringement of the 897 patent, the 610 patent and the 535 patent) against Sling TV L.L.C., Sling Media Inc., and Sling Media L.L.C. in a new action in the United States District Court for the District of Colorado (the "Colorado Action"). Also on August 31, 2017, Realtime dismissed DISH Technologies L.L.C. from the Original Texas Action, and on September 12, 2017, added it as a defendant in an amended complaint in the Second Texas Action. On November 6, 2017, Realtime filed a joint motion to dismiss the Second Texas Action without prejudice, which the Court entered on November 8, 2017.

On October 10, 2017, Realtime Adaptive Streaming LLC ("Realtime Adaptive Streaming") filed suit against our wholly-owned subsidiaries DISH Network L.L.C. and DISH Technologies L.L.C., as well as Arris Group, Inc., in a new action in the United States District Court for the Eastern District of Texas (the "Third Texas Action"), alleging infringement of the 610 patent and the 535 patent. Also on October 10, 2017, an amended complaint was filed in the Colorado Action, substituting Realtime Adaptive Streaming as the plaintiff instead of Realtime, and alleging infringement of only the 610 patent and the 535 patent, but not the 897 patent. On November 6, 2017, Realtime Adaptive Streaming filed a joint motion to dismiss the Third Texas Action without prejudice, which the court entered on November 8, 2017. Also on November 6, 2017, Realtime Adaptive Streaming filed a second amended complaint in the Colorado Action, adding our wholly-owned subsidiaries DISH Network L.L.C. and DISH Technologies L.L.C., as well as Arris Group, Inc., as defendants.

As a result, neither we nor any of our subsidiaries is a defendant in the Original Texas Action; the Court has dismissed without prejudice the Second Texas Action and the Third Texas Action; and our wholly-owned subsidiaries DISH Network L.L.C., DISH Technologies L.L.C., Sling TV L.L.C. and Sling Media L.L.C. as well as Arris Group, Inc., are defendants in the Colorado Action, which now has Realtime Adaptive Streaming as the named plaintiff.

On July 3, 2018, Sling TV L.L.C., Sling Media L.L.C., DISH Network L.L.C., and DISH Technologies L.L.C. filed petitions with the United States Patent and Trademark Office challenging the validity of each of the asserted patents. On January 31, 2019, the United States Patent and Trademark Office agreed to institute proceedings on our petitions challenging all asserted claims of each of the asserted patents, and it held trial on the petitions on December 5, 2019. On January 17, 2020, the United States Patent and Trademark Office terminated the petitions as time-barred, but issued a final written decision invalidating the 535 patent to third parties that had timely joined in our petition (and, on January 10, 2020, issued a final written decision invalidating the 535 patent in connection with a third party's independent petition). On March 16, 2020, Sling TV L.L.C., Sling Media L.L.C., DISH Network L.L.C., and DISH Technologies L.L.C. filed a notice of appeal from the terminated petitions to the United States Court of Appeals for the Federal Circuit. On June 29, 2020, the United States Patent and Trademark Office filed a notice of intervention in the appeal. The appeal has been set for oral argument on March 5, 2021. On January 12, 2021, Realtime Adaptive Streaming filed a notice of dismissal of its claims on the 535 patent. The Colorado Action in the District Court was stayed on February 26, 2019, pending resolution of the petitions, but on January 15, 2021, the District Court lifted the stay and set trial on the remaining 610 patent for August 23, 2021. On August 7, 2020, the United States Patent and Trademark Office granted a request for ex parte reexamination of the validity of the 610 patent.

We intend to vigorously defend this case. In the event that a court ultimately determines that we infringe the asserted patents, we may be subject to substantial damages, which may include treble damages, and/or an injunction that could require us to materially modify certain features that we currently offer to consumers. We cannot predict with any degree of certainty the outcome of the suit or determine the extent of any potential liability or damages.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Realtime Adaptive Streaming is an entity that seeks to license an acquired patent portfolio without itself practicing any of the claims recited therein.

Sound View Innovations, LLC

On December 30, 2019, Sound View Innovations, LLC filed one complaint against our wholly-owned subsidiaries DISH Network L.L.C. and DISH Technologies L.L.C. and a second complaint against our wholly-owned subsidiary Sling TV L.L.C. in the United States District Court for the District of Colorado. The complaint against DISH Network L.L.C. and DISH Technologies L.L.C. alleges infringement of United States Patent No. 6,502,133 (the “133 patent”), entitled Real-Time Event Processing System with Analysis Engine Using Recovery Information,” and both complaints allege infringement of United States Patent No. 6,708,213 (the “213 patent”), entitled “Method for Streaming Multimedia Information Over Public Networks”; United States Patent No. 6,757,796 (the “796 patent”), entitled “Method and System for Caching Streaming Live Broadcasts transmitted Over a Network”; and United States Patent No. 6,725,456 (the “456 patent”), entitled “Methods and Apparatus for Ensuring Quality of Service in an Operating System.”

On May 21, 2020, June 3, 2020, June 5, 2020 and July 10, 2020, DISH Network L.L.C., DISH Technologies L.L.C. and Sling TV L.L.C. filed petitions with the United States Patent and Trademark Office challenging the validity of, respectively, the 213 patent, the 133 patent, the 456 patent and the 796 patent. On November 25, 2020, the United States Patent and Trademark Office declined to review the validity of the 213 patent, and on December 18, 2020, DISH Network L.L.C., DISH Technologies L.L.C. and Sling TV L.L.C. filed a request for rehearing of that decision. On January 19, 2021, the United States Patent and Trademark Office agreed to institute proceedings on the 456 patent but declined to review the 133 patent. On January 26, 2021, the District Court agreed to stay the case pending the outcome of the petitions to the United States Patent and Trademark Office.

We intend to vigorously defend these cases. In the event that a court ultimately determines that we infringe the asserted patents, we may be subject to substantial damages, which may include treble damages, and/or an injunction that could require us to materially modify certain features that we currently offer to consumers. We cannot predict with any degree of certainty the outcome of the suit or determine the extent of any potential liability or damages. The plaintiff is an entity that seeks to license a patent portfolio without itself practicing any of the claims recited therein.

Telemarketing Litigation

On March 25, 2009, our wholly-owned subsidiary DISH Network L.L.C. was sued in a civil action by the United States Attorney General and several states in the United States District Court for the Central District of Illinois (the “FTC Action”), alleging violations of the Telephone Consumer Protection Act (“TCPA”) and the Telemarketing Sales Rule (“TSR”), as well as analogous state statutes and state consumer protection laws. The plaintiffs alleged that we, directly and through certain independent third-party retailers and their affiliates, committed certain telemarketing violations.

On December 23, 2013, the plaintiffs filed a motion for summary judgment, which indicated for the first time that the state plaintiffs were seeking civil penalties and damages of approximately \$270 million and that the federal plaintiff was seeking an unspecified amount of civil penalties (which could substantially exceed the civil penalties and damages being sought by the state plaintiffs). The plaintiffs were also seeking injunctive relief that if granted would, among other things, enjoin DISH Network L.L.C., whether acting directly or indirectly through authorized telemarketers or independent third-party retailers, from placing any outbound telemarketing calls to market or promote its goods or services for five years, and enjoin DISH Network L.L.C. from accepting activations or sales from certain existing independent third-party retailers and from certain new independent third-party retailers, except under certain circumstances. We also filed a motion for summary judgment, seeking dismissal of all claims.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

On December 12, 2014, the Court issued its opinion with respect to the parties' summary judgment motions. The Court found that DISH Network L.L.C. was entitled to partial summary judgment with respect to one claim in the action. In addition, the Court found that the plaintiffs were entitled to partial summary judgment with respect to ten claims in the action, which included, among other things, findings by the Court establishing DISH Network L.L.C.'s liability for a substantial amount of the alleged outbound telemarketing calls by DISH Network L.L.C. and certain of its independent third-party retailers that were the subject of the plaintiffs' motion. The Court did not issue any injunctive relief and did not make any determination on civil penalties or damages, ruling instead that the scope of any injunctive relief and the amount of any civil penalties or damages were questions for trial.

The first phase of the bench trial took place January 19, 2016 through February 11, 2016, and the second phase took place October 25, 2016 through November 2, 2016.

On June 5, 2017, the Court issued Findings of Fact and Conclusions of Law and entered Judgment ordering DISH Network L.L.C. to pay an aggregate amount of \$280 million to the federal and state plaintiffs. The Court also issued a Permanent Injunction (the "Injunction") against DISH Network L.L.C. that imposes certain ongoing compliance requirements on DISH Network L.L.C., which include, among other things: (i) the retention of a telemarketing-compliance expert to prepare a plan to ensure that DISH Network L.L.C. and certain independent third-party retailers will continue to comply with telemarketing laws and the Injunction; (ii) certain telemarketing records retention and production requirements; and (iii) certain compliance reporting and monitoring requirements. In addition to the compliance requirements under the Injunction, within ninety (90) days after the effective date of the Injunction, DISH Network L.L.C. is required to demonstrate that it and certain independent third-party retailers are in compliance with the Safe Harbor Provisions of the TSR and TCPA and have made no prerecorded telemarketing calls during the five (5) years prior to the effective date of the Injunction (collectively, the "Demonstration Requirements"). If DISH Network L.L.C. fails to prove that it meets the Demonstration Requirements, it will be barred from conducting any outbound telemarketing for two (2) years. If DISH Network L.L.C. fails to prove that a particular independent third-party retailer meets the Demonstration Requirements, DISH Network L.L.C. will be barred from accepting orders from that independent third-party retailer for two (2) years. On July 3, 2017, DISH Network L.L.C. filed two motions with the Court: (1) to alter or amend the Judgment or in the alternative to amend the Findings of Fact and Conclusions of Law; and (2) to clarify, alter and amend the Injunction.

On August 10, 2017, the Court: (a) denied the motion to alter or amend the Judgment or in the alternative to amend the Findings of Fact and Conclusions of Law; and (b) allowed, in part, the motion to clarify, alter and amend the Injunction, and entered an Amended Permanent Injunction (the "Amended Injunction").

Among other things, the Amended Injunction provided DISH Network L.L.C. a thirty (30) day extension to meet the Demonstration Requirements, expanded the exclusion of certain independent third-party retailers from the Demonstration Requirements, and clarified that, with regard to independent third-party retailers, the Amended Injunction only applied to their telemarketing of DISH TV goods and services. On October 10, 2017, DISH Network L.L.C. filed a notice of appeal to the United States Court of Appeals for the Seventh Circuit, which heard oral argument on September 17, 2018. On March 26, 2020, the United States Court of Appeals for the Seventh Circuit issued an opinion largely affirming DISH Network L.L.C.'s liability, but vacating and remanding the damages award. On June 25, 2020, the United States Court of Appeals for the Seventh Circuit denied DISH Network L.L.C.'s petition for rehearing and/or rehearing en banc. On November 23, 2020, DISH Network L.L.C. filed a petition for writ of certiorari requesting that the United States Supreme Court hear a further appeal.

DISH Network L.L.C. and the Plaintiffs negotiated a settlement of the remanded damages award, and on December 4, 2020, the District Court entered the parties' stipulated order for monetary judgment in the total amount of \$210 million, which DISH Network L.L.C. paid on December 31, 2020. The Injunction is not affected by the stipulated order for monetary judgment. On December 8, 2020, DISH Network L.L.C. filed a motion in the United States Supreme Court to dismiss its petition for writ of certiorari. This matter is now resolved.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Our total accrual at December 31, 2019 and 2018 related to the FTC Action was \$280 million and is included in “Other accrued expenses” on our Consolidated Balance Sheets. The \$210 million payment was applied to that accrual and the remaining \$70 million represents a reduction to litigation expense which was recorded in “Selling, general and administrative expenses” on our Consolidated Statements of Operations and Comprehensive Income (Loss) for the year ended December 31, 2020.

