

TEST REPORT

Reference No...... : WTX22X09191318W
FCC ID : Q639765
Applicant : Iridium Satellite LLC
Address : 1750 Tysons Boulevard, Suite 1400, McLean, VA 22102, USA
Manufacturer : Beam Communications
Address : Unit5, 8 Anzed Court, Mulgrave, Victoria, Australia, 3710
Product Name : Iridium GO! exec
Model No...... : 9765
Standards : **FCC PART15 SUBPART B**
Date of Receipt sample ... : 2022-09-21
Date of Test..... : 2022-09-21 to 2022-10-21
Date of Issue : 2022-10-21
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.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road,
Block 70 Bao'an District, Shenzhen, Guangdong, China

Tel.: +86-755-33663308 Fax.: +86-755-33663309 Email: sem@waltek.com.cn

Tested by:



Mike Shi

Approved by:



Silin Chen

TABLE OF CONTENTS

1. GENERAL INFORMATION.....	4
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....	4
1.2 TEST STANDARDS.....	5
1.3 TEST METHODOLOGY.....	5
1.4 TEST FACILITY	5
1.5 EUT SETUP AND OPERATION MODE	6
1.6 MEASUREMENT UNCERTAINTY	7
1.7 TEST EQUIPMENT LIST AND DETAILS	8
2. SUMMARY OF TEST RESULTS	10
3. CONDUCTED EMISSIONS	11
3.1 TEST PROCEDURE.....	11
3.2 BASIC TEST SETUP BLOCK DIAGRAM.....	11
3.3 ENVIRONMENTAL CONDITIONS	11
3.4 SUMMARY OF TEST RESULTS	11
4. RADIATED EMISSION	14
4.1 TEST PROCEDURE.....	14
4.2 BLOCK DIAGRAM OF TEST SETUP	14
4.3 TEST RECEIVER SETUP	15
4.4 CORRECTED AMPLITUDE & MARGIN CALCULATION.....	15
4.5 ENVIRONMENTAL CONDITIONS	15
4.6 SUMMARY OF TEST RESULTS	15
EXHIBIT 1 - PRODUCT LABELING	20
PROPOSED FCC LABEL FORMAT	20
PROPOSED LABEL LOCATION ON EUT	20
EXHIBIT 2 - EUT PHOTOGRAPHS.....	21
EXHIBIT 3 - EUT INTERNAL PHOTOGRAPHS.....	26
EXHIBIT 4 - TEST SETUP PHOTOGRAPHS	32
EXHIBIT 5 - USERS MANUAL	34

Report version

Version No.	Date of issue	Description
Rev.00	2022-10-21	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	Iridium GO! exec
Trade Name:	/
Model No.:	9765
Adding Model(s):	/
<i>Note: The test data is gathered from a production sample, provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Rated Voltage:	Battery:10.8V
Battery Capacity:	4.9Ah
Rated Power:	/
Power Adapter Model:	Model:TYPE-C60IC Input:AC100-240v~ 50/60Hz 1.3A Output:DC5.0V,3A/9.0V,3A/12.0V,3A/15.0V,3A/20.0V,3A 60W
Lowest Internal Frequency:	26MHz
Highest Internal Frequency:	2480MHz
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	Normal working	The EUT is powered by the AC adapter	Powered by the AC adapter

EUT Cable List and Details				
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite	With / Without Chip
TYPE-C CABLE	1.0	Shielded	Without Ferrite	/

Special Cable List and Details				
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite	With / Without Chip
Ethernet cable	1.5	Unshielded	Without Ferrite	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	E445	EB12648265

1.6 Measurement Uncertainty

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

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	3113A0671 7	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	2944A1017 9	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	2944A0386 9	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

