



August 29, 2016

Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

RE: Appeal of conditions for file number 0994-EX-ST-2016

To whom it may concern:

This letter of appeal is written in response to the FCC's objection to our intended transmissions in the band 15.4-17.2 GHz, as requested in the application with associated file number 0994-EX-ST-2016. The stated reason for objection is to protect FAA flight operations. We respectfully request that you reconsider approval for this band, based on past approval and performance of this radar system in the vicinity of FAA and many other systems.

The request for transmission in this frequency band near Chatham, MA, is in support of a technical demonstration for the USCG, scheduled to begin the week of September 19, 2016. In order to demonstrate the full capabilities of this radar system, a bandwidth of 1500 MHz is desired. It is understood from the FCC Table of Frequency Allocations that the band 15.4-15.7 is allocated for FAA use, which sometimes makes it difficult to obtain approval for that portion of the band (although we have in the past, for various locations). This leaves 15.7-17.2 GHz, which would allow us to operate with our full 1500 MHz bandwidth. For the following reasons, we believe that we can operate our system on a non-interference basis in this band, as we have at numerous locations throughout the U.S. and the world over the past 8 years:

- 1) The radar system employs an LFM chirp signal, which means we are sweeping through the frequencies in this band at a fast rate, dwelling on any given subset of the band for a relatively small amount of time. From the perspective of a narrowband receiver, the duty cycle is small, as is the average power present at the receiver.
- 2) Directional antennas on the radar direct the signal energy to specified locations on the ground. Testing can be coordinated to keep transmissions pointed away from any systems that may potentially receiver harmful interference from this radar.
- 3) Ground-based operators are in constant communication with the radar system during testing and can immediately disable the transmission in the event that interference to other nearby systems is observed, by reporting to our stop buzzer POC.
- 4) Radar operation is limited to specific times of the day, specific locations, for specified amounts of time. Testing at this location requires significant planning and advanced scheduling, so operation will not be ongoing or unanticipated. The current testing period is two weeks long. Total transmission time is anticipated to be around 5-6 hours per day of testing.
- 5) Testing in this band typically occurs near our office in Springville, UT, which is located about 50 miles south of the SLC International airport, and lies in a direct flight path to/from the airport. No known interference with FAA or other systems has ever occurred.





- 6) We have received authorization to test, and have participated in testing, near other major airports as well, including Sacramento International (CA), Seattle-Tacoma International (WA), Hartsfield-Jackson Atlanta International (GA), Orlando International (FL), Alexandria International (LA), Fairbanks International (AK), and Baltimore-Washington International (MD).

It is our hope that you will consider our appeal to the limitations of this license. If there is any additional information that we can provide to help in this matter, please do not hesitate to contact me. If possible, we would like to find a way to work together on this, so that we can test and demonstrate our system, while limiting concerns of interference to the FAA systems.

Sincerely,

Mike Elmer, PhD
RF Engineer
IMSAR LLC
Phone: (801) 798-8440
Email: michael.elmer@imsar.com