We may also from time to time be subject to private civil litigation alleging telemarketing violations. For example, a portion of the alleged telemarketing violations by an independent third-party retailer that were at issue in the FTC Action are also the subject of a certified class action filed against DISH Network L.L.C. in the United States District Court for the Middle District of North Carolina (the “Krakauer Action”). Following a five-day trial, on January 19, 2017, a jury in that case found that the independent third-party retailer was acting as DISH Network L.L.C.’s agent when it made the 51,119 calls at issue in that case, and that class members are eligible to recover \$400 in damages for each call made in violation of the TCPA. On May 22, 2017, the Court ruled that the violations were willful and knowing, and trebled the damages award to \$1,200 for each call made in violation of TCPA. On April 5, 2018, the Court entered a \$61 million judgment in favor of the class. DISH Network L.L.C. appealed and on May 30, 2019, the United States Court of Appeals for the Fourth Circuit affirmed. On October 15, 2019, DISH Network L.L.C. filed a petition for writ of certiorari, requesting that the United States Supreme Court agree to hear a further appeal, but it denied the petition on December 16, 2019. On January 21, 2020, DISH Network L.L.C. filed a second notice of appeal relating to the district court’s orders on the claims administration process to identify, and disburse funds to, individual class members.

On June 29, 2020, Krakauer filed a motion to dismiss the appeal for lack of jurisdiction. On December 1, 2020, the United States Court of Appeals for the Fourth Circuit granted the motion, finding that the appeal was premature. The district court currently is deciding how to handle the \$10.76 million in disburseable judgment funds for which no corresponding class member was identified, but has indicated that it will not refund those monies to DISH Network L.L.C. DISH Network L.L.C. will renew its appeal when the unclaimed funds issue is finally resolved. During the third quarter 2019, the \$61 million judgment was paid to the court.

Telemarketing Shareholder Derivative Litigation

On October 19, 2017, Plumbers Local Union No. 519 Pension Trust Fund (“Plumbers Local 519”), a purported shareholder of the Company, filed a putative shareholder derivative action in the District Court for Clark County, Nevada alleging, among other things, breach of fiduciary duty claims against the following current and former members of the Company’s Board of Directors: Charles W. Ergen; James DeFranco; Cantey M. Ergen; Steven R. Goodbarn; David K. Moskowitz; Tom A. Ortolf; Carl E. Vogel; George R. Brokaw; and Gary S. Howard (collectively, the “Director Defendants”). In its complaint, Plumbers Local 519 contends that, by virtue of their alleged failure to appropriately ensure the Company’s compliance with telemarketing laws, the Director Defendants exposed the Company to liability for telemarketing violations, including those in the Krakauer Action. It also contends that the Director Defendants caused the Company to pay improper compensation and benefits to themselves and others who allegedly breached their fiduciary duties to the Company. Plumbers Local 519 alleges causes of action for breach of fiduciary duties of loyalty and good faith, gross mismanagement, abuse of control, corporate waste and unjust enrichment. Plumbers Local 519 is seeking an unspecified amount of damages.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

On November 13, 2017, City of Sterling Heights Police and Fire Retirement System (“Sterling Heights”), a purported shareholder of the Company, filed a putative shareholder derivative action in the District Court for Clark County, Nevada. Sterling Heights makes substantially the same allegations as Plumbers Union 519, and alleges causes of action against the Director Defendants for breach of fiduciary duty, waste of corporate assets and unjust enrichment. Sterling Heights is seeking an unspecified amount of damages. Pursuant to a stipulation of the parties, on January 4, 2018, the District Court agreed to consolidate the Sterling Heights action with the Plumbers Local 519 action, and on January 12, 2018, the derivative plaintiffs filed an amended consolidated complaint that largely duplicates the original Plumbers Local 519 complaint. Our Board of Directors has established a Special Litigation Committee to review the factual allegations and legal claims in this action. On May 15, 2018, the District Court granted the Special Litigation Committee’s motion to stay the case pending its investigation. The Special Litigation Committee’s report was filed on November 27, 2018, and recommended that the Company not pursue the claims asserted by the derivative plaintiffs. On December 20, 2018, the Special Litigation Committee filed a motion seeking deferral to its determination that the claims should be dismissed. Following a two-day evidentiary hearing on July 6-7, 2020, on July 17, 2020, the District Court entered an order granting the Special Litigation Committee’s motion. On August 25, 2020, the derivative plaintiffs filed a notice of appeal to the Nevada Supreme Court.

We cannot predict with any degree of certainty the outcome of these suits or determine the extent of any potential liability or damages.

TQ Delta, LLC

On July 17, 2015, TQ Delta, LLC (“TQ Delta”) filed a complaint against us and our wholly-owned subsidiaries DISH DBS Corporation and DISH Network L.L.C. in the United States District Court for the District of Delaware. The Complaint alleges infringement of United States Patent No. 6,961,369 (the “369 patent”), which is entitled “System and Method for Scrambling the Phase of the Carriers in a Multicarrier Communications System”; United States Patent No. 8,718,158 (the “158 patent”), which is entitled “System and Method for Scrambling the Phase of the Carriers in a Multicarrier Communications System”; United States Patent No. 9,014,243 (the “243 patent”), which is entitled “System and Method for Scrambling Using a Bit Scrambler and a Phase Scrambler”; United States Patent No. 7,835,430 (the “430 patent”), which is entitled “Multicarrier Modulation Messaging for Frequency Domain Received Idle Channel Noise Information”; United States Patent No. 8,238,412 (the “412 patent”), which is entitled “Multicarrier Modulation Messaging for Power Level per Subchannel Information”; United States Patent No. 8,432,956 (the “956 patent”), which is entitled “Multicarrier Modulation Messaging for Power Level per Subchannel Information”; and United States Patent No. 8,611,404 (the “404 patent”), which is entitled “Multicarrier Transmission System with Low Power Sleep Mode and Rapid-On Capability.” On September 9, 2015, TQ Delta filed a first amended complaint that added allegations of infringement of United States Patent No. 9,094,268 (the “268 patent”), which is entitled “Multicarrier Transmission System With Low Power Sleep Mode and Rapid-On Capability.” On May 16, 2016, TQ Delta filed a second amended complaint that added EchoStar Corporation and its then wholly-owned subsidiary EchoStar Technologies L.L.C. as defendants. TQ Delta alleges that our satellite TV service, Internet service, set-top boxes, gateways, routers, modems, adapters and networks that operate in accordance with one or more Multimedia over Coax Alliance Standards infringe the asserted patents. TQ Delta has filed actions in the same court alleging infringement of the same patents against Comcast Corp., Cox Communications, Inc., DirecTV, Time Warner Cable Inc. and Verizon Communications, Inc. TQ Delta is an entity that seeks to license an acquired patent portfolio without itself practicing any of the claims recited therein.

On July 14, 2016, TQ Delta stipulated to dismiss with prejudice all claims related to the 369 patent and the 956 patent. On July 20, 2016, we filed petitions with the United States Patent and Trademark Office challenging the validity of all of the patent claims of the 404 patent and the 268 patent that have been asserted against us. Third parties have filed petitions with the United States Patent and Trademark Office challenging the validity of all of the patent claims that have been asserted against us in the action. On November 4, 2016, the United States Patent and Trademark Office agreed to institute proceedings on the third-party petitions related to the 158 patent, the 243 patent, the 412 patent and the 430 patent.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

On December 20, 2016, pursuant to a stipulation of the parties, the Court stayed the case until the resolution of all petitions to the United States Patent and Trademark Office challenging the validity of all of the patent claims at issue. On January 19, 2017, the United States Patent and Trademark Office granted our motions to join the instituted petitions on the 430 and 158 patents.

On February 9, 2017, the United States Patent and Trademark Office agreed to institute proceedings on our petition related to the 404 patent, and on February 13, 2017, the United States Patent and Trademark Office agreed to institute proceedings on our petition related to the 268 patent. On February 27, 2017, the United States Patent and Trademark Office granted our motions to join the instituted petitions on the 243 and 412 patents. On October 26, 2017, the United States Patent and Trademark Office issued final written decisions on the petitions challenging the 158 patent, the 243 patent, the 412 patent and the 430 patent, and it invalidated all of the asserted claims of those patents. On February 7, 2018, the United States Patent and Trademark Office issued final written decisions on the petitions challenging the 404 patent, and it invalidated all of the asserted claims of that patent on the basis of our petition. On February 10, 2018, the United States Patent and Trademark Office issued a final written decision on our petition challenging the 268 patent, and it invalidated all of the asserted claims. On March 12, 2018, the United States Patent and Trademark Office issued a final written decision on a third-party petition challenging the 268 patent, and it invalidated all of the asserted claims. All asserted claims have now been invalidated by the United States Patent and Trademark Office. TQ Delta has filed notices of appeal from the final written decisions adverse to it. On May 9, 2019, the United States Court of Appeals for the Federal Circuit affirmed the invalidity of the 430 patent and the 412 patent. On July 10, 2019, the United States Court of Appeals for the Federal Circuit affirmed the invalidity of the asserted claims of the 404 patent. On July 15, 2019, the United States Court of Appeals for the Federal Circuit affirmed the invalidity of the asserted claims of the 268 patent. On November 22, 2019, the United States Court of Appeals for the Federal Circuit reversed the invalidity finding on the 243 patent and the 158 patent, and then, on March 29, 2020, denied a petition for panel rehearing as to those findings.

We intend to vigorously defend this case. In the event that a court ultimately determines that we infringe the asserted patents, we may be subject to substantial damages, which may include treble damages, and/or an injunction that could require us to materially modify certain features that we currently offer to consumers. We cannot predict with any degree of certainty the outcome of the suit or determine the extent of any potential liability or damages.

Turner Network Sales

On October 6, 2017, Turner Network Sales, Inc. (“Turner”) filed a complaint against our wholly-owned subsidiary DISH Network L.L.C. in the United States District Court for the Southern District of New York. The operative First Amended Complaint alleges that DISH Network L.L.C. improperly calculated and withheld licensing fees owing to Turner in connection with its carriage of CNN and other networks. On December 14, 2017, DISH Network L.L.C. filed its operative first amended counterclaims against Turner. In the counterclaims, DISH Network L.L.C. seeks a declaratory judgment that it properly calculated the licensing fees owed to Turner for carriage of CNN, and also alleges claims for unrelated breaches of the parties’ affiliation agreement. In its October 1, 2018 damage expert’s report, Turner claimed damages of \$159 million, plus \$24 million in interest. On September 27, 2019, the Court granted, in part, Turner’s motion for summary judgment, holding, in part, that Turner was entitled to recover approximately \$20 million in license fee payments that DISH Network L.L.C. had withheld after it discovered previous over-payments. On February 12, 2020, the parties filed a stipulation to dismiss certain of their respective claims. Trial on the remaining claims in this matter has been re-set for October 3, 2021, where DISH Network L.L.C.’s incremental exposure (per Turner’s damages expert’s amended report) is approximately \$206 million.

We intend to vigorously defend this case. We cannot predict with any degree of certainty the outcome of the suit or determine the extent of any potential liability or damages.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Uniloc

On January 31, 2019, Uniloc 2017 LLC (“Uniloc”) filed a complaint against our wholly-owned subsidiary Sling TV L.L.C. in the United States District Court for the District of Colorado. The Complaint alleges infringement of United States Patent No. 6,519,005 (the “005 patent”), which is entitled “Method of Concurrent Multiple-Mode Motion Estimation for Digital Video”; United States Patent No. 6,895,118 (the “118 patent”), which is entitled “Method of Coding Digital Image Based on Error Concealment”; United States Patent No. 9,721,273 (the “273 patent”), which is entitled “System and Method for Aggregating and Providing Audio and Visual Presentations Via a Computer Network”; and United States Patent No. 8,407,609 (the “609 patent”), which is entitled “System and Method for Providing and Tracking the Provision of Audio and Visual Presentations Via a Computer Network.” Uniloc is an entity that seeks to license an acquired patent portfolio without itself practicing any of the claims recited therein.

