

**Before the
Federal Communications Commission
Washington, D.C. 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

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 COMMENTS OF IRIDIUM COMMUNICATIONS, INC.

INTRODUCTION

As Iridium Communications, Inc. (“Iridium”) has explained, the 29.1-29.25 GHz band is unsuitable for next-generation 5G networks due to its narrow width, irregular size, isolated location, lack of international support, and longstanding co-primary use for non-geostationary satellite orbit (“NGSO”) mobile-satellite service feeder links. Over and over again throughout this rulemaking, the Commission has agreed, and *has declined to even propose permitting terrestrial mobile services in this spectrum*.¹ In its opening comments, Iridium urged the

¹ See *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, Notice of Proposed Rulemaking, 30 FCC Rcd 11,878 ¶ 70 (2015) (“*NPRM*”) (declining to propose flexible use licensing of the 29.1-29.25 GHz band because Iridium operates in the band with “co-primary status”); *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 8014 ¶ 373 (2016) (“*First R&O*” or “*FNPRM*”) (declining to propose flexible terrestrial use of the 29.1-29.25 GHz band);

Commission to stay the course if the matter resurfaced in this next stage of the *Spectrum Frontiers* proceeding.² And while the issue has indeed come up in response to last November's *SNPRM*, nothing new has been presented to warrant a shift in direction.

Calls to permit flexible use service ("FUS") operations in the 29.1-29.25 GHz band appear on the *Spectrum Frontiers* wish-lists of just two proceeding participants, tucked beneath other millimeter wave ("mmW") priorities that are far more pressing.³ Neither one of these comments, however, presents the "new studies or quantitative data" necessary to warrant consideration of additional bands at this stage of the proceeding,⁴ or *any* new argument that might justify a change in policy for that matter. Nor do these comments even begin to explain how the 29.1-29.25 GHz band could meet the performance objectives of 5G mobile networks. Finally, they are completely silent on how the spectrum might be shared with the co-primary feeder-link operations of large, low-Earth-orbit NGSO constellations like Iridium's.

There is, in short, no reason for the Commission to reconsider its approach to the 29.1-29.25 GHz band on this record. Accordingly, the Commission should reject these proposals yet again.

Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, Second Report and Order, Second Further Notice of Proposed Rulemaking, Order on Reconsideration, and Memorandum Opinion and Order, FCC 17-152 ¶ 269 & Exhibit E (rel. Nov. 22, 2017) ("*Second R&O*" or "*SNPRM*") (summarily denying petitions for reconsideration, including Nextlink Wireless, LLC's request to permit flexible terrestrial mobile services in the 29.1-29.25 GHz band).

² See Comments of Iridium Communications, Inc., GN Docket Nos. 14-177 et al. (filed Jan. 23, 2018) ("Iridium Comments").

³ See Comments of CTIA, GN Docket Nos. 14-177 et al. (filed Jan. 23, 2018) ("CTIA Comments"); Comments of T-Mobile, USA, Inc., GN Docket Nos. 14-177 et al. (filed Jan. 23, 2018) ("T-Mobile Comments").

⁴ *SNPRM* ¶ 109.

ARGUMENT

In the *SNFPRM*, the Commission sought comment on whether “new studies or quantitative data” would support making FUS operations available in additional bands raised “in the prior *NPRM/FNPRM* or raised in the record.”⁵ As Iridium has explained, the Commission’s invitation for comment does not appear to cover the 29.1-29.25 GHz band,⁶ because the band was not proposed in either the *NPRM* or the *FNPRM* in this proceeding. Moreover, although a few parties have made their own proposals to permit FUS in this spectrum, those proposals were squarely rejected in the *Second R&O*,⁷ and were never discussed on the record with the detail necessary to support FCC action.

Two commenters nevertheless make a half-hearted pitch to explore FUS operations in the 29.1-29.25 GHz band. CTIA asks the Commission to “modify its Part 30 rules to allow for mobile terrestrial use of the 29 GHz [29.1-29.25 GHz] and 31 GHz bands.”⁸ T-Mobile likewise asks the Commission to “re-examine potential mobile terrestrial use of the remainder of the LMDS band – the A2 (29.10-29.25 GHz), A3 (31.075-31.225 GHz), and B (31.00-31.075 GHz and 31.225-31.30 GHz) blocks.”⁹ These proposals should be rejected.

