

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

In the Matter of )  
 )  
Expanding Flexible Use of the 3.7 to 4.2 GHz ) GN Docket No. 18-122  
Band )

**VERIZON OPPOSITION TO PETITIONS FOR RECONSIDERATION**

**I. INTRODUCTION.**

The auction of 280 megahertz of 3.7 GHz spectrum beginning December 8, 2020, and the clearing of the lower portion of the C-band in two tranches in December 2021 and December 2023, are crucial steps toward delivering transformative 5G services to American consumers and advancing U.S. leadership in 5G. As the Commission noted, “we schedule [this] auction for later this year, with a robust transition schedule to ensure that a significant amount of spectrum is made available quickly for upcoming 5G deployments.”<sup>1</sup> The petitions for reconsideration and/or clarification lack merit and if granted risk delaying the transition or undercutting new 3.7 GHz Service unnecessarily. They repeat arguments the *Order* already addressed, posit claims that are merely speculative, or seek resolution of issues currently being addressed by the multi-stakeholder C-band Technical Working Group. The Commission should dismiss or deny them promptly.

The *Order*'s carefully calibrated framework is up and running. Last month all eligible satellite operators elected to accelerate relocation, thus speeding up by years the availability of this much-needed mid-band spectrum. Last week these satellite operators submitted their

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<sup>1</sup> *Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, Report and Order and Order of Modification, 35 FCC Rcd 2343, 2345 ¶ 4 (2020) (“*Order*”).

transition plans, which should be in final form by mid-August. The Commission is completing the Cost Category Schedule for reimbursable relocation costs, following two rounds of comments. And the Selection Committee for the Relocation Payment Clearinghouse (“Clearinghouse”) has recommended a Request for Proposal for soliciting applicants. In sum, the Commission’s vision for a reconstituted, more productive C-band is moving ahead. The petitions addressed below risk slowing that progress, injecting uncertainty, and distracting the Commission and stakeholders from the considerable work that remains to be done. We address the following points, many of which focus on technical issues that the *Order* appropriately directed to a cross-industry Technical Working Group:

- Intelsat’s request to revise the power flux density rule for out of band emissions is flawed. The Commission applied its technical expertise to evaluate a range of proposals and adopted a rule that reasonably balances the competing interests involved. Intelsat’s technical showing, moreover, does not necessarily represent marketplace reality and its concerns might affect only some earth stations in a narrow geographic area if they communicate with certain satellites. Nonetheless, it wants a new nationwide rule. At the *Order*’s direction, stakeholders have established a Technical Working Group to develop a framework for interference prevention, detection, mitigation and enforcement in the 3.7-4.2 GHz band. That is the appropriate vehicle to address any potential “corner cases.”
- The Aerospace Industries Association and related organizations (“Aviation Petitioners”) improperly reargue their request for additional rules to protect altimeters in the 4.2-4.4 GHz band. The Commission already addressed that request, but nonetheless encouraged the Technical Working Group to consider 5G/aeronautical co-existence issues. The working group is already focused on these issues, and the associated technical work is proceeding apace.
- Charter similarly reargues an issue that the Commission fully considered – Time Division Duplex (“TDD”) synchronization coordination. Here too, the Commission reasonably determined based on the record that no such requirement was needed, but encouraged parties to explore this issue further, and the Technical Working Group is doing so.
- Finally, Intelsat and Eutelsat want multiple changes to the transition framework, including a delayed clearing deadline for some earth stations and more granular cost reimbursement requirements. These revisions are unnecessary at best, and are likely to complicate and delay the transition process, risking achievement of the *Order*’s objective to rapidly repurpose spectrum for 5G.

The Commission should dismiss or deny the petitions promptly, so that it can focus on ensuring that the *Order* achieves the benefits it was designed to unleash.

