

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

In the Matter of	)	
	)	
Use of Spectrum Bands Above 24 GHz For Mobile Radio Services	)	GN Docket No. 14-177
	)	
Amendment of Parts 1, 22, 24, 27, 74, 80, 90, 95, and 101 To Establish Uniform License Renewal, Discontinuance of Operation, and Geographic Partitioning and Spectrum Disaggregation Rules and Policies for Certain Wireless Radio Services	)	WT Docket No. 10-112
	)	
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	)	

**COMMENTS OF THE  
TELECOMMUNICATIONS INDUSTRY ASSOCIATION**

The Telecommunications Industry Association (“TIA”)<sup>1</sup> hereby submits these comments in response to the Commission’s *Third Further Notice of Proposed Rulemaking* (“*Third FNPRM*”)<sup>2</sup> in the above-captioned proceeding. TIA commends the Commission for its continuing efforts to seek out ways to enable the development of new wireless technologies by making more spectrum available. We support the Commission’s plans in the Spectrum Frontiers proceeding to continue opening more spectrum above 24 GHz for flexible use, and to establish service rules for additional bands while resolving many of the issues left open by previous orders.

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<sup>1</sup> TIA is the leading trade association for the information and communications technology (“ICT”) industry, representing companies that manufacture or supply the products and services used in global communications across all technology platforms. TIA represents its members on the full range of policy issues affecting the ICT industry and forges consensus on industry standards.

<sup>2</sup> [Third Report and Order, Memorandum Opinion and Order, and Third Further Notice of Proposed Rulemaking, Use of Spectrum Bands Above 24 GHz For Mobile Radio Services](#), et al., GN Docket No. 14-177, rel. June 8, 2018, FCC 18-73 [“Third FNPRM”].

## **I. The Commission Should Open the 42 GHz Band for UMFUS.**

TIA appreciates that the Commission is refreshing the record on the 42 GHz band “out of an abundance of caution” since the band was mentioned in the recently-enacted MOBILE NOW Act.<sup>3</sup> TIA continues to support the Commission’s proposal to authorize fixed and mobile service operations in the 42 GHz band under the Upper Microwave Flexible Use Service (“UMFUS”) rules.<sup>4</sup> We agree with Qualcomm and T-Mobile that flexible use will allow individual licensees to shape the nature of the services they provide, and agree with Intel and Samsung that authorizing UMFUS expansion in the 42 GHz band would place it within the tuning range of radio equipment designed for the 37-40 GHz bands.<sup>5</sup> Importantly, we also reiterate and agree with other commenters that the global harmonization of this band is an important step towards greater manufacturing efficiencies and deployment of services.<sup>6</sup>

Regarding the Commission’s request to “refresh the record” regarding Federal allocations,<sup>7</sup> TIA continues to oppose adding a completely new Federal allocation in the 42 GHz band.<sup>8</sup> The Commission’s proposal in 2016 was unsupported by any information in the record, the *Third FNPRM* itself identifies no supportive commenters, and it remains unclear why the Commission would now establish such an allocation. But to the extent the Commission nevertheless adopts this approach, it should implement the simplest possible methods of sharing.

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<sup>3</sup> Third FNPRM ¶ 48, 47 U.S.C. § 1503 (Pub. L. No. 115-141, div. P, title VI, § 604, Mar. 23, 2018, 132 Stat. 1099)

<sup>4</sup> Comments of the Telecommunications Industry Association, filed Sep. 30, 2016 in GN Docket No. 14-177, at 11 (“[TIA 2016 Comments](#)”).

<sup>5</sup> Third FNPRM ¶ 49 (citations omitted).

<sup>6</sup> *Id.* ¶ 50.

<sup>7</sup> *Id.* ¶ 53.

<sup>8</sup> TIA 2016 Comments at 11.

TIA also agrees with other commenters that the technical rules should be generally based upon those for the other UMFUS bands.<sup>9</sup> We also reiterate that if the Commission eventually determines it to be necessary, the top 100 MHz (42.4-42.5 GHz) could be subject to more stringent operating rules to protect adjacent radio astronomy operations in the 42.5-43.5 GHz band.<sup>10</sup> Regarding band plans, TIA has previously supported allocating the 42 GHz block as two 200 MHz blocks and one 100 MHz block, but will offer further comments on the Commission's recent efforts to standardize on 100 MHz blocks across the UMFUS bands in our forthcoming comments on the *Fourth FNPRM* also pending in this docket.

