

Applicant	Frontier SmartTechnologies Group Ltd.
Product Type	VENICE X MODULE
Model Number	Venice X FS2340
Trade Name	 FRONTIER SMART TECHNOLOGIES

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1. General Information

1.1 Description of device under test(EUT)

Applicant	Frontier Smart Technologies Group Ltd. First Floor 17 Waterloo Place London SW1Y 4AR UK
Manufacturer	Frontier Smart Technologies Group Ltd.. First Floor 17 Waterloo Place London SW1Y 4AR UK
Product Type	VENICE X MODULE
Trade Name	 FRONTIER SMART TECHNOLOGIES
Model Number	Venice X FS2340
Antenna Trade Name	 FRONTIER SMART TECHNOLOGIES
Antenna Model Number	FS2340
Antenna Type	PCB Antenna
Antenna Peak Gain (Combined Polarization)	-0.18 dBi
Polarization	Horizontal + Vertical
Test Frequency	2402 MHz, 2440 MHz, 2480 MHz

1.2 Test equipment list

Describe	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Full Anechoic Wireless Test chamber	ETS-Lindgren	AMS-8500	N/A	N.C.R	-----
Test Software	EMQuest™	N/A	N/A	N.C.R	-----
Multi-Axis Positioning System (MAPS)	EMCO	2090	N/A	N.C.R	-----
Turn Table	EMCO	2015	N/A	N.C.R	-----
Dual Polarization Horn	ETS-Lindgren	3164-08	00099207	N.C.R	-----
Communication Antenna	EMCO	3102	69235	N.C.R	-----
Switch Control Mainframe	Agilent	3499A	MY42003188	N.C.R	-----
ENA Series Network Analyzer	Agilent	E5071B	MY42402996	Jan19,2020	2 years
Sleeve Dipole	EMCO	3126-2500	00092001	Mar,19,2020	1 year

Note: N.C.R. = No Calibration Request.

