

**Kymeta Corporation**  
**Application for STA for Experimental License**

**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 satellite antenna technology that could significantly improve performance and lower costs in commercial deployments. Submitted herewith is a brochure describing the Kymeta technology. Grant of the STA will allow Kymeta to undertake testing and technical demonstrations. Baseline testing of the 30 GHz Ka-band RF transmit chain will use COTS equipment, including a General Dynamics dish. After establishment of a baseline, actual testing of Kymeta's mTenna technology will be undertaken.

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

Kymeta will create a two-way satellite link with the Telesat ANIK F2 satellite at 111.1° W.L. Baseline testing will demonstrate the ability of the assembled RF technology to both receive and transmit a Ka-Band digitally modulated transmission. After the baseline testing has been completed, Kymeta will test the ability of its mTenna technology to transmit a Ka-band digitally modulated signal and to create a two-way satellite link.

**(4) Time and dates of proposed operation.**

Testing will occur between August 19, 2013 and February 18, 2014 – a period of six months. Kymeta will notify all operators of Ka-band satellites within 6° of ANIK F2 at least two weeks prior to any transmit testing, and then one day prior to transmit testing. Kymeta will 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.**

The transmitter will be located in the parking lot of Kymeta's Corporate Headquarters in Redmond WA. The address is set forth in Item 1 above. The coordinates of this location are: 47° 42' 35" N, 122° 09' 46" W.

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

Baseline Testing:

1. General Dynamics Antenna which includes the feed assembly. Model 3672 - 0.67Meter Ka Band Circular polarity
2. Terra Sat BUC model IBR295300-0NA010WW-0000
3. iDirect model E8350 SCPC modem

New Equipment Testing

1. Kymeta mTenna experimental Ka-band antenna
2. Terra Sat BUC model IBR295300-0NA010WW-0000
3. iDirect model E8350 SCPC modem.

**(8) Frequency(ies) desired.**

The desired emitted carrier will reside at 29659.500 MHz +/- 1 MHz

**(9) Maximum effective radiated power (ERP) or equivalent isotropically radiated power (EIRP).**

The maximum transmitted EIRP will be 46 dBW with the primary beam directed towards the satellite. The transmit beam will only be activated after the receive beam has been established in order to ensure proper alignment with the satellite. All power levels will comply with EIRP levels required to satisfy access to the ANIK F2 satellite as mutually agreed with Telesat link budget calculations.

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

2M00G1D (IP data on QPSK carrier 2 MHz wide)

**(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).**

Antenna height will not exceed 6 meters above ground level.