TEST REPORT

Reference No.	:	WTX22X04074436W
FCC ID	:	Q639560N
Applicant	:	Iridium Satellite LLC
Address	:	1750 Tysons Boulevard Suite 1400, McLean, VA 22102
Manufacturer	:	Beam Communications
Address	:	Unit5, 8 Anzed Court, Mulgrave, Victoria, Australia, 3710
Product Name	:	Iridium GO!
Model No.	:	9560N
Standards	:	**FCC PART15 SUBPART B**
Date of Receipt sample	:	2022-04-19
Date of Test	:	2022-04-19 to 2022-04-28
Date of Issue	:	2022-04-28
Test Report Form No.	:	WTX_FCC PART15B_001
Test Result	:	**Pass**

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

Prepared By:

Waltek Testing Group (Shenzhen) Co., Ltd.

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Tested by:

Mike Shi

Approved by:

Silin Chen

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Report version

Version No.	Date of issue	Description
Rev.00	2022-04-28	Original
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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	Iridium GO!
Trade Name:	Iridium
Model No.:	9560N
Adding Model(s):	/
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Rated Voltage:	Charging Port: DC 5V; Battery: DC 3.7V 3600 mAh
Rated Current:	/
Rated Power:	/
Power Adapter Model:	Model No: SDCIIX Input:AC100-240V, 50/60Hz, 0.3A Output:DC5V, 2.1A
Lowest Internal Frequency:	16MHz
Highest Internal Frequency:	2462MHz
Classification of ITE:	Class B

1.2 Test Standards

The tests were performed according to following standards:

FCC Rules Part 15 Subpart B: Unintentional Radiators.

ANSI C63.4-2014: American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

1.4 Test Facility

Address of the test laboratory
Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.
Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

FCC – Registration No.: 125990
Waltek Testing Group (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A
The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

1.5 EUT Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Mode List			
Test Mode	Description	Remark	Power Supply Mode
TM1	Iridium Beam Active Antenna (RST740)	The EUT is connected with an satellite antenna placed outdoors, and an external cable is run to the unit in a test chamber. A laptop is connected over WiFi to send terminal commands with the EUT acting as an access point. Using the 3XC Phone APP on the computer, which is connected with the EUT over WiFi, the EUT places a call to an outside cell phone via satellite connection and the audio and connectivity is monitored on the laptop; at the same time, the music is playing on the EUT through commands from Tera Term, showing the data is transmitting through audio	Connected to AC adapter AC 120V 60Hz
TM2	EUT with all the functions turned on	Same as above	Powered by battery DC 3.7V

EUT Cable List and Details				
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite	With / Without Chip
DC cable	1.2	Shielded	With Ferrite	/

Special Cable List and Details				
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite	With / Without Chip
/	/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Iridium Beam Active Antenna (RST740)	Beam Communications	/	/
/	/	/	/
/	/	/	/

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
Conducted Emissions	Conducted	9-150kHz ±3.74dB
		0.15-30MHz ±3.34dB
Radiated Emissions	Radiated	30-200MHz ±4.52dB
		0.2-1GHz ±5.56dB
		1-6GHz ±3.84dB
		6-18GHz ±3.92dB

1.7 Test Equipment List and Details

Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
☒Chamber A:Below 1GHz					
Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2022-03-22	2023-03-21
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2022-03-22	2023-03-21
Amplifier	Agilent	8447F	3113A06717	2022-01-07	2023-01-06
Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2023-03-19
Trilog Broadband Antenna	Schwarz beck	VULB9163	9163-333	2021-03-20	2023-03-19
☐Chamber A:Above 1GHz					
Amplifier	C&D	PAP-1G18	2002	2022-03-22	2023-03-21
Horn Antenna	ETS	3117	00086197	2021-03-19	2023-03-18
☐Chamber B:Below 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2022-03-22	2023-03-21
Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2021-04-09	2023-04-08
Amplifier	Agilent	8447D	2944A10179	2022-03-22	2023-03-21
☐Chamber C:Below 1GHz					
EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2022-01-07	2023-01-06
Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2021-05-28	2023-05-27
Amplifier	HP	8447F	2944A03869	2022-03-22	2023-03-21
☒Conducted Room 1#					
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2022-03-25	2023-03-24
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2022-03-22	2023-03-21
AC LISN	Schwarz beck	NSLK8126	8126-224	2022-03-22	2023-03-21
☐Conducted Room 2#					
EMI Test Receiver	Rohde & Schwarz	ESPI	10129	2022-03-22	2023-03-21
LISN	Rohde & Schwarz	ENV 216	100097	2022-03-22	2023-03-21

Software List			
Description	**Manufacturer**	**Model**	**Version**
EMI Test Software (Radiated Emission)*	Farad	EZ-EMC	RA-03A1
EMI Test Software (Conducted Emission)*	Farad	EZ-EMC	RA-03A1

*Remark: indicates software version used in the compliance certification testing.