On June 25, 2019, Sling TV L.L.C. filed a petition with the United States Patent and Trademark Office challenging the validity of all of the asserted claims of the 005 patent. On July 19, 2019 and July 22, 2019, respectively, Sling TV L.L.C. filed petitions with the United States Patent and Trademark Office challenging the validity of all asserted claims of the 273 patent and the 609 patent. On August 12, 2019, Sling TV L.L.C. filed a petition with the United States Patent and Trademark Office challenging the validity of all of the asserted claims of the 118 patent. On October 18, 2019, pursuant to a stipulation of the parties, the Court entered a stay of the trial proceedings. On January 9, 2020, the United States Patent and Trademark Office agreed to institute proceedings on the petition challenging the 005 patent. On January 15, 2020, the United States Patent and Trademark Office agreed to institute proceedings on the petition challenging the 273 patent. On February 4, 2020, the United States Patent and Trademark Office agreed to institute proceedings on the petition challenging the 609 patent. On February 25, 2020, the United States Patent and Trademark Office declined to institute proceedings on the petition challenging the 118 patent. On December 28, 2020, the United States Patent and Trademark Office issued a final written decision upholding the validity of the challenged claims of the 273 patent. On January 5, 2021, the United States Patent and Trademark Office issued a final written decision invalidating all challenged claims of the 005 patent. On January 19, 2021, the United States Patent and Trademark Office issued a final written decision invalidating all challenged claims of the 609 patent (and a second final written decision invalidating all challenged claims of the 609 patent based on a third party’s petition).

We intend to vigorously defend this case. In the event that a court ultimately determines that we infringe the asserted patents, we may be subject to substantial damages, which may include treble damages, and/or an injunction that could require us to materially modify certain features that we currently offer to consumers. We cannot predict with any degree of certainty the outcome of the suit or determine the extent of any potential liability or damages.

Vermont National Telephone Company

On September 23, 2016, the United States District Court for the District of Columbia unsealed a qui tam complaint that was filed by Vermont National against us; our wholly-owned subsidiaries, American AWS-3 Wireless I L.L.C., American II, American III, and DISH Wireless Holding L.L.C.; Charles W. Ergen (our Chairman) and Cantey M. Ergen (a member of our board of directors); Northstar Wireless; Northstar Spectrum; Northstar Manager; SNR Wireless; SNR HoldCo; SNR Management; and certain other parties. The complaint was unsealed after the United States Department of Justice notified the Court that it had declined to intervene in the action. The complaint is a civil action that was filed under seal on May 13, 2015 by Vermont National, which participated in the AWS-3 Auction through its wholly-owned subsidiary, VTel Wireless. The complaint alleges violations of the federal civil False Claims Act (the “FCA”) based on, among other things, allegations that Northstar Wireless and SNR Wireless falsely claimed bidding credits of 25% in the AWS-3 Auction when they were allegedly under the de facto control of DISH Network and, therefore, were not entitled to the bidding credits as designated entities under applicable FCC rules. Vermont National seeks to recover on behalf of the United States government approximately \$10 billion, which reflects the \$3.3 billion in bidding credits that Northstar Wireless and SNR Wireless claimed in the AWS-3 Auction, trebled under the FCA. Vermont National also seeks civil penalties of not less than \$5,500 and not more than \$11,000 for each violation of the FCA.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

On March 2, 2017, the United States District Court for the District of Columbia entered a stay of the litigation until such time as the United States Court of Appeals for the District of Columbia (the “D.C. Circuit”) issued its opinion in *SNR Wireless LicenseCo, LLC, et al. v. F.C.C.* The D.C. Circuit issued its opinion on August 29, 2017 and remanded the matter to the FCC for further proceedings. See “*Commitments – DISH Network Non-Controlling Investments in the Northstar Entities and the SNR Entities Related to AWS-3 Wireless Spectrum Licenses*” above for further information. Thereafter, the Court maintained the stay until October 26, 2018. On February 11, 2019, the Court granted Vermont National’s unopposed motion for leave to file an amended complaint. On March 28, 2019, the defendants filed a motion to dismiss Vermont National’s amended complaint, which has been fully briefed since June 3, 2019.

We intend to vigorously defend this case. We cannot predict with any degree of certainty the outcome of this proceeding or determine the extent of any potential liability or damages.

Waste Disposal Inquiry

The California Attorney General and the Alameda County (California) District Attorney are investigating whether certain of our waste disposal policies, procedures and practices are in violation of the California Business and Professions Code and the California Health and Safety Code. We expect that these entities will seek injunctive and monetary relief. The investigation appears to be part of a broader effort to investigate waste handling and disposal processes of a number of industries. While we are unable to predict the outcome of this investigation, we do not believe that the outcome will have a material effect on our results of operations, financial condition or cash flows.

Other

In addition to the above actions, we are subject to various other legal proceedings and claims that arise in the ordinary course of business, including, among other things, disputes with programmers regarding fees. In our opinion, the amount of ultimate liability with respect to any of these actions is unlikely to materially affect our financial condition, results of operations or liquidity, though the outcomes could be material to our operating results for any particular period, depending, in part, upon the operating results for such period.

17. Segment Reporting

Operating segments are components of an enterprise for which separate financial information is available and regularly evaluated by the chief operating decision maker(s) of an enterprise. Operating income is the primary measure used by our chief operating decision maker to evaluate segment operating performance. We currently operate two primary business segments: (1) Pay-TV; and (2) Wireless. See Note 1 for further information.

All other and eliminations primarily include intersegment eliminations related to intercompany debt and the related interest income and interest expense, which are eliminated in consolidation.

The total assets, revenue and operating income by segment were as follows:

	As of December 31,	
	2020	2019
	(In thousands)	
Total assets:		
Pay-TV	\$ 36,251,281	\$ 31,531,612
Wireless	29,921,237	25,686,381
Eliminations	(27,932,571)	(23,987,058)
Total assets	\$ 38,239,947	\$ 33,230,935

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

	Pay-TV	Wireless	All Other & Eliminations	Consolidated Total
	(In thousands)			
Year Ended December 31, 2020				
Total revenue	\$ 12,897,413	\$ 2,599,842	\$ (3,820)	\$ 15,493,435
Depreciation and amortization	613,926	100,626	—	714,552
Operating income (loss)	2,903,183	(320,568)	—	2,582,615
Interest income	1,676,953	4	(1,654,223)	22,734
Interest expense, net of amounts capitalized	(922,876)	(744,321)	1,654,223	(12,974)
Other, net	2,020	(22,184)	—	(20,164)
Income tax (provision) benefit, net	(836,296)	138,021	—	(698,275)
Net income (loss)	2,822,984	(949,048)	—	1,873,936
Year Ended December 31, 2019				
Total revenue	\$ 12,810,248	\$ 1,673	\$ (4,237)	\$ 12,807,684
Depreciation and amortization	621,810	8,767	—	630,577
Operating income (loss)	1,961,700	(82,824)	—	1,878,876
Interest income	1,588,023	—	(1,510,809)	77,214
Interest expense, net of amounts capitalized	(988,295)	(546,201)	1,510,809	(23,687)
Other, net	10,940	584	—	11,524
Income tax (provision) benefit, net	(615,664)	164,306	—	(451,358)
Net income (loss)	1,956,705	(464,136)	—	1,492,569
Year Ended December 31, 2018				
Total revenue	\$ 13,621,198	\$ 580	\$ (476)	\$ 13,621,302
Depreciation and amortization	698,336	13,688	—	712,024
Operating income (loss)	2,187,675	(40,054)	—	2,147,621
Interest income	1,495,371	—	(1,450,612)	44,759
Interest expense, net of amounts capitalized	(1,013,062)	(452,556)	1,450,612	(15,006)
Other, net	8,957	2,844	—	11,801
Income tax (provision) benefit, net	(650,858)	117,174	—	(533,684)
Net income (loss)	2,028,083	(372,592)	—	1,655,491

Geographic Information. Revenue is attributed to geographic regions based upon the location where the goods and services are provided. All service revenue was derived from the United States. Substantially all of our long-lived assets reside in the United States.

The following table summarizes revenue by geographic region:

Revenue:	For the Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
United States	\$ 15,442,371	\$ 12,759,909	\$ 13,578,254
Canada and Mexico	51,064	47,775	43,048
Total revenue	\$ 15,493,435	\$ 12,807,684	\$ 13,621,302

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

The revenue from external customers disaggregated by major revenue source was as follows:

Category:	For the Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Pay-TV subscriber and related revenue	\$ 12,702,345	\$ 12,616,442	\$ 13,456,088
Wireless services and related revenue	2,143,703	—	—
Pay-TV equipment sales and other revenue	195,068	193,806	165,110
Wireless equipment sales and other revenue	456,139	1,673	580
Eliminations	(3,820)	(4,237)	(476)
Total	\$ 15,493,435	\$ 12,807,684	\$ 13,621,302

18. Contract Balances

Our valuation and qualifying accounts as of December 31, 2020, 2019 and 2018 were as follows:

Allowance for credit losses	Balance at Beginning of Year	Current Period Provision for Expected Credit Losses	Write-offs Charged Against Allowance	Balance at End of Year
	(In thousands)			
For the years ended:				
December 31, 2020	\$ 19,280	\$ 84,697	\$ (31,699)	\$ 72,278
December 31, 2019	\$ 16,966	\$ 69,866	\$ (67,552)	\$ 19,280
December 31, 2018	\$ 15,511	\$ 98,575	\$ (97,120)	\$ 16,966

Deferred revenue related to contracts with our customers is recorded in “Deferred revenue and other” and “Long-term deferred revenue and other long-term liabilities” on our Consolidated Balance Sheets. Changes in deferred revenue related to contracts with our customers were as follows:

	Contract Liabilities
	(In thousands)
Balance as of December 31, 2019	\$ 613,272
Recognition of unearned revenue	(9,622,625)
Deferral of revenue	9,788,185
Balance as of December 31, 2020	\$ 778,832

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

We apply a practical expedient and do not disclose the value of the remaining performance obligations for contracts that are less than one year in duration, which represent a substantial majority of our revenue. As such, the amount of revenue related to unsatisfied performance obligations is not necessarily indicative of our future revenue.

19. Quarterly Financial Data (Unaudited)

Our quarterly results of operations are summarized as follows:

	For the Three Months Ended			
	March 31	June 30	September 30	December 31
	(In thousands, except per share data)			
Year ended December 31, 2020:				
Total revenue	\$ 3,217,389	\$ 3,187,090	\$ 4,531,591	\$ 4,557,365
Operating income (loss)	144,078	637,650	811,248	989,639
Net income (loss)	99,274	480,406	532,959	761,297
Net income (loss) attributable to DISH Network	73,099	452,343	504,599	732,632
Basic net income (loss) per share attributable to DISH Network	\$ 0.14	\$ 0.86	\$ 0.96	\$ 1.39
Diluted net income (loss) per share attributable to DISH Network	\$ 0.13	\$ 0.78	\$ 0.86	\$ 1.24
Year ended December 31, 2019:				
Total revenue	\$ 3,187,144	\$ 3,211,312	\$ 3,168,363	\$ 3,240,865
Operating income (loss)	456,300	430,732	468,892	522,952
Net income (loss)	361,299	340,566	377,157	413,547
Net income (loss) attributable to DISH Network	339,761	317,043	353,304	389,404
Basic net income (loss) per share attributable to DISH Network	\$ 0.73	\$ 0.68	\$ 0.74	\$ 0.77
Diluted net income (loss) per share attributable to DISH Network	\$ 0.65	\$ 0.60	\$ 0.66	\$ 0.69

20. Related Party Transactions

Master Transaction Agreement

On May 19, 2019, we entered into the Master Transaction Agreement with EchoStar.

