TEST REPORT

Reference No.	:	WTX20X07050506W-1
FCC ID	:	A4X-WPC15-1TJNA
Applicant	:	CE LINK LIMITED
Address	:	Building M,LiCheng Technology Industrial Zone,GongHe Village,ShaJing Town,ShenZhen City,China
Product Name	:	Wireless Charge
Test Model	:	WPC15-1TJNA
Standards	:	FCC Part 18
Date of Receipt sample	:	Jul.29, 2020
Date of Test	:	Jul.29, 2020 to Aug.14, 2020
Date of Issue	:	Aug.14, 2020
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 compiler and 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

Tested by:	Reviewed By:	Approved & Authorized By:
Jason Su / Project Engineer	Lion Cai / RF Manager	Silin Chen / Manager

TABLE OF CONTENTS

Report version

Version No.	Date of issue	Description
Rev.00	Aug.14, 2020	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	CE LINK LIMITED
Address of applicant:	Building M,LiCheng Technology Industrial Zone, GongHe Village,ShaJing Town,ShenZhen City,China
Manufacturer:	CE LINK LIMITED
Address of manufacturer:	Building M,LiCheng Technology Industrial Zone, GongHe Village,ShaJing Town,ShenZhen City,China
Factory#1:	SuiChuan CE LINK LIMITED
Address of factory	SuiChuan county industrial park east zone, Ji'an city, Jiangxi Province, China.
Factory#2:	CE LINK VIETNAM LIMITED
Address of factory	Lo FJ-25, Song Khe-Noi Hoang Industrial Zone, Noi Hoang Village, Yen Dung Town, Bac Giang Province, Vietnam.

General Description of EUT	
Product Name:	Wireless Charge
Trade Name:	CE-LINK
Model No.:	WPC15-1TJNA
Adding Model(s):	/
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Frequency Range:	112~205kHz
Antenna Type:	Coil Antenna
Rated Voltage/ Current Input:	5V/2A, 9V/2A, 12V/2A
Rated Voltage/ Current Output:	5V/1A, 9V/1.1A, 12/1.25A
Rated Power:	5W / 10W / 15W

1.2 Test Standards

The tests were performed according to following standards:
FCC Part 18 Subpart C: Industrial, Scientific, and medical medical equipment.

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

Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.
Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Bao'an District, Shenzhen, P.R.C. (518101）

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 maintain ed 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 level. 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	Wireless Charging	/	Input DC5V/2A; Output:DC5V/1A
TM2	Wireless Charging	/	Input DC9V/2A; Output:DC9V/1.1A
TM3	Wireless Charging	/	Input DC12V/2A; Output:DC12V/1.25A

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
/	/	/	/

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
Power Port Speed	ANKER	A2025	/

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
USB-C Cable	1.0	Unshielded	Without Ferrite

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
Spectrum Analyzer	Agilent	E4407B	MY41440400	2020-04-28	2021-04-27
Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2020-04-28	2021-04-27
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2020-04-28	2021-04-27
Amplifier	Agilent	8447F	3113A06717	2020-04-28	2021-04-27
Amplifier	C&D	PAP-1G18	2002	2020-04-28	2021-04-27
Broadband Antenna	Schwarz beck	VULB9163	9163-333	2019-05-05	2021-05-04
Horn Antenna	ETS	3117	00086197	2019-05-05	2021-05-04
Loop Antenna	Schwarz beck	FMZB 1516	9773	2019-05-05	2021-05-04
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2020-04-28	2021-04-27
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2020-04-28	2021-04-27
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2020-04-28	2021-04-27

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

FCC RULES	DESCRIPTION OF TEST	RESULT
§ 18.307 (b)	Conducted Emission	Compliant
§ 18.305 (b)	Radiated Emission	Compliant

3. Conducted Emissions

3.1 Standard Applicable

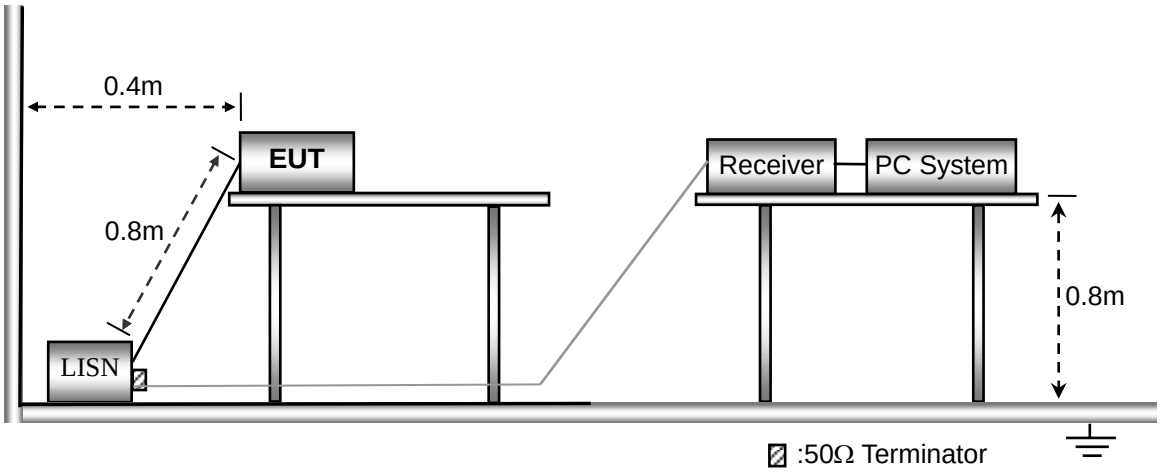
According to FCC 18.307(b), the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies shall not exceed the limits in the following tables:

Frequency (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

3.2 Test Procedure

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 18.307 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.

3.3 Basic Test Setup Block Diagram



3.4 Environmental Conditions

Temperature:	26° C
Relative Humidity:	60%
ATM Pressure:	1016 mbar

3.5 Test Receiver Setup

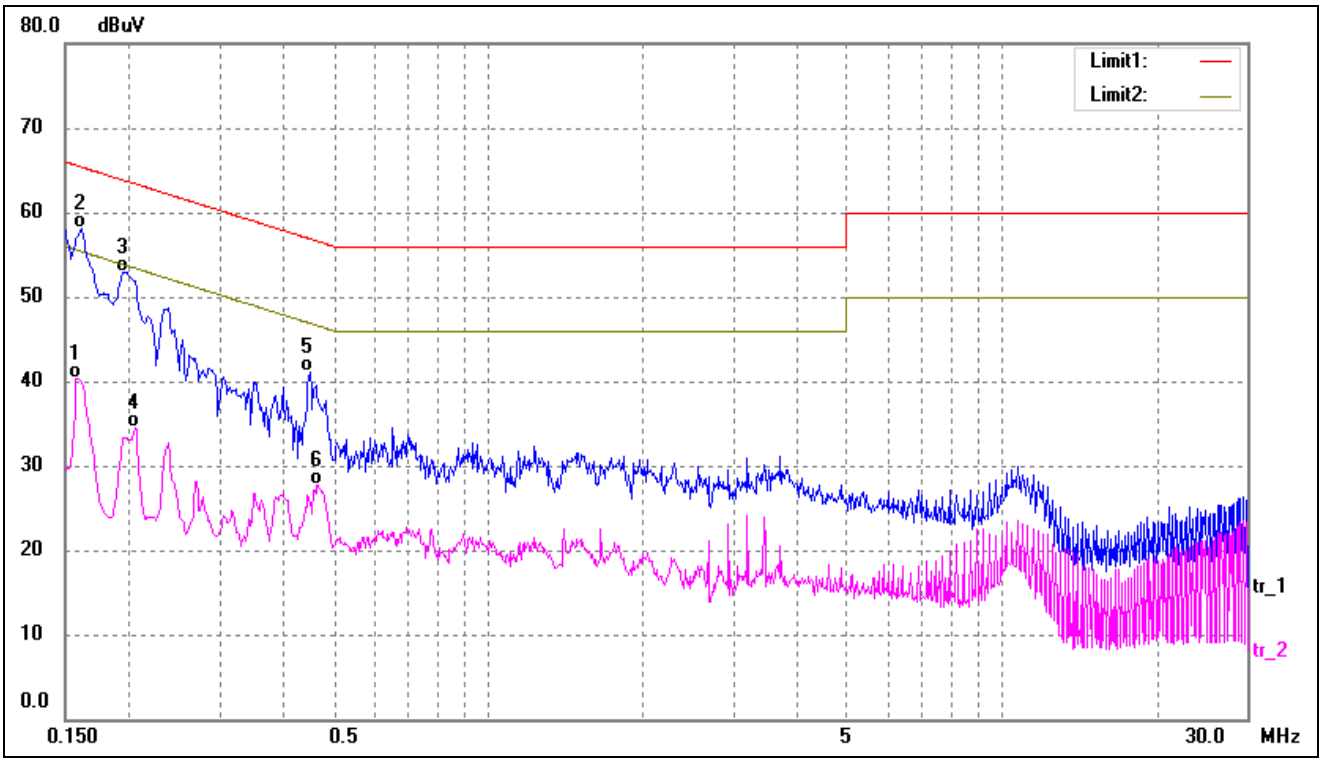
During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency ..... 150 kHz
Stop Frequency..... 30 MHz
Sweep Speed ..... Auto
IF Bandwidth..... 10 kHz
Quasi-Peak Adapter Bandwidth ..... 9 kHz
Quasi-Peak Adapter Mode ..... Normal

