

From: Marc Cittadini

To: Doug Young
Date: March 22, 2016

Subject: Request for Info - STA File #0363-EX-ST-2016

Message:

Applicant: Star Dynamics Corp.
File Number: 0363-EX-ST-2016
Correspondence Reference Number: 31535
Date of Original Email: 03/17/2016

This letter is in response to a request by the FCC for more detailed information about STAR Dynamics's proposed experiment.

STAR Dynamics would like to perform some outdoor low-power, low duty-cycle measurements at their Hilliard, Ohio facility.

A previous FCC License was granted for the Hilliard facility under:
0402-EX-RR-2012, call sign WG2XGC, 01JAN2013 to 01FEB2015, for 9200 to 10000 MHz at 14.125 MW

STAR Dynamics is seeking a STA for the following experiment:

1. Location: The radar will be set up on the STAR Dynamics property at approximately Latitude -40.038393 and Longitude -83.136330 with the radiating antenna pointing approximately 140° Southeast. The radar will be facing a band of trees approximately 150 feet away and approximately 60 feet high. The band of trees is approximately 110 feet thick.
2. Radiating antenna position: The radiating antenna will be placed between 3 feet and 12 feet (measurement dependent) off of the ground, pointing horizontally (bubble level) ±5°. The receiving antenna will be located within three feet of the radiating antenna.
3. Power and Duty-Cycle: The radar operates using pulse modulation, and has a maximum of 20 Watts peak power. The radar will be operating at a maximum of 700 kHz PRF with a pulsewidth of between 20 to 50 nanoseconds. The worst case duty-cycle of 700 kHz and 50 nanoseconds pulsewidth yields 3.5% duty cycle. Average transmitter power will be less than 0.8 Watts.
4. Antenna Gain, Beamwidth, and Polarization: The antennas used will be horn antennas with between 14 and 22 dBi gain. The beamwidth is such that most of the energy will be directed at the trees. The antenna vertical beamwidth ranges from 8° to 12°, and Horizontal beamwidth ranges from 30° to 60° for both the horizontally and vertically polarized antennas. STAR Dynamics will primarily be operating in horizontal polarization, but requires vertical polarization operation also.
5. Frequency Range: The radar will be operated between 4.0 and 9.0 GHz, and 9.2 to 18 GHz. The radar sweeps through the frequency range in a frequency step fashion.

STAR Dynamics would like to receive STA approval by April 8, 2016. We apologize for the short notice, but our customer is seeking data from us as soon as possible.

Please direct any further questions to Marc Cittadini at 614-334-7542, or via e-mail at

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Thank you for your assistance in this matter.

