

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of	)	
	)	
Mangata Networks LLC	)	Call Sign S3014
	)	SAT-PDR-20200526-00054
Petition for a Declaratory Ruling	)	
Granting Access to the U.S. Market	)	
For the Mangata Networks System	)	

PETITION TO DENY IN PART

Iridium Constellation LLC (“Iridium”) hereby petitions to deny¹ the request for non-conforming use of the NGSO MSS Feeder-Link Bands² in the petition for declaratory ruling (“PDR”) filed by Mangata Networks LLC (“Mangata”). Mangata’s proposal to use these frequencies for feeder and service links conflicts with the Commission’s band plan and a waiver would be inappropriate. At a minimum, the Commission must limit any use of the NGSO MSS Feeder-Link Bands to MSS feeder links. It should also condition MSS feeder-link access on advance coordination with Iridium, and on using feeder links exclusively to support terminals licensed in the MSS.

DISCUSSION

Iridium operates a constellation of 66 NGSO MSS space stations in low earth orbit. Because of the unique capabilities of the Iridium network, commercial, military, and civilian government users depend on Iridium for mission-critical communications needs. In addition to supporting the mission of the Department of Defense, Iridium supports the core commercial

¹ See 47 C.F.R. § 25.154.

² The NGSO MSS Feeder-Link Bands are 19.4-19.6 GHz and 29.1-29.5 GHz.

operations of large and economically significant industrial sectors, and a diverse set of civilian public safety functions, including the efforts of our first responders. In February 2019, Iridium completed the replacement of its first-generation satellites with the Iridium NEXT[®] satellite constellation, which supports higher data speeds for new products and services.

Every user communication on the Iridium satellite system is routed through a gateway earth station. Iridium's gateways operate on NGSO MSS feeder link frequencies in the 19.4-19.6 GHz and 29.1-29.3 GHz bands. Iridium also employs these bands for the TT&C links that control and command its space stations. Thus, the bands that Mangata proposes to use intensively are the lynchpin of the Iridium system.

In its PDR, Mangata requests market access for its planned NGSO constellation, which will be authorized by the United Kingdom's Office of Communications ("Ofcom").³ Mangata seeks certain rule waivers both of the U.S. Table of Allocations, 47 C.F.R. § 2.106, and the Commission's Ka-band plan to allow Mangata to use the 19.4-19.6 GHz and 29.1-29.5 GHz bands on a non-conforming basis. Mangata's petition and technical narrative are cripplingly vague in describing just how it intends to use these bands. But it appears Mangata is seeking waivers to:

- use the 19.3-19.7 GHz band for FSS feeder links (space-to-Earth) and FSS service links;⁴
- use the 19.4-19.6 GHz band to provide MSS feeder links and FSS service links;⁵ and

³ See Application of Mangata Networks LLC, IBFS File No. SAT-PDR-20200526-00054, Legal Narrative at 1, 6 (filed May 26, 2020) ("PDR").

⁴ See PDR at 14; Application of Mangata Networks LLC, IBFS File No. SAT-PDR-20200526-00054, Technical Narrative to Supplement Schedule S, Table 3 at 10 (filed May 26, 2020) ("Technical Narrative").

⁵ See PDR at 14; Technical Narrative, Table 3 at 10. Access to these bands for MSS feeder links appears to be premised on a waiver to operate in the MSS on a non-conforming basis in 19.7-20.2 GHz and 29.5-30.0 GHz. PDR at 15.

- use the entire 29.1-29.5 GHz band for both FSS service links and MSS feeder links.⁶

The Commission should deny these requests.

Proposal for NGSO FSS service links and feeder links. Under the Commission's Ka-band Plan and the U.S. Table of Frequency Allocations, use of the 19.4-19.6 GHz and 29.1-29.5 GHz bands by NGSO systems is limited to NGSO feeder links that support MSS earth stations.⁷ Mangata's proposal to use these bands to operate NGSO service links and NGSO feeder links that would support FSS earth stations conflicts with the band plan and the allocation table.

Mangata asks that the Commission waive its band plan and allocation table. But apart from halfhearted statements about attempting to use coordination to avoid interfering with Iridium, it provides no basis for evaluating the merits of its waiver request. For example, Mangata makes no showing as to the potential for its non-conforming gateway earth stations and user terminals to interfere with Iridium's feeder-link operations. And it makes no showing as to the extent its non-conforming earth stations and user terminals might receive interference from Iridium's feeder-link operations.

