Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Kymeta Corporation Application for	)	File No. SES-MOD- _____
Modification of Blanket License to Add	)	Call Sign E170070
10,000 Third-Generation Ku-Band	)	
Transmit/Receive Fixed-Satellite Service	)	
Earth Stations in Motion		

APPLICATION FOR MODIFICATION OF BLANKET LICENSE

Kymeta Corporation ("Kymeta") respectfully requests that the Commission modify the above-captioned blanket license to authorize Kymeta to add 10,000 third-generation ("u5") earth stations in motion ("ESIMs") operating in Ku-band Fixed Satellite Service ("FSS") frequencies. Grant of the requested authority is consistent with Commission rules, policy and precedent, and will serve the public interest by enabling Kymeta to deploy its u5 broadband mobility terminals to serve a wide variety of customers.

I. INTRODUCTION AND PUBLIC INTEREST SHOWING

Kymeta has developed, and is ready to deploy, the third generation of its innovative antenna for satellite communications to facilitate further reductions in the cost of broadband deployment and enable entirely new applications for satellite technology. Like the first-generation u7 Terminal and the second-generation u8 Terminal, the third-generation u5 Terminal employs a flat panel antenna using software and metamaterials technology to electronically and dynamically steer the antenna beam to track the target satellite. The Kymeta technology enables thinner, lighter, more efficient, and less expensive antennas compared to traditional satellite antenna technologies. The u5 Terminal compliments the u8 Terminal while meeting the market

need for compact highly capable terminals. Compared to similar products the u5 stands out with full aperture illumination for both transmit and receive with fully interlaced opposed to segmented apertures, full duplex opposed to half duplex, while maintaining the metamaterial benefits of better performance over scan than traditional flat panel technologies. The u5 Terminal provides better efficiency for both transmit and receive operations across the full band than the u8 Terminal. In addition, the u5 Terminal supports increased instantaneous bandwidths though the full field of view.

II. DESCRIPTION OF KYMETA u5 TERMINAL

Kymeta's u5 Terminal uses software and metamaterials technology to electronically and dynamically steer the antenna beam from a flat panel to track the target satellite. The u5 Terminal combines transmit and receive capabilities in a single aperture (although the transmit and receive functions are controlled separately). In vehicle applications, the antenna will be mounted horizontally on the top of a vehicle (such as a train, bus, commercial truck, or civilian armored vehicle). In maritime applications, the antenna will typically be mounted on a platform or surface at or near the highest point of the vessel.

The u5 Terminal uses electronic beam steering to track the target satellite. The receive antenna employs a closed-loop pointing algorithm to track the target satellite with the transmit antenna pointing being continuously slaved to the resulting pointing vector.

Table 1 summarizes important transmit and receive characteristics of the u5 Terminal.

Table 1. u5 Terminal Characteristics

Specification	**Antenna and Terminal Data**
Antenna dimensions	53.6 cm (antenna is square)
Transmit Band	14.0 – 14.5 GHz
Receive Band	10.95 – 11.2 GHz; 11.45 – 11.7 GHz; and 11.7 – 12.2 GHz Note: Kymeta does not claim interference protection from any authorized terrestrial stations for downlink operations in the 10.95 – 11.2 GHz and 11.45 – 11.7 GHz bands.
Maximum EIRP	46.25 dBW @ 0 degree scan
Transmit Gain	32.5 dBi at 14.5 GHz
Polarization	Linear or circular

III. KYMETA'S u5 TERMINAL COMPLIES WITH THE RULES IN SECTION 25.228 GOVERNING ESIMs

Kymeta's u5 Terminal complies with all relevant provisions of Part 25, including Section 25.228 governing ESIMs.

Table 2 provides a summary of these requirements.

Table 2
Information Required by Part 25 and Section 25.228
(Earth Stations in Motion)

Rule Section	Requirement	Section of Application
25.228(a)	Compliance with off-axis EIRP spectral density standards set forth in Section 25.218. Note: These provisions incorporate Section 25.115(g)(1).	III.A and Exhibit A
25.228(b)	Compliance with self-monitoring requirement and ability to automatically cease transmissions in excess of authorized off-axis EIRP density limits within 100 milliseconds	III.B
25.228(c)	Compliance with requirement that each ESIM must be monitored and controlled by a network control and monitoring center (NCMC)	III.C
25.228(d)	Compliance with requirement that VMES Terminals be installed by qualified installers; compliance with RF hazard labelling requirement if RF exposure levels exceed 1.0 mW/cm2 in accessible areas.	III.D
25.228(e)(1)	Operators shall control all ESVs by a NCMC located in the United States, with limited exceptions	III.E
25.228(e)(2) and (f)	24/7 Point of Contact in the U.S. (including phone number and address), with authority and ability to cease all emissions from ESVs	III.F

25.228(e)(3)	Operators communicating with ESVs on vessels of foreign registry must maintain detailed information on each vessel's country of registry and a point of contact for the relevant administration responsible for licensing ESVs.	III.G
25.228(j)(1) and (2)	Protection of NASA TDRSS Facilities operating in the 14.0 – 14.2 GHz band: The Terminal will use GPS to ensure compliance.	III.H
25.228(j)(3)	Protection of Radio Astronomy Services (RAS) operating in the 14.47 – 14.5 GHz band: The Terminal will use GPS to ensure compliance.	III.I
25.115(a)(1)	FCC Form 312 and associated Schedule B are submitted electronically	III.J
25.115(m)(3)(ii)	Geographic Area of Operation	III.K
1.1310	RF Safety analysis	III.L and Exhibit B
Points of communications	Permitted Space Station List for GSO Space Stations, OneWeb, and Kepler	III.M

A. Off-Axis EIRP Spectral Density

Kymeta's u5 Terminal complies with the off-axis effective isotropically radiated power ("EIRP") power spectral density ("PSD") standards (the "off-axis mask") set forth in Section 25.218(f). Exhibit A consists of comprehensive tables and a series of measured antenna patterns demonstrating compliance with the off-axis mask.