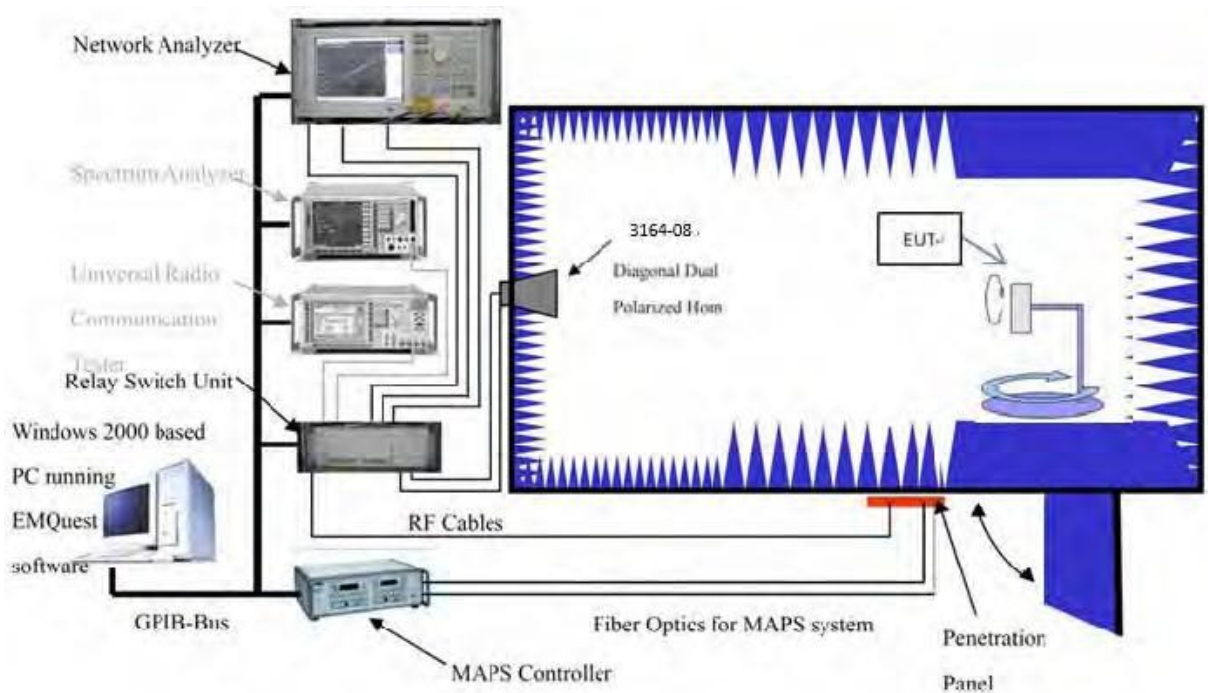
1.3 Test methodology

The “great circle” cut method, whereby the Measurement Antenna remains fixed and the EUT is rotated about two axes in sequential order.

The radiated RF performance of the Equipment Under Test (EUT) is measured by sampling the radiated transmit power of the mobile at various locations surrounding the device. A three-dimensional characterization of the 'transmit' performance of the EUT is pieced together by analyzing the data from the spatially distributed measurements.

Data points taken every 15 degrees in the theta and in the phi axes are deemed sufficient to fully characterize the EUT's Far-Field radiation pattern and total radiated power. All of the measured power values will be integrated.

1.4 Isolation measurement Set-up



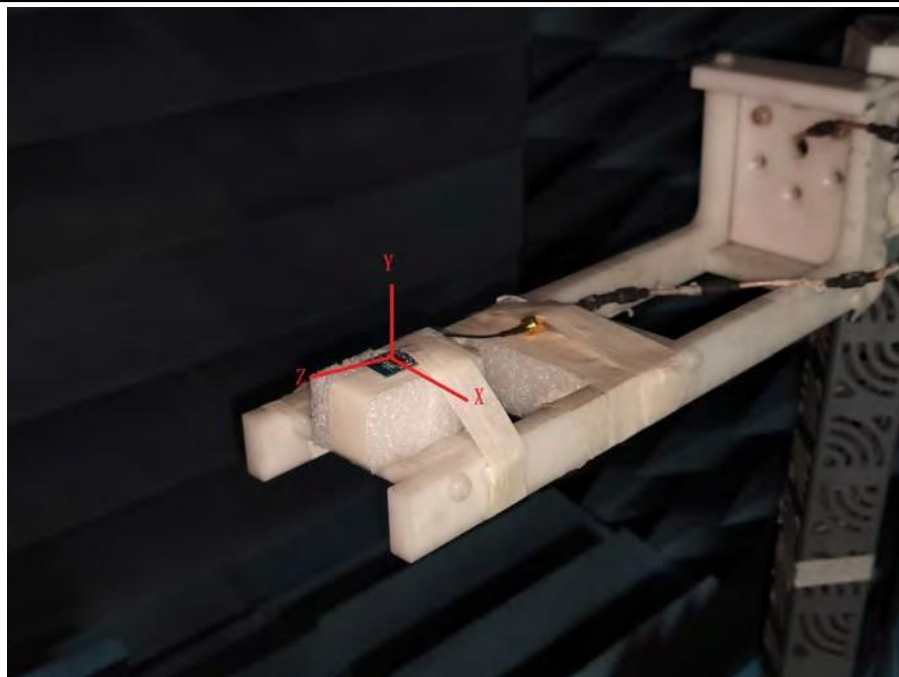
2. Test SetupPhoto

2.1 EUT Photo

EUT Photograph:



2.2 Free-Space



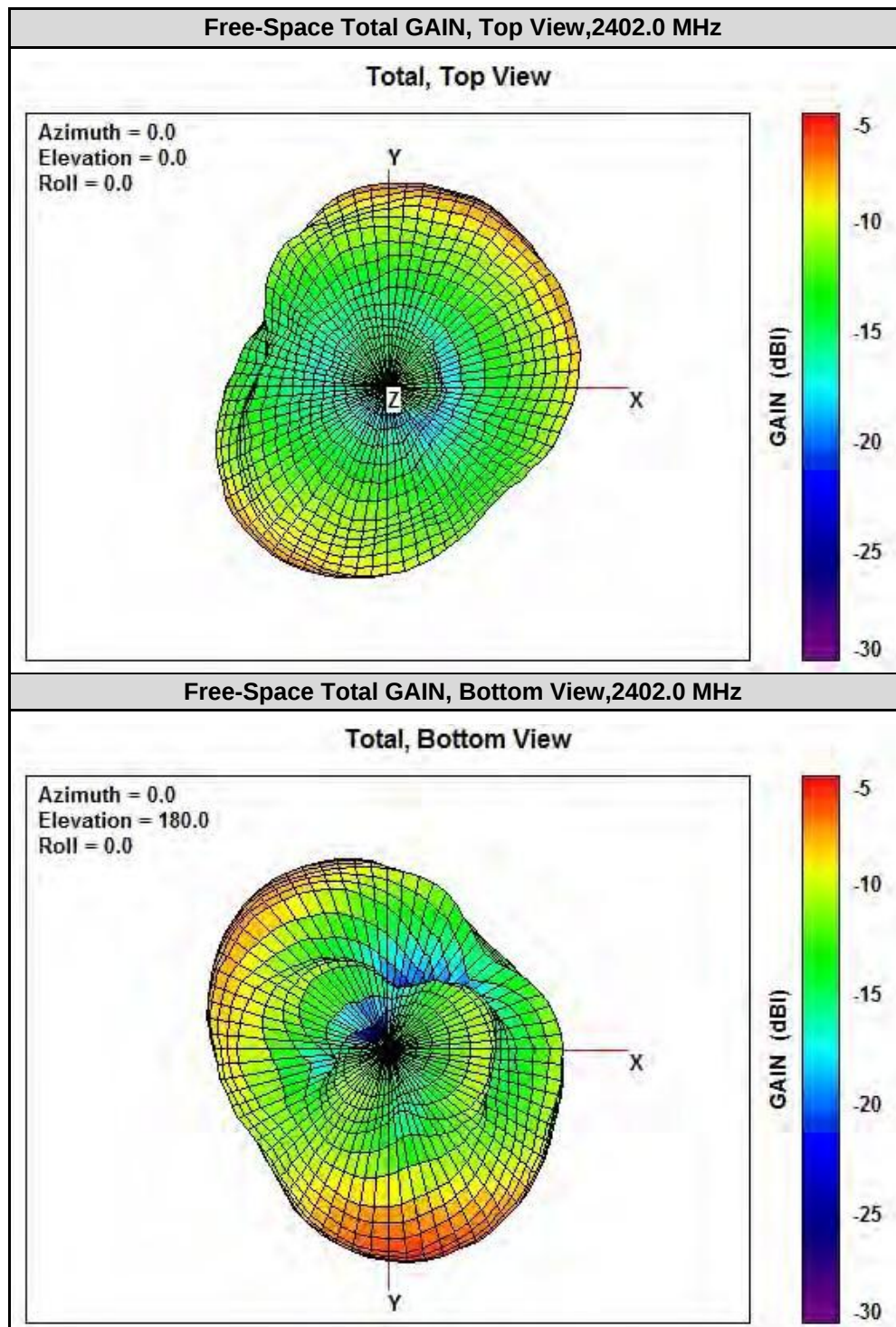
3. Testing AmbientCondition

Temperature	:	22 °C
Relative Humidity	:	60 %
Shield Dimensions	:	7.4m(L) * 3.66m (W) * 3.66m (H)
Frequency Range	:	700 MHz to 6 GHz

4. TestResults

Frequency [MHz]	Peak Gain[dBi]
2402	-2.3
2440	-1.216
2480	-0.18

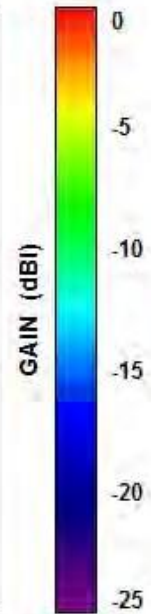
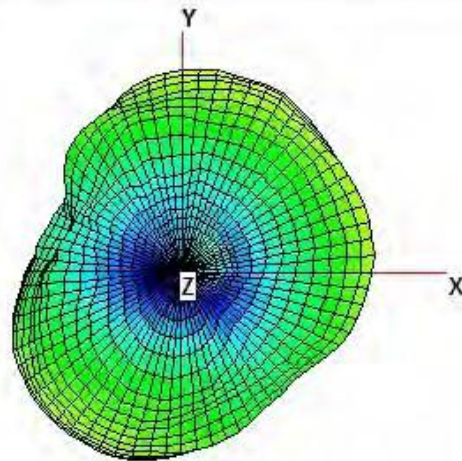
5. Antenna 3D PatternsPlots



