

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
International Bureau and Wireless)	GN Docket No. 18-122
Telecommunications Bureau Seek Focused)	RM-11791
Additional Comment in 3.7-4.2 GHz Band)	RM-11778
Proceeding)	

REPLY COMMENTS OF T-MOBILE USA, INC.

T-Mobile USA, Inc. (“T-Mobile”)^{1/} submits these reply comments in response to the comments filed on the *Public Notice* in the above-referenced proceeding that requested focused additional comment on enabling terrestrial use of the 3.7-4.2 GHz band (“C-band”).^{2/}

I. RECEIVE-ONLY EARTH STATION REGISTRANTS ARE TITLE III LICENSEES

Commenters broadly agree that earth station registrants are licensees under Title III of the Communications Act (the “Act”), meaning that registrants can and should be part of the process for re-purposing the C-band.^{3/} PSSI Global Services, L.L.C., for instance, points out that there is no way to characterize its earth station authorizations “as anything but ‘licenses.’”^{4/} National Public Radio, Inc. (“NPR”) highlights that, for the last five decades, the Commission has

^{1/} T-Mobile USA, Inc. is a wholly-owned subsidiary of T-Mobile US, Inc., a publicly traded company.

^{2/} See *International Bureau and Wireless Telecommunications Bureau Seek Focused Additional Comment in the 3.7-4.2 GHz Band Proceeding*, Public Notice, DA 19-385 (rel. May 3, 2019) (“*Public Notice*”).

^{3/} See, e.g., Comments of Charter Communications, Inc., GN Docket No. 18-122, *et al.*, at 4 (filed July 3, 2019) (“Charter Comments”); Comments of PSSI Global Services, L.L.C., GN Docket No. 18-122, *et al.*, at 2-3 (filed July 5, 2019) (“PSSI Comments”); Comments of National Public Radio, Inc., GN Docket No. 18-122, at 3 (filed July 3, 2019) (“NPR Comments”); Comments of BYU Broadcasting, GN Docket No. 18-122, *et al.*, at 7 (filed July 3, 2019) (“BYUB Comments”); Comments of ACA Connects – America’s Communications Association, GN Docket No. 18-122, *et al.*, at 4 (filed July 3, 2019) (“ACA Comments”).

^{4/} PSSI Comments at 2-3.

recognized that earth station registrants hold the same rights as licensees.^{5/} Similarly, BYU Broadcasting (“BYUB”) notes that “because a license is any ‘instrument of authorization,’ earth stations operate as licensees when they register and are given interference protections for ‘authorized frequency bands’ by the Commission.”^{6/}

Verizon asserts that earth station authorizations are not licenses because they are neither “required” by the Communications Act or the Commission’s rules nor used for the “transmission” of energy, communications, or signals by radio.^{7/} However, Verizon interprets the Act too narrowly. *First*, the Commission has effectively required all earth station operators in the C-band to register today in order to protect any rights that may be affected by this proceeding, eliminating Verizon’s claim that registration is not required.^{8/} Moreover, in the past, while earth station operators had the *option* to register their stations, registration was *required* if they sought interference protection rights.^{9/} As T-Mobile previously explained, the 1979

^{5/} NPR Comments at 3.

^{6/} BYUB Comments at 7.

^{7/} See Comments of Verizon, GN Docket No. 18-122, *et al.*, at 5-7 (filed July 3, 2019) (“Verizon Comments”). Other commenters who contend that earth station registrants are not licensees simply rehash the same arguments that were made by the C-Band Alliance (“CBA”) and Verizon, which T-Mobile has already demonstrated are legally flawed. See, e.g., Comments of Dynamic Spectrum Alliance, GN Docket No. 18-122, *et al.*, at 12-15 (filed July 3, 2019) (“DSA Comments”); Comments of the Wireless Internet Service Providers Association, GN Docket No. 18-122, at 10-13 (filed July 3, 2019) (“WISPA Comments”); Comments of the C-Band Alliance, GN Docket No. 18-122, *et al.*, at 3-5 (filed July 3, 2019) (“CBA Comments”).

^{8/} See *Temporary Freeze on Applications for New or Modified Fixed Satellite Service Earth Stations and Fixed Microwave Stations in the 3.7-4.2 GHz Band; 90-Day Window to File Applications for Earth Stations Currently Operating in 3.7-4.2 GHz Band*, Public Notice, 33 FCC Rcd 3841 (2018); see also *International Bureau Announces 90-Day Extension of Filing Window, to October 17, 2018, to File Applications for Earth Stations Currently Operating in 3.7-4.2 GHz Band; Filing Options for Operators with Multiple Earth Station Antennas*, Public Notice, 33 FCC Rcd 6115 (2018).