## **II. THE FCC SHOULD DENY INTELSAT’S REQUEST TO MODIFY THE POWER FLUX DENSITY LIMIT FOR OUT OF BAND EMISSIONS.**

Intelsat, alone among the satellite operators transitioning the C-band and the thousands of earth station operators that will be affected, objects to the power flux density (“PFD”) limit the *Order* adopted to protect earth stations operating in 4.0-4.2 GHz from 3.7 GHz Service out of band emissions. The Commission derived the limit, -124 dBW/m<sup>2</sup>/MHz as measured at the antenna of registered FSS earth stations, after careful review of the record and evaluation of the proposals submitted.<sup>2</sup> The Commission should deny Intelsat’s claim.

As an initial matter, Intelsat is wrong in its fundamental assertion—namely, that earth stations with an elevation angle less than 19 degrees will not be protected.<sup>3</sup> Although Commission rules provide that earth stations may operate with a maximum antenna gain of 0 dBi at 19 degrees off-axis from the main beam,<sup>4</sup> many earth station antennas have more off-axis suppression, meaning they have gain levels lower than 0 dBi at 19 degrees from the main beam.<sup>5</sup> Thus earth stations are not as susceptible to OOB interference as Intelsat would have the Commission believe.

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<sup>2</sup> See *id.* at 2475-76 ¶¶ 361-365.

<sup>3</sup> See Petition of Intelsat License LLC for Reconsideration, GN Docket No. 18-122, at 14-16 (May 26, 2020) (“Intelsat Petition”).

<sup>4</sup> 47 C.F.R. § 25.209(a)(1).

<sup>5</sup> NTIA’s Institute of Telecommunications Sciences conducted an extensive study of the characteristics of C-band earth station antenna sidelobe gain several decades ago. A majority of the antennas studied showed sidelobe gain at 19 degrees would typically be well below 0 dBi, with some as low as -20 dBi or lower. See J.M. Harman & R.D. Jennings, *Earth Station Antenna Sidelobe Characteristics*, Report 84-164, at 26, NTIA (Dec. 1984). Although the report was produced years ago, there is no reason to believe that earth station antenna performance has diminished since it was issued.

And although Intelsat’s concern is narrow—earth stations in northern latitudes of the United States—it seeks a nationwide, across-the-board fix. In particular, Intelsat asserts these northern earth stations operate at a lower antenna elevation angles, and so will be more likely to be affected by OOB from nearby 3.7 GHz Service base stations. Yet Intelsat does not attempt to quantify how many earth stations could be affected or the scope of the issue. It simply proposes a more restrictive rule that would impact new 5G deployments nationwide, a PFD level of -134 dBW/m<sup>2</sup>/MHz.<sup>6</sup> Its request goes far beyond the scope of the issue it would be intended to address.

Pursuant to the *Order*, a multi-stakeholder group—including Intelsat, Verizon, and more than 40 other companies and associations engaged in C-band work—formed a Technical Working Group to address issues like these. The *Order* made clear its charge: “develop a framework for interference prevention, detection, mitigation, and enforcement in the 3.7-4.2 GHz band.”<sup>7</sup> The group has formed a subcommittee to consider FSS issues in particular, and that is the appropriate forum to consider narrow situations such as the one Intelsat raises.

Grant of Intelsat’s ask would impose material, substantial, nationwide impacts on 5G deployments. There is no reason to do so. The Commission should allow the Technical Working Group to address the narrow issue Intelsat raises.

**III. THE FCC SHOULD DENY THE AVIATION PETITION’S REQUEST TO REVISIT PROTECTIONS FOR AERONAUTICAL SERVICES IN THE 4.2-4.4 GHz BAND, AS IT DIRECTED THE TECHNICAL WORKING GROUP TO TAKE UP THIS ISSUE.**

The Aviation Petitioners fail to demonstrate why the FCC should modify the *Order*’s

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<sup>6</sup> Intelsat Petition at 18.