2. SUMMARY OF TEST RESULTS

Description of Test	Result
§15.107(a) Conducted Emission	Compliant
§15.109(a) Radiated Emission	Compliant

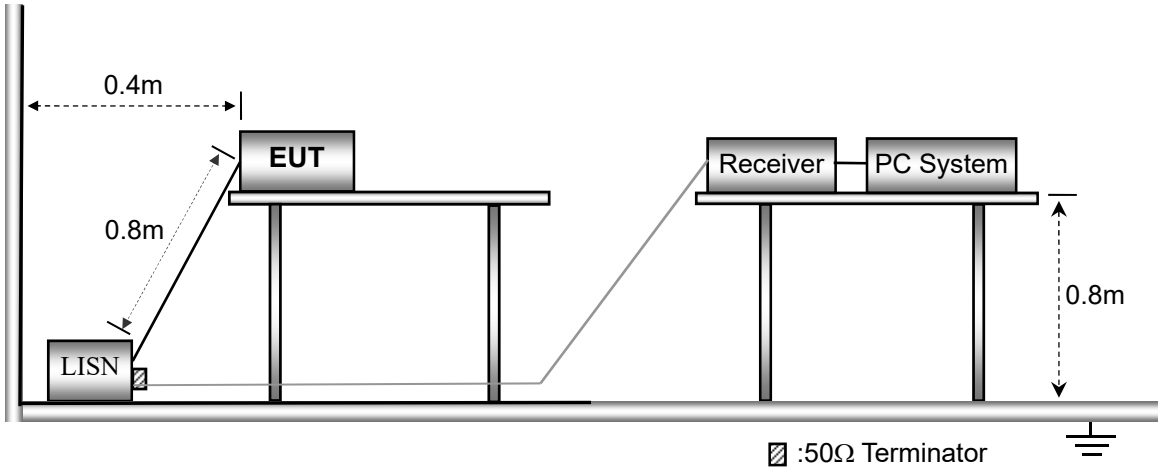
N/A: not applicable

3. Conducted Emissions

3.1 Test Procedure

Test is conducted under the description of ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