Free-Space Total GAIN, Top View, 2440.0 MHz

Total, Top View

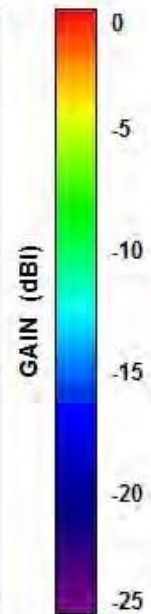
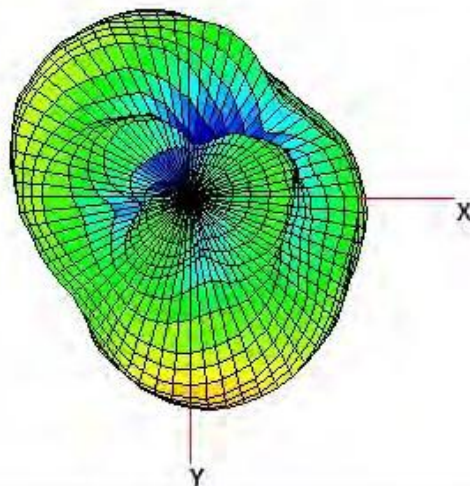
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Free-Space Total GAIN, Bottom View, 2440.0 MHz

Total, Bottom View

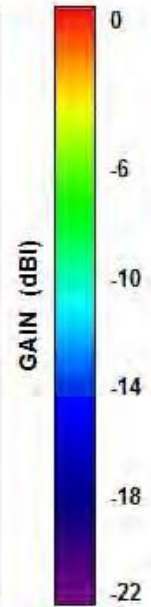
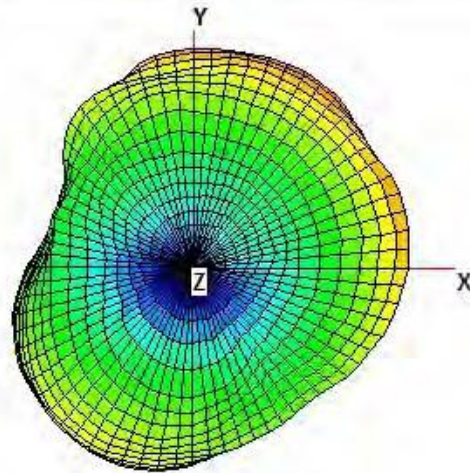
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Free-Space Total GAIN, Top View,2480.0 MHz

Total, Top View

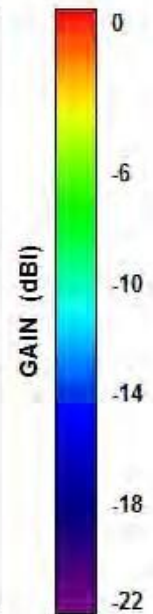
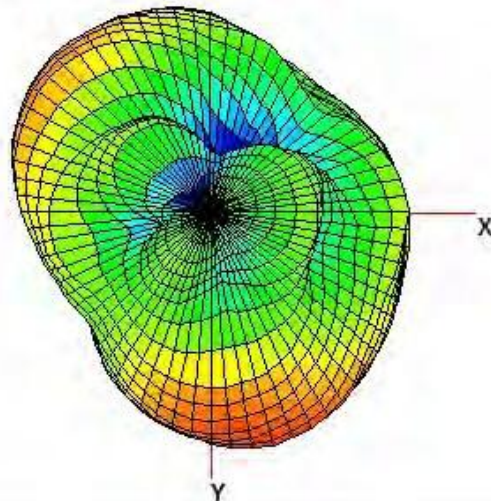
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Free-Space Total GAIN, Bottom View,2480.0 MHz

Total, Bottom View

Azimuth = 0.0
Elevation = 180.0
Roll = 0.0



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