^{9/} Commenting parties agree that if an earth station wished to receive interference protection rights, it was required to obtain a registration, making it an “authorization required” by the Act or the Commission’s rules. See, e.g., ACA Comments at 6 (noting that “earth station operators who have taken up the Commission’s invitation to register are licensees enjoying all of a license’s protections”); Charter Comments at 5-6 (explaining that the Commission intended for the registration process to protect registrants from interference as a license would); see also WISPA Comments at 6 (recognizing that

Deregulation Order merely eliminated the mandatory licensing of receive-only earth stations – the authorizations that were issued to those that elected to receive them continued to be licenses.^{10/} And the Commission’s decision in the *1991 Streamlining Order* to change its “optional licensing” procedures to a “registration program” did not change that result.^{11/}

Second, Verizon’s assertion that earth station authorizations are not “licenses” because receive-only earth station operations are not “incidental” to “transmission” is simply not true.^{12/} They are more than incidental; as ACA Connects (“ACA”) observes: “Receive-only earth stations are not only incidental, but indeed fundamental, to such transmissions.”^{13/} As T-Mobile has pointed out, the Commission’s past statement suggesting that receiving facilities are not incidental to radio transmissions was limited to the question of whether the Act required *all* receive-only earth stations to obtain licenses.^{14/} Further, contrary to Verizon’s claim, the Commission specifically found that television receivers are “apparatus” that are “incidental to . . . transmission” of television broadcasts, demonstrating that the Commission has viewed other

“[r]eceive-only satellite earth stations do not obtain interference protection as a matter of statutory right, but rather only as a function of registration under the Commission’s rules”); 47 U.S.C. § 153(49).

^{10/} See Letter from Russell H. Fox, Mintz, Counsel to T-Mobile USA, Inc., to Ms. Marlene H. Dortch, Secretary, FCC, GN Docket No. 18-122, at 3 (filed Mar. 19, 2019) (“T-Mobile Mar. 19 *Ex Parte* Letter”) (discussing *Regulation of Domestic Receive-Only Satellite Earth Stations*, First Report and Order, 74 F.C.C.2d 205 (1979) (“*1979 Deregulation Order*”)).

^{11/} T-Mobile Mar. 19 *Ex Parte* Letter at 3-5 (discussing *Amendment of Part 25 of the Commission’s Rules and Regulations to Reduce Alien Carrier Interference Between Fixed-Satellites at Reduced Orbital Spacings and to Revise Application Processing Procedures for Satellite Communications Services*, First Report and Order, 6 FCC Rcd 2806 (1991) (“*1991 Streamlining Order*”)); ACA Comments at 5-7 (“The fact that the Commission has decided to no longer require prior approval for earth station operators does not change their status, at least so long as they have availed themselves of the registration process.”); Charter Comments at 6-7; NPR Comments at 3-4.

^{12/} Verizon Comments at 7-8; *see also* DSA Comments at 13-14; WISPA Comments at 4-5.

^{13/} ACA Comments at 8.

^{14/} See T-Mobile Mar. 19 *Ex Parte* Letter at 2; Charter Comments at 6-7.

passive receivers as incidental to transmissions and that satellite earth stations may be considered incidental also.^{15/}

Verizon’s assertion that the Commission does not treat receive-only earth station registrations as licenses in the ordinary course because it does not, for example, collect regulatory fees from registered receive-only earth station operators is unpersuasive.^{16/} Some non-licensees pay regulatory fees, and some licensees do not pay regulatory fees. Non-commercial educational FM station licensees and their peripheral services, for example, are not required to pay regulatory fees despite their status as licensees.^{17/}

II. THE COMMISSION HAS AUTHORITY TO CONDUCT AN INCENTIVE AUCTION OF THE C-BAND THAT INCLUDES EARTH STATION OPERATORS

Because earth station operators are licensees under the Communications Act, they may voluntarily relinquish their “licensed spectrum usage rights” in an incentive auction under Section 309(j)(8)(G) of the Act.^{18/} As NPR notes, “[t]his right to participate is connected to the right to be protected from interference”^{19/} The CBA asserts that “[r]eceive-only earth stations cannot be considered ‘competing licensees’ against satellite operators for the purposes of

^{15/} See T-Mobile Mar. 19 *Ex Parte* Letter at 2 n.8 (citing *Second Periodic Review of the Commission’s Rules and Policies Affecting the Conversion to Digital Television*, Second Report and Order, 22 FCC Rcd 8776, ¶ 16 (2007)).