3.6 Summary of Test Results/Plots

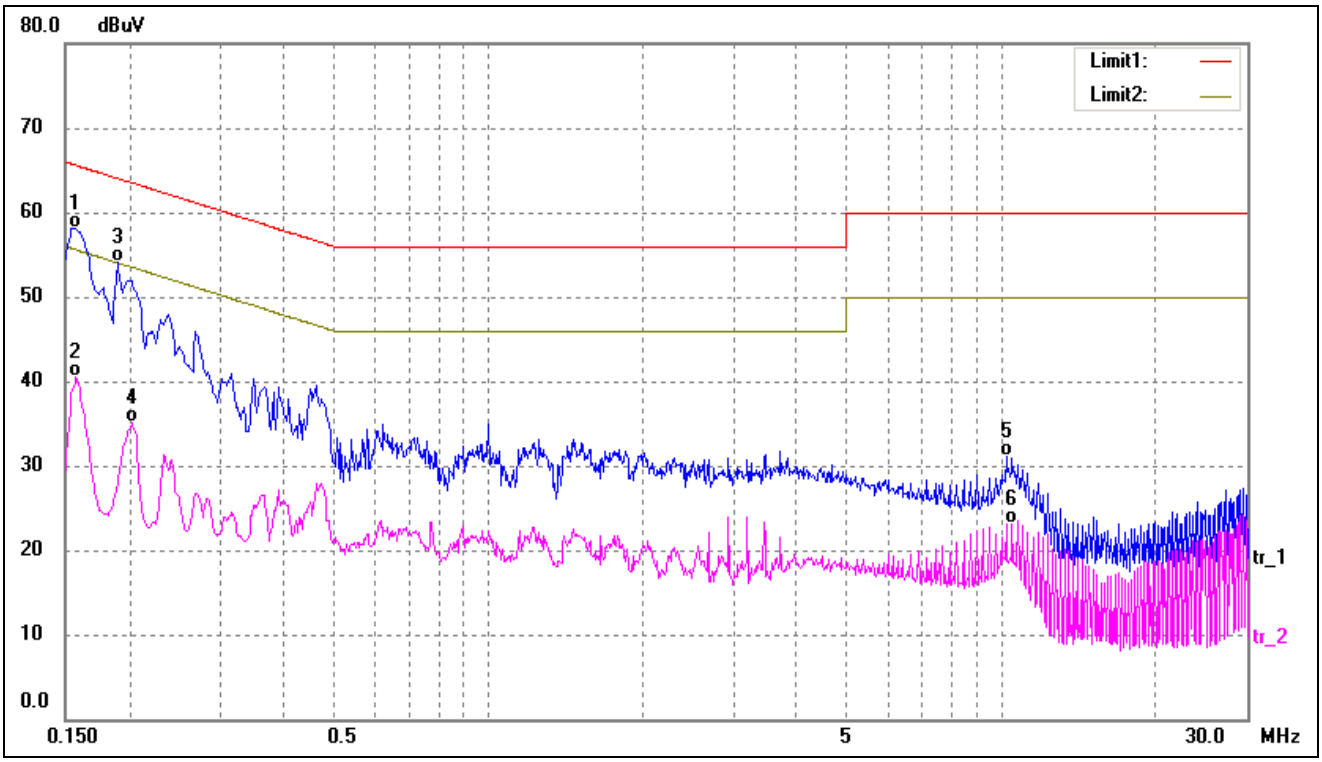
According to the data in this section, the EUT complied with the FCC Part 18C Conducted margin for Any non-ISM frequency device, with the *worst* margin reading of:

Test mode:	TM1	Polarity:	Line



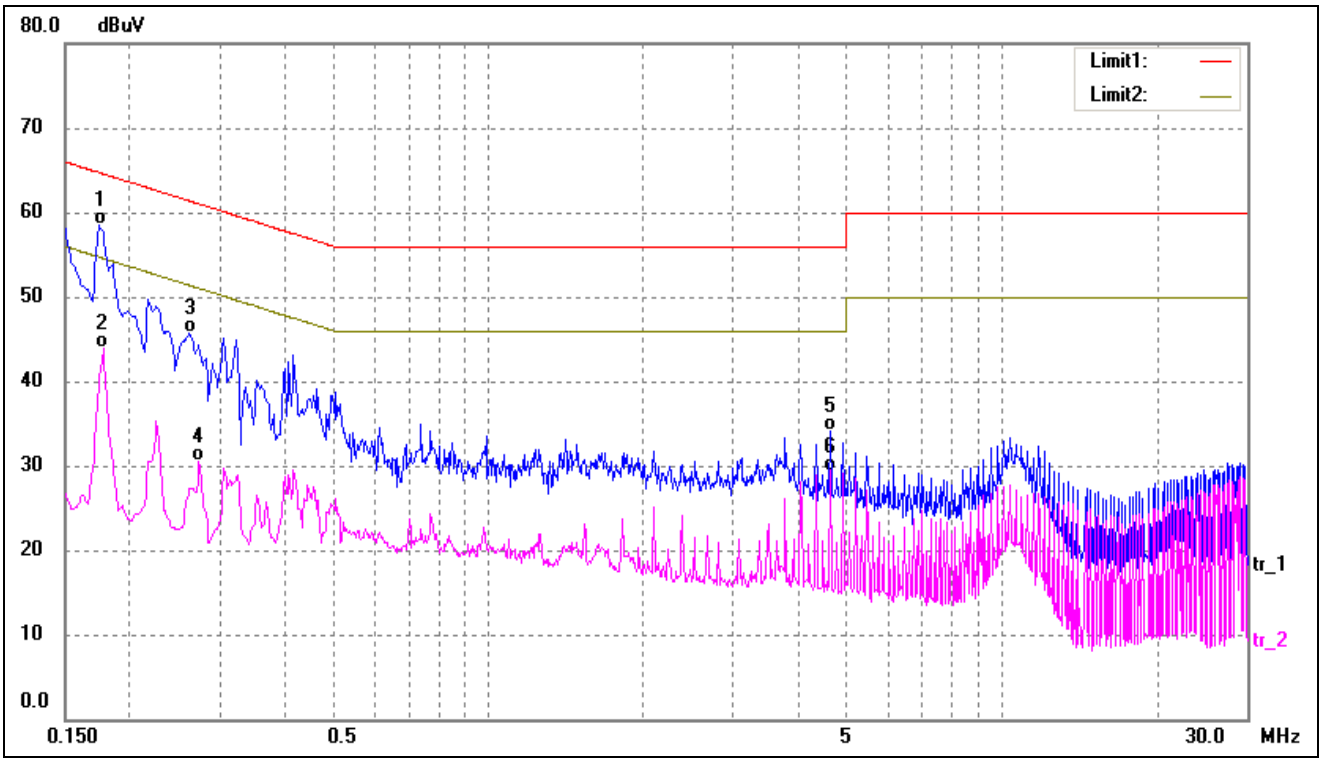
No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1580	30.08	10.25	40.33	55.57	-15.24	AVG
2*	0.1620	47.90	10.26	58.16	65.36	-7.20	QP
3	0.1940	42.63	10.27	52.90	63.86	-10.96	QP
4	0.2060	24.25	10.27	34.52	53.37	-18.85	AVG
5	0.4500	30.79	10.22	41.01	56.88	-15.87	QP
6	0.4660	17.57	10.23	27.80	46.58	-18.78	AVG