3.2 Basic Test Setup Block Diagram



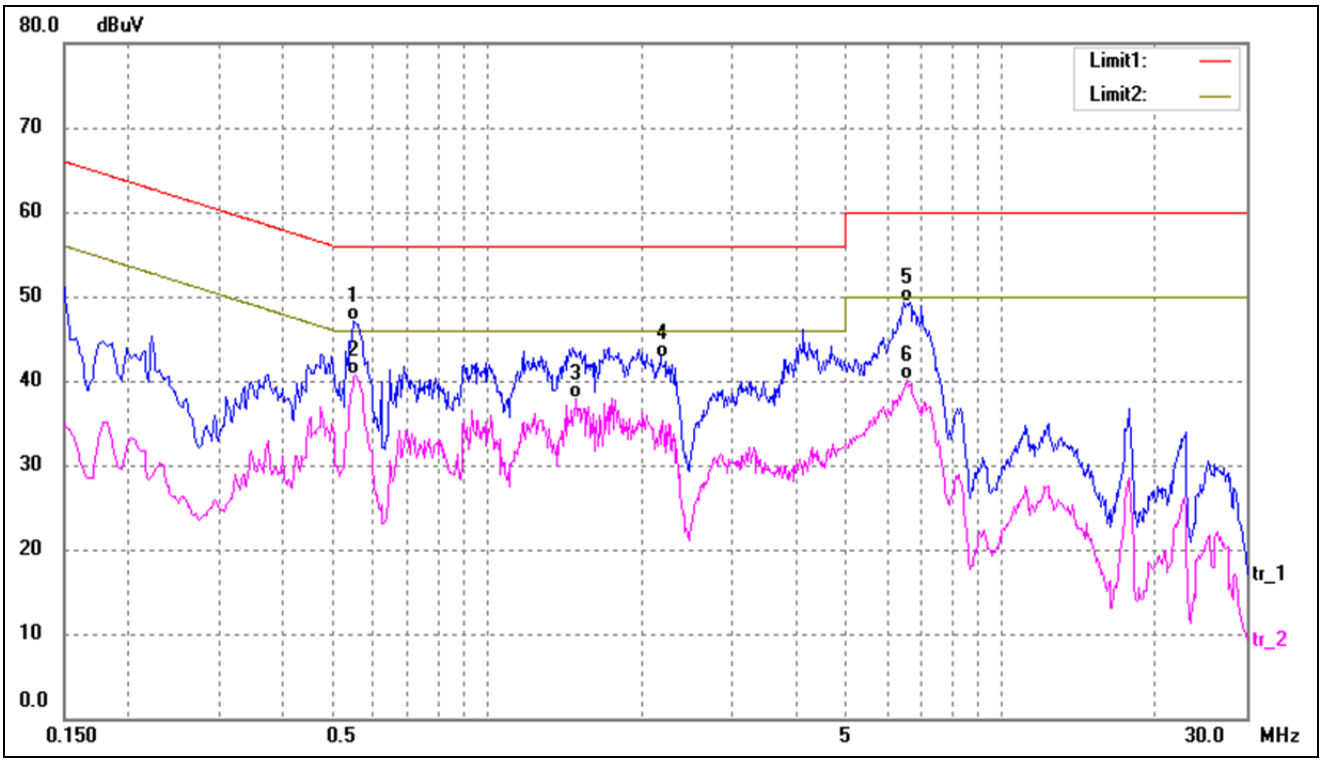
3.3 Environmental Conditions

Temperature:	23.5 °C
Relative Humidity:	54 %
ATM Pressure:	1014 mbar

3.4 Summary of Test Results

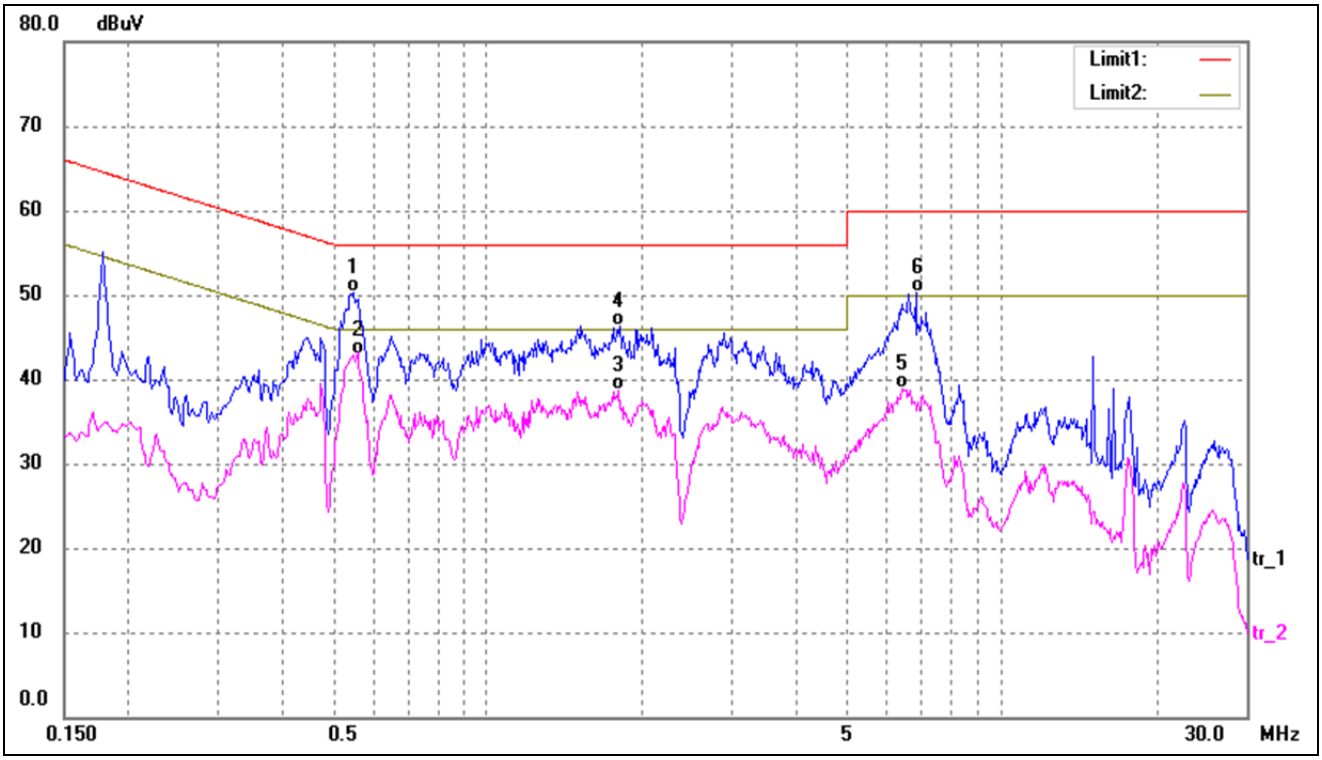
Please find the results below:

Test mode:	TM1	Polarity:	Line



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.5500	36.80	10.29	47.09	56.00	-8.91	QP
2*	0.5540	30.44	10.29	40.73	46.00	-5.27	AVG
3	1.4900	27.53	10.35	37.88	46.00	-8.12	AVG
4	2.1780	32.68	10.12	42.80	56.00	-13.20	QP
5	6.4860	39.44	9.96	49.40	60.00	-10.60	QP
6	6.5820	30.12	9.96	40.08	50.00	-9.92	AVG

