

Submitted by Joel Thorsheim on behalf of Insitu
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Frequency Management Services
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Why an Experimental License is Necessary:

An experimental license is required to support UAS testing at the Near Space FAA UAS test site using the Scan Eagle 3 platform.

Operation Description:

The radio frequency equipment listed below will be used to support the C-Band command and control link in conjunction with the frequencies previously submitted under FCC OET File Number 0221-EX-CN-2021.

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.

Frequency Data	
Transmit	5030.1625 MHz 5035.2475 MHz 5038.9045 MHz
Transmitter Data	
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
Emission Data	
Emission	230KF1D

Table 1 – Freewave C-band C2 Aircraft Data

Frequency Data	
Transmit	5030.1625 MHz 5035.2475 MHz 5038.9045 MHz
Transmitter Data	
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
Emission Data	
Emission	230KF1D

Table 2 – Freewave C-Band C2 Ground Control Station Data

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

City	State	Latitude	Longitude	Radius (KM)	Station Type
Tillamook Near Space Corporation FAA UAS Test Site	OR	45-25-09 N	123-48-52 W	2	Fixed/Ground
Tillamook Near Space Corporation FAA UAS Test Site	OR	45-25-09 N	123-48-52 W	110	Mobile/Airborne 10,000 Feet Altitude

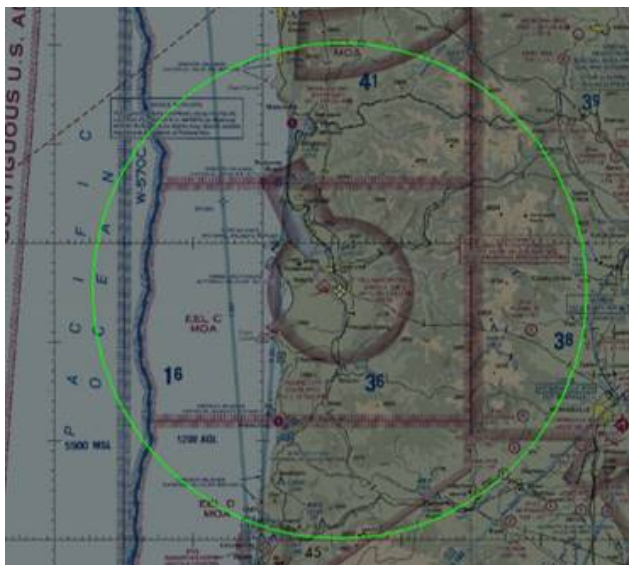
Table 3 – Location Data

45° 25' 09" N / 123° 48' 52" W

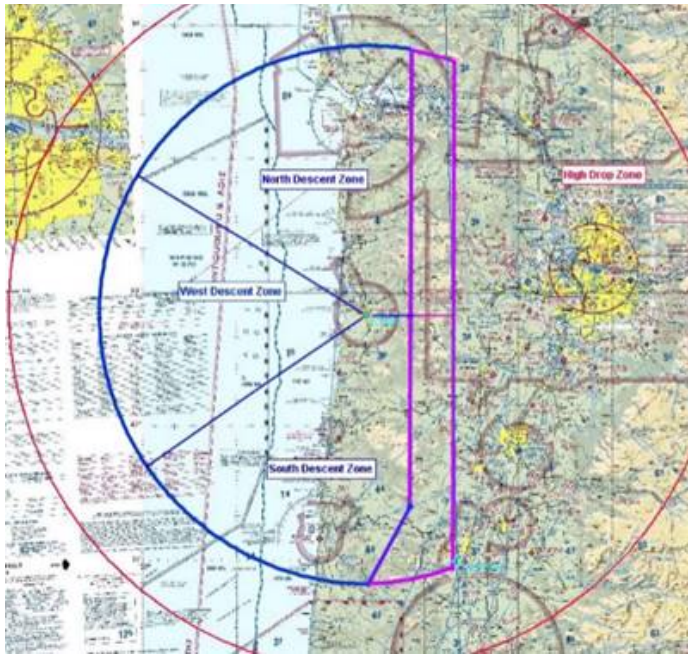
60 km radius

Surface to 10,000 ft MSL

Picture for reference:



BLUE HALF CIRCLE: Northeast Corner : 46-24-12.38N 123-34-26.28W Straight Down to 44-41-54.94 N 12334-55.74W Direct to 44-24-42.58N 123-48-21.74W then Clockwise on TKMK 60NM Circle to Point of Beginning.
Surface to 18,000 ft MSL (60NM radius from KTMK, and 10 NM East of TMK)
Picture for reference: BLUE HALF CIRCLE ONLY



Stop Buzzer POC:

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