Technical Description

The Boeing Company

Submitted: 04/30/2020
Allen Lindsay, SR
Frequency Manager
Global Spectrum Management MC: 1K-105
P.O. Box 3707Seattle, WA 98124-2207
(425)237-9168

JUSTIFICATION:
SATSIM test and setup
The Boeing Company is requesting a Special Temporary Authorization (STA) to support satellite antenna development. Boeing will conduct testing using a Ku and Ka Band Satellite simulator. The testing will be conducted at the Boeing Facility in Bingen, WA; Boeing Facility in Hood River, OR; Boeing Facility in Boardman, OR; Boeing Facility in The Dalles, OR, Commercial EM Test Facility (Element) in Hillsboro, OR.

OBJECTIVE & TEST DESCRPTION
The simulator will be used as a test bed to setup and operate satellite earth terminals under realistic operating conditions without the need for an actual satellite. The antenna and simulator will be point in a horizontal position to the ground and at no time be point toward the geostationary arc. The Ku-band test requires two uplink frequencies and two downlink frequencies in Ku-band. The Ka-band test requires two uplink frequencies and two downlink frequencies in Ka-band.

Start Date: 6/1/2020
Stop Date: 12/1/2020

Manufacturer:	**Atlantic Microwave Ltd**
Model:	**CST-MSS-130020-S5S5 (Ku-band)**
Frequencies:	**10.7 – 12.75 GHz (Downlink)**
Emissions:	**10M0G7D**
ERP:	**0.0002 W (0.2 mW)**
Station Class:	**FX**

Manufacturer:	**Atlantic Microwave Ltd**
Model:	**CST-MSS-130021-S5S5 (Ka-band)**
Frequencies:	**18.7 – 21.2 GHz (Downlink)**
Emissions:	**10M0G7D**
ERP:	**0.000005 W (5 μW)**
Station Class:	**FX**

Manufacturer:	**GetSAT**
Model:	**Ku MicroSAT Antenna System**
Frequencies:	**13.75 - 14.5 GHz (Uplink)**

Technical Description

Emissions: **10M0G7D**
ERP: **17,000 W**
Station Class: **FX**

Manufacturer: **GetSAT**
Model: **Ka MicroSAT Antenna System**
Frequencies: **29-31 GHz (Uplink)**
Emissions: **10M0G7D**
ERP: **39,811 W**
Station Class: **FX**

Manufacturer: **AvL Technologies**
Model: **2.4 meter Ku Antenna System (Ground VSAT)**
Frequencies: **13.75 – 14.5 GHz (Uplink)**
Emissions: **10M0G7D**
ERP: **1,200,000 W (1.2 MW)**
Station Class: **FX**

Manufacturer: **AvL Technologies**
Model: **2.4 meter Ka Antenna System (Ground VSAT)**
Frequencies: **29-31 GHz (Uplink)**
Emissions: **10M0G7D**
ERP: **2,350,000 W (2.35 MW)**
Station Class: **FX**

LOCATIONS:

Location:	Bingen, WA
Lat/Lon:	within 2 km, centered around NL 45-42-23; WL 121-27-23
Station Class	FX

Location:	902 Wasco Street, Hood River, OR
Lat/Lon:	within 2 km, centered around NL 45-42-41; WL 121-31-11
Station Class	FX

Location:	Boardman, OR
Lat/Lon:	within 2 km, centered around NL 45-44-54; WL 119-47-38
Station Class	FX

Location:	The Dalles, OR
Lat/Lon:	within 2 km, centered around NL 45-36-47; WL 121-12-10
Station Class	FX

Location:	Hillsboro, OR
Lat/Lon:	within 2 km, centered around NL 45-33-08; WL 122-54-40
Station Class	FX

Technical Description

STOP BUZZER POINT OF CONTACT:
Stop Buzzer for Operation: **Ben Schreffler at 509-493-4691,**