Pursuant to the Master Transaction Agreement, among other things: (i) EchoStar carried out an internal reorganization in which certain assets and liabilities of the EchoStar Satellite Services segment, the business segment of EchoStar that provides broadcast satellite operations and satellite services, as well as certain related licenses, real estate properties and employees (together, the “BSS Business”) were transferred to Newco (the “Pre-Closing Restructuring”); (ii) EchoStar distributed all outstanding shares of common stock, par value \$0.001 per share, of Newco (such stock, “Newco Common Stock”) on a pro rata basis (the “Distribution”), to the holders of record of Class A common stock, par value \$0.001 per share, of EchoStar and Class B common stock, par value \$0.001 per share, of EchoStar; and (iii) upon the consummation of the Pre-Closing Restructuring and the Distribution, Merger Sub merged with and into Newco (the “Merger”) such that, upon consummation of the Merger, Merger Sub ceased to exist and Newco continued as our wholly-owned subsidiary.

Effective September 10, 2019, pursuant to the terms and subject to the conditions set forth in the Master Transaction Agreement, in consideration for the Merger, we issued 22,937,188 shares of our Class A common stock to the holders of Newco Common Stock at a ratio of 0.23523769 of our Class A common stock for each outstanding share of Newco Common Stock. The transaction was structured as a tax-free spin-off and merger.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

In addition, as the result of the Merger, we, EchoStar and, as relevant, certain of our or their respective subsidiaries, entered into ancillary agreements involving tax, employment and intellectual property matters, which set forth certain rights and obligations of us and EchoStar and our and their respective subsidiaries related to the Merger with respect to, among other things: (i) the payment of tax liability refunds, and the filing of tax returns related to Newco and the BSS Business; (ii) the allocation of employment-related assets and liabilities between us and EchoStar; (iii) certain employee compensation, equity awards, benefit plans, programs and arrangements relating to employees who are expected to be transferred to us pursuant to the Merger; (iv) a cross-license between us and EchoStar for certain intellectual property either transferred to us as part of the Merger or retained by EchoStar that is also used in the BSS Business; and (v) the provision of certain telemetry, tracking and control services by us and our subsidiaries to EchoStar and its subsidiaries.

The description of the Master Transaction Agreement in this section is qualified in its entirety by reference to the complete text of the Master Transaction Agreement, a copy of which is filed as Exhibit 2.1 to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2019.

The Merger was accounted for as an asset purchase, as substantially all of the fair value of the gross assets acquired was concentrated in a group of similar identifiable assets. As the Merger was between entities that were under common control, we recorded the assets and liabilities received under the Merger at EchoStar's historical cost basis, with the offsetting amount recorded in "Additional paid-in capital" on our Consolidated Balance Sheets. A significant portion of the assets received under the Merger were historically leased to us by EchoStar. As these assets and the related liabilities have been transferred to us pursuant to the Master Transaction Agreement, they are no longer included in "Operating lease assets," "Other current liabilities" and "Operating lease liabilities," but rather in "Property and equipment, net" on our Consolidated Balance Sheets.

Spin-off from EchoStar

Following the Spin-off, we and EchoStar have operated as separate publicly-traded companies and neither entity has any ownership interest in the other. However, a substantial majority of the voting power of the shares of both companies is owned beneficially by Charles W. Ergen, our Chairman, and by certain entities established by Mr. Ergen for the benefit of his family.

Related Party Transactions with EchoStar

In connection with and following the Spin-off, we and EchoStar have entered into certain agreements pursuant to which we obtain certain products, services and rights from EchoStar, EchoStar obtains certain products, services and rights from us, and we and EchoStar have indemnified each other against certain liabilities arising from our respective businesses. Pursuant to the Share Exchange Agreement, among other things, EchoStar transferred to us certain assets and liabilities of the EchoStar technologies and EchoStar broadcasting businesses. Pursuant to the Master Transaction Agreement, among other things, EchoStar transferred to us certain assets and liabilities of its EchoStar Satellite Services segment. In connection with the Share Exchange and the Master Transaction Agreement, we and EchoStar and certain of their subsidiaries entered into certain agreements covering, among other things, tax matters, employee matters, intellectual property matters and the provision of transitional services. In addition, certain agreements that we had with EchoStar have terminated, and we entered into certain new agreements with EchoStar. We also may enter into additional agreements with EchoStar in the future. The following is a summary of the terms of our principal agreements with EchoStar that may have an impact on our financial condition and results of operations.

"Trade accounts receivable"

As of December 31, 2020 and 2019, trade accounts receivable from EchoStar was \$1 million and \$1 million, respectively. These amounts are recorded in "Trade accounts receivable" on our Consolidated Balance Sheets.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

“Trade accounts payable”

As of December 31, 2020 and 2019, trade accounts payable to EchoStar was \$6 million and \$10 million, respectively. These amounts are recorded in “Trade accounts payable” on our Consolidated Balance Sheets.

“Equipment sales and other revenue”

During the years ended December 31, 2020, 2019 and 2018, we received \$8 million, \$6 million and \$8 million, respectively, for services provided to EchoStar. These amounts are recorded in “Equipment sales and other revenue” on our Consolidated Statements of Operations and Comprehensive Income (Loss). The agreements pertaining to these revenues are discussed below.

Real Estate Lease Agreements. We have entered into lease agreements pursuant to which we lease certain real estate to EchoStar. The rent on a per square foot basis for each of the leases is comparable to per square foot rental rates of similar commercial property in the same geographic areas, and EchoStar is responsible for its portion of the taxes, insurance, utilities and maintenance of the premises. The term of each lease is set forth below:

- *El Paso Lease Agreement.* During 2012, we began leasing certain space at 1285 Joe Battle Blvd., El Paso, Texas to EchoStar for an initial period ending on August 1, 2015, which also provides EchoStar with renewal options for four consecutive three-year terms. During the second quarter 2015, EchoStar exercised its first renewal option for a period ending on August 1, 2018 and in April 2018 EchoStar exercised its second renewal option for a period ending in August 2021.
- *90 Inverness Lease Agreement.* In connection with the completion of the Share Exchange, effective March 1, 2017, EchoStar leases certain space from us at 90 Inverness Circle East, Englewood, Colorado for a period ending in February 2022. EchoStar has the option to renew this lease for four three-year periods.
- *Cheyenne Lease Agreement.* In connection with the completion of the Share Exchange, effective March 1, 2017, EchoStar began leasing certain space from us at 530 EchoStar Drive, Cheyenne, Wyoming for a period ending in February 2019. In August 2018, EchoStar exercised its option to renew this lease for a one-year period ending in February 2020. EchoStar has the option to renew this lease for 12 one-year periods. In connection with the Master Transaction Agreement, we and EchoStar amended this lease to provide EchoStar with certain space for a period ending in September 2021, with the option for EchoStar to renew for a one-year period upon 180 days’ written notice prior to the end of the term.
- *Gilbert Lease Agreement.* In connection with the completion of the Share Exchange, effective March 1, 2017, EchoStar leased certain space from us at 801 N. DISH Dr., Gilbert, Arizona for a period ending in March 2019. EchoStar exercised its option to renew this lease for a one-year period ending in February 2020. This lease was terminated effective September 10, 2019.
- *American Fork Occupancy License Agreement.* In connection with the completion of the Share Exchange, effective March 1, 2017, we acquired the lease for certain space at 796 East Utah Valley Drive, American Fork, Utah, and we began subleasing certain space at this location to EchoStar for a period ending in August 2017. In June 2017, EchoStar exercised its five-year renewal option for a period ending in August 2022. This lease was terminated effective March 2019.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Collocation and Antenna Space Agreements. In connection with the completion of the Share Exchange, effective March 1, 2017, we entered into certain agreements pursuant to which we provide certain collocation and antenna space to HNS through February 2022 at the following locations: Cheyenne, Wyoming; Gilbert, Arizona; New Braunfels, Texas; Monee, Illinois; Englewood, Colorado; and Spokane, Washington. During August 2017, we entered into certain other agreements pursuant to which we provide certain collocation and antenna space to HNS through August 2022 at the following locations: Monee, Illinois and Spokane, Washington. HNS has the option to renew each of these agreements for four three-year periods. HNS may terminate certain of these agreements with 180 days' prior written notice to us at the following locations: New Braunfels, Texas; Englewood, Colorado; and Spokane, Washington. In September 2019, in connection with the Master Transaction Agreement, we entered into an agreement pursuant to which we provide HNS with certain additional collocation space in Cheyenne, Wyoming for a period ending in September 2020, with the option for HNS to renew for a one-year period, with prior written notice no more than 120 days but no less than 90 days prior to the end of the term. In October 2019, HNS provided a termination notice for its New Braunfels, Texas agreement to be effective May 2020. The fees for the services provided under these agreements depend, among other things, on the number of racks leased and/or antennas present at the location.

Also in connection with the Master Transaction Agreement, in September 2019, we entered into an agreement pursuant to which we provide HNS with antenna space and power in Cheyenne, Wyoming for a period of five years commencing no later than October 2020, with four three-year renewal terms, with prior written notice no more than 120 days but no less than 90 days prior to the end of the then-current term.

TT&C Agreement – Master Transaction Agreement. In September 2019, in connection with the Master Transaction Agreement, we entered into an agreement pursuant to which we provide TT&C services to EchoStar for a period ending in September 2021, with the option for EchoStar to renew for a one-year period upon written notice at least 90 days prior to the initial expiration (the "MTA TT&C Agreement"). The fees for services provided under the MTA TT&C Agreement are calculated at either: (i) a fixed fee or (ii) cost plus a fixed margin, which will vary depending on the nature of the services provided. Either party is able to terminate the MTA TT&C Agreement for any reason upon 12 months' notice.

"Cost of services"

During the years ended December 31, 2020, 2019 and 2018, we incurred \$20 million, \$197 million and \$357 million, respectively, of costs for services provided to us by EchoStar. EchoStar was the supplier of the vast majority of our transponder capacity. On May 19, 2019, we entered into a Master Transaction Agreement pursuant to which, on September 10, 2019, certain satellites were transferred to us (see below). See above for further information on the Master Transaction Agreement. These amounts are recorded in "Cost of services" on our Consolidated Statements of Operations and Comprehensive Income (Loss). The agreements pertaining to these expenses are discussed below.

Hughes Broadband Distribution Agreement. Effective October 1, 2012, dishNET Satellite Broadband L.L.C. ("dishNET Satellite Broadband"), our indirect wholly-owned subsidiary, and HNS entered into a Distribution Agreement (the "Distribution Agreement") pursuant to which dishNET Satellite Broadband has the right, but not the obligation, to market, sell and distribute the HNS satellite Internet service (the "Service"). dishNET Satellite Broadband pays HNS a monthly per subscriber wholesale service fee for the Service based upon the subscriber's service level, and, beginning January 1, 2014, certain volume subscription thresholds. The Distribution Agreement also provides that dishNET Satellite Broadband has the right, but not the obligation, to purchase certain broadband equipment from HNS to support the sale of the Service. On February 20, 2014, dishNET Satellite Broadband and HNS amended the Distribution Agreement which, among other things, extended the initial term of the Distribution Agreement through March 1, 2024.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Thereafter, the Distribution Agreement automatically renews for successive one year terms unless either party gives written notice of its intent not to renew to the other party at least 180 days before the expiration of the then-current term. Upon expiration or termination of the Distribution Agreement, the parties will continue to provide the Service to the then-current dishNET subscribers pursuant to the terms and conditions of the Distribution Agreement.

During the first quarter 2017, we transitioned our wholesale arrangement with Hughes under the Distribution Agreement to an authorized representative arrangement and entered into the MSA with HNS. See “*Hughes Broadband Master Services Agreement*” below for further information.