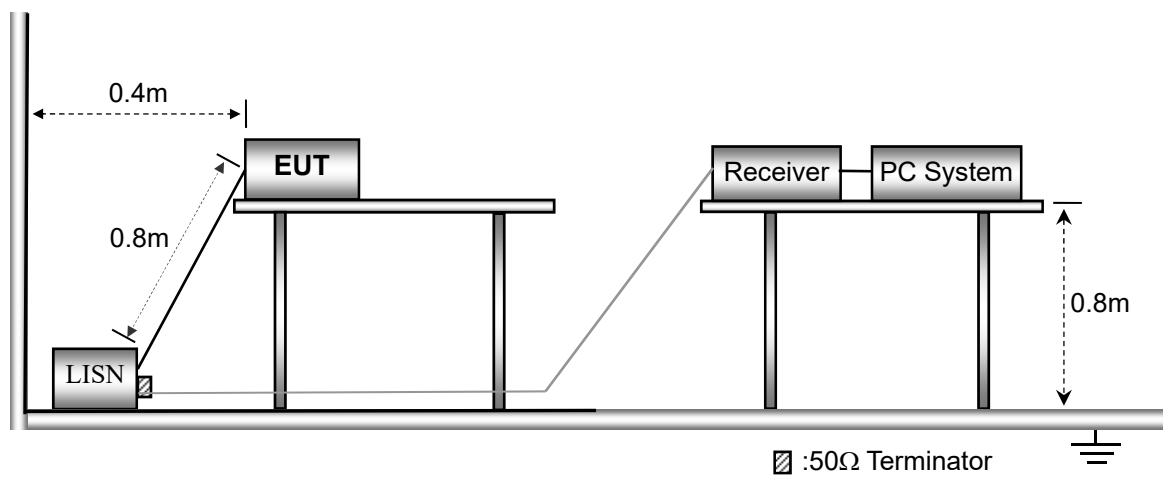
N/A: not applicable

3. Conducted Emissions

3.1 Test Procedure

The 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



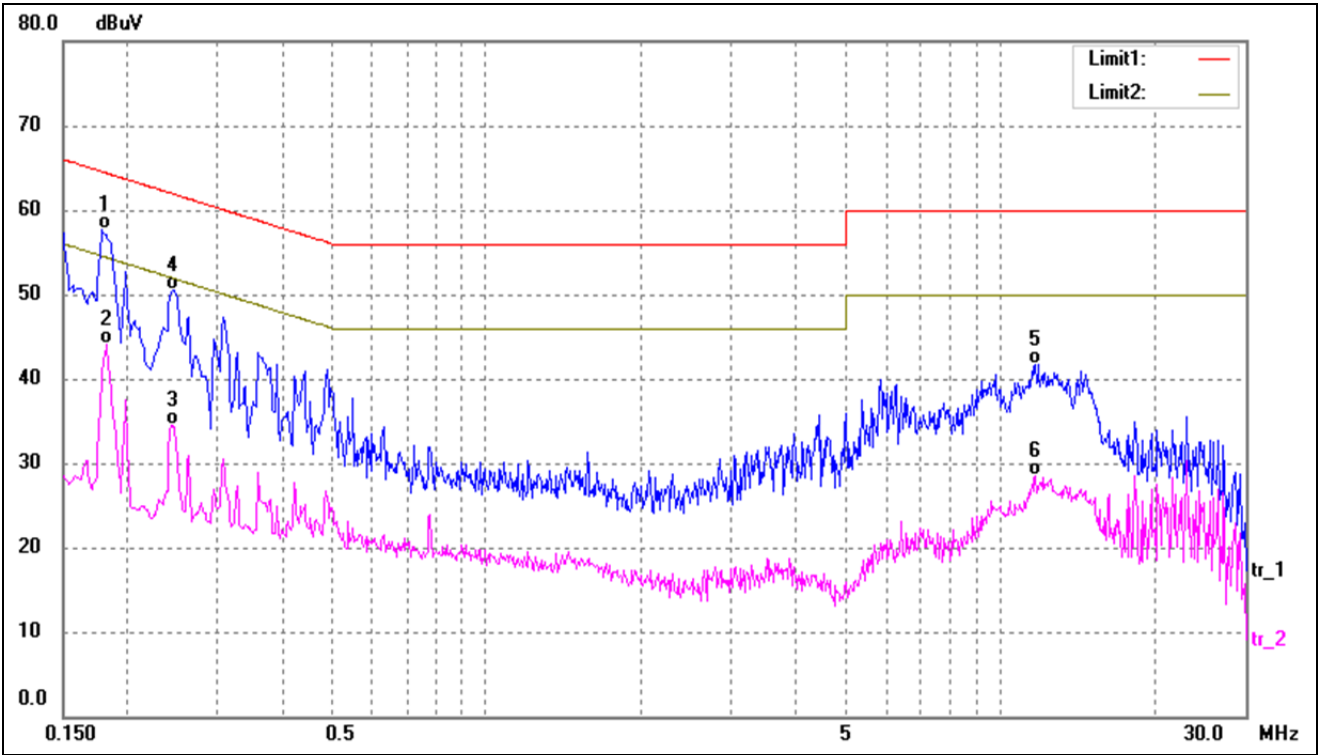