Test mode:	TM1	Polarity:	Neutral



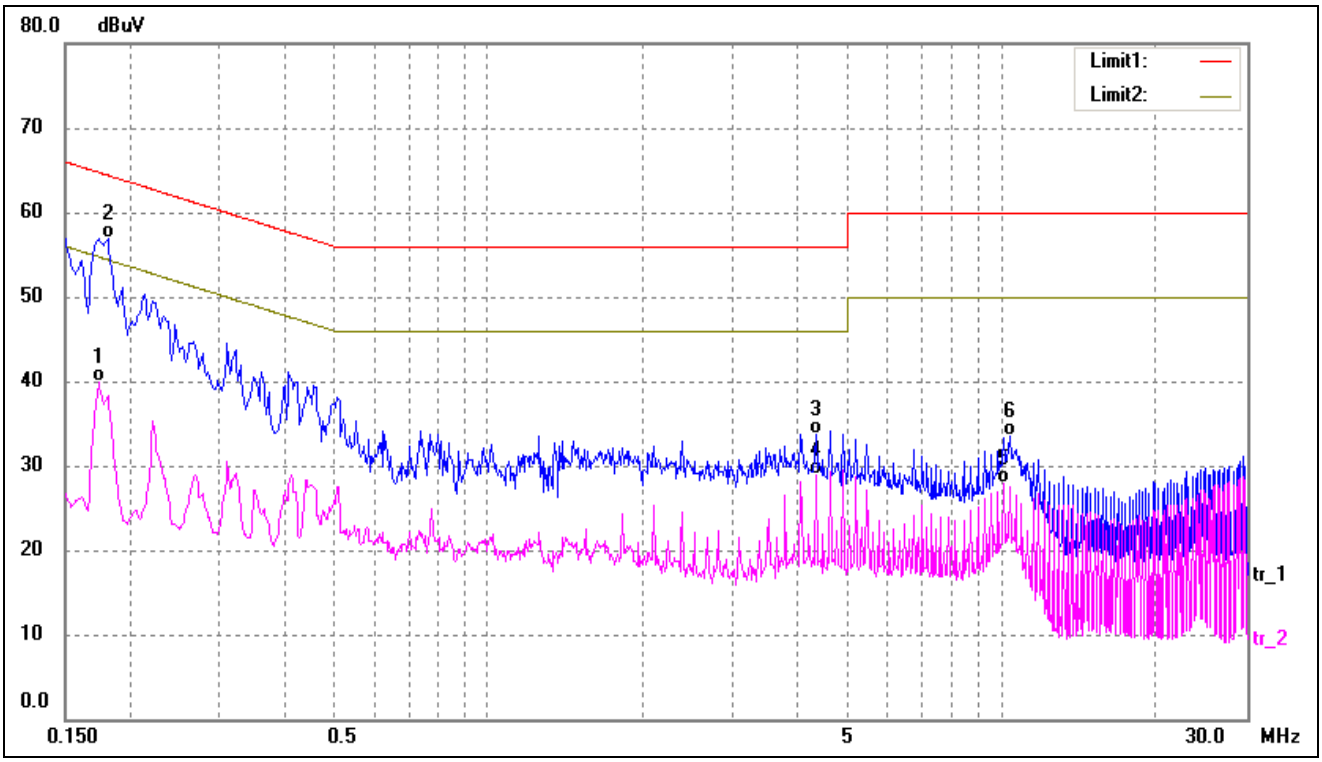
No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1580	47.90	10.25	58.15	65.57	-7.42	QP
2	0.1580	30.27	10.25	40.52	55.57	-15.05	AVG
3	0.1900	43.94	10.26	54.20	64.04	-9.84	QP
4	0.2020	24.76	10.27	35.03	53.53	-18.50	AVG
5	10.2260	20.89	10.29	31.18	60.00	-28.82	QP
6	10.4780	12.83	10.30	23.13	50.00	-26.87	AVG

Test mode:	TM2	Polarity:	Line



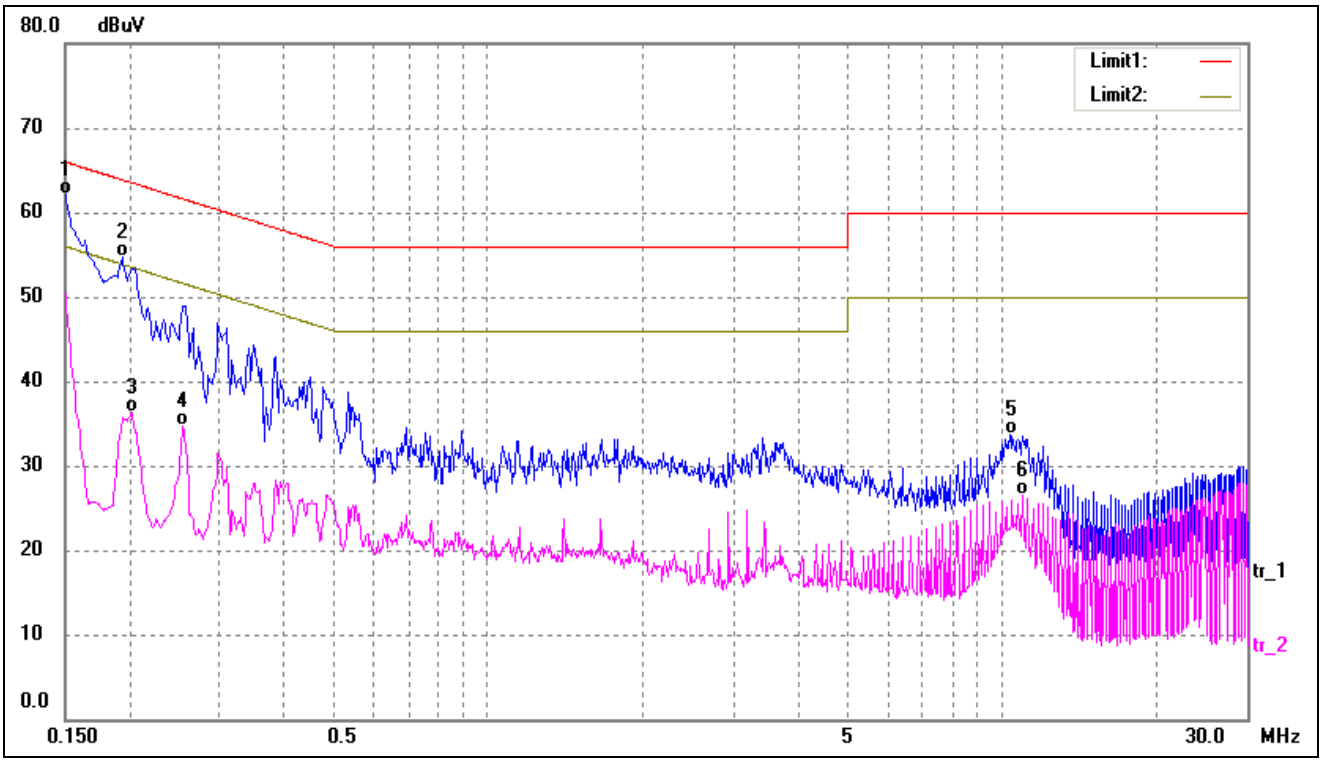
No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1740	48.34	10.25	58.59	64.77	-6.18	QP
2	0.1780	33.58	10.26	43.84	54.58	-10.74	AVG
3	0.2620	35.54	10.26	45.80	61.37	-15.57	QP
4	0.2740	20.28	10.25	30.53	51.00	-20.47	AVG
5	4.6300	23.96	10.23	34.19	56.00	-21.81	QP
6	4.6300	19.17	10.23	29.40	46.00	-16.60	AVG

