Coordination Data
ka Terminals
Asheville Location

The following information has been filed with the FCC in the form of a Technical Brief document and is also summarized here in support of coordination.

I. GENERAL INFO

1. Is this for IR&D or Military/Government Sponsor Test/Demo

Yes.
This is for testing/certifying satellite earth terminals that will be procured by the US Military.

2. If it's for Military/Government Sponsor Test/Demo, provides the Government POC (Name, Office, Phone Number and Email Address and the objective/s of the Test/Demo

Government POC:

SOCOM
D. Jarrett Potts
HQUSSOCOM
Acquisition Program Manager SDN
COMM: 813-826-7011
DSN: 299-7011
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Viasat, Avl, and Intellicom are performing satellite certification testing of terminals for use by the US government. As part of the certification testing, transmission to the WGS and Inmarsat satellites is required. During the certification testing, the terminals will be owned and operated by commercial entities. While the satellite operator provides authorization to access the satellite, experimental licenses for transmission from the earth terminals are being sought.

3. Requires starting date and duration

A testing event usually occurs during a 2-4 week period.
Several testing events are expected during the next year from Dec 1, 2019 through Dec 1 2020.

Transmission events are coordinated with ARSTRAT WGS and Inmarsat satellite operations. A satellite access assignment is provided by the satellite operator.

II. SATELLITE DOWNLINK

1) GSO longitude of Satellite

From Asheville, NC Location

- WGS3 at 12W
- WGS5 at 52.5W
- WGS6 at 135W
- Inmarsat I-5 F2 at 55W

2) Main beam gain of the satellite downlink transmitting antenna in the requested band/s, the point on the earth where the peak of the beam be pointed, and the downlink gain contours relative to that point on the earth

The satellites are configurable by satellite operations in beam diameter and location on the earth. This information is not available to earth terminal users. Following are our best estimates:

G=45 dBi
Beamwidth 1 degree
3 dB beam contour on earth 400 miles diameter

Beam center
- Asheville 35°38'24.5"N, 82°34'30.9"W

3) Maximum spectral power density (SPD) of any downlink carrier

-125 dBW/m^2/MHz (ka Band)

4) Center frequency and emission designator of any downlink carrier

Ka Band
20.2 to 21.2 GHz (to be assigned by the satellite operator)
2M0G7D
10M0G7D

5) If it is multiple carriers, provides all emissions designators and downlink EIRPs for each. If it is a single carrier, then how many of those single carriers can be operated into the same downlink beam simultaneously during the testing.

Ka Band
2M0G7D EIRP 48.8 dBW, only one of these carriers to be transmitted during testing
10M0G7D EIRP 46.7 dBW, only one of these carriers to be transmitted during testing

III. EARTH STATION UPLINK

1) Coordinates of earth station

Asheville 35°38'24.5"N, 82°34'30.9"W

2) Name and/or nomenclature of the terminal, if known/assigned

AVL/Viasat BAT-600 MMT
60 cm antenna

AVL Model 1315
135 cm antenna

3) Main beam gain of the transmitting earth station antennas to be used for the test and the off-axis antenna pattern expressed as one of the ITU patterns or measured data

The earth terminal is compliant with:

- Gain pattern ITU-R S.580-6 with S.465-5 or ESD pattern ITU-R S.524-9
- Gain pattern FCC 25.209 or ESD pattern 25.218
- MIL-STD-188-164C
- Patterns are in a technical brief previously submitted to the FCC.

Ka Band
AVL/Viasat BAT-600 MMT
60 cm antenna
G=44.4 dBi

AVL Model 1315
135 cm antenna
G=50.9 dBi

4) Maximum spectral power density (SPD) of any uplink carrier

Ka Band
-7 dBW/Hz EIRP density

5) Center frequency and emission designator of any uplink carrier

Ka Band
30.0 to 31.0 GHz (to be assigned by the satellite operator)
2M0G7D
10M0G7D

6) If it is multiple carriers, provides all center frequencies and associated emissions designators and uplink EIRPs for each. If it is a single carrier, then how many of those single carriers can be operated into the same uplink beam simultaneously during the testing?

Ka Band
2M0G7D EIRP 56.4 dBW, only one of these carriers to be transmitted during testing
10M0G7D EIRP 54.3 dBW, only one of these carriers to be transmitted during testing