^{16/} Verizon Comments at 8.

^{17/} See, e.g., *Regulatory Fees Fact Sheet; Regulatory Fee Exemptions for FY 2018*, FCC (Aug. 30, 2018), <https://docs.fcc.gov/public/attachments/DOC-353889A1.pdf>.

^{18/} See 47 U.S.C. § 309(j)(8)(G); ACA Comments at 10 (stating that “there can be little doubt that the Communications Act authorizes the Commission to conduct an incentive auction”); BYUB Comments at 8 (“The Communications Act allows the Commission to compensate licensees for voluntarily vacating spectrum as part of an incentive auction.”).

^{19/} NPR Comments at 6.

an FCC incentive auction because they do not compete with satellite operators.”^{20/} The CBA misconstrues the requirement in the Act to have “at least two competing licensees.”^{21/} The “competition” required by the Communications Act relates to the parties’ participation in a reverse auction. So long as at least two licensees that are not commonly controlled “compete to receive incentive payments from the same limited source,”^{22/} which is precisely what would occur with a C-band incentive auction, the Commission may conduct an incentive auction.

The Small Satellite Operators (“SSOs”) assert that a C-band incentive auction would be “unlawful” and represent “awful policy” because it would force satellite operators in a reverse auction to “underbid [earth station operators] that hold different, less valuable, and incommensurable rights”^{23/} Moreover, a C-band incentive auction, the SSOs contend, would “install an unprecedented subsidy mechanism into the forward auction that would transfer value from taxpayers into the hands of wireless carriers”^{24/} and “simply allocate mid-band spectrum to companies with the greatest access to financing,” rather than assign licenses to companies that are best equipped to build next-generation terrestrial networks.^{25/}

The SSOs’ complaints highlight exactly why an incentive auction represents sound spectrum policy. Allowing satellite operators to compete against earth station operators in a reverse auction – which, as noted above, is permitted under the Act – ensures that control of the

^{20/} CBA Comments at 32; *see also* Comments of the Small Satellite Operators (ABS Global Ltd., Hispasat S.A. and Claro S.A.), GN Docket No. 18-122, *et al.*, at 22-25 (filed July 3, 2019) (“SSO Comments”).

^{21/} 47 U.S.C. § 309(j)(8)(G)(ii).

^{22/} *See* Comments of T-Mobile USA, Inc., GN Docket No. 18-122, *et al.*, at 11 (filed July 3, 2019) (“T-Mobile Comments”) (citing *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Report and Order, 29 FCC Rcd 6567, ¶ 414 (2014)).

^{23/} SSO Comments at 19.

^{24/} *Id.*

^{25/} *Id.* at 20-21.

C-band is not vested only in a handful of satellite operators as the CBA proposes. Indeed, a C-band incentive auction recognizes, as the SSOs acknowledge, that “[earth station operators] have interests in the band as well” and “ought to be compensated for their role in the transition.”^{26/}

The SSOs similarly misunderstand the proposed incentive auction and the requirements of the Communications Act with respect to the forward auction. They claim that a C-band incentive auction would provide wireless carriers with a “massive taxpayer-funded subsidy” in violation of the Communications Act, asserting that Section 309(j) of the Act requires that taxpayers be provided “with the difference between the price of demand and the price of supply.”^{27/} But Section 309(j) contains no such requirement. Section 309(j) provides the Commission with the discretion to share “a portion . . . of the proceeds” with incumbent licensees and only prescribes the deposit of funds “that are not shared with licensees”.^{28/} If the Commission is permitted to determine the portion of proceeds that may be shared with incumbent licensees, it is necessarily allowed to determine the portion that should be provided to U.S. taxpayers.^{29/} It would also be illogical to conclude that U.S. taxpayers should receive the difference between the price of demand and the price of supply because, under any efficient auction, demand must *equal* supply in order for a market to clear. In any case, it is the CBA’s proposal that would truly represent “awful policy” as it would not assure any funds to U.S. taxpayers.^{30/}

^{26/} *Id.* at 16-17.

^{27/} *Id.* at 20-21.

