

The Boeing Company
 Global Spectrum Management
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Purpose:

This requirement was previously granted under STA WR9XPZ. FCC OET license required to support the continued testing operation of The Boeing Company’s Foreign Object Debris (FOD) prototype system to determine its effectiveness in identifying FOD.

Operation Description:

Continued testing of millimeter wave (W-Band) 75-85GHz, unmodulated (NON) prototype for detection of Foreign Object Debris (FOD). The setup will utilize a directional, narrow beam transmitter that will emit 2 frequencies simultaneously at an object (with a micro-mixer) within an aircraft compartment and await it’s extremely low power signal return at the difference frequency. All testing will be pointed towards the aircraft and its compartments. This testing is for future development of FOD detection to ensure missing items can be located within an aircraft in an expedited time frame. All Testing will be performed indoors with all external doors closed, on top of or inside aircraft.

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

Purpose	Manufacturer	Model	Frequency(GHz)	Emission	Power ERP (mW)	Location	Antenna Gain
FOD Detection	The Boeing Company	Prototype	75-85	NON	100	Indoor	33dBi @ 75GHz
							36 dBi @ 85GHz

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	Building
Ridley Park	PA	39.860863	-75.319702	Indoor	Ground	Bldg 3-61
Ridley Park	PA	39.861786	-75.317513	Indoor	Ground	Bldg 3-57

Table 2 – Location Data

Start Date: September 4, 2021

Stop Date: May 4, 2022

Stop Buzzer POC: Stop Buzzers for this operation are: Christopher Mayo (W) +1 (610) 591-4605, and Sarah Detrick (M) +1 (610) 247-2912, (W) +1 (610) 591-5439