3.3 Environmental Conditions

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

3.4 Summary of Test Results

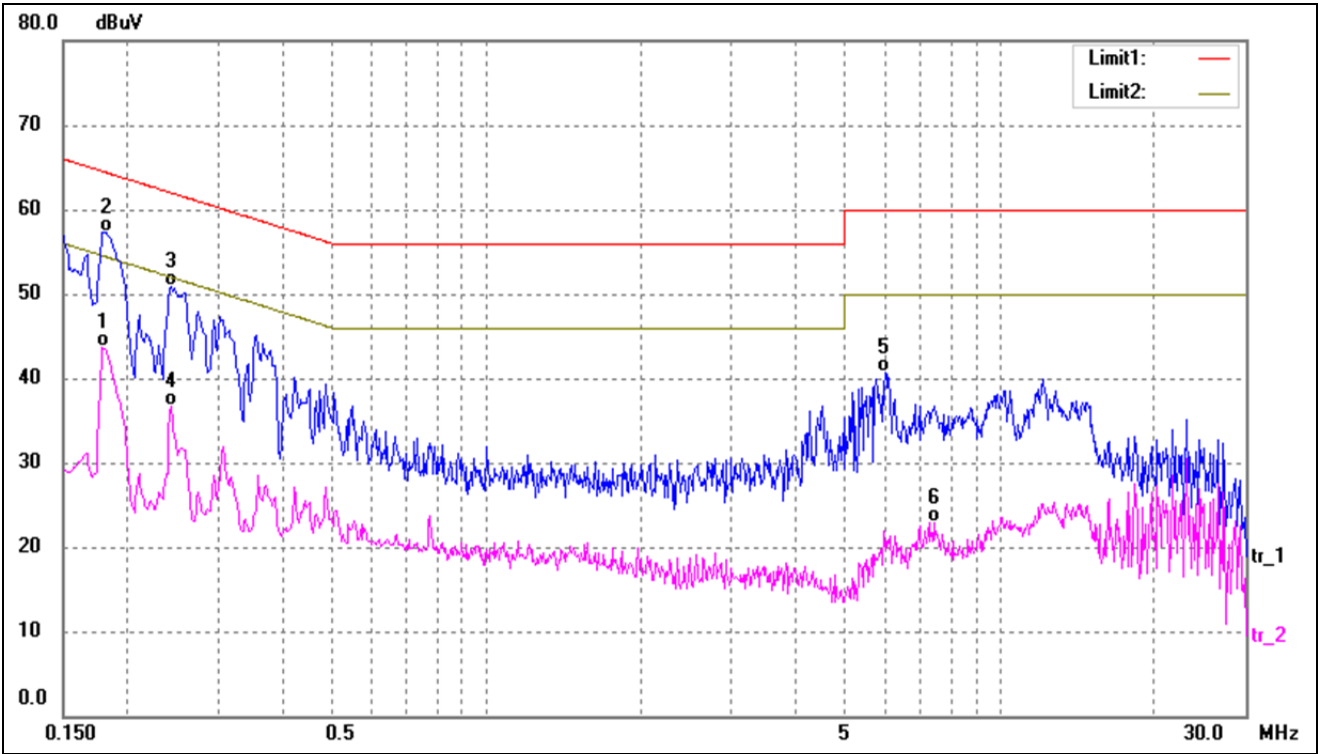
Please find the results below:

Test mode:	TM1	Polarity:	Line
------------	-----	-----------	------



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1780	47.41	10.31	57.72	64.58	-6.86	QP
2	0.1820	33.77	10.31	44.08	54.39	-10.31	AVG
3	0.2420	24.28	10.27	34.55	52.03	-17.48	AVG
4	0.2460	40.31	10.27	50.58	61.89	-11.31	QP
5	11.7180	31.35	10.32	41.67	60.00	-18.33	QP
6	11.7180	18.16	10.32	28.48	50.00	-21.52	AVG

Test mode:	TM1	Polarity:	Neutral
------------	-----	-----------	---------



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1780	33.45	10.31	43.76	54.58	-10.82	AVG
2*	0.1820	47.08	10.31	57.39	64.39	-7.00	QP
3	0.2420	40.57	10.27	50.84	62.03	-11.19	QP
4	0.2420	26.37	10.27	36.64	52.03	-15.39	AVG
5	5.9740	30.44	10.33	40.77	60.00	-19.23	QP
6	7.4260	12.59	10.34	22.93	50.00	-27.07	AVG

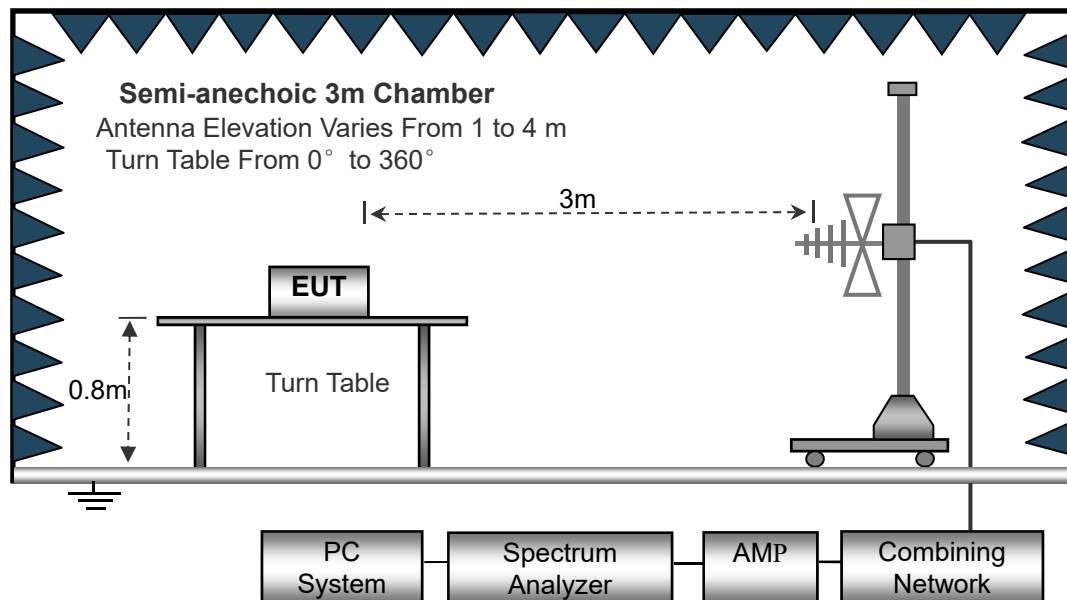
4. RADIATED EMISSION

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
 RBW=10KHz,
 VBW =30KHz
 Sweep time= Auto
 Trace = max hold
 Detector function = peak

Frequency :30MHz-1GHz
 RBW=120KHz,
 VBW=300KHz
 Sweep time= Auto
 Trace = max hold
 Detector function = peak, QP

