Kymeta Corporation
Application for STA for Experimental License for
"Connected Car" Testing in Redmond, Washington

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 experimental license is needed.

Kymeta is developing a microwave antenna technology that could significantly improve performance and lower costs in commercial deployments. Grant of the experimental license will allow Kymeta to test its technology with a moving car.

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

Kymeta will test its antenna technology in the parking garage and/or parking lot at its headquarters in Redmond, Washington. The purpose of the tests is to demonstrate that the Kymeta beam steering technology and antenna mounted on mobile platform can track a fixed transmit beam. The link will be one-way only, from a transmit horn mounted on a pole or rooftop approximately 30 – 50 feet above the vehicle, to a cylindrical receive-only antenna mounted on the rooftop of the car. The transmit horn will be aimed at the ground at all times. The car will move within a 300 meter radius.

(4) Time and dates of proposed operation.

Kymeta requests an STA for six months, from March 9, 2015 to September 9, 2015.

(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.

12277 134th Court NE, Suite 100
Redmond, Washington 98052
47-42-35 North; 122-09-46 West

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

Kymeta mTenna – cylindrical/radial (experimental)

(8) Frequencies desired.

Transmit: 11.5 – 13.0 GHz

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

Input power will be 1 mW; the maximum output power (in ERP) will be 1 W; and the maximum effective isotropically radiated power (EIRP) will be 1 W.

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

8M0D1W – 8MHz carrier, digital modulation, single channel, amplitude/phase modulated
50M0D1W – 50MHz carrier, digital modulation, single channel, amplitude/phase modulated

(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 Information

Directional antenna: Yes
Width of beam in degrees at half-power point: 20, pointed to ground at all times
Orientation of horizontal plane: towards ground
Orientation of vertical plane: towards ground
Frequency tolerance: 0.28%