Test mode:	TM2	Polarity:	Neutral



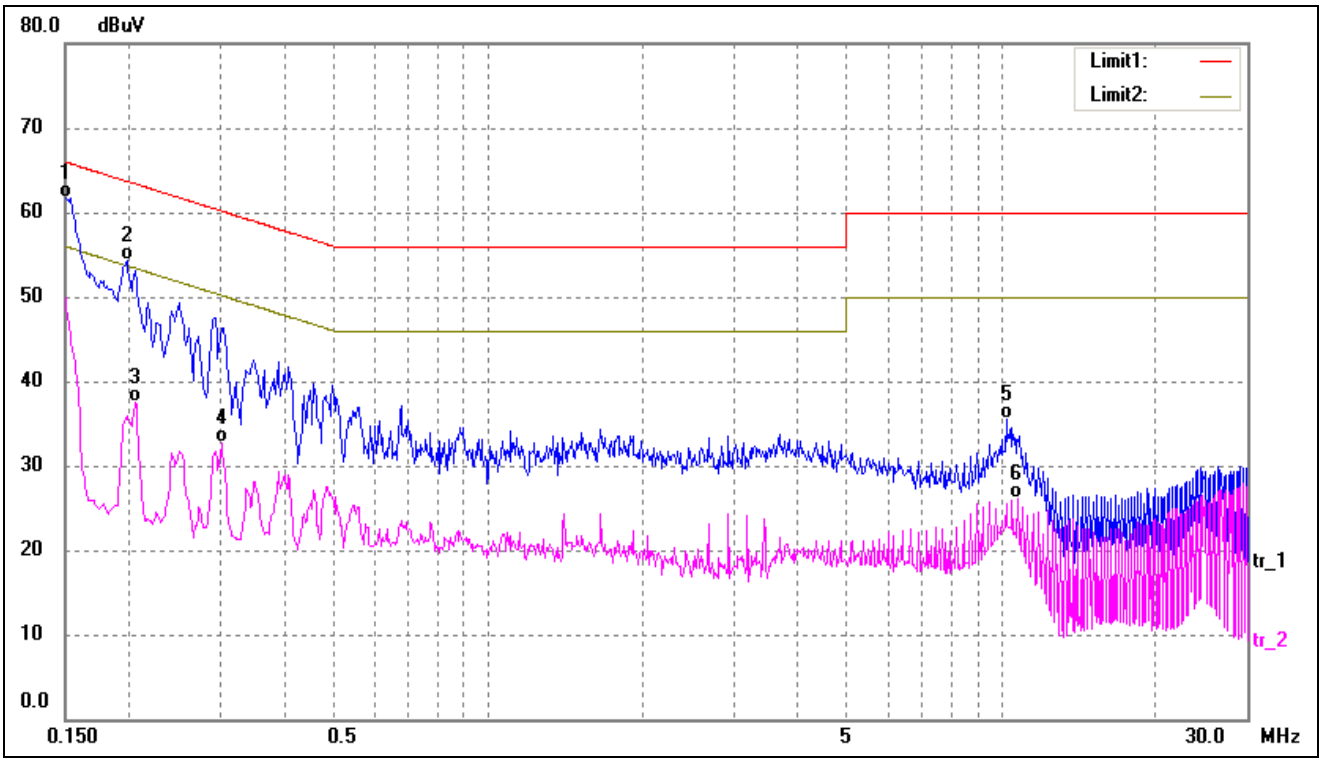
No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1740	29.57	10.25	39.82	54.77	-14.95	AVG
2*	0.1820	46.70	10.26	56.96	64.39	-7.43	QP
3	4.3500	23.54	10.23	33.77	56.00	-22.23	QP
4	4.3500	18.72	10.23	28.95	46.00	-17.05	AVG
5	10.1060	17.55	10.29	27.84	50.00	-22.16	AVG
6	10.3860	23.17	10.30	33.47	60.00	-26.53	QP

Test mode:	TM3	Polarity:	Line



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1500	51.81	10.25	62.06	66.00	-3.94	QP
2	0.1940	44.40	10.27	54.67	63.86	-9.19	QP
3	0.2020	25.96	10.27	36.23	53.53	-17.30	AVG
4	0.2540	24.40	10.26	34.66	51.63	-16.97	AVG
5	10.3500	23.37	10.30	33.67	60.00	-26.33	QP
6	10.9900	16.19	10.34	26.53	50.00	-23.47	AVG

Test mode:	TM3	Polarity:	Neutral



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1500	51.49	10.25	61.74	66.00	-4.26	QP
2	0.1980	43.98	10.27	54.25	63.69	-9.44	QP
3	0.2060	27.19	10.27	37.46	53.37	-15.91	AVG
4	0.3020	22.45	10.24	32.69	50.19	-17.50	AVG
5	10.2260	25.15	10.29	35.44	60.00	-24.56	QP
6	10.7340	15.68	10.33	26.01	50.00	-23.99	AVG

4. Radiated Emissions

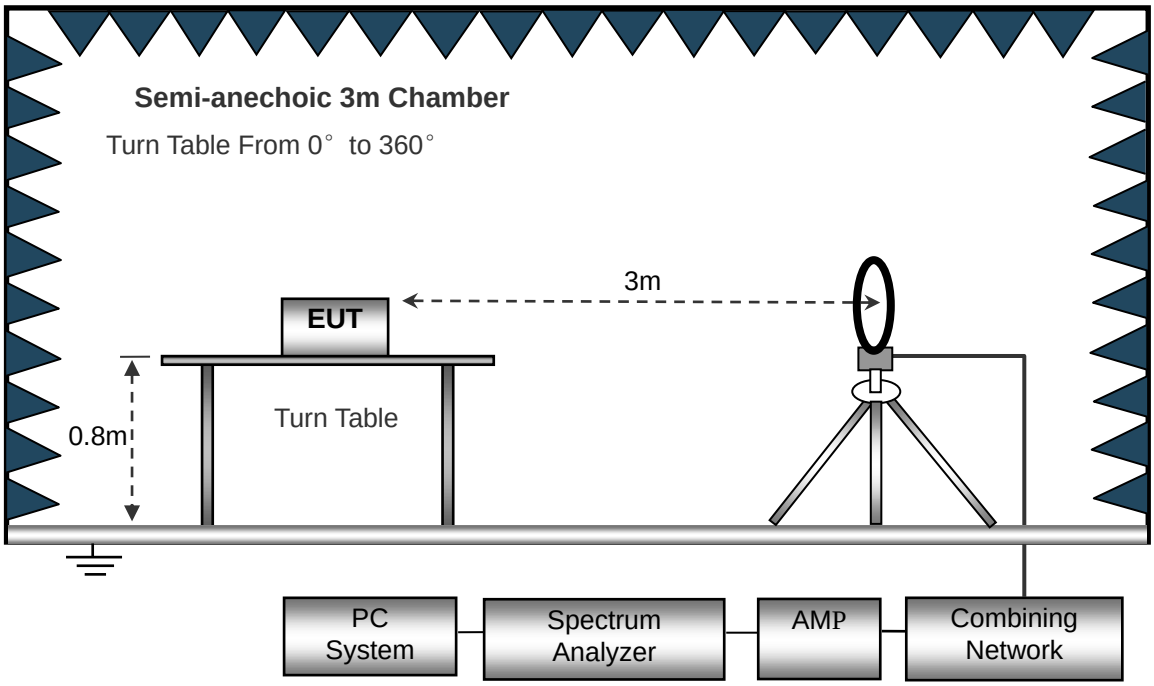
4.1 Test Procedure

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 18.305 Limit.