Frequency :Above 1GHz
 RBW=1MHz,
 VBW=3MHz(Peak), 10Hz(AV)
 Sweep time= Auto
 Trace = max hold
 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:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Correct} \\ \text{Correct} = \text{Ant. Factor} + \text{Cable Loss} - \text{Ampl. Gain}$$

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

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15.109(a) Limit}$$

4.5 Environmental Conditions

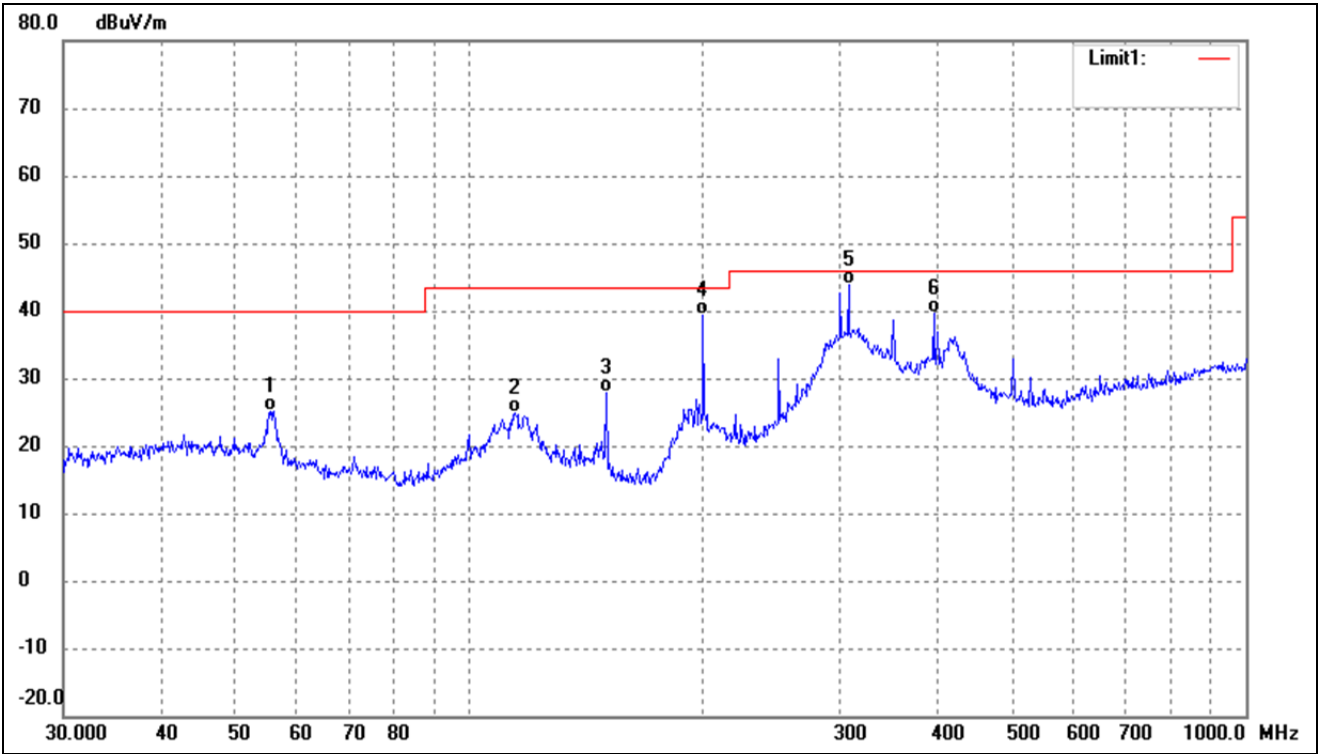
Temperature:	22.5 °C
Relative Humidity:	52 %
ATM Pressure:	1011 mbar

4.6 Summary of Test Results

Please find the results below:

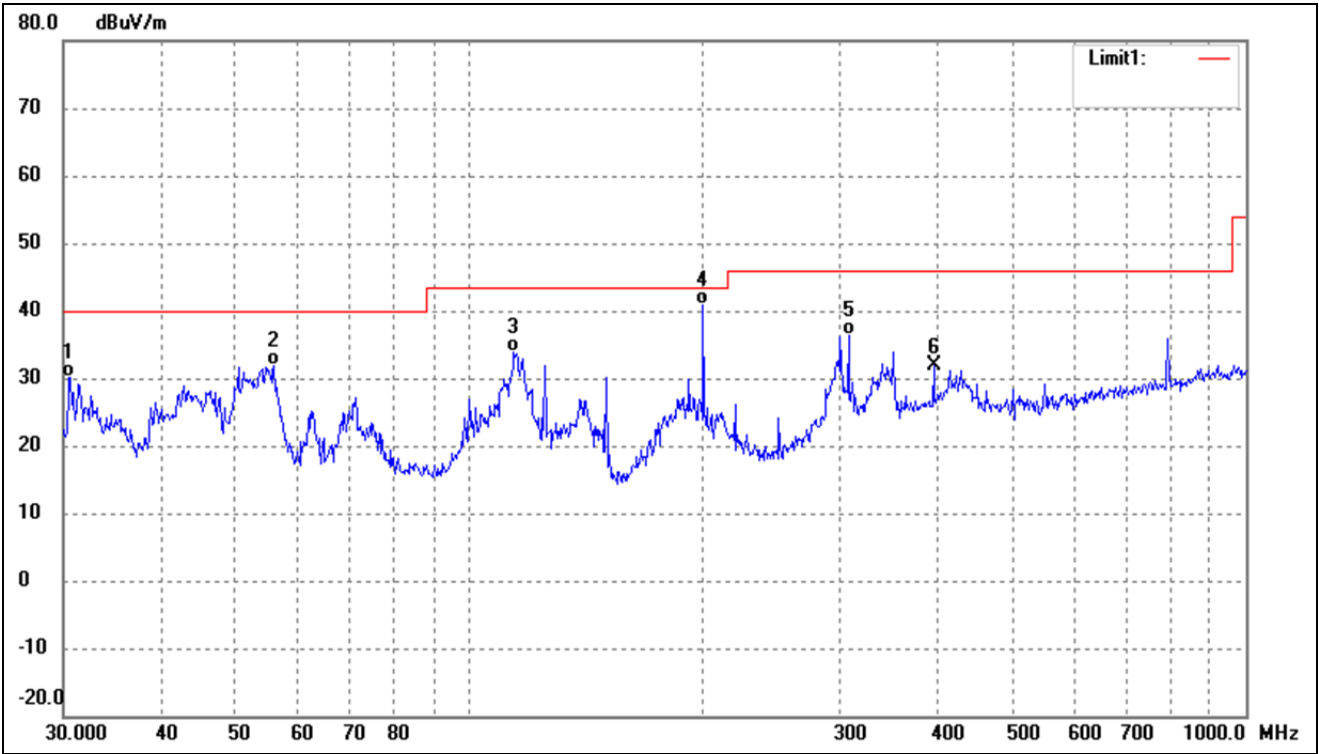
Below 1GHz

Test mode:	TM1	Polarity:	Horizontal
------------	-----	-----------	------------



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	55.4147	33.48	-8.26	25.22	40.00	-14.78	-	-	QP
2	114.5146	33.31	-8.45	24.86	43.50	-18.64	-	-	QP
3	150.0108	39.62	-11.67	27.95	43.50	-15.55	-	-	QP
4	199.9856	47.88	-8.42	39.46	43.50	-4.04	-	-	QP
5	307.8313	48.87	-4.88	43.99	46.00	-2.01	-	-	QP
6	396.2415	43.03	-3.38	39.65	46.00	-6.35	-	-	QP