^{28/} 47 U.S.C. § 309(j)(8)(G)(i), (iii).

^{29/} See T-Mobile Comments at 7; Letter from Steve B. Sharkey, Vice President, Government Affairs, Technology and Engineering Policy, T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 18-122 (filed July 12, 2019); *see also* SSO Comments at 21.

^{30/} While the CBA has recently committed to make a “voluntary” contribution to the Treasury, that commitment is vague and uncertain at best. The CBA has made no assurance that there will be any

Further, contrary to the SSOs' assertion, it is the CBA's proposal that would simply allocate the spectrum to companies with the greatest access to financing. Unlike the CBA's proposal, which would strip the Commission of its authority to regulate spectrum, a C-band incentive auction would be a Commission-led process that would include all the necessary procedural safeguards to ensure that the licenses are not only disseminated fairly, but also only to qualified parties. As Charter Communications, Inc. ("Charter") notes, "the transparency and fairness available only from the Commission will promote confidence in the integrity of the auction process that in turn will promote more extensive participation in the auction."^{31/} ACA agrees, stating that an FCC-led auction "ensures the disinfectant of sunlight, avoiding a secretive process."^{32/}

III. THE COMMISSION SHOULD FOCUS ON TRANSITIONING THE C-BAND FOR TERRESTRIAL USE AND RECOGNIZE THE UTILITY AND BENEFITS OF ALTERNATIVE TRANSMISSION MEDIA SUCH AS FIBER

There is broad support in the record that the Commission should make available as much C-band spectrum as possible for terrestrial use if it seeks to maintain its leadership in the race to 5G.^{33/} The record also demonstrates that, in order to clear a meaningful amount of C-band spectrum, the Commission should transition earth station operations to alternative transmission

relationship between the value of the spectrum and the amount of that contribution. *See Our Wireless Future: Building a Comprehensive Approach to Spectrum Policy: Hearing Before the H. Comm. on Energy and Com., Subcomm. on Commc'ns and Tech.* (2019), https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/2_Testimony_Pitsch.pdf (statement of Peter Pitsch, Executive Vice President, Advocacy & Government Relations, C-Band Alliance).

^{31/} Charter Comments at 3.

^{32/} ACA Comments at 2.

^{33/} *See, e.g., id.* at 1-2; Charter Comments at 2-3, 7 (adding that if a substantial amount of this spectrum is made available for wireless broadband use, the United States will be "poised to create over one million jobs and gain almost \$274 billion in additional GDP"); Letter from Michael P. Goggin, AT&T Services, Inc., to Ms. Marlene H. Dortch, Secretary, FCC, GN Docket No. 18-122, at 2 (filed July 16, 2019) ("The U.S. needs to make substantial amounts of mid-band spectrum available to maintain its lead in the race to 5G.").

mechanisms such as fiber, rather than rely on the launch of additional satellites to maintain the current delivery of content as the CBA proposes.^{34/} Transitioning to fiber represents, as Charter notes, “a reasonable and worthwhile investment that will offer dividends for years to come.”^{35/} Not only would the transition to fiber help close the digital divide,^{36/} but it would also create other socioeconomic benefits, including increasing backhaul, enabling smart grid and smart metering applications, and facilitating job growth.^{37/} On the other hand, attempting to maintain the *status quo* of satellite delivery of content may only delay the inevitable,^{38/} particularly as the “[t]hirst for 5G and other future communication technologies will be insatiable.”^{39/}

BYUB argues that relocating earth stations to fiber is not viable because fiber is not widely available, new fiber builds are costly, and fiber has proven itself unreliable.^{40/} However, BYUB’s concerns are unfounded. *First*, as T-Mobile has explained and others agree, substantial

^{34/} See, e.g., ACA Comments at 2, 7-8 (asserting that “comparable facilities should include extensive reliance on fiber transmission rather than relying solely on the launch of additional satellites”); Charter Comments at 2, 8 (“Transitioning earth station operators to fiber also will avoid any holdout problem – and enable the Commission to clear far more than the 200 MHz of C-Band spectrum proposed by the CBA.”); Letter from Jason E. Rademacher and Christina Burrow, Cooley, Counsel for The Church of Jesus Christ of Latter-day Saints, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 18-122, at 7-11 (filed July 9, 2019) (“LDS *Ex Parte* Letter”).

^{35/} Charter Comments at 9-10.