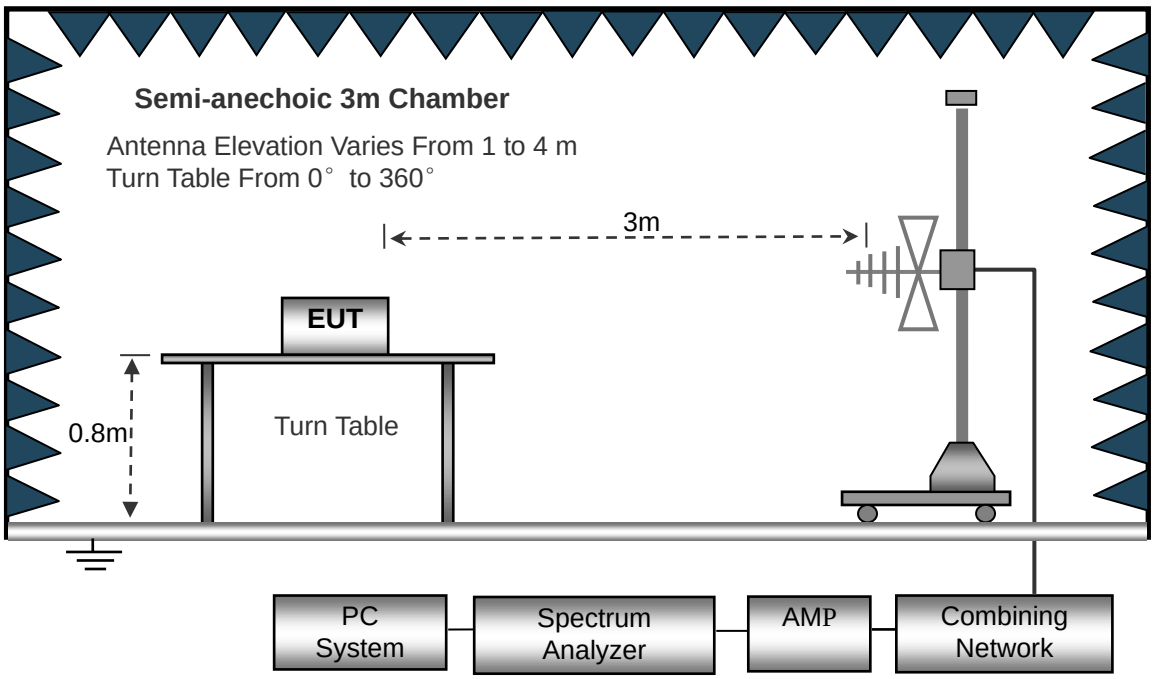
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

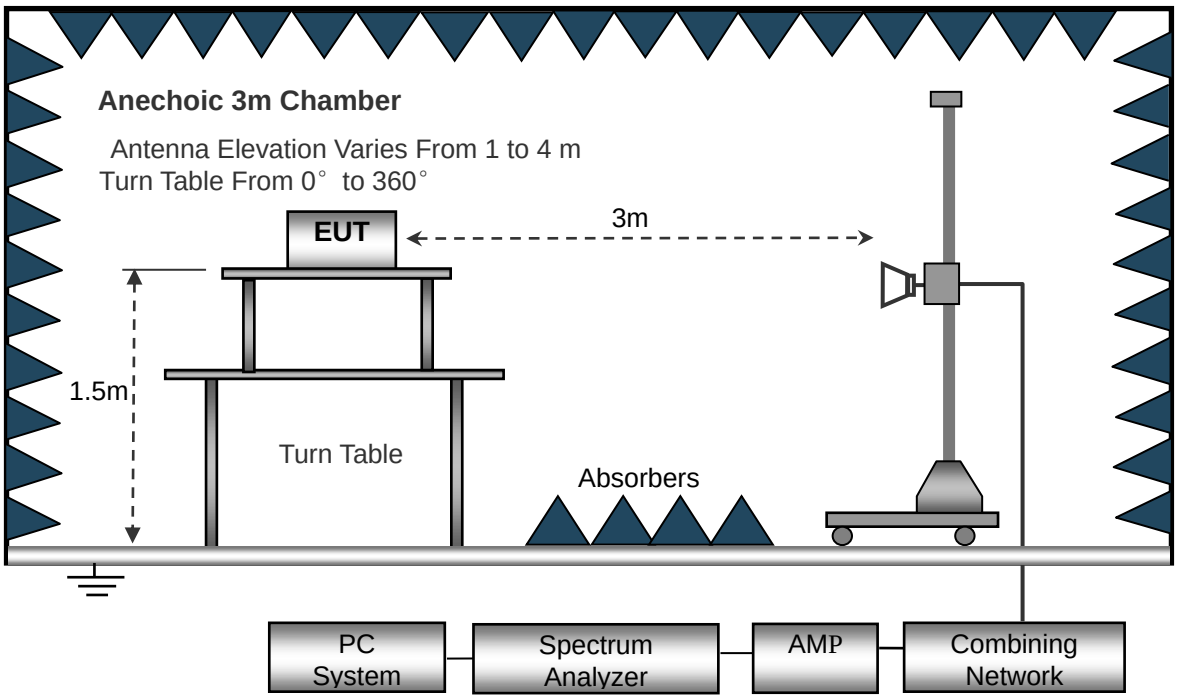
The test setup for emission measurement below 30MHz..



The test setup for emission measurement from 30 MHz to 1 GHz..



The test setup for emission measurement above 1 GHz..



4.2 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

4.3 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 – Corr. Factor

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 Any non-ISM frequency device. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 18.305 Limit

4.4 Environmental Conditions

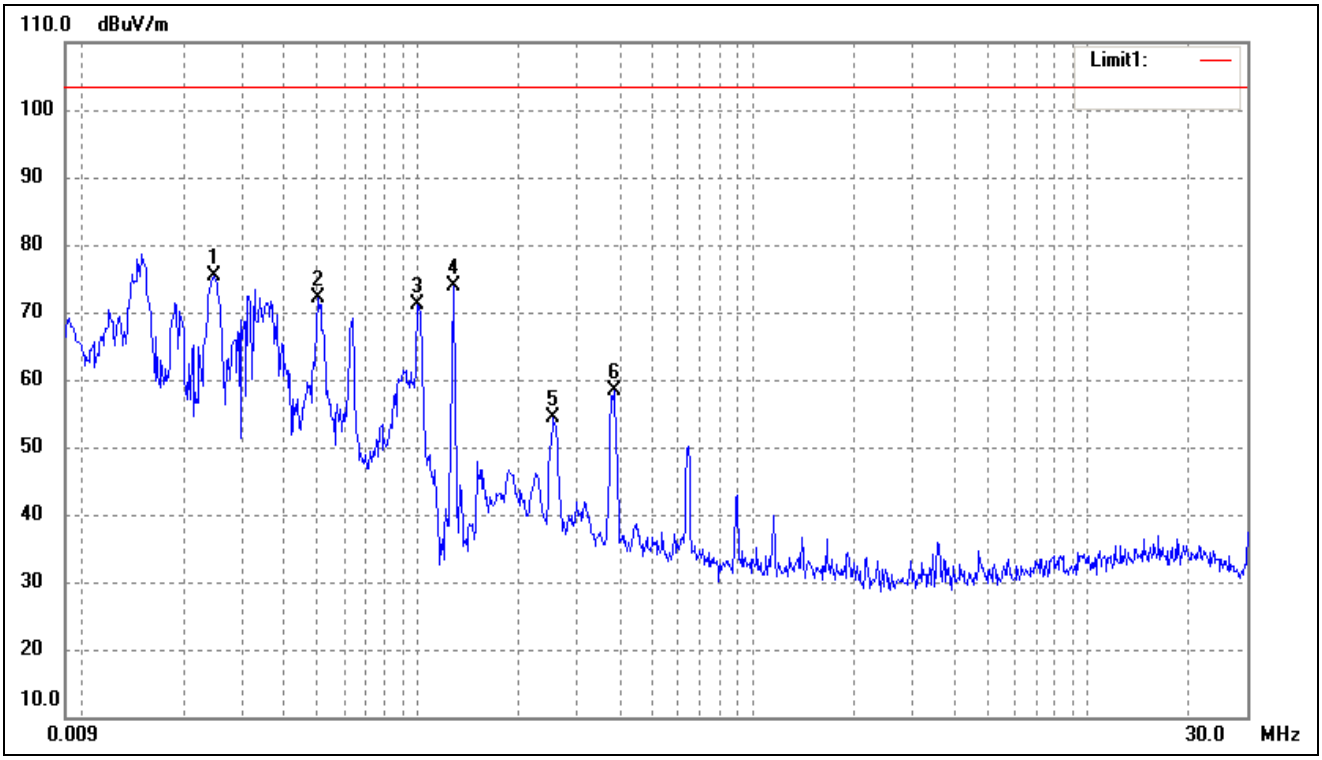
Temperature:	22 °C
Relative Humidity:	54 %
ATM Pressure:	1011 mbar

