Mimosa Networks

Application for Experimental License

to Operate in the 6 GHz Band

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.

The FCC is considering Mimosa's proposal to allocate the 5.85 – 6.4 GHz band for terrestrial fixed wireless services. Mimosa seeks to test equipment in that band in order to collect, and then provide to the FCC and other government agencies, real-world information about the utility of that band for fixed services and the ability to use that band on a shared basis with incumbent users, including government radiolocation services. Mimosa also seeks to test the equipment for the purpose of use by Internet Service Providers (ISPs) outside of the United States. Grant of the license will allow Mimosa to test its technology in the 5.85 – 6.4 GHz band.

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

The operation will involve field deployment and continued testing of Mimosa Network's new 6 GHz radio technology. The deployment will be a 6 GHz Mimosa Access Point (AP) set up on a tower in Carmel Valley in Monterey County, CA transmitting to a location in Salinas in Monterey County, CA.

The Access Point to Station nature of the field deployment will evaluate throughput capabilities and timing synchronization.

(4) Time and dates of proposed operation.

Authorization is requested for three (3) years, from July 20, 2017 to July 20, 2020. In the event that interference is reported, Mimosa 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 transmitters will be located at:

Private Property #1, Carmel Valley, CA: 36° 31' 19" / -121° 44' 31.3"
Private Property #2, Salinas, CA: 36° 32' 33.9" / -121° 39' 17.8"

The links will be as follows:

Private Property #1 to Private Property #2: 73 degrees (orientation in the horizontal plane).

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

Experimental Equipment:

Mimosa Networks experimental 6 GHz radio. Architecture consists of 5 GHz 802.11ac (WiFi), single 80 MHz channel, and dual polarizations, with the radio up- converted to 6 GHz using discrete RF circuits.

Other Equipment:

Wireless Instruments D4M64-60-17X Slim: 17dBi flat panel antenna. Beam width at half power: 60.
Wireless Instruments M64-26X Slim: 26dBi flat panel antenna. Beam width at half power: 7.

(7) Frequency(ies) desired.

Transmit and receive: 5.85 – 6.4 GHz

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

Input power will be 0.1 watt; the maximum transmitted EIRP will be 2 kW; maximum ERP will be 25 dBW. [41 dBm EIRP: 24 dBm conducted + 17 dBi antenna gain].

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

TDD system, time duplex transmit and receive. Single 80 MHz channel. Both sides of the link will occupy one 80 MHz channel. OFDM Modulation, ranging from BPSK up to 256-QAM rate.
Emission Designator: D7D

(10) 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).

Under 6 m above roof height at Private Property #1
Under 6 m on existing tower at Private Property #2

(11) Frequency Tolerance

0.0000005%