



Federal Communications Commission
Authorisation and Evaluation Division
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USA

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FCC ID: 2BAX4-INTC200M

Sub: Antenna information for 2BAX4-INTC200M

Please find the following C200M Antenna Information enclosed:

Antenna Type: Quadrifilar Helical Antenna

Manufacturer: Intellian Technologies

Test Set-up and Measurements

The test system measures 3D antenna patterns using 6 dual polarized probes in a full anechoic conical-cut chamber. The chamber dimensions are 6 meters x 6 meters x 7 meters. The measurement distance is ~3 meters. Data collection is performed using a vector network analyser.

The Antenna was mounted on a Styrofoam mast, and the 3D antenna pattern was measured. The pattern was measured at three frequencies: the lower, mid, and upper frequencies of the Iridium band. Measurements were performed in two Antenna orientations to minimise the shadowing effect from the Styrofoam mast. In postprocessing, the two resulting datasets were aligned by rotating them in 3D and combined to obtain the final 3D patterns.

A spherical coordinate system was used. In the reported datasets, the DUT is oriented so that the Phi angle corresponds to the azimuth angle, and the theta angle corresponds to the elevation angle. The antenna boresight is oriented towards $\theta = 0^\circ$, and the Antenna coaxial connector is oriented at $\phi = 90^\circ$. Tests were performed with radome installed.

Antenna pattern data is recorded at 2° angular resolution. 2D antenna patterns are reported for elevation and azimuth.

The Antenna was tested with the fully fitted ADU, including the radome.

Test Results

The key results of the Antenna testing are shown in the table below.

Parameter	Frequency		
	1616 MHz	1621.25 MHz	1626.5 MHz
Boresight Gain RHCP, dBiC	1.2	1.1	0.8
Boresight Gain LHCP, dBiC	-22.4	-22.1	-19.9
Boresight Axial Ratio, dB	1.2	1.2	1.6

Photo of the Antenna