4.5 Summary of Test Results/Plots

According to the data, the EUT complied with the FCC Part 18.305 rule, and had the worst margin of:

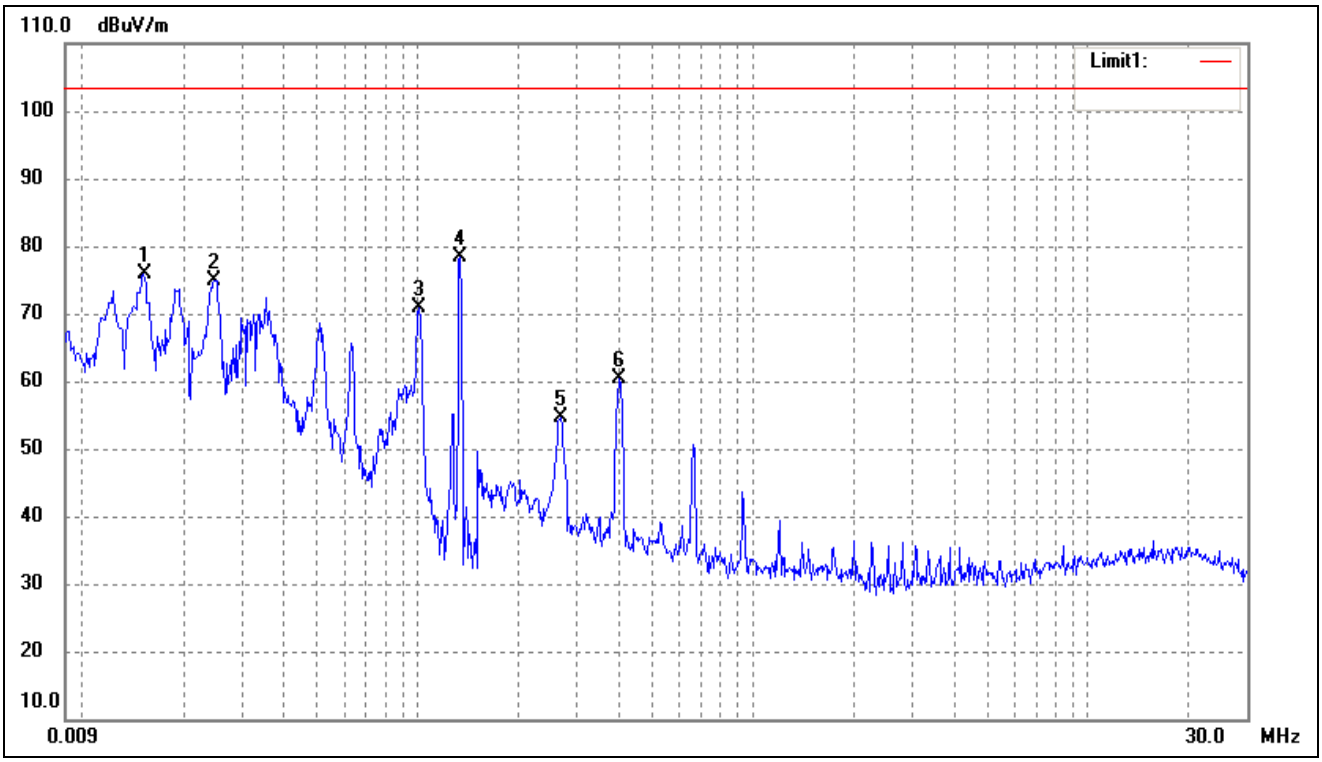
Plot of Radiated Emissions Test Data (Below 30MHz)

Test mode:	TM1	Polarity:	Horizontal



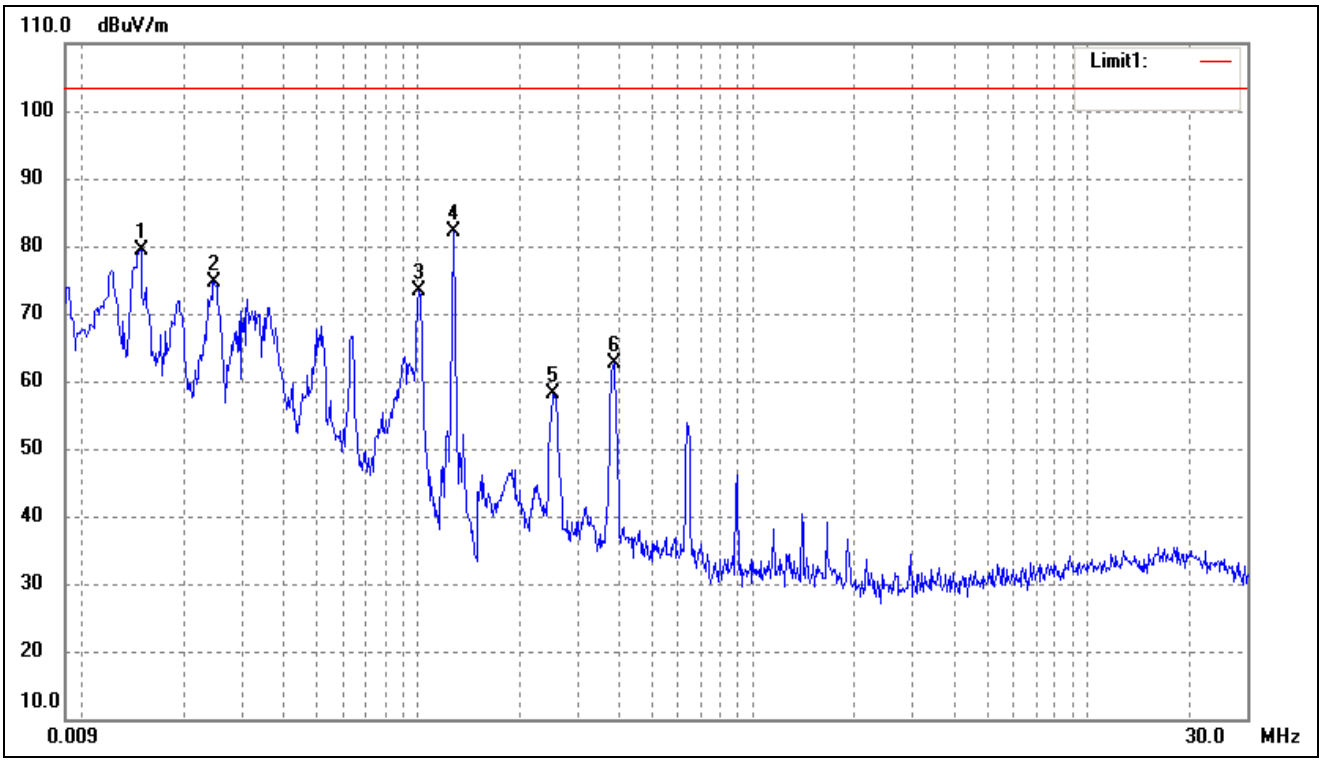
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	0.0249	81.83	-6.49	75.34	103.50	-28.16	-	-	peak
2	0.0504	76.80	-4.73	72.07	103.50	-31.43	-	-	peak
3	0.1000	76.18	-5.06	71.12	103.50	-32.38	-	-	peak
4	0.1278	79.01	-5.13	73.88	103.50	-29.62	-	-	peak
5	0.2535	61.80	-7.42	54.38	103.50	-49.12	-	-	peak
6	0.3832	66.13	-7.83	58.30	103.50	-45.20	-	-	peak