Satellite Capacity Leased from EchoStar. We have entered into certain satellite capacity agreements pursuant to which we lease certain capacity on certain satellites owned or leased by EchoStar. The fees for the services provided under these satellite capacity agreements depend, among other things, upon the orbital location of the applicable satellite, the number of transponders that are leased on the applicable satellite and the length of the lease. See “*Pay-TV Satellites*” in Note 9 for further information. The term of each lease is set forth below:

- *EchoStar VII, X, XI and XIV.* On March 1, 2014, we began leasing all available capacity from EchoStar on the EchoStar VII, X, XI and XIV satellites. The term of each satellite capacity agreement generally terminated upon the earlier of: (i) the end-of-life of the satellite; (ii) the date the satellite fails; or (iii) a certain date, which depends upon, among other things, the estimated useful life of the satellite. We generally had the option to renew each satellite capacity agreement on a year-to-year basis through the end of the respective satellite’s life. The satellite capacity agreement for EchoStar VII expired on June 30, 2018. On May 19, 2019, we entered into a Master Transaction Agreement pursuant to which, on September 10, 2019, these satellites were transferred to us. See above for further information on the Master Transaction Agreement.
- *EchoStar IX.* We lease certain satellite capacity from EchoStar on EchoStar IX. Subject to availability, we generally have the right to continue to lease satellite capacity from EchoStar on EchoStar IX on a month-to-month basis.
- *EchoStar XVI.* In December 2009, we entered into a transponder service agreement with EchoStar to lease all of the capacity on EchoStar XVI, a DBS satellite, after its service commencement date. EchoStar XVI was launched in November 2012. Effective December 21, 2012, we and EchoStar amended the transponder service agreement to, among other things, change the initial term to generally expire upon the earlier of: (i) the end-of-life or replacement of the satellite; (ii) the date the satellite fails; (iii) the date the transponder(s) on which service is being provided under the agreement fails; or (iv) four years following the actual service commencement date. In July 2016, we and EchoStar amended the transponder service agreement to, among other things, extend the initial term by one additional year and to reduce the term of the first renewal option by one year. Prior to expiration of the initial term, we had the option to renew for an additional five-year period. In May 2017, we exercised our first renewal option for an additional five-year period ending in January 2023. We also had the option to renew for an additional five-year period prior to expiration of the first renewal period in January 2023. During 2018, we and EchoStar further amended the agreement to, among other things, allow us to place and use certain satellites at the 61.5 degree orbital location. On May 19, 2019, we entered into a Master Transaction Agreement pursuant to which, on September 10, 2019, this satellite was transferred to us. See above for further information on the Master Transaction Agreement.

Nimiq 5 Agreement. During 2009, EchoStar entered into a fifteen-year satellite service agreement with Telesat Canada (“Telesat”) to receive service on all 32 DBS transponders on the Nimiq 5 satellite at the 72.7 degree orbital location (the “Telesat Transponder Agreement”). During 2009, EchoStar also entered into a satellite service agreement (the “DISH Nimiq 5 Agreement”) with us, pursuant to which we received service from EchoStar on all 32 of the DBS transponders covered by the Telesat Transponder Agreement.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Under the terms of the DISH Nimiq 5 Agreement, we made certain monthly payments to EchoStar that commenced in 2009 when the Nimiq 5 satellite was placed into service and continued through the service term, which expired ten years following the date the Nimiq 5 satellite was placed into service. Upon expiration of the initial term, we had the option to renew on a year-to-year basis through the end-of-life of the Nimiq 5 satellite. On May 19, 2019, we entered into a Master Transaction Agreement pursuant to which, on September 10, 2019, the Telesat Transponder Agreement was transferred to us. In September 2019, we and EchoStar entered into an agreement whereby we compensate EchoStar for retaining certain obligations to Telesat related to our performance under the Telesat Transponder Agreement. See above for further information on the Master Transaction Agreement.

QuetzSat-1 Lease Agreement. During 2008, EchoStar entered into a ten-year satellite service agreement with SES Latin America S.A. (“SES”), which provided, among other things, for the provision by SES to EchoStar of service on 32 DBS transponders on the QuetzSat-1 satellite (“SES Transponder Agreement”). During 2008, EchoStar also entered into a transponder service agreement (“QuetzSat-1 Transponder Agreement”) with us pursuant to which we received service from EchoStar on 24 DBS transponders. QuetzSat-1 was launched on September 29, 2011 and was placed into service during the fourth quarter 2011 at the 67.1 degree orbital location. In January 2013, QuetzSat-1 was moved to the 77 degree orbital location and we commenced commercial operations at that location in February 2013. During the first quarter 2013, we and EchoStar entered into an agreement pursuant to which we subleased five DBS transponders back to EchoStar.

Unless earlier terminated under the terms and conditions of the SES Transponder Agreement and QuetzSat-1 Transponder Agreement, the initial service term will expire in November 2021. Upon expiration of the initial term, we have the option to renew the SES Transponder Agreement on a year-to-year basis through the end-of-life of the QuetzSat-1 satellite. There can be no assurance that any options to renew the SES Transponder Agreement will be exercised. On May 19, 2019, we entered into a Master Transaction Agreement pursuant to which, on September 10, 2019, the SES Transponder Agreement was transferred to us. See above for further information on the Master Transaction Agreement.

103 Degree Orbital Location/SES-3. In May 2012, EchoStar entered into a spectrum development agreement (the “103 Spectrum Development Agreement”) with Ciel Satellite Holdings Inc. (“Ciel”) to develop certain spectrum rights at the 103 degree orbital location (the “103 Spectrum Rights”). In June 2013, we and EchoStar entered into a spectrum development agreement (the “DISH 103 Spectrum Development Agreement”) pursuant to which we may use and develop the 103 Spectrum Rights. Both the 103 Spectrum Development Agreement and DISH 103 Spectrum Development Agreement were terminated on March 31, 2018.

In connection with the 103 Spectrum Development Agreement, in May 2012, EchoStar also entered into a ten-year service agreement with Ciel pursuant to which EchoStar leases certain satellite capacity from Ciel on the SES-3 satellite at the 103 degree orbital location (the “103 Service Agreement”). In June 2013, we and EchoStar entered into an agreement pursuant to which we leased certain satellite capacity from EchoStar on the SES-3 satellite (the “DISH 103 Service Agreement”). Under the terms of the DISH 103 Service Agreement, we made certain monthly payments to EchoStar through the service term. Both the 103 Service Agreement and DISH 103 Service Agreement were terminated on March 31, 2018.

TT&C Agreement. Effective January 1, 2012, we entered into a TT&C agreement pursuant to which we received TT&C services from EchoStar for certain satellites (the “TT&C Agreement”). In February 2018, we amended the TT&C Agreement to, among other things, extend the term for one-year with four automatic one-year renewal periods. The fees for services provided under the TT&C Agreement were calculated at either: (i) a fixed fee; or (ii) cost plus a fixed margin, which will vary depending on the nature of the services provided. We and EchoStar were able to terminate the TT&C Agreement for any reason upon 12 months’ notice. On May 19, 2019, we entered into a Master Transaction Agreement pursuant to which, on September 10, 2019, the assets and employees that provide these services were transferred to us. See above for further information on the Master Transaction Agreement.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

“Cost of sales – equipment and other”

During the year ended December 31, 2020 and 2019, we incurred \$5 million and \$6 million, respectively, for satellite hosting, operations and maintenance services as well as transmission of certain data. These amounts are recorded in “Cost of sales – equipment and other” on our Consolidated Statements of Operations and Comprehensive Income (Loss). The agreements pertaining to these expenses are discussed below.

DBSD North America Agreement. On March 9, 2012, we completed the DBSD Transaction. During the second quarter 2011, EchoStar acquired Hughes. Prior to our acquisition of DBSD North America and EchoStar’s acquisition of Hughes, DBSD North America and HNS entered into an agreement pursuant to which HNS provides, among other things, hosting, operations and maintenance services for DBSD North America’s satellite gateway and associated ground infrastructure. This agreement generally may be terminated by us at any time for convenience.

TerreStar Agreement. On March 9, 2012, we completed the TerreStar Transaction. Prior to our acquisition of substantially all the assets of TerreStar and EchoStar’s acquisition of Hughes, TerreStar and HNS entered into various agreements pursuant to which HNS provides, among other things, hosting, operations and maintenance services for TerreStar’s satellite gateway and associated ground infrastructure. These agreements generally may be terminated by us at any time for convenience.

Hughes Equipment and Services Agreement. In February 2019, we and HNS entered into an agreement pursuant to which HNS will provide us with HughesNet Service and HughesNet equipment for the transmission of certain data related to our 5G Network Deployment. This agreement has an initial term of five years with automatic renewal for successive one-year terms unless terminated by DISH Network with at least 180 days’ written notice to HNS or by HNS with at least 365 days’ written notice to DISH Network.

“Selling, general and administrative expenses”

During the years ended December 31, 2020, 2019 and 2018, we incurred \$13 million, \$20 million and \$21 million, respectively, for selling, general and administrative expenses for services provided to us by EchoStar. These amounts are recorded in “Selling, general and administrative expenses” on our Consolidated Statements of Operations and Comprehensive Income (Loss). The agreements pertaining to these expenses are discussed below.

Real Estate Lease Agreements. We have entered into lease agreements pursuant to which we lease certain real estate from EchoStar. The rent on a per square foot basis for each of the leases is comparable to per square foot rental rates of similar commercial property in the same geographic area, and we are responsible for our portion of the taxes, insurance, utilities and maintenance of the premises. The term of each lease is set forth below:

- *Meridian Lease Agreement.* The lease for all of 9601 S. Meridian Blvd. in Englewood, Colorado was for a period ending on December 31, 2019. In December 2020, we and EchoStar amended this lease to, among other things, extend the term thereof for one additional year until December 31, 2021.
- *Santa Fe Lease Agreement.* The lease for all of 5701 S. Santa Fe Dr. in Littleton, Colorado was for a period ending on December 31, 2018. In December 2018, we and EchoStar amended this lease to, among other things, extend the term thereof for one additional year until December 31, 2019. On May 19, 2019, we entered into a Master Transaction Agreement pursuant to which, on September 10, 2019, this real estate was transferred to us. See above for further information on the Master Transaction Agreement.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

- *Cheyenne Lease Agreement.* The lease for certain space at 530 EchoStar Drive in Cheyenne, Wyoming is for a period ending on December 31, 2031. In connection with the completion of the Share Exchange, EchoStar transferred ownership of a portion of this property to us, and, effective March 1, 2017, we and EchoStar amended this lease agreement to (i) terminate the lease of certain space at the portion of the property that was transferred to us and (ii) provide for the continued lease to us of certain space at the portion of the property that EchoStar retained. On May 19, 2019, we entered into a Master Transaction Agreement pursuant to which, on September 10, 2019, this real estate was transferred to us. See above for further information on the Master Transaction Agreement.
- *100 Inverness Lease Agreement.* In connection with the completion of the Share Exchange, effective March 1, 2017, we lease certain space from EchoStar at 100 Inverness Terrace East, Englewood, Colorado for a period ending in December 2021. This agreement may be terminated by either party upon 180 days' prior notice.