<sup>7</sup> *Order*, 35 FCC Rcd at 2467 ¶ 333 (citation omitted).

analysis of any impact of new 3.7 GHz Service on altimeters and other aeronautical services that operate in the 4.2-4.4 GHz band.<sup>8</sup>

As an initial matter, the *Order* fully evaluated this issue and concluded that the technical rules on power and emission limits, coupled with 220 megahertz of spectral separation, “should offer all due protection to services in the 4.2-4.4 GHz band.”<sup>9</sup> The petition improperly reargues the same issues that were previously raised and that the Commission considered and acted on. The petition should be rejected on this ground alone, under settled doctrine that reconsideration is not the place for repetitive advocacy.<sup>10</sup>

Even so, the *Order* encouraged Aerospace Vehicle Systems Institute (“AVSI”) and others to participate in the multi-stakeholder Technical Working Group (a proposal requested by AVSI itself) to consider these issues further,<sup>11</sup> and that is exactly what is happening. The Technical Working Group has formed a subcommittee, “5G / Aeronautical Coexistence,” dedicated to these issues, and the group is already moving ahead on that charge. Multiple aviation interests, including AVSI, serve on that subcommittee. In fact, Aviation Petitioners state they are “optimistic that multi-stakeholder efforts” can “rapidly yield a more advanced assessment of the potential for harmful interference in radio altimeters” – and do so by year-end – well before any

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<sup>8</sup> Petition of Aerospace Industries Association, et al. for Partial Reconsideration of the 3.7-4.2 GHz Band Report and Order, GN Docket No. 18-122 (May 26, 2020).

<sup>9</sup> *Order*, 35 FCC Rcd at 2485 ¶ 395.

<sup>10</sup> See, e.g., *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Second Order on Reconsideration, 30 FCC Rcd 6746, 6786 ¶ 88 & n.337 (2015) (“petitions for reconsideration that plainly do not warrant consideration may be dismissed, including those that rely on arguments that have been fully considered and rejected within the same proceeding”); *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, Order on Reconsideration, 29 FCC Rcd 7515, 7520 ¶ 11 (WTB 2014) (dismissing a petition raising arguments that had already been fully considered by the Commission).

<sup>11</sup> *Order*, 35 FCC Rcd at 2485 ¶ 395.

5G services are deployed. The Commission should not reconsider its well-reasoned resolution of the altimeter issue and preempt the multi-stakeholder efforts of the Technical Working Group.

**IV. THE FCC SHOULD DENY CHARTER’S PETITION TO REVISIT 3.7 GHz / CBRS COEXISTENCE, AS IT DIRECTED THE TECHNICAL WORKING GROUP TO TAKE UP THIS ISSUE AS WELL.**

Charter’s reconsideration petition reiterates its unsuccessful request to impose TDD synchronization coordination on 3.7 GHz Service licensees to protect operations in the 3.5 Citizens Band Radio Service (“CBRS”) band.<sup>12</sup> The *Order* considered but declined to impose any obligation, finding that 3.7 GHz Service operations “can coexist with operations below the band edge” and in particular, “synchronization of two different carriers can be implemented using traditional 3GPP methods based on an absolute timing reference.”<sup>13</sup> Charter’s petition does not overcome this reasoned view.

The *Order* “encourage[d] parties to explore synchronization of TDD operations to minimize interference between these adjacent services.”<sup>14</sup> And again, that is precisely what is happening. The Technical Working Group has formed a subcommittee, “CBRS Coexistence,” which is the optimal forum for CBRS users and future 3.7 GHz Service licensees—who may be one in the same—to discuss how best to provide for co-existence between the operations in the two bands. And notably, representatives from Charter and Verizon are co-chairing the subcommittee. The Commission should deny the Charter petition and allow the Technical Working Group to fulfill its function.

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<sup>12</sup> Petition of Charter Communications, Inc. for Reconsideration, GN Docket No. 18-122 (May 26, 2020).

<sup>13</sup> *Order*, 35 FCC Rcd at 2486 ¶ 397.

<sup>14</sup> *Id.* at 2486 ¶ 396 (citation omitted).

