



Attachment to FCC Form 442 2/28/17
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QUESTION 6: STATEMENT OF RESEARCH PROJECT

This is a 5-year Phase III Small Business Innovation Research (SBIR) Government contract with Air Force Research Lab (AFRL):

Contract #: FA9453-16-C-0033 (PhaseNet III)
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Purpose of the contract is to test a network-assisted PNT acquisition algorithm to run on tactical radios. The algorithm is designed to provide improved acquisition performance in a GPS jammed environment by leveraging an innovative assisted GPS architecture where navigation and timing data are shared across the tactical radio network. NAVSYS will be obtaining 10 AN/PRC-148B MBITR2 ground tactical handheld radios from Thales Defense & Security, Inc. These units are in production, and are a fielded unit. NAVSYS will be using them to test the new algorithm with tactical radios.

NAVSYS only needs to transmit using the radios at a single frequency, in order to transmit the data required to test the algorithm. The MBITR2 radio is a software-defined radio (SDR), which can be programmed for many channels, but the intent is to program it to only transmit at a single frequency. The frequency that we submitted this Experimental License application for is 1792 MHz.

The only way to test this new algorithm is to use actual tactical radios using frequencies within the Soldier Radio Waveform (SRW), which have frequency ranges of 225-450MHz, 1250-1390 MHz, and 1750-1850MHz. The radios just need to be communicating with each other, which is why we only need to use them at a single frequency. Thales is a subcontractor to NAVSYS on this contract, and will be assisting. The actual work will be performed at the NAVSYS facility, as listed in the application, and on our nearby property. This is because the NAVSYS engineers doing the development and testing of the algorithm are all at this facility. A total of 10 MBITR2 tactical radios will be used, all programmed to transmit at only 1792 MHz.

Note: This frequency was chosen to use, but if there is any interference, etc. problem, the radios could be programmed to use any frequency within the SRW frequencies, as listed in the paragraph above. WE only need to test using a single frequency. Also, the radios can be programmed for 1W power, rather than the 5W power listed in the application, however we would like to have permission for 5W if possible, to support necessary testing.



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