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	0.0153	82.38	-6.60	75.78	103.50	-27.72	-	-	peak
2	0.0249	81.46	-6.49	74.97	103.50	-28.53	-	-	peak
3	0.1006	75.87	-5.06	70.81	103.50	-32.69	-	-	peak
4	0.1333	83.52	-5.15	78.37	103.50	-25.13	-	-	peak
5	0.2672	62.30	-7.57	54.73	103.50	-48.77	-	-	peak
6	0.3976	68.25	-7.81	60.44	103.50	-43.06	-	-	peak

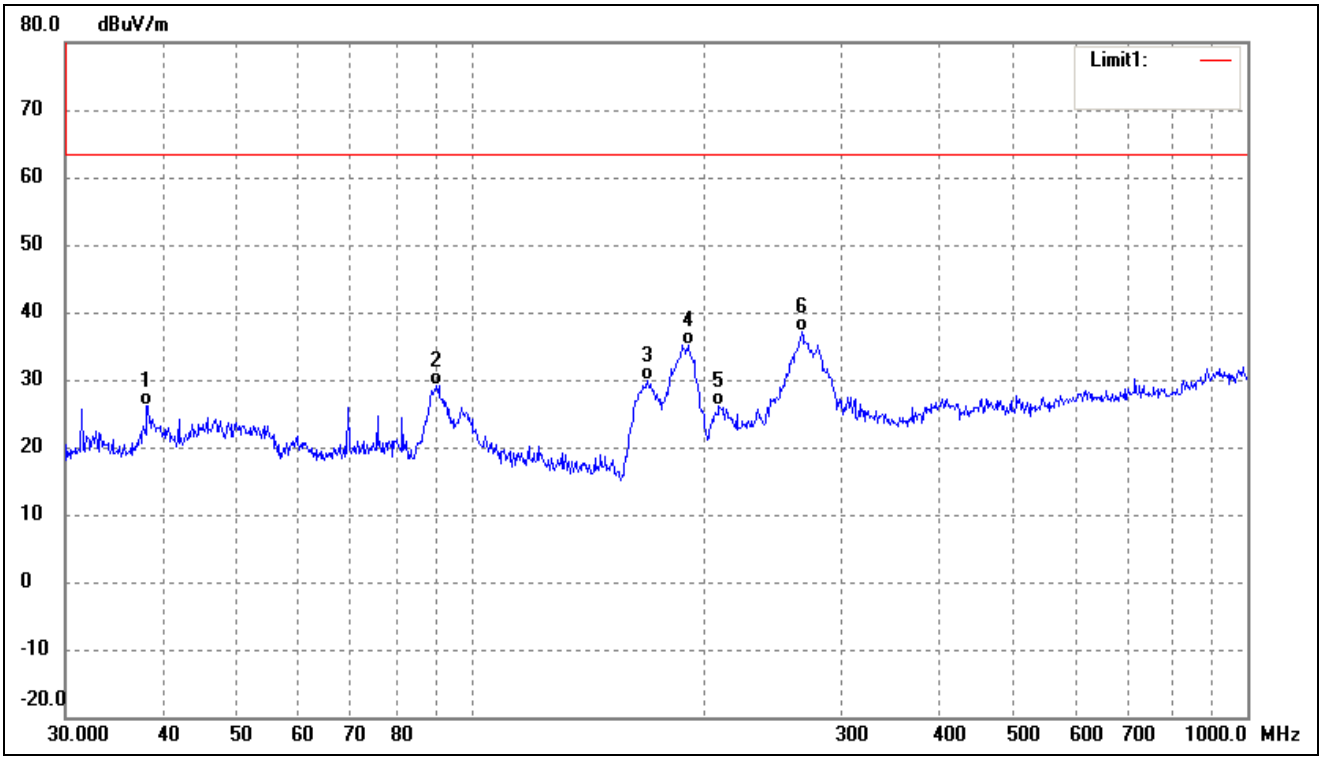
Test mode:	TM3	Polarity:	Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	0.0149	86.07	-6.58	79.49	103.50	-24.01	-	-	peak
2	0.0247	81.05	-6.50	74.55	103.50	-28.95	-	-	peak
3	0.1003	78.53	-5.06	73.47	103.50	-30.03	-	-	peak
4	0.1281	87.26	-5.14	82.12	103.50	-21.38	-	-	peak
5	0.2548	65.65	-7.42	58.23	103.50	-45.27	-	-	peak
6	0.3832	70.34	-7.83	62.51	103.50	-40.99	-	-	peak

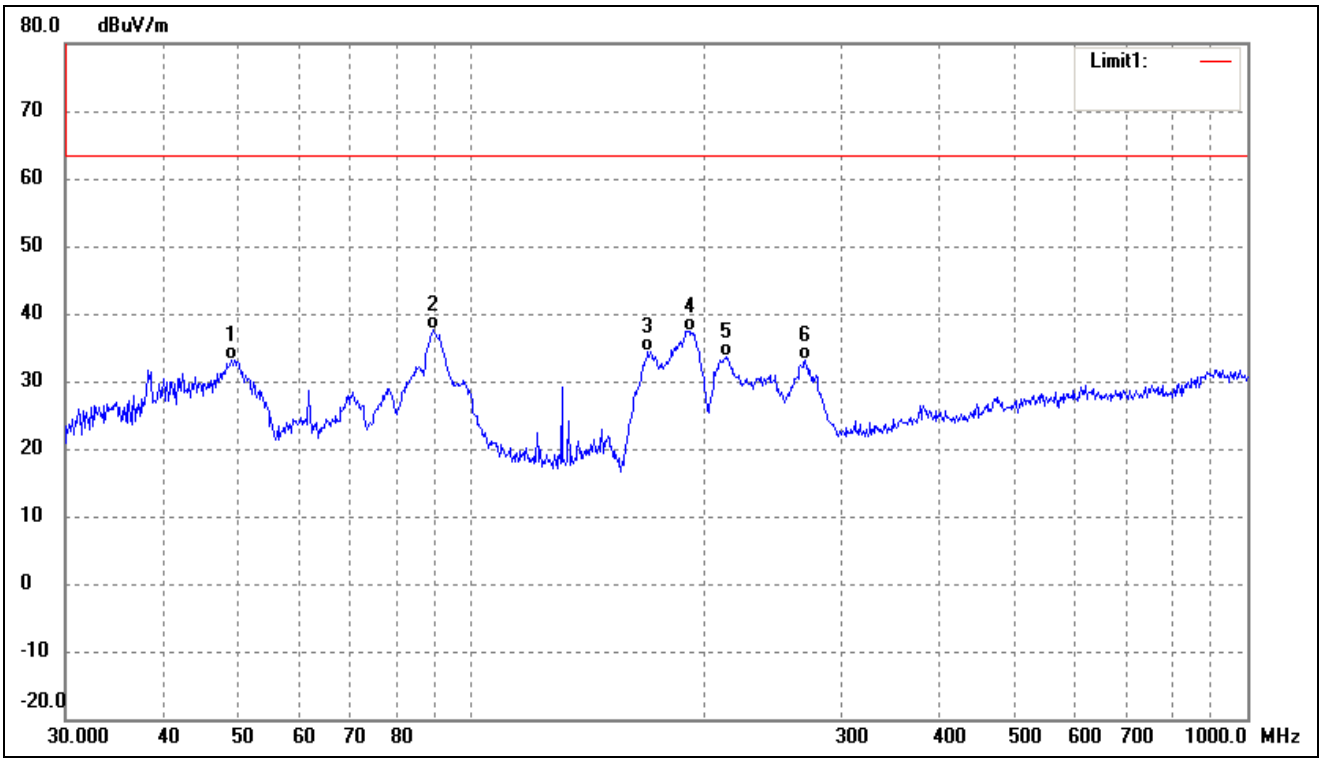
Plot of Radiated Emissions Test Data (Above 30MHz)

