

Kymeta Corporation

Application for STA for Experimental Authorization for Testing with Hughes' Ka-Band GSO Satellite System From Germantown, MD and Redmond, WA

Narrative Statement

(1) Name, address, phone number (also e-mail address and facsimile number, if available) of the applicant.

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(2) Description of why an STA is needed.

Kymeta is developing a microwave antenna technology that could significantly improve performance and lower costs in commercial deployments. Grant of the STA will allow Kymeta to test its technology with the Hughes Ka-band geostationary satellite system.

(3) Description of the operation to be conducted and its purpose.

Kymeta will test its antenna technology from Hughes' teleport in Germantown, Maryland and from Kymeta's headquarters in Redmond, Washington. Kymeta will create a two-way satellite link with the EchoStar XVII satellite located at 107.1 WL. Testing will demonstrate the ability of the assembled RF technology to both transmit and receive a Ka-band digitally modulated transmission.

(4) Time and dates of proposed operation.

November 10, 2014 – May 10, 2015. Kymeta will notify ViaSat, DISH, Inmarsat, SES, and O3b, the other U.S. authorized Ka-band satellite operators, at least one week prior to any transmit testing, and provide emergency contact information. In the event that interference is reported, Kymeta will immediately cease transmissions.

(5) Class(es) of station (fixed, mobile, fixed and mobile) and call sign of station (if applicable).

The transmitting station will operate in fixed mode.

(6) Description of the location(s) and, if applicable, geographical coordinates of the proposed operation.

Location 1:

Hughes Network Systems
11717 Exploration Lane
Germantown, MD 20876

Geographic Coordinates: 39° 10' 43" N, 77° 14' 52" W.

The transmitter will be located within the Hughes Teleport facility.

Location 2:

Kymeta Corporation
12277 134th Court NE
Redmond, Washington 98052

Geographic Coordinates: 47° 42' 35" N, 122° 09' 46" W.

The transmitter will be located in the parking lot or on the roof of Kymeta's Corporate Headquarters in Redmond WA.

(7) Transmit equipment to be used, including name of manufacturer, model and number of units.

Kymeta mTenna mT3.3
Kymeta mTenna mTX.RX18.3

(8) Frequencies desired.

Transmit: 29.25 – 29.875 GHz
Receive: 18.30 – 18.55 GHz, and 19.05 – 19.3 GHz

(9) Maximum output power and maximum effective radiated power (ERP) or equivalent isotropically radiated power (EIRP).

10 W output power; 40 kW EIRP

(10) Emission designator (see §2.201 of this chapter) or describe emission (bandwidth, modulation, etc.)

Transmit: 100KG7W to 5M00G7W
Receive: 10M0G7W to 250MG7W

(11) Overall height of antenna structure above the ground (if greater than 6 meters above the ground or an existing structure, see part 17 of this Chapter concerning notification to the FAA).

The overall height of the antenna above ground level (or roof top level) will not exceed 6 meters.

(12) Additional Technical Information

Width of beam in degrees at half-power point: 1.50 for mT3 antenna

The antenna will transmit and receive using circular polarization.

Frequency tolerance: 0.28%