

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

In the Matter of)
Petition to Modify Parts 2 and 101 of the) RM-11809
Commission’s Rules to Enable Timely Deployment)
of Fixed Stratospheric-Based Communications)
Services in the 21.5-23.6, 25.25-27.5, 71-76 and 81-)
86 GHz Bands)
)

OPPOSITION OF T-MOBILE USA, INC.

T-Mobile USA, Inc. (“T-Mobile”)^{1/} submits this opposition to the Elefante Group, Inc. (“Elefante Group”) Petition for Rulemaking, which seeks access to the 21.5-23.6 GHz (“23 GHz”), 25.25-27.5 GHz (“26 GHz”), 71-76 GHz and 81-86 GHz (70/80 GHz”) bands for a new Fixed Service, the Stratospheric-Based Communications Services (“SBCS”).^{2/} The spectrum that the Elefante Group targets for SBCS, which is an untested service that *may* serve a niche market less efficiently than existing proven services, has either been considered or will be considered in the ongoing *Spectrum Frontiers* proceeding.^{3/} The Commission should therefore reject the Elefante Group’s Petition or hold the Petition in abeyance until consideration of the issues it raises are resolved in that proceeding. The Elefante Group cannot be permitted to use Section 7 of the Communications Act to circumvent the *Spectrum Frontiers* proceeding to reach a contrary result.

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

^{2/} Elefante Group, Inc., Petition to Modify Parts 2 and 101 of the Commission’s Rules to Enable Timely Deployment of Fixed Stratospheric-Based Communications Services in the 21.5-23.6, 25.25-27.5, 71-76 and 81-86 GHz Bands, RM-11809 (filed May 31, 2018) (“Petition”); *see also Consumer & Governmental Affairs Bureau Reference Information Center Petition for Rulemakings Filed*, Public Notice, Report No. 3093 (rel. June 11, 2018) (“Public Notice”).

^{3/} *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services*, GN Docket No. 14-177.

I. THE COMMISSION MUST ASSESS WHETHER SPECTRUM USE BY STRATOSPHERIC PLATFORMS IS IN THE PUBLIC INTEREST

Spectrum, a critical component of America's infrastructure, is a valuable and finite resource. It is therefore essential that the Commission manage spectrum in the public interest. The Elefante Group contends that the Commission should allocate – to the exclusion of other technologies^{4/} – spectrum in the 23 GHz, 26 GHz, and 70/80 GHz bands for the stratospheric radio communications system it is developing. But merely because a technology may be feasible does not mean that the Commission should dedicate significant spectrum to support it. While the Elefante Group attempts to demonstrate improvements in its technology and how its systems will function, it does not address the more meaningful question of *why* spectrum should be dedicated to this technology over others. Commission consideration of that issue should compel rejection of the Petition.

A. The Commission Must Consider Spectrum Use by the Elefante Group Relative to Its Use by Others

It is not enough that the Elefante Group list the capabilities that stratospheric platforms may be able to offer. This is especially true with respect to the Petition's assertion that the proposed service will help serve rural areas.^{5/} T-Mobile agrees that it is vital to close the digital divide. But to help ensure service to rural areas, the better approach is for the Commission to evaluate the relative benefits of dedicating spectrum for the Elefante Group's proposed novel and untested service as part of a review of the full range of options for use of the spectrum. Indeed, in this case there is no guarantee that the Elefante Group's service will actually be deployed into rural areas, especially in those rural areas that are not adjacent to the urban areas the Elefante

^{4/} Elefante Group, Inc. and Lockheed Martin *Ex Parte*, GN Docket No. 14-177 *et al.*, at 4 (stating that IMT operations are unlikely to be able to use the band without imposing material constraints on the deployment of SBCS systems).

^{5/} See Petition at 31-34.

Group hopes to serve.^{6/} In fact, the Elefante Group states that it is not proposing any specific rural regulatory commitments.^{7/}

Fifth generation (“5G”) terrestrial services, in contrast, have the potential to expand terrestrial services’ already significant reach. Approximately 97% of the U.S. population is covered by at least three providers of LTE mobile broadband service,^{8/} and over 88% is covered by at least four service providers.^{9/} Percentages will only increase as new networks are deployed using spectrum in frequency bands only recently made available. These existing and expanding wireless networks are meeting the connectivity requirement consumers deem most important – access to the Internet. As the Elefante Group itself points out, Internet traffic will continue to increase dramatically over the coming years.^{10/} What the Elefante Group fails to note, however, is that smartphone data will overtake fixed broadband this year, and by 2021 it will account for nearly 38% of all digital data use in the U.S., compared to 27% for fixed broadband.^{11/}

Moreover, terrestrial wireless providers are subject to coverage obligations – including to serve rural areas^{12/} – and they have further opportunities to target rural areas via the Mobility

^{6/} See *id.* at 32-33 (indicating that the Elefante Group’s initial deployments would cover urban regions and, depending on the region, would also incidentally cover the immediately surrounding non-urban areas).