B. Cessation of Emissions

Kymeta certifies that the u5 Terminal will be self-monitoring and will automatically cease transmissions within 100 milliseconds if a condition occurs that would cause the u5 Terminal to exceed the off-axis mask. The receive antenna employs a closed loop pointing algorithm to track the target satellite with the transmit antenna pointing being continuously slaved to the resulting pointing vector. The u5 Terminal employs self-monitoring and issues a mute command to the transmit modem when a tracking problem is encountered. The detection and mute function execution is done in less than 100 milliseconds. The u5 Terminal will not resume transmission until the condition that caused it to exceed the off-axis mask is corrected.

C. Network Control and Monitoring Center ("NCMC")

Each u5 Terminal will be monitored by an NCMC. Further, each u5 Terminal will comply with a "disable transmission" command from the NCMC within 100 milliseconds of receiving the command. The NCMC will monitor the operation of each u5 Terminal in its network and transmit a "disable transmission" command to any u5 Terminal that exceeds the authorized off-axis mask. The NCMC will not allow the u5 Terminal to resume transmissions until the condition that caused the u5 Terminal to exceed the off-axis mask is corrected.

D. Installation of u5 Terminals

The installation of u5 Terminals on vehicles will be done by qualified installers who understand the antenna's radiation environment.

E. Control of Maritime u8 Terminals

Maritime u5 Terminals will be controlled by an NCMC located in the United States.

F. "Stop Buzzer" Point of Contact

A 24/7 point of contact with the authority and ability to cease all emissions from maritime u5 Terminals will be maintained.

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G. Recording and Retention of Transmit Data

The NCMC communicating with ESVs on vessels of foreign registry will maintain detailed information on each vessel's country of registry and a point of contact for the relevant administration responsible for licensing those ESVs.

H. Protection of NASA TDRSS Facilities

VMES and ESV licensees proposing to operate in the 14.0-14.2 GHz (Earth-to-space) frequency band within 125 km of the NASA Tracking and Data Relay Satellite System ("TDRSS") facilities at Guam, White Sands, New Mexico, and Blossom Point, Maryland are subject to coordination with NASA through NTIA's Interdepartmental Radio Advisory Committee ("IRAC"). Kymeta will use GPS to ensure that u5 Terminals do not operate in the 14.0 – 14.2 GHz sub-band within 125 km of NASA's TDRSS facilities at Guam, White Sands,

or Blossom Point until and unless it completes coordination. Kymeta acknowledges that it is required to notify the Space Bureau once it has completed such coordination.

I. Protection of Radio Astronomy Services ("RAS")

VMES and ESV licensees proposing to operate in the 14.47 – 14.5 GHz sub-band in the vicinity of RAS observatories observing in the 14.47 - 14.5 GHz band are subject to coordination with the National Science Foundation ("NSF"). Kymeta will use GPS to ensure that u5 Terminals do not operate in the 14.47 - 14.5 GHz sub-band within the delineated coordination radius of the RAS facilities listed in Table 1 to Section 25.228(j)(3) until and unless it completes such coordination. Kymeta acknowledges that it is required to notify the Space Bureau once it has completed such coordination.

J. FCC Form 312 and Schedule B

Kymeta has completed and electronically submitted FCC Form 312 and Schedule B, together with the required application fee.

K. Geographic Areas in Which the u5 Terminals will Operate

Kymeta requests authority to operate the u5 Terminals in the continental United States ("CONUS"), Alaska, Hawaii, and U.S. territories and possessions, as well as territorial and international waters (in the case of ESVs).

L. Radio Frequency Hazard Analysis

Kymeta provides a radio frequency ("RF") safety analysis as Exhibit B.

M. Points of Communication

Kymeta seeks authority to communicate with all Geostationary Orbit satellites on the Permitted Space Station List. Kymeta also seeks authority to operate with the following Non-Geostationary Satellite systems: OneWeb; Kepler.

IV. CONCLUSION

Kymeta requests that the Commission expeditiously grant this application for modification of its blanket license.

Respectfully submitted,

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November 18, 2025

TECHNICAL CERTIFICATION

I, Maxwell A. Smoot, hereby certify that I am:

- the technically qualified person responsible for the preparation of the technical information contained in the Application, including the Exhibits;
- that I am familiar with Part 25 of the Commission's Rules; and
- that I have either prepared or reviewed the technical information submitted in the Application and found it to be complete and accurate to the best of my knowledge and belief.

Signed: _____
Dated: 11/18/2025

Maxwell A. Smoot
Principal Systems Engineer
Kymeta Corporation