Professional Services Agreement. Prior to 2010, in connection with the Spin-off, we entered into various agreements with EchoStar including the Transition Services Agreement, Satellite Procurement Agreement and Services Agreement, which all expired on January 1, 2010 and were replaced by a Professional Services Agreement. During 2009, we and EchoStar agreed that EchoStar shall continue to have the right, but not the obligation, to receive the following services from us, among others, certain of which were previously provided under the Transition Services Agreement: information technology, travel and event coordination, internal audit, legal, accounting and tax, benefits administration, program acquisition services and other support services. Additionally, we and EchoStar agreed that we shall continue to have the right, but not the obligation, to engage EchoStar to manage the process of procuring new satellite capacity for us (previously provided under the Satellite Procurement Agreement) and receive logistics, procurement and quality assurance services from EchoStar (previously provided under the Services Agreement) and other support services. The Professional Services Agreement renewed on January 1, 2020 for an additional one-year period until January 1, 2021 and renews automatically for successive one-year periods thereafter, unless terminated earlier by either party upon at least 60 days' notice. However, either party may terminate the Professional Services Agreement in part with respect to any particular service it receives for any reason upon at least 30 days' notice. In connection with the completion of the Share Exchange on February 28, 2017, DISH Network and EchoStar amended the Professional Services Agreement to, among other things, provide certain transition services to each other related to the Share Exchange Agreement. In addition, on May 19, 2019, we entered into a Master Transaction Agreement, pursuant to which, effective September 10, 2019, DISH Network and EchoStar amended the Professional Services Agreement to, among other things, provide certain transition services to each other related to the Master Transaction Agreement and to remove certain services no longer necessary as a result of the Master Transaction Agreement. See above for further information on the Master Transaction Agreement. During March 2020, we and EchoStar added a service under the Professional Services Agreement whereby we provide EchoStar with rights to use certain satellite capacity in exchange for certain credits to amounts owed by us to EchoStar under the TerreStar Agreement described above.

Revenue for services provided by us to EchoStar under the Professional Services Agreement is recorded in "Equipment sales and other revenue" on our Consolidated Statements of Operations and Comprehensive Income (Loss).

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Other Agreements - EchoStar

Tax Sharing Agreement. In connection with the Spin-off, we entered into a tax sharing agreement (the “Tax Sharing Agreement”) with EchoStar which governs our respective rights, responsibilities and obligations after the Spin-off with respect to taxes for the periods ending on or before the Spin-off. Generally, all pre-Spin-off taxes, including any taxes that are incurred as a result of restructuring activities undertaken to implement the Spin-off, are borne by us, and we will indemnify EchoStar for such taxes. However, we are not liable for and will not indemnify EchoStar for any taxes that are incurred as a result of the Spin-off or certain related transactions failing to qualify as tax-free distributions pursuant to any provision of Section 355 or Section 361 of the Internal Revenue Code of 1986, as amended (the “Code”) because of: (i) a direct or indirect acquisition of any of EchoStar’s stock, stock options or assets; (ii) any action that EchoStar takes or fails to take; or (iii) any action that EchoStar takes that is inconsistent with the information and representations furnished to the Internal Revenue Service (“IRS”) in connection with the request for the private letter ruling, or to counsel in connection with any opinion being delivered by counsel with respect to the Spin-off or certain related transactions. In such case, EchoStar is solely liable for, and will indemnify us for, any resulting taxes, as well as any losses, claims and expenses. The Tax Sharing Agreement will only terminate after the later of the full period of all applicable statutes of limitations, including extensions, or once all rights and obligations are fully effectuated or performed.

In light of the Tax Sharing Agreement, among other things, and in connection with our consolidated federal income tax returns for certain tax years prior to and for the year of the Spin-off, during the third quarter 2013, we and EchoStar agreed upon a supplemental allocation of the tax benefits arising from certain tax items resolved in the course of the IRS’ examination of these consolidated tax returns. As a result, we agreed to pay EchoStar \$80 million of the tax benefit we received or will receive. This resulted in a reduction of our recorded unrecognized tax benefits and this amount was reclassified to a long-term payable to EchoStar within “Long-term deferred revenue and other long-term liabilities” on our Consolidated Balance Sheets during the third quarter 2013. Any payment to EchoStar, including accrued interest, will be made at such time as EchoStar would have otherwise been able to realize such tax benefit. In addition, during the third quarter 2013, we and EchoStar agreed upon a tax sharing arrangement for filing certain combined state income tax returns and a method of allocating the respective tax liabilities between us and EchoStar for such combined returns, through the taxable period ending on December 31, 2017 (the “State Tax Arrangement”). During the third quarter 2018, we and EchoStar amended the Tax Sharing Agreement and the 2013 agreements (the “Amendment”).

Under the Amendment, among other things, we are entitled to apply the benefit of EchoStar’s 2009 net operating losses to our federal tax return for the year ended December 31, 2008, in exchange for paying EchoStar over time the value of the net annual federal income taxes paid by EchoStar that would have been otherwise offset by their 2009 net operating loss. In addition, the Amendment extends the term of the State Tax Arrangement for filing certain combined state income tax returns to the earlier to occur of (1) termination of the Tax Sharing Agreement, (2) a change in control of either us or EchoStar or, (3) for any particular state, if we and EchoStar no longer file a combined tax return for such state. Beginning in 2020, DISH Network and EchoStar no longer file combined tax returns in any states.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Tax Matters Agreement – Share Exchange. In connection with the completion of the Share Exchange, we and EchoStar entered into a Tax Matters Agreement, which governs certain rights, responsibilities and obligations with respect to taxes of the Transferred Businesses pursuant to the Share Exchange. Generally, EchoStar is responsible for all tax returns and tax liabilities for the Transferred Businesses for periods prior to the Share Exchange, and we are responsible for all tax returns and tax liabilities for the Transferred Businesses from and after the Share Exchange. Both we and EchoStar have made certain tax-related representations and are subject to various tax-related covenants after the consummation of the Share Exchange. Both we and EchoStar have agreed to indemnify each other if there is a breach of any such tax representation or violation of any such tax covenant and that breach or violation results in the Share Exchange not qualifying for tax free treatment for the other party. In addition, we have agreed to indemnify EchoStar if the Transferred Businesses are acquired, either directly or indirectly (e.g., via an acquisition of us), by one or more persons and such acquisition results in the Share Exchange not qualifying for tax free treatment. The Tax Matters Agreement supplements the Tax Sharing Agreement described above, which continues in full force and effect.

Tax Matters Agreement – Master Transaction Agreement. In connection with the completion of the Master Transaction Agreement, we and EchoStar entered into a Tax Matters Agreement, which governs certain rights, responsibilities and obligations with respect to taxes of the BSS Business pursuant to the Master Transaction Agreement. Generally, EchoStar is responsible for all tax returns and tax liabilities for the BSS Business for periods prior to the Master Transaction Agreement, and we are responsible for all tax returns and tax liabilities for the BSS Business from and after the Master Transaction Agreement. Both we and EchoStar have made certain tax-related representations in contemplation of the Master Transaction Agreement. Both we and EchoStar have agreed to indemnify each other if there is a breach of any such tax representation and that breach results in the Master Transaction Agreement not qualifying for tax free treatment for the other party. In addition, we have agreed to indemnify EchoStar if the BSS Business is acquired, either directly or indirectly (e.g., via an acquisition of us), by one or more persons and such acquisition results in the Master Transaction Agreement not qualifying for tax free treatment. The Tax Matters Agreement - Master Transaction Agreement supplements the Tax Sharing Agreement described above, which continues in full force and effect.

Patent Cross-License Agreements. In December 2011, we and EchoStar entered into separate patent cross-license agreements with the same third party whereby: (i) EchoStar and such third-party licensed their respective patents to each other subject to certain conditions; and (ii) we and such third-party licensed our respective patents to each other subject to certain conditions (each, a “Cross-License Agreement”). Each Cross License Agreement covers patents acquired by the respective party prior to January 1, 2017 and aggregate payments under both Cross-License Agreements total less than \$10 million. Each Cross License Agreement also contains an option to extend each Cross-License Agreement to include patents acquired by the respective party prior to January 1, 2022. In December 2016, we and EchoStar independently exercised our respective options to extend each Cross-License Agreement. The aggregate additional payments to such third-party was less than \$3 million. Since the aggregate payments under both Cross-License Agreements were based on the combined annual revenues of us and EchoStar, we and EchoStar agreed to allocate our respective payments to such third party based on our respective percentage of combined total revenue.

Rovi License Agreement. On August 19, 2016, we entered into a ten-year patent license agreement (the “Rovi License Agreement”) with Rovi Corporation (“Rovi”) and, for certain limited purposes, EchoStar. EchoStar is a party to the Rovi License Agreement solely with respect to certain provisions relating to the prior patent license agreement between EchoStar and Rovi. There are no payments between us and EchoStar under the Rovi License Agreement.

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

Hughes Broadband Master Services Agreement. In March 2017, DISH Network L.L.C. (“DNLLC”) and HNS entered into the MSA pursuant to which DNLLC, among other things: (i) has the right, but not the obligation, to market, promote and solicit orders for the Hughes broadband satellite service and related equipment; and (ii) installs Hughes service equipment with respect to activations generated by DNLLC. Under the MSA, HNS will make certain payments to DNLLC for each Hughes service activation generated, and installation performed, by DNLLC. Payments from HNS for services provided are recorded in “Service revenue” on our Consolidated Statements of Operations and Comprehensive Income (Loss). For the years ended December 31, 2020, 2019 and 2018, these payments were \$16 million, \$20 million and \$34 million, respectively. The MSA has an initial term of five years with automatic renewal for successive one year terms. After the first anniversary of the MSA, either party has the ability to terminate the MSA, in whole or in part, for any reason upon at least 90 days’ notice to the other party. Upon expiration or termination of the MSA, HNS will continue to provide the Hughes service to subscribers and make certain payments to DNLLC pursuant to the terms and conditions of the MSA. For the years ended December 31, 2020, 2019 and 2018, we purchased broadband equipment from HNS of \$13 million, \$14 million and \$21 million under the MSA, respectively.

Employee Matters Agreement– Share Exchange. In connection with the completion of the Share Exchange, effective March 1, 2017, we and EchoStar entered into an Employee Matters Agreement that addresses the transfer of employees from EchoStar to us, including certain benefit and compensation matters and the allocation of responsibility for employee-related liabilities relating to current and past employees of the Transferred Businesses. We assumed employee-related liabilities relating to the Transferred Businesses as part of the Share Exchange, except that EchoStar will be responsible for certain existing employee-related litigation as well as certain pre-Share Exchange compensation and benefits for employees transferring to us in connection with the Share Exchange.

Employee Matters Agreement – Master Transaction Agreement. In connection with the completion of the Master Transaction Agreement, effective September 10, 2019, we and EchoStar entered into an Employee Matters Agreement that addresses the transfer of employees from EchoStar to us, including certain benefit and compensation matters and the allocation of responsibility for employee-related liabilities relating to current and past employees of the BSS Business. We assumed employee-related liabilities relating to the BSS Business as part of the Master Transaction Agreement, except that EchoStar will be responsible for certain existing employee-related litigation as well as certain pre-Master Transaction Agreement compensation and benefits for employees transferring to us in connection with the Master Transaction Agreement.

Intellectual Property and Technology License Agreement – Share Exchange. In connection with the completion of the Share Exchange, effective March 1, 2017, we and EchoStar entered into an Intellectual Property and Technology License Agreement (“IPTLA”), pursuant to which we and EchoStar license to each other certain intellectual property and technology. The IPTLA will continue in perpetuity, unless mutually terminated by the parties. Pursuant to the IPTLA, EchoStar granted to us a license to its intellectual property and technology for use by us, among other things, in connection with our continued operation of the Transferred Businesses acquired pursuant to the Share Exchange Agreement, including a limited license to use the “EHOSTAR” trademark during a transition period. EchoStar retains full ownership of the “EHOSTAR” trademark. In addition, we granted a license back to EchoStar, among other things, for the continued use of all intellectual property and technology transferred to us pursuant to the Share Exchange Agreement that is used in EchoStar’s retained businesses.

