

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
)	
Establishing a More Flexible Framework to Facilitate Satellite Operations in the 27.5-28.35 GHz and 37.5-40 GHz Bands)	IB Docket No. 15-256
)	
Petition for Rulemaking of the Fixed Wireless Communications Coalition to Create Service Rules for the 42-43.5 GHz Band)	RM-11664
)	
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
)	
Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.2-50.2 GHz Frequency Bands; Allocation of Spectrum to Upgrade Fixed and Mobile Allocations in the 40.5-42.5 GHz Frequency Band; Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band for Wireless Services; and Allocation of Spectrum in the 37.0-38.0 GHz and 40.0-40.5 GHz for Government Operations)	IB Docket No. 97-95
)	

**REPLY OF THE
TELECOMMUNICATIONS INDUSTRY ASSOCIATION**

The Telecommunications Industry Association (“TIA”)¹ hereby files this Reply to the Oppositions filed by Public Knowledge and New America Foundation, the Dynamic Spectrum

¹ 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.

Alliance, U.S. Cellular Corporation (“USCC”), and Starry, Inc., and to proposals made by Boeing, Inc., in the above-captioned proceeding.

I. The 37 GHz Rules Do Not Provide Sufficient Certainty to Licensees.

A few parties defend the Commission’s decision to create a “co-equal” federal shared band in the lower 37 GHz segment (37-37.6 GHz).² Summarizing their arguments – largely responsive to Petitioners other than TIA – they object to characterizing sharing similar to the 3.5 GHz band as an “unworkable experiment,”³ they argue that other spectrum such as the 57-64 GHz band is insufficient,⁴ and they cite filings in the record to defend the Commission’s conclusion against procedural objections.⁵

Regardless of the merits of those arguments, they do not answer the questions raised by TIA about what the Commission actually did.⁶ Although protecting three Space Research Service (“SRS”) sites and 14 existing and *planned* military sites at NTIA’s request was appropriate, will other future military operations also be geographically bounded? If *nationwide* federal use is contemplated, how intensive would such use be? Would the uses be frequency-bound? Would first-in-time or other principles of priority apply? Will there be sufficient spectrum left for commercial operations if Federal and non-Federal users must race against each other to put markers in the field?

² See [Opposition of Public Knowledge and New America Foundation](#), filed January 31, 2017 in GN Docket No. 14-177, at 2-11 (“Public Knowledge Opposition”); [Opposition of the Dynamic Spectrum Alliance](#), filed January 31, 2017 in GN Docket No. 14-177, at 5-9 (“DSA Opposition”); [Opposition of Starry, Inc.](#), filed January 31, 2017 in GN Docket No. 14-177, at 2-5 (“Starry Opposition”).

³ Public Knowledge Opposition at 3-5; DSA Opposition at 7-8.

⁴ Public Knowledge Opposition at 5-7; DSA Opposition at 8-9.

⁵ Public Knowledge Opposition at 8-11; DSA Opposition at 5-7.

⁶ Starry agreed with TIA that at a minimum, the Commission’s rules need clarification. See Starry Opposition at 4-5.

Once again, we urge the Commission to work with NTIA to obtain additional clarity regarding the potential scale and scope of intended Federal uses, and then re-work its approach to provide greater certainty to commercial licensees who would otherwise operate in fear of unbounded federal expansion under the guise of “sharing” or “co-equal” status.

II. Other Proposed Alternatives Regarding 37-40 GHz Operability Are Unworkable.

TIA does not oppose the requirement that all devices developed before the lower 37 GHz band (37-37.6 GHz) sharing rules are finalized should be able to both transmit and receive in the entire non-shared 37.6-40 GHz portion, on whatever air interface is deployed there – for example, LTE. Hypothetically, if the Commission were to remove the lower 37 GHz sharing requirement entirely and license that segment similarly to the rest of the band, those same devices would then be able to both transmit and receive via their LTE air interface over the entire 37-40 range by simply increasing the tuning range to cover the lower segment as well.

That aside, the issue is that the lower 37 GHz sharing requirements are still undefined. The sharing framework will require some development and may not be functionally compatible with operation of services above 37.6 GHz. TIA’s Petition simply points out that device support for an unknown sharing requirement cannot be incorporated into any design, so the only practical solution in advance of fleshed-out sharing requirements is to require *tunability* within the lower 37 GHz band segment.

U.S. Cellular proposes that “devices be capable of *receiving* across the entirety of the 37-40 GHz band, but only be capable of *transmitting* in the 37.6-40 GHz band segment.”⁷

Unfortunately this does not add any clarity to the situation. For example, how would a device demonstrate compliance with a requirement to be capable of receiving a signal that the receiver

⁷ [Opposition of United States Cellular Corporation](#), filed January 31, 2017 in GN Docket No. 14-177, at 6.

may not be able to decode? The only practical requirement in consideration of this ambiguity in the signal processing chain is for the device to be able to *tune* within the 37-37.6 range. That is the extent of what can be confirmed in a compliance test, in advance of completed rules for sharing.

Citing TIA's petition, Starry says it "agree[s] with petitioners that it would be helpful to seek further comment on interoperability rules and how they would work across both licensed and shared bands and clarify issues that petitioners have raised as concerns."⁸ Similarly, the Dynamic Spectrum Alliance ultimately accepts TIA's proposal, noting it would be reasonable that "devices should be certified if they are 'tunable' across the entire band."⁹ TIA continues to believe our proposal represents the most straightforward solution to the ambiguity in the operability language in light of the uncertain sharing rules.

III. The Commission Should Not Mandate Specific Technologies.

TIA has not supported specific technological requirements such as beamforming, as proposed by some parties.¹⁰ While early indications may be that UMFUS operations will take advantage of such technologies, other types of antenna designs may ultimately prove useful as well. Therefore, the Commission should hew to the technology-neutral approach that has served it so well in many bands, both licensed and unlicensed, in recent years and adopt requirements that promote good spectrum sharing independent of the technology.

⁸ Starry Opposition at 6.

⁹ DSA Opposition at 10.

¹⁰ See, e.g., [Boeing Petition for Reconsideration](#), filed December 14, 2016 in GN Docket No. 14-177, at 13-14 (beamforming) and 20-21 (omnidirectional antennas), [Opposition of SES Americom and O3B](#), filed January 31, 2017 in GN Docket No. 14-177, at 14-16 (supporting Boeing technical proposals).

IV. Conclusion

TIA once again appreciates the Commission's important work in this important proceeding.

Respectfully submitted,

TELECOMMUNICATIONS INDUSTRY
ASSOCIATION

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CERTIFICATE OF SERVICE

I hereby certify that on this 24th day of February 2017, a copy of the foregoing Reply was served via First Class mail upon the persons below.

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