## **II. The 70/80 GHz Sharing Framework Could Serve as a Baseline for the Lower 37 GHz Band Segment.**

TIA continues to believe that any spectrum sharing and coordination in the millimeter-wave bands, including the lower 37 GHz band segment, should be implemented using the simplest means necessary to enable Federal and non-Federal shared use of the bands.<sup>11</sup> For example, TIA has previously described our significant concerns regarding the use of spectrum access systems (SAS), whether in the lower 37 GHz band segment or elsewhere in the millimeter-wave bands.<sup>12</sup>

Instead, TIA continues to agree with Intel that applying the well-functioning 70/80 GHz framework to the lower 37 GHz band segment could provide the Commission with a workable baseline. As the Commission has noted, this system has been effectively used for over a decade

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<sup>9</sup> Third FNPRM ¶ 54.

<sup>10</sup> TIA 2016 Comments at 11.

<sup>11</sup> Reply Comments of the Telecommunications Industry Association, filed Oct. 31, 2016 in GN Docket No. 14-177, at 2 (“[TIA 2016 Reply Comments](#)”).

<sup>12</sup> TIA 2016 Comments at 16.

to facilitate co-existence between commercial systems and federal systems.<sup>13</sup> User-defined polygons should be used to define site registrations, subject to approval by the database in its coordination role.<sup>14</sup> TIA is also open to exploring Intel’s property site license proposal, and looks forward to reviewing further information that may be submitted in the record. Meanwhile, TIA remains open to exploration of other options.

To the extent the Commission is still considering doing so, it should not adopt its proposal from the *2016 FNPRM* to allow Federal users to claim priority access to 200 MHz of the 600 MHz lower band segment.<sup>15</sup> As TIA has previously explained, the Commission opened the 37 GHz band in the first place because there are a “limited number” of Federal uses needing protection.<sup>16</sup> Moreover, since the 37 GHz band has now been designated for shared use anyway, any hypothesized “critical defense or national security mission[s]” seem unlikely to develop here for tactical reasons, removing that as a justification for granting additional priority at this point.<sup>17</sup> Nor has the Federal Government requested priority treatment.<sup>18</sup> And granting special Federal

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<sup>13</sup> TIA 2016 Reply Comments at 2-3.

<sup>14</sup> *Id.* at 3.

<sup>15</sup> [Report and Order and Further Notice of Proposed Rulemaking, Use of Spectrum Bands Above 24 GHz For Mobile Radio Services](#), et al., GN Docket No. 14-177, rel. July 14, 2016, FCC 16-89 ¶ 27 [“2016 FNPRM”]; Third FNPRM ¶ 60 (noting that the Commission previously sought comment on this topic).

<sup>16</sup> TIA 2016 Comments at 10 (citation omitted).

<sup>17</sup> *Id.* (citation omitted).

<sup>18</sup> Letter from Paige Atkins, Associate Administrator, Office of Spectrum Management, NTIA to Julius Knapp, Chief, Office of Engineering and Technology, FCC, July 12, 2016 (requesting “co-equal” treatment”), available at [https://ecfsapi.fcc.gov/file/10712098427931/NTIA-OSM%20Letter%2BEncl%20to%20FCC-OET%20re%20Spectrum%20Frontiers%20\(07-12-2016\).pdf](https://ecfsapi.fcc.gov/file/10712098427931/NTIA-OSM%20Letter%2BEncl%20to%20FCC-OET%20re%20Spectrum%20Frontiers%20(07-12-2016).pdf).

priority in any block of spectrum raises uncertainties for non-Federal licensees and may make deployments in this band segment less economical.

37 GHz band coordination in general. Regarding the 14 military sites and three scientific sites identified by NTIA and the prospect of future Federal operations at a “limited number” of additional sites,<sup>19</sup> TIA urges the Commission to provide as much certainty to licensees as possible. Uncertainty in the 37 GHz band, even for a “limited number” of sites, could unnecessarily depress investment in the band.