Test mode:	TM1	Polarity:	Neutral



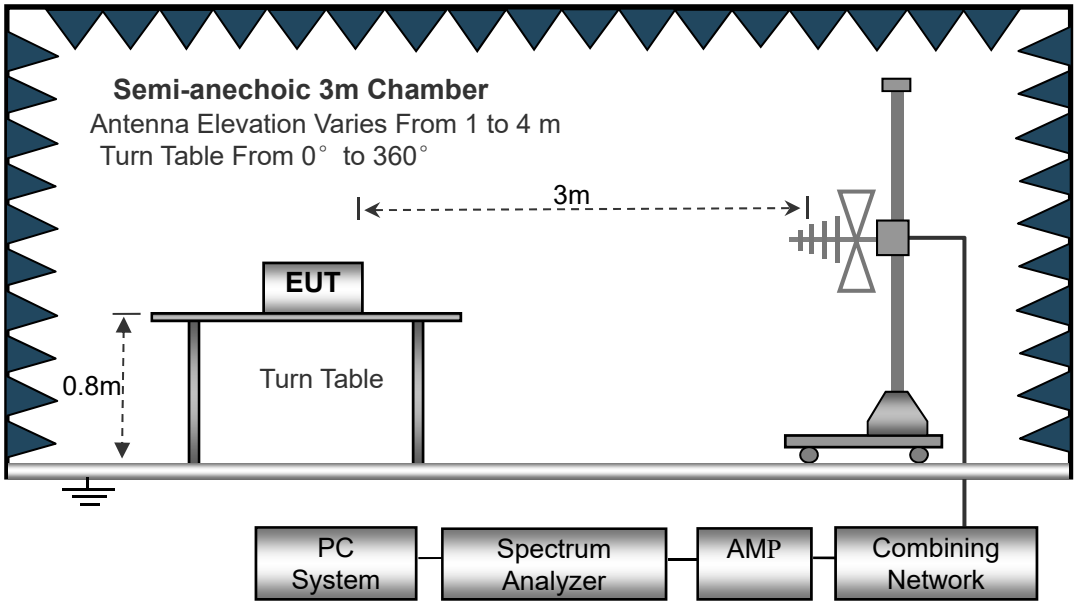
No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.5460	40.00	10.29	50.29	56.00	-5.71	QP
2*	0.5580	32.58	10.29	42.87	46.00	-3.13	AVG
3	1.8020	28.42	10.22	38.64	46.00	-7.36	AVG
4	1.8140	36.15	10.21	46.36	56.00	-9.64	QP
5	6.4140	28.87	9.96	38.83	50.00	-11.17	AVG
6	6.8260	40.43	9.95	50.38	60.00	-9.62	QP

4. RADIATED EMISSION

4.1 Test Procedure

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15.109 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.

4.2 Block Diagram of Test Setup



4.3 Test Receiver Setup

Frequency :9kHz-30MHz	Frequency :30MHz-1GHz	Frequency :Above 1GHz
RBW=10KHz,	RBW=120KHz,	RBW=1MHz,
VBW =30KHz	VBW=300KHz	VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto	Sweep time= Auto	Sweep time= Auto
Trace = max hold	Trace = max hold	Trace = max hold
Detector function = peak	Detector function = peak, QP	Detector function = peak, AV

4.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Correct

Correct=Ant.Factor + Cable Loss - Ampl.Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit for a Class B device. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 15.109(a) Limit

4.5 Environmental Conditions

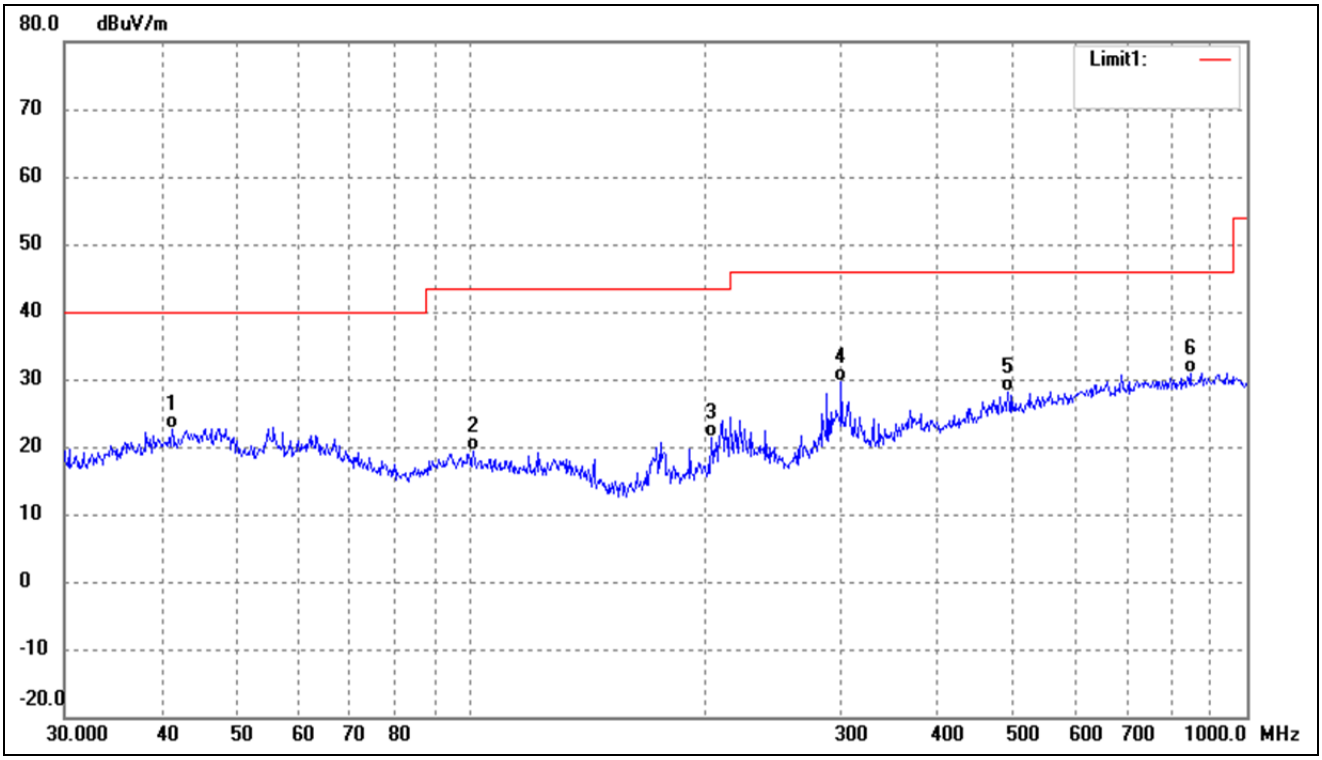
Temperature:	22.5 °C
Relative Humidity:	52 %
ATM Pressure:	1011 mbar

