

From: Larry Montgomery

To: Jose Trevino

Date: October 23, 2008

Subject: FCC file number 0524-EX-ST-2008

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Message:

Additional information for correspondence reference number 7589:

Please provide the description of the operation to be conducted and its purpose in more details.

The operation to be conducted consists of testing of a prototype FMCW radar. The radar will be setup on shore for brief tests of its ability to detect small objects nearby on the surface of the lake. A small boat will be used as the platform to carry the objects. Tests will be brief, usually lasting no more than a couple of hours. No more than a few tests are planned during the 6 month period of the STA. Marina officials will be contacted to ensure there is no issue with the setup and use of the equipment on marina or park property.

The antenna for the radar produces a very narrow pencil beam 2.4 deg (horiz) by 3.6 deg (vert), hence the high gain of the antenna. The antenna sweeps over a 60 degree azimuth sector in .9 deg steps with 2ms sweep time at each step. An FMCW sawtooth with 2 ms sweep time for +/- 300 MHz is generated for each step. In elevation, the antenna will be pointed at near the horizon down to about 30 degrees below the horizon. Approximately 40 to 80 watts is fed to the antenna which results in an EIRP of approximately 16 kW. This signal dwells for 2ms at any one point and completes a full sector scan about once every 4 seconds.

The radar operates at a single channel frequency of 9.9 GHz and the FMCW modulation sweeps 600 MHz from 9.6 GHz to 10.2 GHz. With the FMCW signal, the occupied bandwidth is almost exactly the same as the 600 MHz sweep range.

Tests of the radar's ability to detect and locate a target will be performed by piloting a small boat with a corner reflector and data will be taken at various ranges and azimuth locations. Testing will be very brief, lasting no more than a few hours at a time. No more than a few tests are planned and current plans are for the tests to be completed in December and January. Tests can be limited in duration, time of day, or pointing direction of the beam if necessary to ensure non-interference.