Raytheon Missile Systems
Experimental License Application
File Number: 1028-EX-CN-2018

Explanation of Experiment and Need for STA

Overview:

Raytheon Missile Systems (Raytheon) develops a range of new technologies for its government customers. Those technologies are integrated into its various programs to develop advanced capabilities.

The current experiment is exploring how the integration of commercial off-the-shelf radar technology can quickly and economically advance some of the capabilities of some of Raytheon's products.

Raytheon has been operating on an STA, WN9XAC, to develop and test this radar technology to advance its radar capabilities. This is part of the ongoing initiatives at Raytheon to use COTS technology in its advanced systems to expedite new product development and keep costs low.

Technical Synopsis:

Spectrum Needed:	9354 through 9446 MHz, emission designators: 25M0N0N, 25M0P0N
Power level:	20 W, directional antenna, with ERP of 9.7 kW
Beamwidth:	narrow – 4.9 degrees horizontal and 20 degrees vertical
Limited time of use:	In use for two weeks of every two months, only during the workday

Description of Experiment:

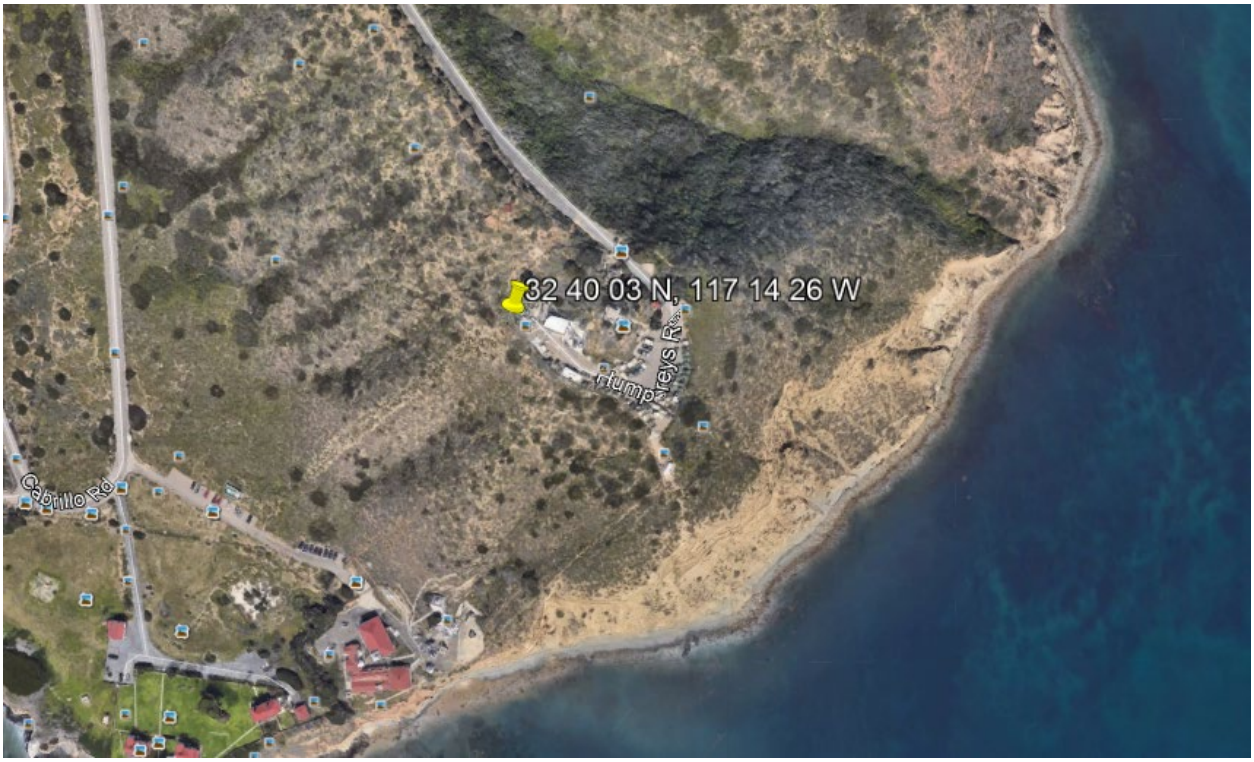
Raytheon is requesting authorization to test the Raymarine technology at three locations:

- Tucson
- Point Loma
- San Nicolas Island

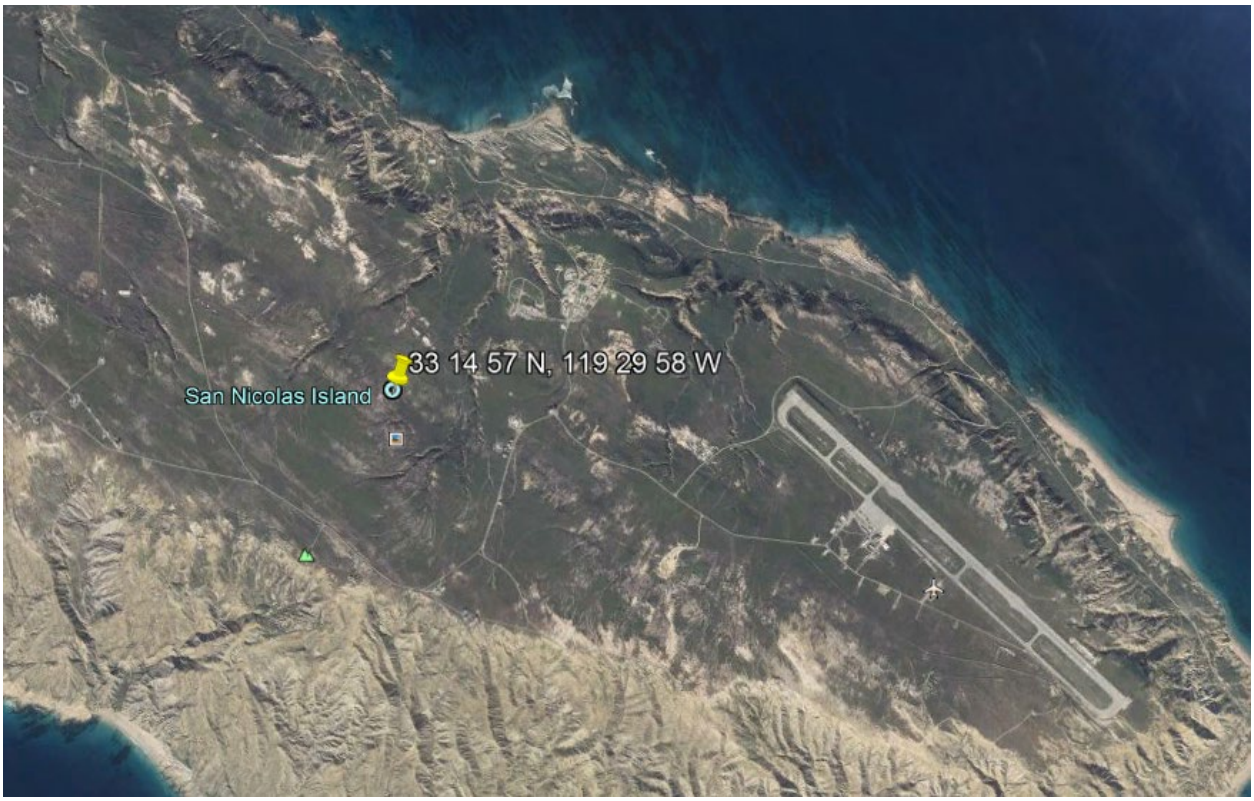
At each location, Raytheon will be testing the technology from a fixed mast or temporary structure that stands 3-5 meters high. The testing will involve using a radar sweep. The purpose of the testing is to determine the capabilities of this radar in conjunction with other Raytheon technologies to detect and respond to threats.

Tucson Location:

Point Loma Location:



San Nicolas Location:



Narrow beamwidth:

Because the radar system will use a very narrow beamwidth, 4.9 degrees horizontal and 20 degrees vertical, the energy from this signal will be highly focused. The energy, at that frequency, will dissipate quickly, with very low energy in the sidelobes.

Operation subject to federal contract:

Raytheon is requesting this authorization to carry out work pursuant to federal contract: N00019-15-G-0003.

Stop Buzzer Point of Contact:

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Conclusion:

Raytheon is seeking to extend its COTS radar testing to advance the development of the radar in some of its products. This testing is being conducted under federal contract N000-19-15-G-000G.

The COTS technology uses a narrow beamwidth signal to detect threats and add to the capabilities in Raytheon's products.

Operations are set at three locations: Tucson, where the technology will be tested near the lab, Point Loma, where the technology will be demonstrated for the customer, and San Nicolas Island where the technology will be demonstrated for the customer.

For additional information, please contact Anne Cortez, 520-360-0925 or alc@conspecinternational.com.