4.6 Summary of Test Results

Please find the results below:

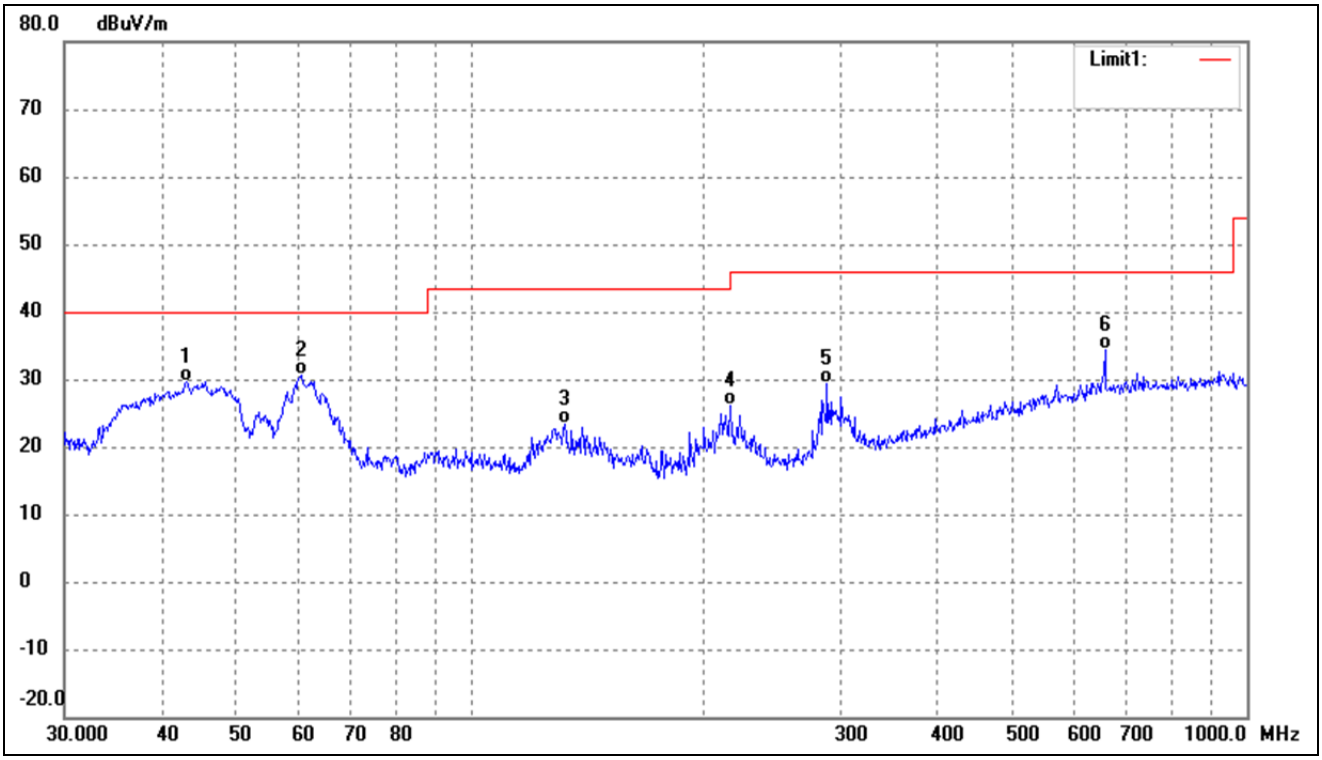
Below 1GHz

Test mode:	TM1	Polarity:	Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	41.2765	29.71	-6.99	22.72	40.00	-17.28	-	-	QP
2	100.9340	28.01	-8.74	19.27	43.50	-24.23	-	-	QP
3	204.2377	30.99	-9.58	21.41	43.50	-22.09	-	-	QP
4	300.3673	36.56	-6.95	29.61	46.00	-16.39	-	-	QP
5	492.4685	29.53	-1.49	28.04	46.00	-17.96	-	-	QP
6	845.0878	28.63	2.36	30.99	46.00	-15.01	-	-	QP