Even assuming they are responsive to the *SNFPRM*’s request for comment, neither proposal presents the “new studies” or new “quantitative data” that the *SNFPRM* made clear would be required to justify a change in position. Indeed, both comments merely recycle generic arguments that already have been rejected by the Commission. In support of its proposal, CTIA

⁵ *Id.*

⁶ See Iridium Comments at 2-3.

⁷ See *Second R&O* ¶ 269 & Appendix H.

⁸ CTIA Comments at 5-6.

⁹ T-Mobile Comments at 12.

paraphrases the suggestions previously made by Nextlink Wireless, LLC (“Nextlink”) that by making the entire LMDS band available to mobile operators, the Commission might “provide a degree of regulatory certainty” and “reduce the risk of bands becoming ‘stranded’ segments.”¹⁰ Citing pleadings filed in support of Nextlink, T-Mobile likewise claims that “[a]pplying . . . flexible-use rules” across the entire LMDS band will “avoid” unmentioned “inefficiencies” that are not explored or even identified.¹¹ These same arguments, however, were the focus of Nextlink’s petition to open this same spectrum to FUS on reconsideration of the *First R&O* in this proceeding.¹² And that petition was summarily denied by the Commission just a few months ago last November.¹³ As a result, neither CTIA nor T-Mobile provides any reason for the Commission to revisit its approach to the 29.1-29.25 GHz band.

The problems with CTIA and T-Mobile’s proposals lie deeper than their failure to present the new information required to continue debate on this band. At its core, CTIA and T-Mobile’s position is that if the Commission can see itself permitting terrestrial mobile services in the remaining LMDS bands at some point in the future, it might as well do so now for the sake of “efficiency.” But that argument puts the cart before the horse. As Iridium and others have explained, the 29.1-29.25 GHz band presents uniquely challenging interference scenarios that the Commission did not have to confront in other FUS spectrum due to the dynamic link geometry, low orbital altitude, and co-primary status of Iridium’s large NGSO system,¹⁴ and is too narrow,

¹⁰ CTIA Comments at 6 & n. 10.

¹¹ T-Mobile Comments at 12.

¹² Petition of Reconsideration of Nextlink Wireless, LLC at 14, GN Docket No. 14-177 (filed Dec. 14, 2016).

¹³ See *Second R&O* ¶ 269 & Appendix H.

¹⁴ See Iridium Comments at 6-9 (describing the uniquely challenging interference scenarios between ubiquitously deployed terrestrial mobile services and large NGSO systems in low-Earth-orbit); Reply Comments of Space Exploration Technologies Corp. at 6, GN Docket No. 14-177 et al. (filed Feb. 18, 2015) (same); Letter from Dave Horne, Global Public Policy Group, Intel Corporation, to Marlene H. Dortch, Secretary, Federal

irregular, and isolated to be of use to 5G systems in any event.¹⁵ Neither CTIA nor T-Mobile explains how these challenges can be overcome, or how the mission-critical services that Iridium provides to industry, first responders, and our military will be protected—issues which must be addressed prior to proposing use of the band for FUS.

CONCLUSION

The Commission has given terrestrial operators plenty of rope in their push to allow FUS in the 29.1-29.25 GHz band. Yet more than three years since the start of this proceeding, all they have come up with is a repetitious generic argument about “efficiency” that must constantly be rejected. Enough is enough. The Commission should stop the madness, and make clear that its focus will lie on mmW bands that hold more promise for terrestrial 5G networks.

Respectfully submitted,



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Communications Commission, at Attachment 1 p. 12-13, GN Docket No. 14-177 (filed Aug. 10, 2015) (observing the “particularly challenging interference scenarios” in the 29.1-29.25 GHz band).

¹⁵ Iridium Comments at 3-6; *see also* NPRM ¶ 70.