

The Boeing Company  
Global Spectrum Management  
P.O. Box 3707 MC: 1K-105  
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**Why an Experimental License is necessary:**

An experimental license is required to operate the EM7511, EM7411, or EM 7690 modems configured to operate on a UAS to support flight testing operations. Airborne operations will consist of piloted (manned) and unpiloted (unmanned) flights.

**Operation Description:**

The Sierra Wireless EM7511, EM7411, or EM 7690 modems will be used during flight tests of piloted and unpiloted aircraft to test 3G/4G/LTE/5G communications capabilities.

Table 1 lists the equipment specifications and table 2 identifies the testing locations.

Band Name	LTE Band	Frequency Band (MHz)	Transmitter Output (Watts)	Dipole Maximum Antenna Gain	Maximum ERP Watts	Frequency Tolerance	Emission Designator(s)
PCS FCC Part 24E Broadband PCS	B2	1850-1910	.19	3.5 dBi	.61	2.5 PM	4M14F9W 18M5G7D 18M5W7D
LTE FCC Part 27 Wireless Communication Services (WCS)	B12(17)	699-716	.189	3.5 dBi	.61	2.5 PM	9M11G7D 9M09W7D 2M73W7D
LTE FCC Part 27 Wireless Communication Services (WCS)	B13	777-787	.193	3.5 dBi	.61	2.5 PM	8M97G7D 9M01W7D
LTE FCC Part 27 Wireless Communication Services (WCS)	B4	1710-1755	.192	3.5 dBi	.61	2.5 PM	4M12F9W
LTE FCC Part 27 Wireless Communication Services (WCS)	B66(4)	1710-1780	.199	3.5 dBi	.61	2.5 PM	18M3G7D 18M5W7D
LTE FCC Part 27 Wireless Communication Services (WCS)	B41	2496-2690	.199	3.5 dBi	1.17	2.5 PM	18M5G7D 18M5W7D 14M5W7D 37M7G7D 37M9W7D
LTE FCC Part 27 Wireless Communication Services (WCS)	B7	2500-2570	.199	3.5 dBi	1.17	2.5 PM	18M5G7D 18M5W7D 4M50G7D 4M50W7D 37M5G7D 37M7W7D
FCC Part 90 Extended Cellular	B26	814-849	.199	3.5 dBi	1.17	2.5 PM	14M2G7D 14M5W7D 3M03W7D

**Table 1– Sierra Wireless EM7511, 7411 and 7690**

City	State	Latitude	Longitude	Radius (KM)	Station Type
USA	USA	N/A	N/A	N/A	Mobile Airborne Max Flight Level 5,000 Feet

**Table 2 – Location Data**

**Dates of Operation:**

Start Date: October 1, 2020

Stop Date: September 30, 2022

**Stop Buzzer POC:**

Stop Buzzer for this operation is Matt Moser at 425-210-8576.