

# **Raytheon Technologies Request for FCC Experimental Special Temporary Authorization (STA)**

STA File No.: 0684-EX-ST-2020

Date: 05/02/2020

**STA Explanation:** *In order to meet our objectives including a potential demonstration for the federal government, the project team must maintain a tight schedule.*

**Purpose of Operation:** *Raytheon Technologies is requesting frequency bands within the 2-30 MHz range to conduct a research and development program.*

## **Raytheon Technical Point of Contact:**

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## **Raytheon Spectrum Manager filing application:**

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*FRN: 0003628344*

## **Period of Use:**

*Start date: May 15, 2020*

*End date: November 15, 2020*

## **Equipment Information:**

Indicate all equipment that will be involved in this operation.

### **Transmitter info:**

Manufacturer: *Keysight*

Model: *33622*

Number of units: *1*

Experimental (Y/N): *N*

### **Antenna Info:**

Manufacturer: *COMROD*

Model: *APX80 HF whip antenna*

Number of Units: *1*

Experimental (Y/N): *N*

### **For each frequency band:**

RF output at the transmitter terminals: *1 mW peak*

For complex emissions, describe in detail: *Pulsed CW (0.1 sec to 1 sec duration CW pulses)  
1MHz LFM pulses (0.1 sec to 1 sec duration)*

**Effective radiated power from the antenna (if pulsed emission, specify peak power):** *250 mW peak*

**Frequency Tolerance:** *Less than 0.01 %*

**Necessary bandwidth. Explain how determined.**

*The necessary bandwidth was calculated and emission designator is below. It represents the 20 dB bandwidth for each waveform type.*

*10K0P0N*

*1M00Q3N*

**Location:**

*The Raytheon facility in Portsmouth, RI, located at 41°34'22.75"N, 71°16'29.78"W. The street address is 1875 W Main RD, Portsmouth, RI.*

**Is a directional antenna (other than radar used)?** *No.*

**If yes, give the following info:**

**Width of beam in degrees at the half-power point:** *N/A*

**Orientation in horizontal plane:** *N/A*

**Orientation in vertical plane:** *N/A*

**Will the antenna extend more than 6 meters above ground, or if mounted on an existing building, will it extend more than 6 meters above the building, or will the proposed antenna be mounted on an existing structure other than a building?** *No.*

**If Yes, Overall height above ground to tip of antenna in meters:** *6.0m*

**Elevation of ground at antenna site above mean sea level in meters:** *55 m*

**Distance to nearest aircraft landing area in km:**

*Newport State – 4.8 km*

*Quonset State Airport – 11 km*

*TF Green International Airport – 20 km*

**List any natural formations of existing man-made structures (hills, trees, water tanks, etc) which in the opinion of the applicant would tend to shield the antenna from aircraft and thereby minimize the aeronautical hazard of the antenna:**

*10+ meter tall trees less than 300m away in all directions around antenna.*