Mangata has no need for these frequencies in any event. The new generation of NGSO FSS systems like Mangata's have access to other large swaths of Ka-band spectrum, while NGSO MSS systems, like Iridium's, are limited to the 19.4-19.6 GHz and 29.1-29.5 GHz bands. The Ka-band Plan was developed in a series of orders to designate discrete spectrum bands for specific types of systems including GSO FSS, NGSO FSS, and certain MSS. Permitting NGSO

⁶ See PDR at 15; Technical Narrative, Table 3 at 10. The request to operate MSS feeder links relies on a waiver permitting non-conforming MSS operations in 19.7-20.2 GHz and 29.5-30.0 GHz. PDR at 15.

⁷ See 47 C.F.R. § 2.106 at NG166 (limiting the use of 19.4-19.6 GHz and 29.1-29.25 GHz by the FSS to feeder links for NGSO systems in the MSS); *id.* at NG535A (limiting the use of 29.25-29.5 GHz by the FSS to GSO systems and feeder links for NGSO systems in the MSS). See *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd. 7809, 7850 App. B (2017).

FSS service links and feeder links to operate in the NGSO MSS feeder link bands would obliterate these distinctions. Accordingly, the Commission should deny Mangata's waiver request and reject its proposals for NGSO FSS service links and feeder links as inconsistent with the Commission's Ka-band Plan and the U.S. Table of Frequency Allocations.

Proposal for NGSO MSS feeder links. Mangata also proposes to operate feeder links in the 19.4-19.6 GHz and 29.1-29.5 GHz bands that would support MSS earth stations. This request depends on a waiver that would permit Mangata to operate in the MSS on a non-conforming basis in 19.7-20.2 GHz and 29.5-30.0 GHz. It appears, however, that the MSS earth stations would be the same earth stations Mangata would be operating as FSS.⁸ This suggests that the only possible benefit to Mangata from the non-conforming MSS designation would be gaining access the NGSO MSS Feeder-Link Bands.

But that private benefit would disserve the public interest. The Commission never intended for more than three NGSO MSS systems to share this scarce feeder link spectrum.⁹ While it did not agree that "use of this band should be exclusive for ... two NGSO/MSS systems," it merely left open the possibility that it would authorize "feeder links from a third NGSO/MSS system" in the future subject to coordination with "existing licensees."¹⁰ Currently, Iridium is operating MSS feeder links in this band, and O3b Limited and Amazon's Kuiper Systems are authorized to do so as well. Mangata's MSS feeder link proposal, if approved, would be the fourth such system. This unanticipated congestion of the NGSO MSS

⁸ See PDR at 15.

⁹ See *Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and For Fixed Satellite Services*, First Report and Order and Fourth Notice of Proposed Rulemaking, 11 FCC Rcd. 19005, 19032, ¶ 66 (1996).

¹⁰ *Id.*

Feeder Link bands is unnecessary—again, FSS systems like Mangata’s have adequate other Ka-band resources—and continued grants of these requests could contribute to a deteriorating interference environment. Mangata has not shown how the band could support a four-operator environment in any event, and thus how a waiver might serve the public interest in this case.

If the Commission nevertheless agrees to allow Mangata to operate MSS feeder links in these frequencies, it should impose conditions to protect Iridium’s network and ensure that Mangata uses the spectrum to support MSS operations. First, it should require that – before beginning operations – Mangata coordinate with all previously authorized NGSO MSS systems in the NGSO MSS Feeder Link Bands, including Iridium. Second, the Commission should limit Mangata’s use of the bands to feeder links that support terminals licensed in the MSS. This means the spectrum cannot be used to carry traffic from terminals licensed in the FSS.

CONCLUSION

The Commission should deny the portion of Mangata’s PDR that seeks rule waivers to allow Mangata to use the 19.4-19.6 GHz and 29.1-29.5 GHz bands. At a minimum, it should limit any use of these bands for MSS feeder links, and condition MSS feeder-link access on successful coordination with Iridium prior to operations and on feeder-link operations that exclusively support terminals licensed in the MSS.

Respectfully submitted,



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DECLARATION OF MAUREEN C. MCLAUGHLIN

1. I am Vice President Public Policy for Iridium Constellation LLC.
2. I have reviewed the foregoing Petition to Deny. All statements of fact made therein are true and correct to the best of my knowledge, information, and belief.

I declare under penalty of perjury that the foregoing is true and correct.

By: s / Maureen C. McLaughlin

Maureen C. McLaughlin

Date: September 8, 2020

CERTIFICATE OF SERVICE

I hereby certify that on September 8, 2020, a copy of the foregoing Petition to Deny In Part was sent by first-class, United States mail to the following:

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