### **III. The Commission Should Open the 26 GHz Band for Commercial Use.**

TIA supports the Commission’s goal of opening the 26 GHz band for commercial use. As the Commission notes, the band has been the subject of significant “international momentum” that indeed “presents [the agency] with an opportunity” to consider the band’s suitability for flexible fixed and mobile use.<sup>20</sup> We appreciate the Commission’s efforts to work with NTIA on enabling commercial uses of the band,<sup>21</sup> and urge that any accommodations made for Federal operations be limited to actual foreseeable needs. As with other millimeter-wave bands, excessive uncertainty due to the prospect of unbounded future federal operations could significantly impact investment.

We also agree with Nokia and Intel that equipment manufacturers could readily integrate the 26 GHz band into a tuning range that already includes the 24 GHz and 28 GHz bands that the Commission has previously authorized for UMFUS.<sup>22</sup> As the Commission correctly recognizes, the potential benefits would include manufacturing economies by covering several bands with a

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<sup>19</sup> Third FNPRM ¶ 74.

<sup>20</sup> *Id.* ¶ 76.

<sup>21</sup> *Id.* ¶ 84.

<sup>22</sup> *Id.* ¶ 77 (citations omitted).

single radio, providing international roaming capability in affordable user devices, and accelerating the availability of equipment.<sup>23</sup> Achieving those benefits would likely depend significantly upon applying some version of the UMFUS service rules in the 26 GHz band, and the well-developed industry environment around UMFUS provides a significant basis for doing so.

With that said, the Commission could also consider creating reasonable opportunities for other potential technologies to emerge, such as those proposed by Elefante for stratospheric platform stations (STRAPS). If technical co-existence with UMFUS proves infeasible or impractical for market-based reasons, the Commission could potentially consider creative approaches, such as allowing STRAPS and UMFUS services to obtain access to portions of the band through an auction mechanism. If so, the Commission might need to consider licensing the band in larger blocks, and appropriate mechanisms might need to be in place to limit interference between blocks.

Regardless, TIA urges the Commission to recognize the significant potential benefits of the 26 GHz band for commercial use, and it is appropriate for the Commission to undertake a comprehensive review of the band given the multiple technologies being developed. We look forward to reviewing the record on this issue in further detail.

#### **IV. The Commission Should Move Forward in the 50 GHz Band.**

TIA has previously supported the Commission's earlier proposal to open the 50.4-52.6 GHz band for UMFUS,<sup>24</sup> which the Commission notes is still pending before the agency.<sup>25</sup> We

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<sup>23</sup> *Id.*

<sup>24</sup> TIA 2016 Comments at 13.

<sup>25</sup> Third FNPRM ¶ 94.

also agree with the Commission’s overall approach of “permitting spectrum made available for UMFUS to be shared with other allocated services when possible,”<sup>26</sup> and therefore support the Commission’s intermediate proposal in the *Third FNPRM* to allow a limited number of individually licensed FSS earth stations to share the 50.4-51.4 GHz band subsegment, following the same approach as the 24 GHz band. While this step appears to be a reasonable compromise, we also urge the Commission to continue its work to resolve any remaining issues with the goal of fully establishing UMFUS rules in the 50 GHz band.

#### **V. Mobile Spectrum Holdings**

As the Commission notes, the pre-auction limits on UMFUS bands have been eliminated, the 26 GHz and 42 GHz bands share similar technical characteristics as other bands that the Commission has already opened in this proceeding, and these bands will likely have similar service rules.<sup>27</sup> For those reasons, TIA agrees it is logical to accord these bands similar treatment under the relevant mobile spectrum holdings policies.

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<sup>26</sup> *Id.*

<sup>27</sup> *Id.* ¶¶ 95-96.

## VI. Conclusion

The Commission continues to show extraordinary leadership in making the millimeter-wave bands available in response to emerging use cases and technological innovations. Due to this leadership, the United States is at the forefront of efforts around the world to bring these bands to the marketplace. The *Third FNPRM* offers the Commission an opportunity to build on its positive work by opening more bands in a coordinated manner.

Respectfully submitted,

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September 10, 2018