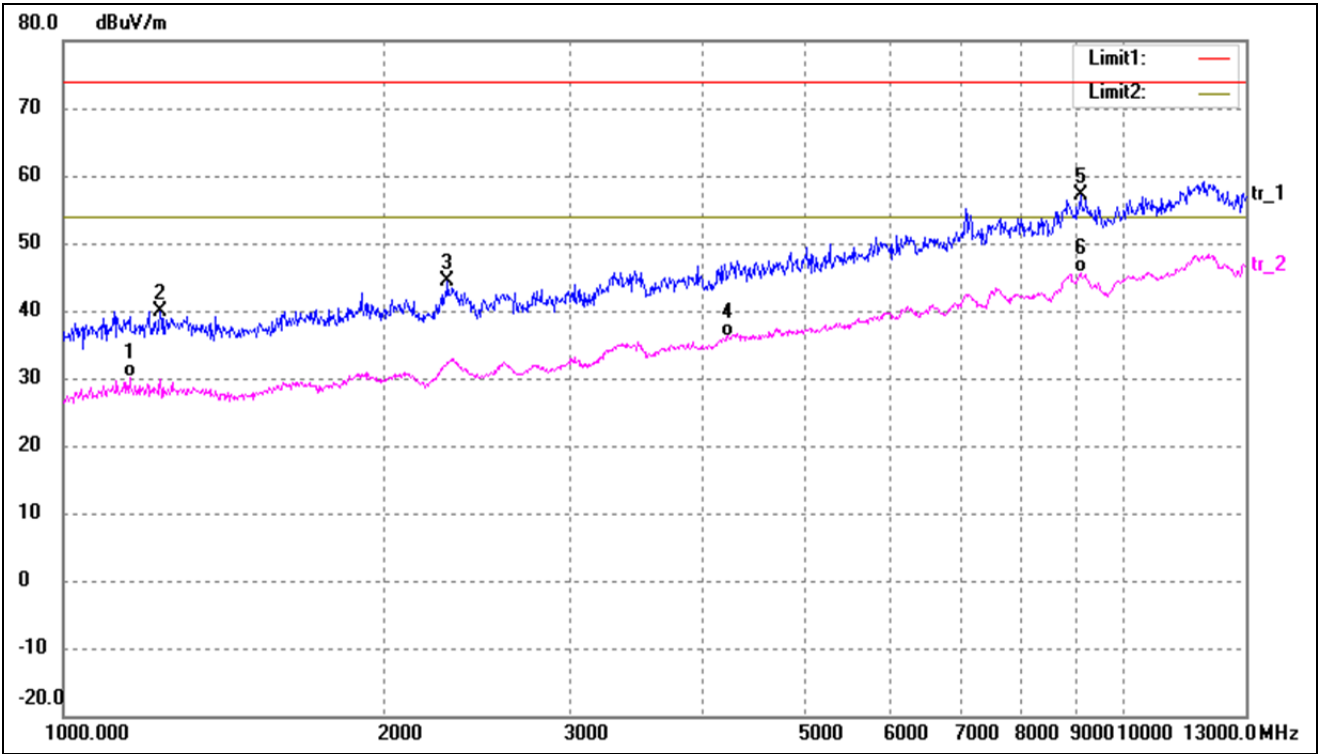
Test mode:	TM1	Polarity:	Vertical
------------	-----	-----------	----------



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	30.5306	39.31	-9.20	30.11	40.00	-9.89	-	-	QP
2	56.0007	40.27	-8.36	31.91	40.00	-8.09	-	-	QP
3	114.1138	42.24	-8.42	33.82	43.50	-9.68	-	-	QP
4	199.9856	49.18	-8.42	40.76	43.50	-2.74	-	-	QP
5	307.8313	41.19	-4.88	36.31	46.00	-9.69	-	-	QP
6	396.2415	35.30	-3.38	31.92	46.00	-14.08	-	-	QP

