

The Boeing Company
 Global Spectrum Management
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Purpose:

FCC OET license required to support new requirement for VHF Omnidirectional Radio (VOR) antenna range testing. The antenna range is used to test operational characteristics of commercial aircraft full scale antennas to validate aircraft antenna patterns. Tests are used to qualify new antennas or new aircraft configurations, verify manufacturing processes, or evaluate repairs to damaged antennas. Antenna radiation pattern, directivity, gain, side lobes and f/b ratio are some of the parameters that can be measured.

Operation Description:

This request is being submitted to support VOR Antenna Testing at the Boeing Smartt Field Outdoor Antenna Range using an Agilent Technologies Signal Generator operating at 1 Watt. This operation will use a Hybrid Log Periodic (TDK RF Solutions HLP-3003C) transmit antenna fixed roughly six feet AGL, with no more than 3dBi max antenna gain at the requested frequencies while the VOR antenna is in receive only mode. The transmit antenna can radiate to three receive locations: 270, 315, and 360 degree azimuth relative to True North from the base/ASR 1278726.

The frequencies requested are also allocated to another Boeing Company site (Auburn, WA) under FCC license WL2XBM

Table (1) lists the equipment specifications, including frequency/band of operation, transmitter output power, emissions, as well as maximum ERP.

Purpose	Manufacturer	Model	Tx Output Power (Watts)	Frequency (MHz)	Emission	Power ERP (Watts) rounded up	Location
ANTENNA TESTING	AGILENT TECHNOLOGIES	N5183A	1	108.8	NON	1.21662	GROUND
ANTENNA TESTING	AGILENT TECHNOLOGIES	N5183A	1	113.025	NON	1.21662	GROUND
ANTENNA TESTING	AGILENT TECHNOLOGIES	N5183A	1	117.925	NON	1.21662	GROUND

Table 1 – Equipment Data

Table (2) lists the location of operations, as well as the station class of the operation.

City	State	Latitude	Longitude	Radius (KM)	Station Type
Smartt Field, St. Charles	MO	38-55-36 N	90-25-24 W	2	GROUND

Table 2 – Location Data

Start Date: March 1, 2022
Stop Date: March 1, 2024

Stop Buzzer POC: Stop Buzzer for this operation is David Zabriski (636) 250-3814. The Boeing Outdoor Antenna Range operating hours are typically 0700 – 1500 CST (M-F).