

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Facilitating the Communications of Earth)	IB Docket No. 18-315
Stations in Motion with Non-Geostationary)	
Orbit Space Stations)	

COMMENTS OF KYMETA CORPORATION

Kymeta Corporation (“Kymeta”) hereby submits its Comments in response to the Notice of Proposed Rulemaking (“NPRM”) in the above-captioned proceeding.¹ Kymeta applauds the Commission for its proposals to expand the scope of the Part 25 rules to cover communications with Non-Geostationary Earth Orbit (“NGSO”) satellites operating in the fixed-satellite service (“FSS”). As the NPRM notes, these “changes ... complement recent actions taken by the Commission to simplify its rules for [Earth Stations in Motion (“ESIMs”)] operations with geostationary orbit (“GSO”) satellites.”² Kymeta broadly supports the specific proposals in the NPRM regarding ESIMs operating with NGSO satellites. Kymeta also recommends several tweaks to the Commission’s proposals in order to further clarify and streamline the process.

I. BACKGROUND

Kymeta is developing the next generation of antennas for satellite communications that will reduce the cost of broadband deployment and enable entirely new uses of, and applications for, satellite technology, including mobility applications such as connected cars. Unlocking the

¹ *Facilitating the Communications of Earth Stations in Motion with Non-Geostationary Orbit Space Stations*, Notice of Proposed Rulemaking, IB Docket No. 18-315, rel. Nov. 16, 2018, FCC 18-160 (“NPRM”).

² NPRM at ¶ 1.

full potential of these data links requires an antenna solution that can track satellites, while also being small and light enough to attach to a vehicle. Kymeta's flat panel antennas use software and metamaterials technology to electronically and dynamically steer the antenna beam to track the target satellite. This offers the electronic beam-steering performance of a typical phased array antenna, with much lower power consumption and with less size and weight.

II. THE PROPOSED RULES GOVERNING ESIMs COMMUNICATING WITH NGSO SATELLITES WILL SERVE THE PUBLIC INTEREST

Kymeta supports the establishment of “a regulatory framework for ESIMs communications with NGSO FSS systems that would be analogous to that which currently exists for ESIMs communicating with GSO FSS systems.”³ This regulatory framework will greatly facilitate the deployment of ESIMs capable of operating with NGSO systems.

A. Authorized Frequencies

Kymeta supports the NPRM's proposal to allow “ESIMs to communicate with NGSO FSS systems in the Ku- and Ka-bands where the Commission's rules allow ESIM communications with GSO FSS space stations, with the exception of the 18.6 – 18.8 and 29.25 – 29.5 GHz frequency bands.”⁴ Codification of these rules will eliminate the need for applicants to seek a waiver to operate in these bands.

B. Blanket Licensing

Kymeta strongly supports the NPRM's proposal to permit blanket licensing of ESIMs operating with NGSO FSS systems.⁵ Blanket licensing of tens, hundreds, thousands or tens of

³ Id. at ¶ 7.

⁴ Id. at ¶ 8.

⁵ Id. at ¶ 15.

thousands of terminals is essential to the rapid deployment of ESIMs capable of communicating with GSO or NGSO satellite systems. The Commission already permits blanket licensing of ESIMs operating with GSO satellite systems. In August 2017, the Commission granted Kymeta a blanket license to operate 11,000 Ku-band ESIMs with GSO satellite systems.⁶ That blanket license has substantially helped Kymeta to rapidly deploy its flat-panel antenna to multiple customers.

C. Streamlined Processing

Kymeta urges the Commission to streamline the processing of certain applications for blanket authority for ESIMs to communicate with NGSO satellite systems. Specifically, Kymeta urges the Commission to allow existing licensees holding blanket authority for ESIMs to communicate with GSO satellite systems to file a streamlined modification application to add blanket authority to communicate with NGSO satellite systems in the relevant frequency band (*i.e.* Ku-band or Ka-band).⁷ The Commission will have already reviewed and approved the technical showing by existing licensees that their ESIMs comply with the 2° spacing requirements in Part 25 applicable to communications with GSO FSS networks. In this regard, Kymeta supports clarification that Section 25.228(a), (b), and (c) apply only to ESIMs communicating with GSO FSS satellites.⁸

⁶ Call Sign E170070, File Number SES-LIC-20170223-00185.

⁷ Any such modification application would still be subject to the standard 30-day Public Notice period. If no objections are filed, Kymeta proposes that such applications be deemed granted fourteen (14) days after expiration of the Public Notice period.

⁸ *Id.* at ¶ 19.

In the case of existing licensees seeking to operate with NGSO satellite systems on a primary basis in the 28.6 – 29.1 GHz uplink band, no additional technical information should be required, because operations in this band are not required to protect GSO FSS networks.⁹ In the case of existing licensees seeking to operate with NGSO satellite systems on a primary or secondary basis in all other authorized Ku-band and Ka-band frequencies, the only technical showing required should be a demonstration that the ESIM complies with the equivalent power flux density (“EPFD”) up limits referenced in Section 25.289, which provides, in relevant part, as follows:

... an NGSO system licensee must not cause unacceptable interference to, or claim protection from, a GSO FSS or GSO BSS network. An NGSO FSS licensee operating in compliance with the applicable equivalent power flux density limits in Article 22, Section II of the ITU Radio Regulations ... will be considered as having fulfilled this obligation with respect to any GSO network.¹⁰

Kymeta is not aware of any other technical rules that apply to earth stations, including ESIMs, operating with NGSO satellite systems. If there are additional requirements, Kymeta urges the Commission to clarify and codify those requirements as part of this proceeding.

⁹ See NPRM at ¶ 10.

¹⁰ 47 CFR § 25.289. Kymeta notes that, on its face, Section 25.289 applies to “NGSO FSS licensee[s],” not earth station licensees. If EPFD up limits are intended to apply to earth station licensees, Kymeta recommends that the Commission clarify that in the context of this proceeding.

III. CONCLUSION

For the reasons set forth above, Kymeta supports the establishment of “a regulatory framework for ESIMs communicating with NGSO FSS systems that would be analogous to that which currently exists for ESIMs communicating with GSO FSS systems.”¹¹ Kymeta strongly supports the NPRM’s proposal to permit blanket licensing of ESIMs operating with NGSO FSS systems. Specifically, Kymeta urges the Commission to allow existing licensees holding blanket authority for ESIMs to communicate with GSO satellite systems to file a streamlined modification application to add blanket authority to communicate with NGSO satellite systems in the relevant frequency band (*i.e.* Ku-band or Ka-band).

Respectfully submitted,

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¹¹ Id. at ¶ 7