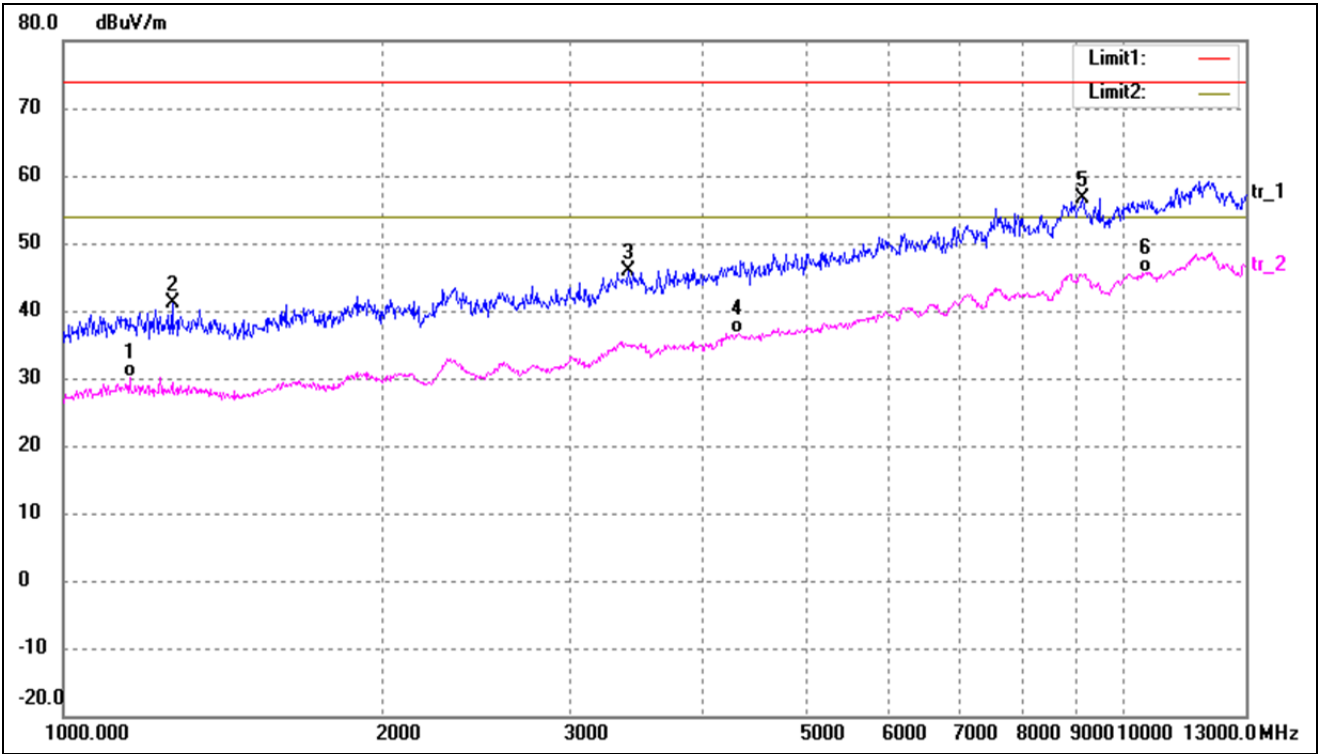
Above 1GHz

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	1154.465	43.33	-13.10	30.23	54.00	-23.77	-	-	AVG
2	1234.080	52.70	-12.75	39.95	74.00	-34.05	-	-	peak
3	2301.609	53.18	-8.81	44.37	74.00	-29.63	-	-	peak
4	4216.210	40.95	-4.73	36.22	54.00	-17.78	-	-	AVG
5	9078.023	50.97	6.17	57.14	74.00	-16.86	-	-	peak
6	9078.023	39.41	6.17	45.58	54.00	-8.42	-	-	AVG

Test mode:	TM1	Polarity:	Vertical
------------	-----	-----------	----------



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	1154.465	43.32	-13.10	30.22	54.00	-23.78	-	-	AVG
2	1266.143	53.84	-12.61	41.23	74.00	-32.77	-	-	peak
3	3407.728	51.76	-5.99	45.77	74.00	-28.23	-	-	peak
4	4325.752	40.93	-4.23	36.70	54.00	-17.30	-	-	AVG
5	9124.712	50.71	6.00	56.71	74.00	-17.29	-	-	peak
6	10480.261	38.92	6.81	45.73	54.00	-8.27	-	-	AVG