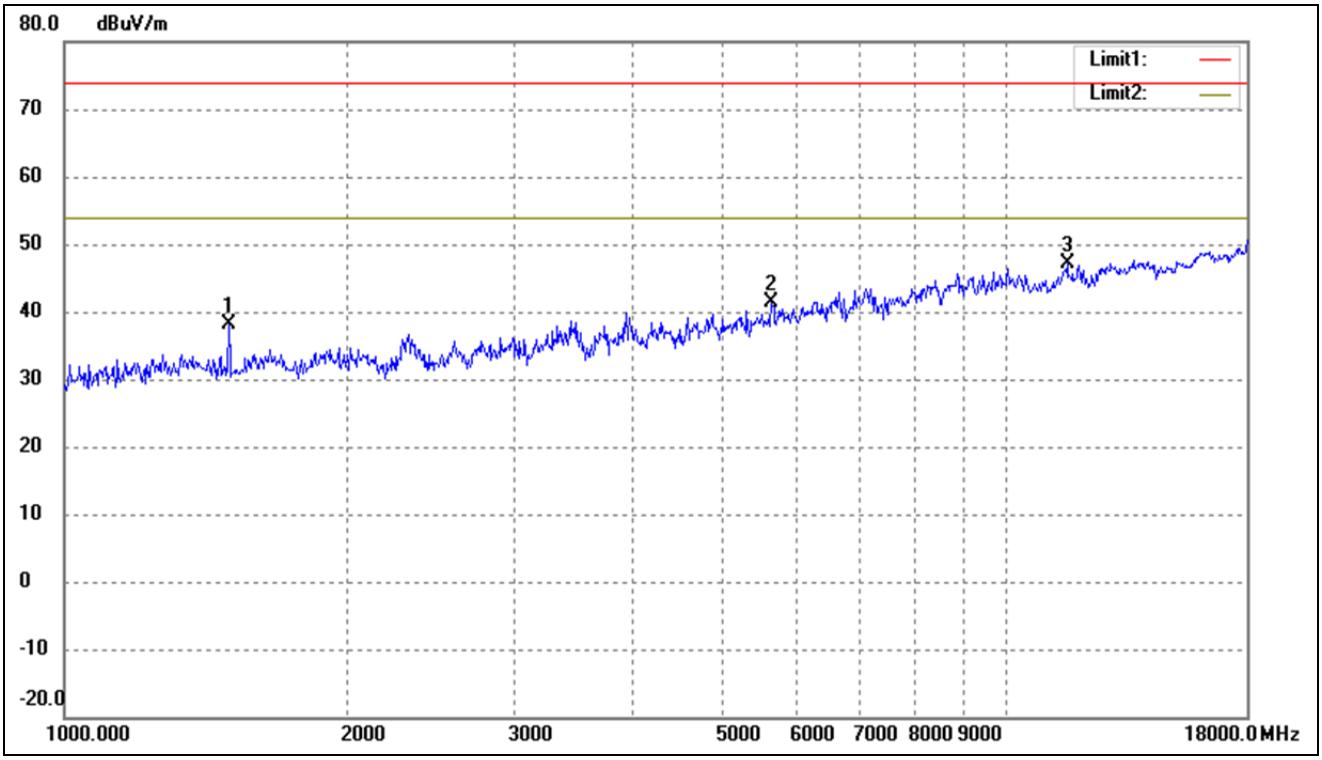
Test mode:	TM1	Polarity:	Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	43.0505	36.57	-6.99	29.58	40.00	-10.42	-	-	QP
2	60.4919	39.19	-8.51	30.68	40.00	-9.32	-	-	QP
3	132.2206	34.98	-11.62	23.36	43.50	-20.14	-	-	QP
4	216.0240	35.38	-9.26	26.12	46.00	-19.88	-	-	QP
5	287.9904	36.75	-7.28	29.47	46.00	-16.53	-	-	QP
6	656.5300	33.32	0.98	34.30	46.00	-11.70	-	-	QP