^{7/} See *id.* at 89 (“Elefante Group is not proposing in this Petition that specific rural regulatory commitments be implemented while SBCS operators are establishing themselves following adoption of SBCS rules.”).

^{8/} *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services*, Report, 32 FCC Rcd. 8968, Chart III.D.4 (2017).

^{9/} *Id.*

^{10/} See Petition at 51.

^{11/} *Industry Data*, CTIA, <https://www.ctia.org/the-wireless-industry/infographics-library> (last accessed June 27, 2018).

^{12/} For example, the Commission requires Lower 700 MHz band A and B Block licensees to provide signal coverage and offer service over at least 70 percent of their license area by the end of their initial license term. See 47 CFR § 27.14(g).

Fund, which is specifically designed to address areas which may be uneconomic to build out.^{13/}

All of the other applications the Elefante Group says will be part of its proposed service – 4G and 5G backhaul services, network densification, enterprise wide area network services, fixed broadband, and support for IoT – can be and are being addressed through terrestrial wireless networks as well. The Commission must therefore weigh whether to dedicate spectrum for an untested service against the certainty that the same spectrum can be used more productively by existing services to serve the public interest.

B. The Spectrum the Elefante Group Seeks Is Already Being Considered for More Valuable Uses

A public interest analysis that fully considers competing spectrum demands may not be relevant in every case, but it is here.^{14/} In particular, much of the spectrum the Elefante Group requests is part of the Commission’s ongoing *Spectrum Frontiers* proceeding, where the Commission is actively considering spectrum bands that can be designated for wireless 5G technologies. Accordingly, the Commission cannot ignore the potential use of the spectrum targeted in the Petition for terrestrial 5G operations.

26 GHz. The Commission is currently considering potential use of the 26 GHz band for terrestrial wireless communications in the *Spectrum Frontiers* Third Further Notice of Proposed Rulemaking.^{15/} As the Commission points out, the band could be a useful addition to the Upper

^{13/} See, e.g., Remarks of Chairman Ajit Pai at the Kansas Broadband Conference, Wichita, KS, at 3 (Sept. 21, 2017), http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0921/DOC-346838A1.pdf (noting that the new Mobility Fund is designed “to spur network deployment in sparsely populated areas where the economic incentives for private investment don’t exist”).

^{14/} Notably, Elefante does not list the potential use of the band for terrestrial services as one of the factors it considered in selecting frequencies for its proposed service.

^{15/} See *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services*, Report and Order, Memorandum Opinion and Order, and Third Further Notice of Proposed Rulemaking, FCC 18-73 (rel. June 8, 2018) (“*Third Further Notice*”).

Microwave Flexible Use Service.^{16/} If dedicated for terrestrial wireless use, the 26 GHz band would enable wireless providers to further expand and densify their already far-reaching networks and to serve many more people, especially given the amount of spectrum available in the band.

Mobile broadband technologies may also deploy in the 26 GHz band sooner than the Elefante Group’s proposed stratospheric platforms, thereby bringing broadband to more people faster. Wireless providers are already conducting trials of 5G service in millimeter wave spectrum, and they will be offering 5G service to consumers using this spectrum by the end of this year.^{17/} The Elefante Group, however, will not even have a prototype airship to begin testing until late 2020.^{18/} In addition, equipment manufacturers can readily integrate the 26 GHz band into a tuning range that includes the 24 GHz and 28 GHz bands, which are already authorized for mobile services and for which equipment is already being developed and tested.^{19/} As the Commission notes in the *Third Further Notice*, this “presents three opportunities – first, to achieve manufacturing economies by covering several bands with a single radio; second, to provide international roaming capability in affordable user devices, and third, to accelerate the availability of equipment in newly authorized bands that share a tuning range with early deployed bands.”^{20/}

^{16/} See *Third Further Notice* ¶ 78.

^{17/} See, e.g., Joan Engebretson, *AT&T: Mobile 5G Trials Yield Gigabit Speeds in Millimeter Wave Bands*, TELECOMPETITOR (Apr. 10, 2018), <http://www.telecompetitor.com/att-mobile-5g-trials-yield-gigabit-speeds-in-millimeter-wave-bands/>.

^{18/} See Petition at 20.

^{19/} See *Third Further Notice* ¶ 77; Martha DeGrasse, *In a season of 5G firsts, T-Mobile and Nokia announce a big one*, FIERCEWIRELESS (June 13, 2018), <https://www.fiercewireless.com/wireless/t-mobile-and-nokia-complete-bi-directional-ota-5g-data-session>.

^{20/} *Third Further Notice* ¶ 77.

The Commission's consideration of the use of the 26 GHz band for 5G wireless service is reinforced by the fact that – as the Commission acknowledges^{21/} – there is international momentum around use of the 26 GHz band for terrestrial 5G services and the band is being studied by the International Telecommunication Union for terrestrial mobile use. Global harmonization in the band, consistent with these regional and international efforts, would promote investment, allow for economies of scale, and produce a robust equipment market, to the benefit of U.S. consumers.