**V. THE FCC SHOULD DENY OTHER REQUESTS BY INTELSAT AND EUTELSAT TO MODIFY THE *ORDER*.**

The *Order*'s framework is well designed to drive rapid clearing of the 3.7-4.0 GHz band while ensuring continuity of existing services. Intelsat and Eutelsat supported this framework and will significantly benefit from it. And they also supported the accelerated relocation timeline that calls for transitioning the first tranche of spectrum by December 2021 and the balance of the spectrum by December 2023. Grant of their remaining requests, however, would not advance the *Order*'s public interest objectives, but would instead inject uncertainty and delay into the relocation process. We address a handful of their issues here and urge the Commission to deny the petitions.

Intelsat asks the Commission to extend the deadline for relocating its TT&C/Gateway operations for two full years, from December 2021 to December 2023.<sup>15</sup> But the Commission determined that the December 2021 date provided sufficient time for Intelsat to relocate those very few operations. At this critical juncture, as Transition Plans are moving forward and applicants are considering the auction, the Commission should direct all stakeholders, including Intelsat, to proceed with the transition dates as adopted.

Eutelsat asks the Commission to modify the *Order* to bar its satellite competitors from recovering costs for designing and launching satellites that include C-band and other bands or satellites that provide service to areas outside the continental U.S. ("CONUS"). It also requests that third parties be granted the right to challenge cost decisions by the Clearinghouse.<sup>16</sup>

Verizon shares Eutelsat's interest in preventing "gold-plating" in the context of the cost

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<sup>15</sup> Intelsat Petition at 20-22.

<sup>16</sup> Petition of Eutelsat S.A. for Expedited Reconsideration or Clarification, GN Docket No. 18-122 (May 26, 2020) ("Eutelsat Petition").

reimbursement process, as does the Commission. To that end, the *Order* applies the long-standing *Emerging Technologies* framework and established guidelines for compensable costs.<sup>17</sup> And it states: “Let us be clear: Incumbents will not receive more reimbursement than necessary, and we require that, to qualify for reimbursement, all relocation costs must be reasonable.”<sup>18</sup> These include reimbursing only costs incurred to transition C-band operations serving CONUS locations. The Commission is developing a Cost Category Schedule to specify a range of costs that will be presumptively reasonable; incumbents that seek higher costs would need to justify them. And there is a cap on reimbursement of “soft” costs.<sup>19</sup> Given these and other protections against gold-plating, and the *Emerging Technologies* framework, the additional requirements Eutelsat advocates are unnecessary and any concerns are more appropriately addressed by the independent Clearinghouse. Indeed, the *Order* already required that the Clearinghouse evaluate cost reimbursement, with recourse to the Wireless Telecommunications Bureau for guidance if necessary.<sup>20</sup> Eutelsat is on the Selection Committee that drafted the Request for Proposal to select the Clearinghouse administrator. The Commission should allow the Clearinghouse to do its job.

Finally, there is no basis to complicate and prolong the Clearinghouse’s cost reimbursement reviews by adding the additional procedures Eutelsat requests, such as granting any interested party the right to challenge a cost reimbursement determination even if those costs fall within the Cost Category Schedule’s range.<sup>21</sup> Injecting more procedures would impair and

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<sup>17</sup> *Order*, 35 FCC Rcd 2416-17 at ¶¶ 180-184.

<sup>18</sup> *Id.* at 2423 ¶ 195.

<sup>19</sup> *Id.* at 2424 ¶ 198.

<sup>20</sup> *Id.* at 2449 ¶ 269.

<sup>21</sup> Eutelsat Petition at 12.

delay decision-making, thereby risking delay in spectrum clearing – undermining the *Order*'s cardinal objective to achieve the rapid transition of the C-band while enabling continued services. In the event that the Clearinghouse seeks clarification as to particular cost issues, the Commission can and should address those issues at that time. But there is no reason why the *Order* needs to be reconsidered and new procedures imposed.

**VI. CONCLUSION.**

For the above reasons, the above-discussed petitions for reconsideration are meritless and should be promptly denied.

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June 26, 2020

**CERTIFICATE OF SERVICE**

I, Erin Griffith, certify under penalty of perjury that the foregoing Verizon Opposition to Petitions for Reconsideration was served this 26th day of June 2020, by depositing a true copy thereof with the United States Postal Service, first class postage pre-paid, addressed to:

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