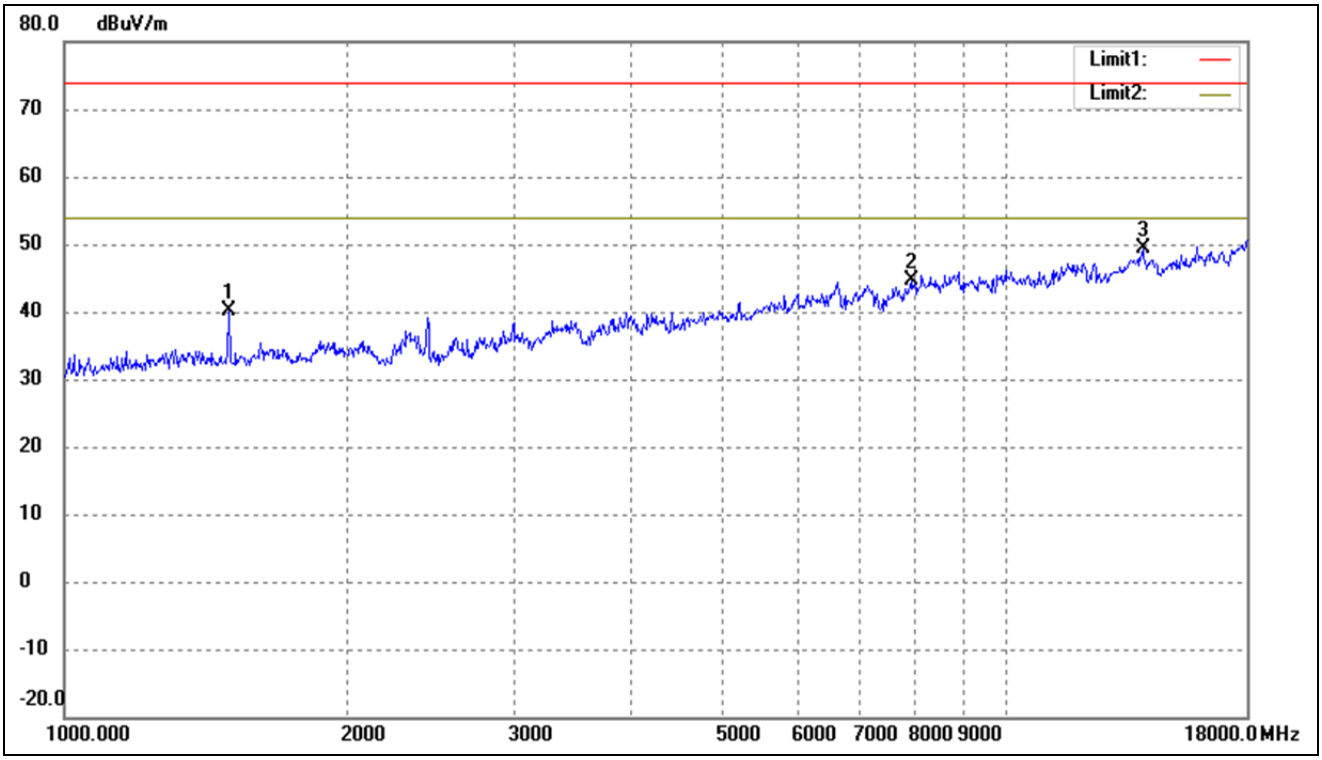
Above 1GHz

Test mode:	TM2	Polarity:	Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	1494.455	50.74	-12.69	38.05	74.00	-35.95	-	-	peak
2	5631.874	45.80	-4.41	41.39	74.00	-32.61	-	-	peak
3	11600.350	41.82	5.20	47.02	74.00	-26.98	-	-	peak

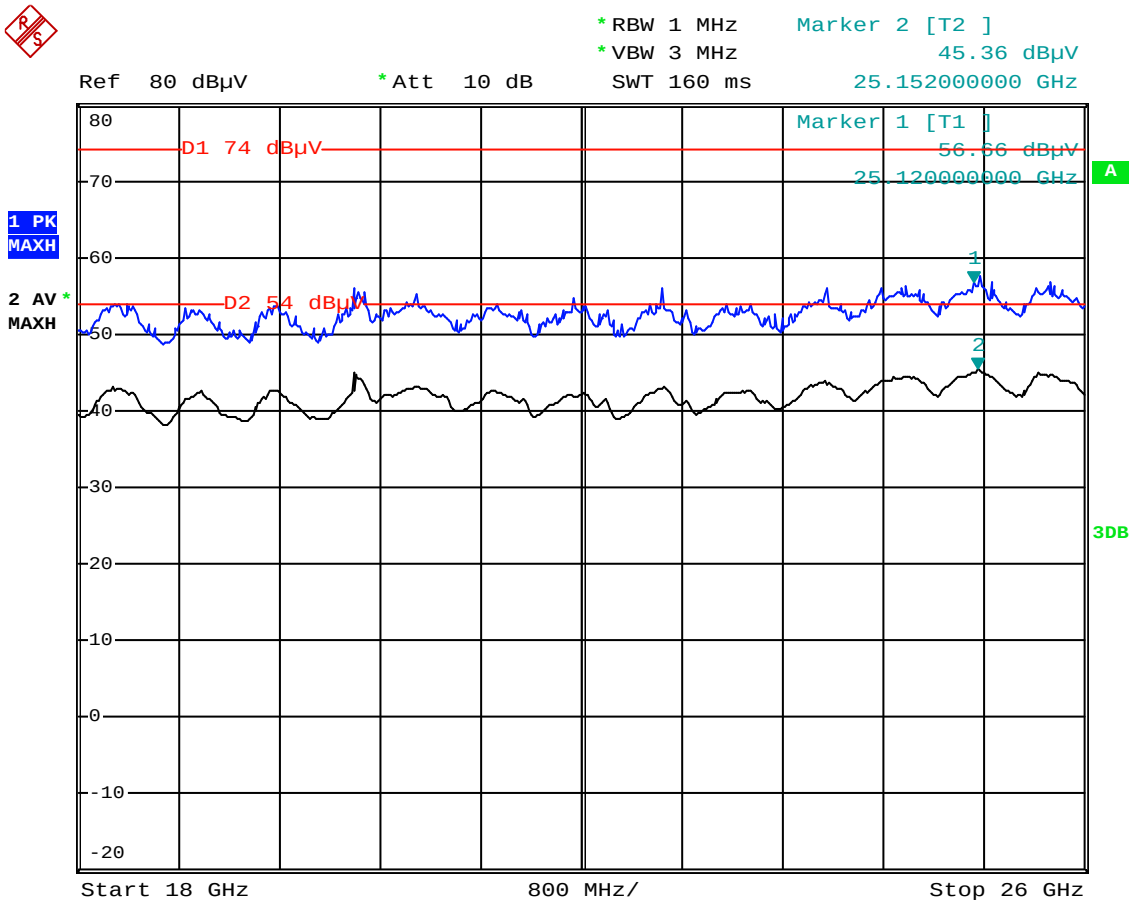
Test mode:	TM2	Polarity:	Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	1494.455	52.88	-12.69	40.19	74.00	-33.81	-	-	peak
2	7920.911	45.02	-0.47	44.55	74.00	-29.45	-	-	peak
3	13957.529	41.73	7.54	49.27	74.00	-24.73	-	-	peak