Intellectual Property and Technology License Agreement – Master Transaction Agreement. In connection with the completion of the Master Transaction Agreement, effective September 10, 2019, we and EchoStar entered into an IPTLA (the “MTA IPTLA”), pursuant to which we and EchoStar license to each other certain intellectual property and technology. The MTA IPTLA will continue in perpetuity, unless mutually terminated by the parties. Pursuant to the MTA IPTLA, EchoStar granted to us a license to its intellectual property and technology for use by us, among other things, in connection with our continued operation of the BSS Business acquired pursuant to the Master Transaction Agreement, including a limited license to use the “ESS” and “EHOSTAR SATELLITE SERVICES” trademarks during a transition period. EchoStar retains full ownership of the “ESS” and “EHOSTAR SATELLITE SERVICES” trademarks. In addition, we granted a license back to EchoStar, among other things, for

DISH NETWORK CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued

the continued use of all intellectual property and technology transferred to us pursuant to the Master Transaction Agreement that is used in EchoStar’s retained businesses.

Related Party Transactions with NagraStar L.L.C.

We own a 50% interest in NagraStar, a joint venture that is our primary provider of encryption and related security systems intended to assure that only authorized customers have access to our programming. Certain payments related to NagraStar are recorded in “Cost of services” on our Consolidated Statements of Operations and Comprehensive Income (Loss). In addition, certain other payments are initially included in “Inventory” and are subsequently capitalized as “Property and equipment, net” on our Consolidated Balance Sheets or expensed as “Selling, general and administrative expenses” or “Cost of services” on our Consolidated Statements of Operations and Comprehensive Income (Loss) when the equipment is deployed. We record all payables in “Trade accounts payable” or “Other accrued expenses” on our Consolidated Balance Sheets. Our investment in NagraStar is accounted for using the equity method.

The table below summarizes our transactions with NagraStar.

	For the Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Purchases (including fees):			
Purchases from NagraStar	\$ 53,902	\$ 56,284	\$ 72,162
	As of December 31,		
	2020	2019	
	(In thousands)		
Amounts Payable and Commitments:			
Amounts payable to NagraStar		\$ 9,038	\$ 9,630
Commitments to NagraStar		\$ 3,260	\$ 4,893

Related Party Transactions with Dish Mexico

Dish Mexico, S. de R.L. de C.V. (“Dish Mexico”) is an entity that provides direct-to-home satellite services in Mexico, which is owned 49% by EchoStar. We provide certain broadcast services and certain satellite services to Dish Mexico, which are recorded in “Equipment sales and other revenue” on our Consolidated Statements of Operations and Comprehensive Income (Loss).

The table below summarizes our transactions with Dish Mexico:

	For the Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Sales:			
Digital receivers and related components	\$ —	\$ —	\$ 1,227
Satellite capacity	21,850	6,736	—
Uplink services	5,095	5,620	5,426
Total	\$ 26,945	\$ 12,356	\$ 6,653
	As of December 31,		
	2020	2019	
	(In thousands)		
Amounts Receivable:			
Amounts receivable from Dish Mexico		\$ 17,029	\$ 7,057

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS EXHIBIT, MARKED BY [*], HAS BEEN OMITTED FROM THIS EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM TO IF PUBLICLY DISCLOSED.**

PURCHASE AGREEMENT

THIS PURCHASE AGREEMENT (this “*Agreement*”), is made as of December 30, 2020, by and among American AWS-3 Wireless II L.L.C., a Colorado limited liability company (“*Buyer*”), Northstar Manager, LLC, a Delaware limited liability company (“*Seller*”), and Northstar Spectrum, LLC, a Delaware limited liability company (the “*Company*”).

RECITALS

A. Buyer and Seller are party to the Third Amended and Restated Limited Liability Company Agreement of the Company, dated as of June 7, 2018 (as such Agreement may have been or may hereafter be amended, modified, supplemented or amended and restated from time to time in accordance with its terms, the “*LLC Agreement*”).

B. The LLC Agreement contains a Put Right that is currently exercisable. Seller has decided not to exercise the Put Right in the First Put Window.

C. Among other reasons, Seller has determined that, in light of uncertainty and delays in decision-making by the Federal Communications Commission and an adverse decision necessitating further appeal, it is prudent to complete the transaction described herein.

D. Seller is the holder of a Class B Common Interest representing a Class B Percentage of 15% and Buyer is the holder of a Class B Common Interest representing a Class B Percentage of 85%.

E. Seller desires to sell 80% of its Class B Common Interest (the “*Transferred Interest*”) to Buyer and Buyer desires to purchase from Seller the Transferred Interest on the terms set forth herein.

AGREEMENT

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements set forth herein, and other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company, Buyer and Seller agree as follows:

1. Definitions; Construction. Capitalized terms used herein without definition herein having the meanings ascribed to them in the LLC Agreement and the rules of construction set forth in Section 14.17 of the LLC Agreement are incorporated herein by reference *mutatis mutandis*.
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2. Purchase and Sale.

(a) Subject to the terms and conditions of this Agreement, Seller agrees to sell and assign to Buyer all of Seller's right, title and interest in and to, and Buyer agrees to purchase and assume, the Transferred Interest for a cash purchase price of [***] (the "*Purchase Price*"). Buyer shall pay the Purchase Price to Seller on the date hereof, by wire transfer of immediately available funds initiated prior to 10:00 a.m. Eastern Time, to the Company account previously provided, and the Company will promptly remit the Purchase Price to Seller's account (or as otherwise directed by Seller).

(b) Seller does hereby, subject to receipt of the Purchase Price from Buyer, assign, convey, transfer and deliver to Buyer all of Seller's right, title and interest in and to, free and clear of Liens (other than restrictions imposed pursuant to the LLC Agreement or under any applicable securities laws), the Transferred Interest, and Buyer does hereby accept and assume the Transferred Interest.

(c) Upon the payment of the Purchase Price and the sale and purchase of the Transferred Interest as set forth above, Seller's Interest will be a Class B Common Interest representing a Class B Percentage of 3% ("*Seller's Remaining Interest*"), and Buyer's Class B Common Interest will represent a Class B Percentage of 97%.

3. Seller Representations. Seller represents and warrants to Buyer that:

(a) subject to the FCC Rules, Seller (i) is the sole beneficial and record owner of the Transferred Interest and has good and marketable title thereto, free and clear of all Liens (other than restrictions imposed pursuant to the LLC Agreement or under any applicable securities laws and other than Liens under or pursuant to the Senior Credit Facility and the other Loan Documents (as defined therein)) and (ii) has full power and authority to deliver the Transferred Interest without conflict with the terms of any Applicable Law, order or material agreement or instrument binding upon Seller or its assets; and

(b) this Agreement has been duly executed and delivered by Seller, and this Agreement constitutes a legal, valid and binding agreement of Seller, enforceable against Seller in accordance with its terms, except as may be limited by bankruptcy, insolvency, reorganization, moratorium, fraudulent transfer or other similar laws relating to or affecting the enforcement of creditors' rights generally and by general principles of equity (regardless of whether considered in a proceeding in equity or at law).

4. Buyer Representations. Buyer represents and warrants to Seller that:

(a) Buyer has full power and authority to execute, deliver and perform this Agreement;

(b) Buyer is acquiring the Transferred Interest for investment purposes only for Buyer's own account, with no present intention of reselling or otherwise making a public distribution of same;

(c) Buyer has substantial knowledge and experience in financial and business matters and has the requisite knowledge and experience to evaluate the risks and merits of this investment; and

(d) this Agreement has been duly executed and delivered by Buyer, and this Agreement constitutes a legal, valid and binding agreement of Buyer, enforceable against Buyer in accordance with its terms, except as may be limited by bankruptcy, insolvency, reorganization, moratorium, fraudulent transfer or other similar laws relating to or affecting the enforcement of creditors' rights generally and by general principles of equity (regardless of whether considered in a proceeding in equity or at law).

5. Survival of and Limitation on Representations in the Agreement.

(a) Except for the representations and warranties set forth in this Agreement, the Transferred Interest are being sold hereunder on an "as is," "where is" basis. Seller provides no other representations or warranties, including implied warranties of merchantability and fitness for a particular purpose, warranties arising from course of dealing or usage of trade, or any other representations or warranties, whether statutory, express or implied, all of which are expressly disclaimed. Seller makes no representation or warranty to Buyer with respect to any financial projections, forecasts or forward looking statements of any kind of nature whatsoever relating to the Transferred Interest. Buyer acknowledges that it has not relied on, and Seller expressly disclaims, any representations or warranties of any kind or nature whatsoever, express or implied, including as to the condition, value or quality of the Company, the Transferred Interest, or the prospects (financial or otherwise), risks and other incidents of the Company and its assets and properties. Buyer, on behalf of itself and its affiliates and its and their respective representatives, hereby waives all rights and claims it or they may have against Seller and its respective affiliates and representatives with respect to the accuracy or any omission of (i) any potentially material information regarding the Transferred Interest, the Company or any of its assets, liabilities or operations and (ii) any representation or warranty, express or implied, as to the quality, merchantability, fitness for a particular purpose, or condition of the Transferred Interest, except, in each case, to the extent set forth in the representations and warranties in Section 3;

(b) the representations and warranties of Seller and Buyer contained in this Agreement shall survive the execution and delivery of this Agreement until the expiration of all applicable statutes of limitation, including any extensions, tolling or waivers thereof; and

(c) Seller makes no representations or warranties about the Company.

6. No Registration. Buyer acknowledges that the Transferred Interest has not been registered under the Securities Act of 1933 nor any applicable state securities laws and that the Transferred Interest must be held indefinitely unless it is subsequently registered under the Securities Act of 1933 and all applicable state securities laws or a transfer is made pursuant to an exemption from such registration. Buyer further acknowledges that its investment in the Transferred Interest is speculative and risky and that there is no current public or other market for the Transferred Interest.

7. FCC Filings. Seller shall cause the License Company to take all actions necessary and proper under FCC Rules for the License Company to timely make such filings, amendments to pending applications, and any other submissions required to be filed under FCC Rules in connection with the transaction contemplated by this Agreement.
8. Opinions. Buyer hereby acknowledges and agrees that, notwithstanding Section 7.4 of the LLC Agreement, Seller will not deliver any legal opinions in connection with the transaction contemplated by this Agreement.
9. Manager. Buyer hereby acknowledges and agrees that, notwithstanding Section 7.1(b) of the LLC Agreement or anything else in the LLC Agreement to the contrary, following the sale of the Transferred Interest to Buyer, Seller shall continue to be the Manager until Seller's resignation or removal as Manager as set forth in the LLC Agreement.
10. Put Right. Seller has decided not to exercise the Put Right in the First Put Window and, subject to its receipt of the Purchase Price hereunder, hereby waives its right to do so (it being understood that such waiver is limited to the First Put Window and shall not in any way limit or modify Seller's right to exercise the Put Right in the Second Put Window with respect to the collective Interests held by the NSM Members at such time). The parties hereby agree that:
 - (a) upon the transfer of the Transferred Interest to Buyer, for purposes of calculating the Put Price in accordance with Section 8.1(b) of the LLC Agreement, the sum of all cash contributions made by Seller with respect to Seller's Remaining Interest through the date hereof is equal to [***];
 - (b) through the date hereof, the amount accrued pursuant to Section 8.1(b)(ii) of the LLC Agreement on the contributions set forth in clause (a) above is [***];
 - (c) through the date hereof, no distributions have been made or deemed made to the NSM Members by the Company;
 - (d) therefore, the NSM Return on Seller's Remaining Interest would be [***] if the Put Price in respect of Seller's Remaining Interest was paid to Seller on the date hereof; and
 - (e) such amount shall continue to accrue with respect to Seller's Remaining Interest as set forth in Section 8.1(b) of the LLC Agreement until the Put Price is actually paid (if the Put Right is exercised in the Second Put Window in accordance with Section 8.1(a) of the LLC Agreement). For the sake of clarity, if the Put Right is exercised pursuant to Section 8.1(a) of the LLC Agreement during the Second Put Window, the amount referred to in clause (e) of this Section 10 shall accrue as follows: (i) solely for the purposes of calculating that portion of the NSM Return generated during the period commencing on the first day after the end of the First Put Window and until the date of exercise of the Put Right, at [***] per annum, compounded annually, and (ii) solely for the purposes of calculating that portion of the NSM Return generated during the period commencing on the date on which the Put Right is exercised and to the date the Put Price is actually paid, at the weighted average per annum return on the NSM Capital as calculated as of the date the Put Right is exercised, compounded annually.
11. Tax Matters. The determination of whether NSM is a "notice partner" for purposes of Section 5.5(c) of the LLC Agreement shall be made without regard to the transfer provided for in this Agreement for all periods prior to the disposition by Seller of Seller's Remaining Interest.

