

Submitted by Joel Thorsheim on behalf of Insitu  
 The Boeing Company  
 Global Spectrum Management  
 P.O. Box 3707 MC: 1K-105  
 Seattle, WA 98124-2207  
 425-234-4287 Office

**Why an experimental License is necessary:**

This experimental license request is being submitted in lieu of an extension to continue operations currently authorized under FCC Special Temporary Call Sign WQ9XXQ and is required to support UAS testing at the Pendleton UAS test range using the Scan Eagle 3 platform to operate a C-Band Command and Control link. The entire 5060-5070 MHz band is being requested for a short period of time in order to complete the required activity to move to 5030-5040 MHz as requested by FAA Spectrum.

**Operation Description:**

The radio frequency equipment listed below will be used to support a C-Band command and control data link. Ground testing only will be conducted at the Bingen location. A Ground Control Station will be used at the Pendleton and Lexington locations to communicate with the airborne UAS that will operate under an approved COA that encompasses the Pendleton UAS test range. The below tables list the radio frequency equipment specifications, including frequency band of operation, transmitter output power, emissions, antenna types and gains, and maximum ERP.

<b>Frequency Data</b>	
Transmit	Request the below frequency bands. 5060 – 5070 MHz
<b>Transmitter Data</b>	
Transmitter Model	MM2-M13 + Frequency Converter
Transmitter Manufacturer	Freewave Technologies + Nuwaves
Transmitter Power Output	1 Watt
Antenna Gain	5 dBi
Antenna Type	Dipole (Vertical)
Power Output ERP	2 Watt
<b>Emission Data</b>	
Emission	230KF1D

**Table 1 – Freewave C2 Aircraft Data**

<b>Frequency Data</b>	
Transmit	Request the below frequency bands. 5060 – 5070
<b>Transmitter Data</b>	
Transmitter Model	MM2-M13 + Frequency Converter
Transmitter Manufacturer	Freewave Technologies + Nuwaves
Transmitter Power Output	10 Watt
Antenna Gain	33.3 dBi
Antenna Type	1.2 Meter Parabolic Reflector 3.5 degrees HPBW 360 degrees in azimuth 0 to +70 degrees elevation
Power Output ERP	13,200 Watts
<b>Emission Data</b>	
Emission	230KF1D

**Table 2 – Freewave C2 Ground Control Station Data**

Table (3) lists the locations/areas of operations, as well as the station class of the operation.

<b>City</b>	<b>State</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Radius (KM)</b>	<b>Station Type</b>
Bingen	WA	45-42-23 N	121-27-23 W	5	Fixed/Ground Testing
Pendleton UAS Test Range (Includes Lexington)	OR	45-41-21 N	118-50-32 W	100	Mobile/Airborne 15,000 Feet Altitude

**Table 3 – Location Data**

**Stop Buzzer POC:** Stop Buzzer for this operation is Insitu Operations Action Center at 509-493-4691.