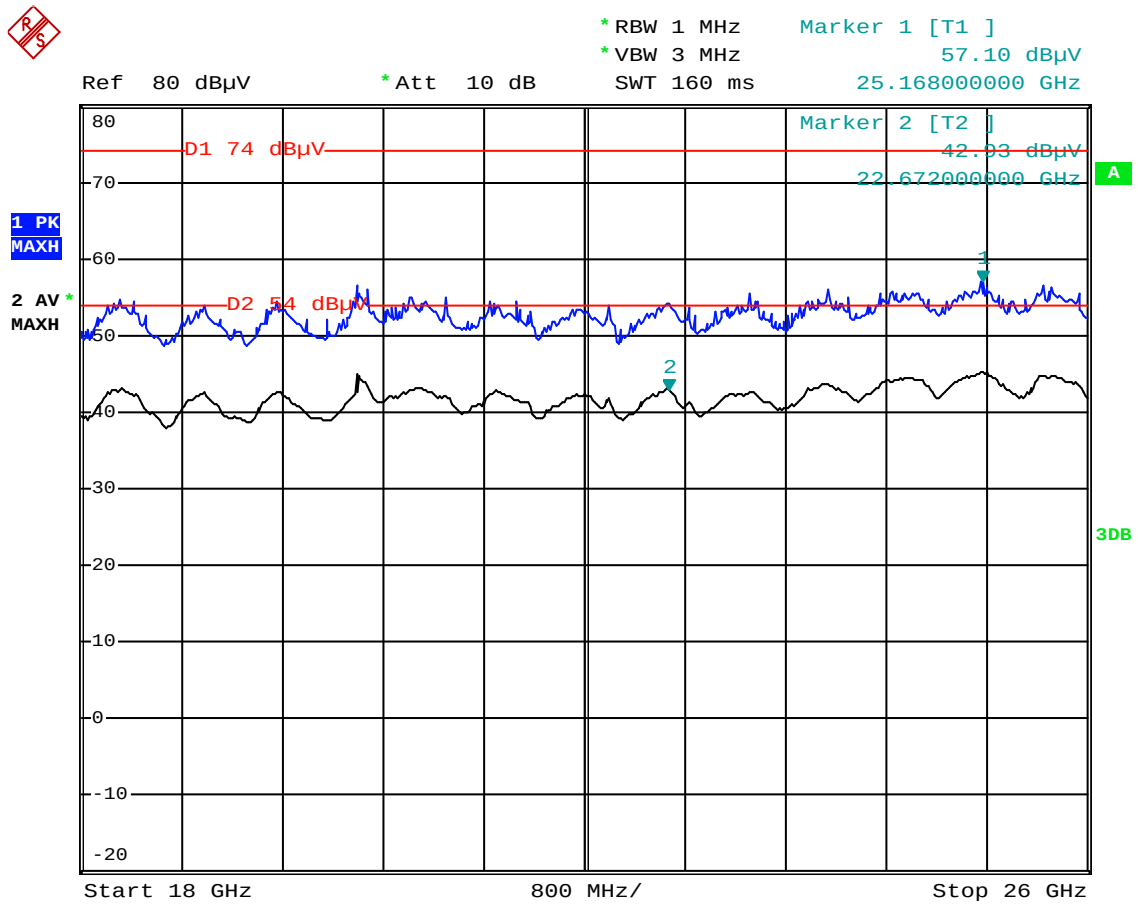
Above 18GHz

Test mode:	TM2	Polarity:	Horizontal



No.	Frequency	Result	Limit	Margin	Degree	Height	Remark
	(GHz)	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	25.12	56.56	74.00	-18.10	-	-	peak
2	25.15	45.36	54.00	-8.83	-	-	AVG

Test mode:	TM2	Polarity:	Vertical



No.	Frequency	Result	Limit	Margin	Degree	Height	Remark
	(GHz)	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	25.17	57.10	74.00	-16.90	-	-	peak
2	22.67	43.93	54.00	-10.07	-	-	AVG

Remark:'-'Means' the test Degree and Height are not recorded by the test software and only show the worst case in the test report.