12. Acknowledgments. The parties acknowledge and agree that: (a) entering into this Agreement and the transaction contemplated hereby shall not be or result in a Significant Breach or Significant Violation (or any other breach or violation of the LLC Agreement or any of the other agreements referenced therein); and (b) for the avoidance of doubt, upon the consummation of the transaction contemplated by this Agreement, the LLC Agreement, the Senior Credit Agreement, the Interest Purchase Agreement, the Intercreditor and Subordination Agreement, the NSM Security Agreement, the NSM Pledge Agreement, and the other agreements referenced in the foregoing agreements shall remain in full force and effect.
13. Further Assurances. Each of the parties agrees that at any time and from time to time upon the request of another party hereto, it shall execute and deliver such further documents and shall take such further actions as such other party may at any time or times reasonably request, at the expense of such requesting party, consistent with the provisions hereof in order to carry out and effect the intent and purposes of this Agreement, and to vest in Buyer, and put Buyer in possession of, the Transferred Interest.
14. Miscellaneous.
- 14.1 Notices. All notices and other communications given or made pursuant to this Agreement must be in writing and shall be given in accordance with Section 14.12 of the LLC Agreement.
- 14.2 Governing Law; Arbitration. This Agreement shall be construed in accordance with and governed by the internal laws of the State of Delaware applicable to agreements made and to be performed wholly within such jurisdiction, without regard to principles of conflicts of law provisions of that or of any other state, all rights and remedies being governed by said laws. Any controversy or claim arising out of or relating to this Agreement, or the breach thereof, shall be settled by arbitration administered by the American Arbitration Association in accordance with its Commercial Arbitration Rules, and judgment on the award rendered by the arbitrators may be entered in any court having jurisdiction thereof in accordance with Section 10.3 of the LLC Agreement, the provisions of which are incorporated herein by reference *mutatis mutandis*.
- 14.3 Entire Agreement. This Agreement and the LLC Agreement (and the other agreements referenced therein) constitute the full and entire understanding and agreement between the parties with respect to the subject matter hereof, and any other written or oral agreement relating to the subject matter hereof existing between the parties are expressly canceled. Notwithstanding the foregoing, that certain Appeal Contingency Agreement, dated as of October 1, 2015, by and among the Company, Seller, Buyer and Northstar Wireless, LLC, as amended to date, shall continue to apply; provided, however, that the parties hereto hereby acknowledge and agree that the proviso set forth in Section 3 thereof shall be deemed to be deleted and shall have no further force or effect.
- 14.4 Amendment; Waiver. Neither this Agreement nor any provision hereof may be amended, modified, or waived except in a writing signed by Buyer and Seller. No failure or delay of a party in exercising any power or right hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such right or power, or any abandonment or

discontinuance of steps to enforce any such right or power, preclude any other further exercise thereof or the exercise of any other right or power. No waiver by a party of any departure by any party from any provision of this Agreement shall be effective unless the same shall be in a writing signed by the party against which enforcement of such waiver or consent is sought, and then such waiver or consent shall be effective only in the specific instance and for the specific purpose for which it was given.

- 14.5 Assignment; No Third-Party Beneficiaries. This Agreement may not be assigned by Buyer or Seller without the prior written consent of the other party, which consent may be withheld in its sole and absolute discretion, and any assignment without such prior written consent shall be null and void and without force or effect. Subject to the foregoing, the terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. This Agreement is entered into solely for the benefit of Buyer and Seller, and no Person, other than Buyer and Seller, and their respective successors and permitted assigns, may exercise any right or enforce any obligation hereunder, and nothing herein expressed or implied will create or be construed to create any other third-party beneficiary rights hereunder.
- 14.6 Severability. Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality or unenforceability will not affect any other provision or any other jurisdiction, but this Agreement will be reformed, construed and enforced in such jurisdiction as if such invalid, illegal or unenforceable provision had never been contained herein.
- 14.7 Counterparts. This Agreement may be executed in two or more counterparts, each of which is deemed an original, but all of which together constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, *e.g.*, www.docusign.com) or other transmission method and any counterpart so delivered are deemed to have been duly and validly delivered and are valid and effective for all purposes.
- 14.8 Fees and Expenses. Each of Buyer and Seller will pay its own expenses incurred in connection with the transaction contemplated by this Agreement.
- 14.9 Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties hereto have caused this Purchase Agreement to be executed as of the day and year first above written.

COMPANY:

NORTHSTAR SPECTRUM, LLC

By: Northstar Manager, LLC, its Manager
By: Doyon, Limited, its Manager

By: /s/ Aaron Schutt
Name: Aaron Schutt
Title: President & CEO

SELLER:

NORTHSTAR MANAGER, LLC

By: Doyon, Limited, its Manager

By: /s/ Aaron Schutt
Name: Aaron Schutt
Title: President & CEO

BUYER:

AMERICAN AWS-3 WIRELESS II L.L.C.

By: /s/ Thomas A. Cullen
Name: Thomas A. Cullen
Title: EVP

Purchase Agreement Signature Page

DISH NETWORK CORPORATION AND SUBSIDIARIES
LIST OF SUBSIDIARIES
As of December 31, 2020

Subsidiary	State or Country of Incorporation	% of Ownership	Name Doing Business As
DISH Orbital Corporation	Colorado	100%	DOC
DISH DBS Corporation	Colorado	100%	DDBS
DISH Network L.L.C.	Colorado	100%	(1) DNLLC
DISH Operating L.L.C.	Colorado	100%	(1) SATCO
Echosphere L.L.C.	Colorado	100%	(1) Echosphere
Dish Network Service L.L.C.	Colorado	100%	(1) DNSLLC
DISH Wireless Holding L.L.C.	Colorado	100%	DISH Wireless
DISH Wireless L.L.C.	Colorado	100%	(2) DISH Wireless
EchoStar Broadcasting Corporation	Colorado	100%	(1) EBC
DISH Technologies L.L.C.	Colorado	100%	(1) DTLLC
Sling TV Holding L.L.C.	Colorado	100%	(1) Sling TV

(1) This is a subsidiary of DISH DBS Corporation

(2) This is a subsidiary of DISH Wireless Holding L.L.C.

Consent of Independent Registered Public Accounting Firm

The Board of Directors
DISH Network Corporation:

We consent to the incorporation by reference in the registration statements of DISH Network Corporation of our report dated February 21, 2021, with respect to the consolidated balance sheets of DISH Network Corporation and subsidiaries (the Company) as of December 31, 2020 and 2019, and the related consolidated statements of operations and comprehensive income (loss), changes in stockholders' equity (deficit), and cash flows for each of the years in the three year period ended December 31, 2020, and the related notes (collectively, the consolidated financial statements), and the effectiveness of internal control over financial reporting as of December 31, 2020, which report appears in the December 31, 2020 annual report on Form 10-K of DISH Network Corporation. Our report includes explanatory paragraphs as the Company has changed its method of accounting for leases due to the adoption of Accounting Standards Update No. 2016-02, *Leases*, as amended and the Company acquired Boost Mobile and Ting Mobile (the Retail Wireless business) during 2020, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting.

Form	Registration statement no.	Description
S-8	333-237478	Amended and Restated Employee Stock Purchase Plan
S-3ASR	333-234552	Registration Statement and Related Prospectus
S-8	333-231291	2019 Stock Incentive Plan
S-8	333-159461	2009 Stock Incentive Plan and Amended and Restated Employee Stock Purchase Plan
S-8	333-146962	2004 Sling Media, Inc. Stock Plan
S-8	333-136603	Amended and Restated 1997 Employee Stock Purchase Plan; Amended and Restated 2001 Nonemployee Director Stock Option Plan
S-8	333-106423	1999 Stock Incentive Plan
S-8	333-66490	2001 Nonemployee Director Stock Option Plan
S-8	333-36791	1997 Employee Stock Purchase Plan
S-8	333-05575	1995 Nonemployee Director Stock Option Plan
S-8	033-80527	1995 Stock Incentive Plan

/s/ KPMG LLP

Denver, Colorado
February 21, 2021

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Timothy A. Messner, individually, as the true and lawful attorney-in-fact and agent of the undersigned, with full power of substitution and resubstitution, for and in the name, place and stead of the undersigned, in any and all capacities, to sign the Annual Report on Form 10-K of DISH Network Corporation, a Nevada corporation formed in April 1995, for the year ended December 31, 2020, and any and all amendments thereto and to file the same, with all exhibits thereto and other documents in connection therewith, with the United States Securities and Exchange Commission, and hereby grants to each such attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully as to all intents and purposes as the undersigned might or could do in person, hereby ratifying and confirming all that such attorney-in-fact and agent, or his substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Power of Attorney has been signed by the following persons in the capacities and on the date indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Charles W. Ergen</u> Charles W. Ergen	Chairman	February 22, 2021
<u>/s/ Kathleen Q. Abernathy</u> Kathleen Q. Abernathy	Director	February 22, 2021
<u>/s/ George R. Brokaw</u> George R. Brokaw	Director	February 22, 2021
<u>/s/ James DeFranco</u> James DeFranco	Director	February 22, 2021
<u>/s/ Cantey Ergen</u> Cantey Ergen	Director	February 22, 2021
<u>/s/ Afshin Mohebbi</u> Afshin Mohebbi	Director	February 22, 2021
<u>/s/ Tom A. Ortolf</u> Tom A. Ortolf	Director	February 22, 2021
<u>/s/ Joseph T. Proietti</u> Joseph T. Proietti	Director	February 22, 2021
<u>/s/ Carl E. Vogel</u> Carl E. Vogel	Director	February 22, 2021

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
Section 302 Certification

I, W. Erik Carlson, certify that:

1. I have reviewed this Annual Report on Form 10-K of DISH Network Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 22, 2021

/s/ W. Erik Carlson

President and Chief Executive Officer

CERTIFICATION OF CHIEF FINANCIAL OFFICER
Section 302 Certification

I, Paul W. Orban, certify that:

1. I have reviewed this Annual Report on Form 10-K of DISH Network Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 22, 2021

/s/ Paul W. Orban

Chief Financial Officer

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
Section 906 Certification

Pursuant to 18 U.S.C. § 1350, the undersigned officer of DISH Network Corporation (the “Company”) hereby certifies that to the best of his knowledge the Company’s Annual Report on Form 10-K for the year ended December 31, 2020 (the “Report”) fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934 and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: February 22, 2021

Name: /s/ W. Erik Carlson

Title: President and Chief Executive Officer

The foregoing certification is being furnished solely pursuant to 18 U.S.C. § 1350 and is not being filed as part of the Report or as a separate disclosure document.

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

CERTIFICATION OF CHIEF FINANCIAL OFFICER
Section 906 Certification

Pursuant to 18 U.S.C. § 1350, the undersigned officer of DISH Network Corporation (the “Company”) hereby certifies that to the best of his knowledge the Company’s Annual Report on Form 10-K for the year ended December 31, 2020 (the “Report”) fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934 and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: February 22, 2021

Name: /s/ Paul W. Orban

Title: Chief Financial Officer

The foregoing certification is being furnished solely pursuant to 18 U.S.C. § 1350 and is not being filed as part of the Report or as a separate disclosure document.

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.