Based on the above, the Commission should take no action on the Elefante Group's request for use of the 26 GHz band until it completes its evaluation of the band in the *Spectrum Frontiers* proceeding.

23 GHz. Because the Elefante Group would pair the 23 GHz band with the 26 GHz band, the Commission should also refrain from taking action on the Elefante Group's request to use the 23 GHz band. There is no reason for the Commission to designate the 23 GHz band for SBCS if the paired band will be designated for wireless terrestrial use. Moreover, the 23 GHz band may be an appropriate subject for review in a subsequent phase of the *Spectrum Frontiers* or *Mid-Band* proceedings.^{22/} The 23.15-23.6 GHz band was recommended by the Inter-American Telecommunications Commission for consideration at WRC-15 for IMT, and there is already a primary non-federal mobile allocation in the 21.2-23.6 GHz band, although there are no service rules. As Commissioner O'Rielly has made clear, it is important that the Commission

^{21/} See *Third Further Notice* ¶ 76.

^{22/} *Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz*, Notice of Inquiry, 32 FCC Rcd. 6373 (2017).

“identify even more spectrum [for wireless 5G networks], so that [it] can create the spectrum pipeline for tomorrow.”^{23/}

70/80 GHz. The Commission recently reviewed the future use of the 70/80 GHz band in the *Spectrum Frontiers* proceeding.^{24/} The Commission declined to accommodate the Elefante Group’s proposed use of the bands for stratospheric platforms, finding that the Commission should first make determinations on the pending proposals for this band in its Wireless Backhaul proceeding.^{25/} The Elefante Group has provided no basis for the Commission to change its decision here. If the Commission decides to revisit the use of the 70/80 GHz band based on the Elefante Group’s request, it should consider T-Mobile’s proposal for use of the band, especially since the Commission explicitly reserved the right to revisit mobile use in these bands.^{26/}

II. SECTION 7 DOES NOT COMPEL FAVORABLE ACTION ON THIS REQUEST

The Elefante Group contends that, pursuant to Section 7 of the Communications Act,^{27/} the Commission should adopt a notice of proposed rulemaking concerning SBCS within one year and should adopt rules for SBCS within another year.^{28/} The Commission should reject this argument.

The Elefante Group relies on statutory wording requiring the Commission to determine whether a new technology or service is in the public interest within a year to support its assertion

^{23/} *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services*, Report and Order, Second Further Notice of Proposed Rulemaking, Order on Reconsideration, and Memorandum Opinion and Order, 32 FCC. Rcd. 10988 (2017) (statement of Commissioner O’Rielly).

^{24/} *See id.* ¶¶ 200-201.

^{25/} *Id.* ¶ 201.

^{26/} *Id.* ¶ 201 (“We reserve the right to revisit this issue as mobile use deploys in other millimeter wave bands, technology develops, and as further thought is given to mobile/fixed coexistence.”).

^{27/} 47 U.S.C. § 157.

^{28/} Petition at 103-104.

that the Commission should initiate a new rulemaking and swiftly adopt new rules for SBCS.^{29/} Section 7 does not, however, compel the favorable action the Elefante Group suggests. As discussed above, whether the Elefante Group’s proposed service is in the public interest cannot be evaluated in a vacuum – it must be considered in light of the Commission’s ongoing *Spectrum Frontiers* proceeding and the competing demands for spectrum. The Elefante Group cannot use Section 7 as a means to supersede consideration of ongoing matters. Notably, this is exactly the concern regarding Section 7 that others have raised in the proceeding^{30/} initiated to implement Section 7.^{31/}

Moreover, Section 7 does not require the Commission to act favorably on all requests that assert a new product or service is being introduced. It merely requires expedited Commission action. Should the Commission determine that Section 7 applies in this instance, it should reject the Elefante Group’s Petition within the specified 12 months, leaving open the potential to re-evaluate the Petition once the *Spectrum Frontiers* proceeding is complete.

III. CONCLUSIONS

T-Mobile commends the Commission’s efforts to make more millimeter wave spectrum available and to facilitate new technologies. The Petition, however, asks that the Commission make complex public interest and spectrum allocation determinations outside the context of the ongoing *Spectrum Frontiers* proceeding. The Commission should therefore reject the Elefante Group’s Petition and consider SBCS issues, if at all, in the *Spectrum Frontiers* proceeding.

^{29/} See 47 U.S.C. § 157.

^{30/} *Encouraging the Provision of New Technologies and Services to the Public*, Notice of Proposed Rulemaking, 33 FCC Rcd. 2512 (rel. Feb. 23, 2018).

^{31/} See, e.g., Comments of CTIA, GN Dkt. No. 18-22, at 2 (filed May 21, 2018) (“Without appropriate safeguards, Section 7’s implementing framework could be ripe for abuse by parties seeking to circumvent the agency’s well-established licensing policies.”).

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Radhika U. Bhat, hereby certify that on July 11, 2018 a copy of the foregoing Opposition of T-Mobile USA, Inc. was served by first-class mail, postage paid, on each of the following:

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