^{36/} See ACA Comments at 1 (stating that ensuring a fiber alternative in rural America will help “to resolve the urban rural digital divide”); LDS *Ex Parte* Letter at 4-5 (“Part of what drives the Church’s willingness to adjust to new distribution methods is a desire to encourage greater investment in fiber infrastructure for rural and other underserved communities.”).

^{37/} See Letter from Ross Lieberman, Senior Vice President, Government Affairs, ACA Connects – America’s Communications Association, *et al.*, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 18-122, at Attachment at 15-16 (filed July 2, 2019) (“ACA *Ex Parte* Letter”); Charter Comments at 9.

^{38/} See LDS *Ex Parte* Letter at 5 (“If operators like the Church are required to install filters to stay within the C-band now, the Church is concerned that it will be required to transition to yet another solution in the foreseeable future.”); *see also* BYUB comments at 17 (acknowledging that avoiding future repacking and interference from mobile users is a concern of earth station operators).

^{39/} LDS *Ex Parte* Letter at 5 (adding that “[i]f a permanent solution to this issue requires the Church to limit its use of the C-band, the Church is open to discussing that solution”).

^{40/} See BYUB Comments at 3-4, 13-18.

fiber runs are available in both urban and rural areas.^{41/} Indeed, using conservative metrics, fiber is available to earth station sites in 90 percent of urban locations and in 70 percent of rural locations.^{42/} Moreover, the median distance between fiber runs and earth stations is 272 meters in urban areas and 465 meters in rural areas.^{43/}

Second, connecting earth stations to fiber is cost-effective. Existing fiber can be provided to earth station sites for approximately \$1 billion and potentially significantly less depending on actual conditions.^{44/} Even assuming the complete absence of fiber serving today's earth station locations, the cost to connect earth stations to new fiber would only be a fraction of the potential value of the C-band.^{45/} Moreover, regardless of BYUB's or other parties' concerns regarding how much fiber may be needed,^{46/} commenters agree that earth station operators can be compensated for the costs to relocate to fiber through auction proceeds.^{47/}

Finally, contrary to BYUB's assertion, fiber can provide a reliable alternative to the delivery of content. As Charter points out, fiber offers a comparable means of enabling earth station operators to maintain their same services in terms of throughput, reliability, and operating

^{41/} See Letter from Steve B. Sharkey, Vice President, Government Affairs, Technology and Engineering Policy, T-Mobile, to Ms. Marlene H. Dortch, Secretary, FCC, GN Docket No. 18-122, at 2-3 (filed June 21, 2019) ("T-Mobile June 21 *Ex Parte* Letter"); LDS *Ex Parte* Letter at 7 ("Many meetinghouses are close enough to existing fiber networks that the Church is willing to consider the possibility of switching to fiber or other fixed terrestrial alternatives in those locations."); see also ACA *Ex Parte* Letter at Attachment at 23 (estimating that only 20 percent of fiber miles need to be constructed in areas with low dark fiber supply).

^{42/} T-Mobile June 21 *Ex Parte* Letter at 4.

^{43/} *Id.*

^{44/} See *id.* at 3, 4.

^{45/} See T-Mobile Comments at 9-10; T-Mobile June 21 *Ex Parte* Letter at 3, 4.

^{46/} See BYUB Comments at 17.

^{47/} See T-Mobile June 21 *Ex Parte* Letter at 3-4; ACA Comments at 13-15; Charter Comments at 7 ("To promote the greatest possible reallocation of C-Band spectrum, compensation should include the cost of transitioning to fiber delivery."); see also LDS *Ex Parte* Letter at 5; ACA *Ex Parte* Letter at Attachment at 12; WISPA Comments at 14.

costs.^{48/} And, as ACA has observed, some programmers already utilize fiber today to deliver their programming.^{49/} In fact, BYUB concedes that “Brigham Young University’s sports facilities are connected to BYUB’s C-band uplinks via fiber.”^{50/}

IV. CONCLUSION

T-Mobile appreciates the Commission’s continuing efforts to evaluate and transition the C-band for next-generation wireless technologies. The best way to accomplish that goal is to incentivize all incumbents, including earth station registrants, to relinquish their spectrum usage rights in a Commission-led auction and to transition those incumbents to alternative transmission media such as fiber.

Respectfully submitted,

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^{48/} See Charter Comments at 9.

^{49/} See ACA *Ex Parte* Letter at Attachment at 8, 30.

^{50/} BYUB Comments at 14.