Test mode:	TM1	Polarity:	Horizontal



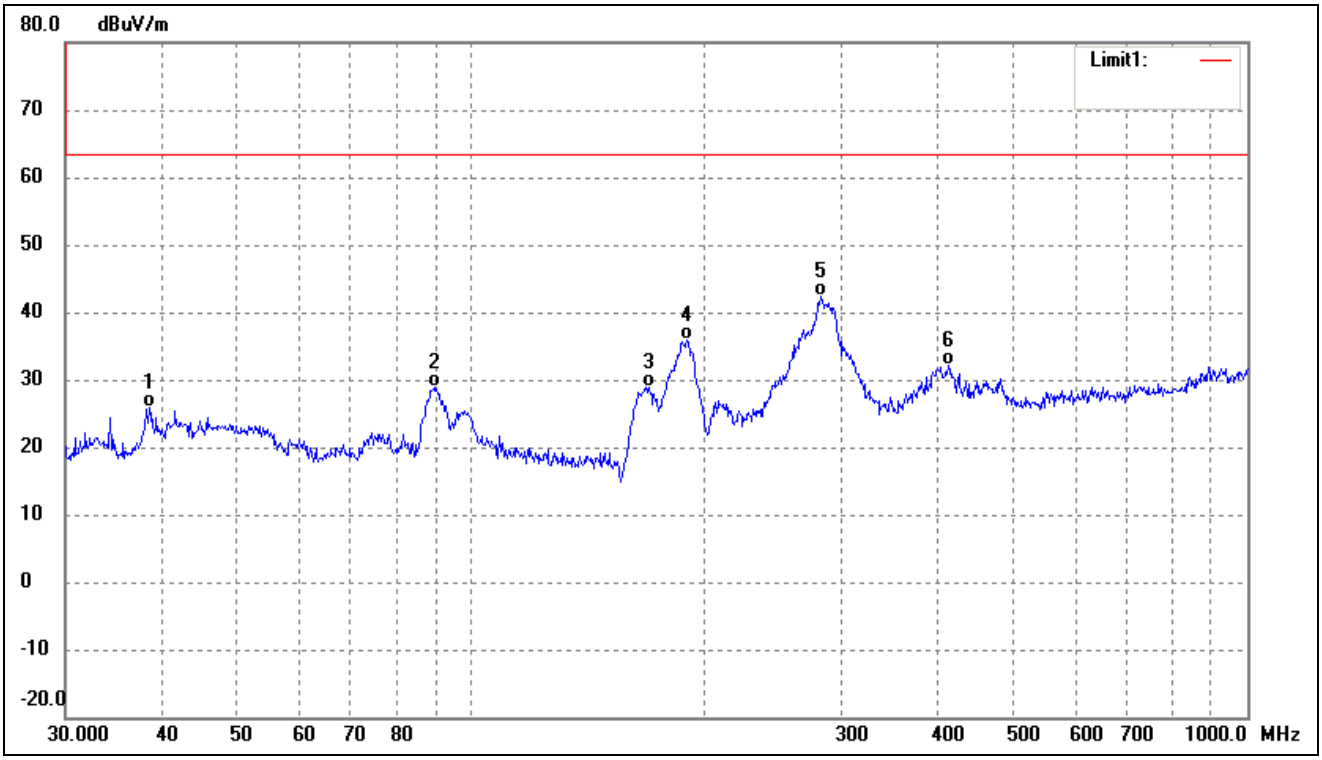
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	38.2120	38.82	-12.66	26.16	63.50	-37.34	-	-	QP
2	90.2205	43.94	-14.91	29.03	63.50	-34.47	-	-	QP
3	168.4138	44.89	-15.11	29.78	63.50	-33.72	-	-	QP
4	190.4050	48.33	-13.09	35.24	63.50	-28.26	-	-	QP
5	208.5803	38.42	-12.32	26.10	63.50	-37.40	-	-	QP
6	266.6089	47.98	-10.81	37.17	63.50	-26.33	-	-	QP

Test mode:	TM1	Polarity:	Vertical



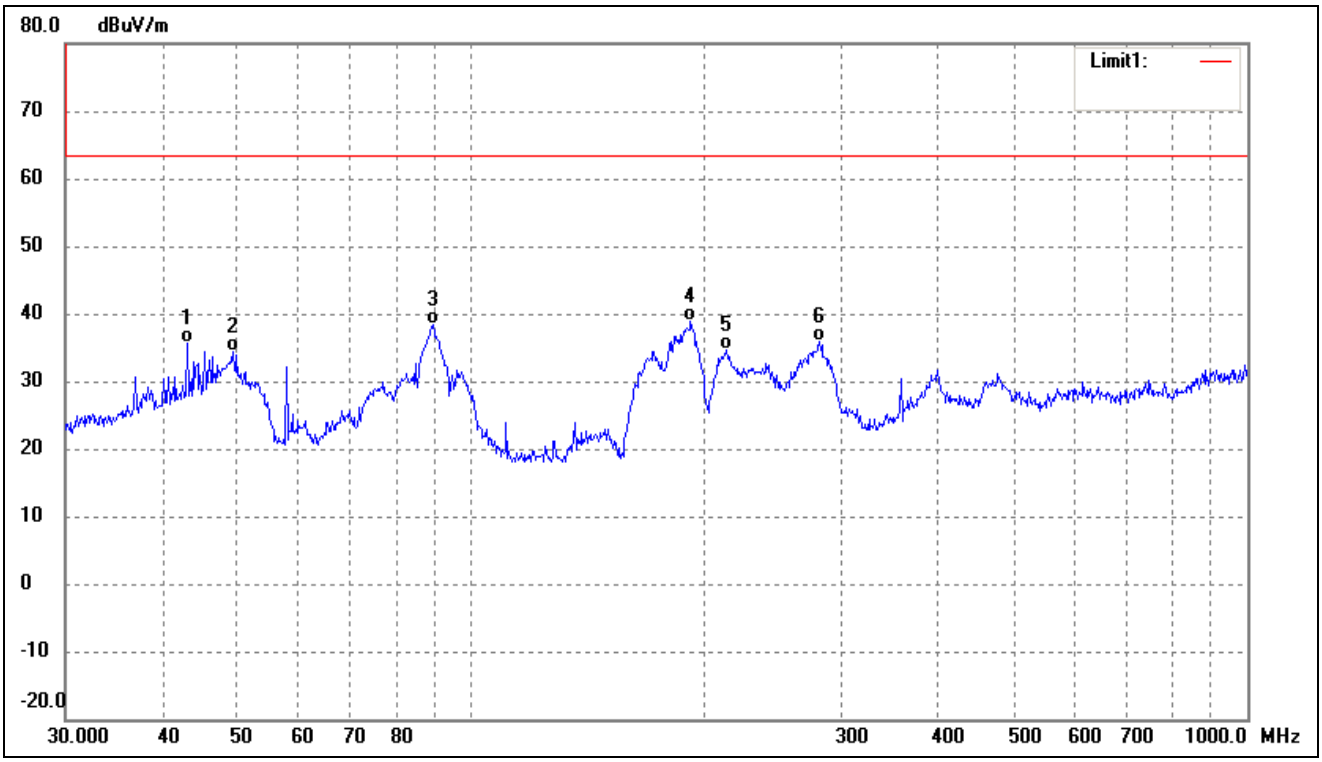
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	49.0145	44.72	-11.59	33.13	63.50	-30.37	-	-	QP
2	89.2764	52.65	-15.12	37.53	63.50	-25.97	-	-	QP
3	169.0054	49.44	-15.07	34.37	63.50	-29.13	-	-	QP
4	191.0738	50.48	-13.05	37.43	63.50	-26.07	-	-	QP
5	213.0151	45.98	-12.27	33.71	63.50	-29.79	-	-	QP
6	269.4284	43.93	-10.79	33.14	63.50	-30.36	-	-	QP

Test mode:	TM2	Polarity:	Horizontal



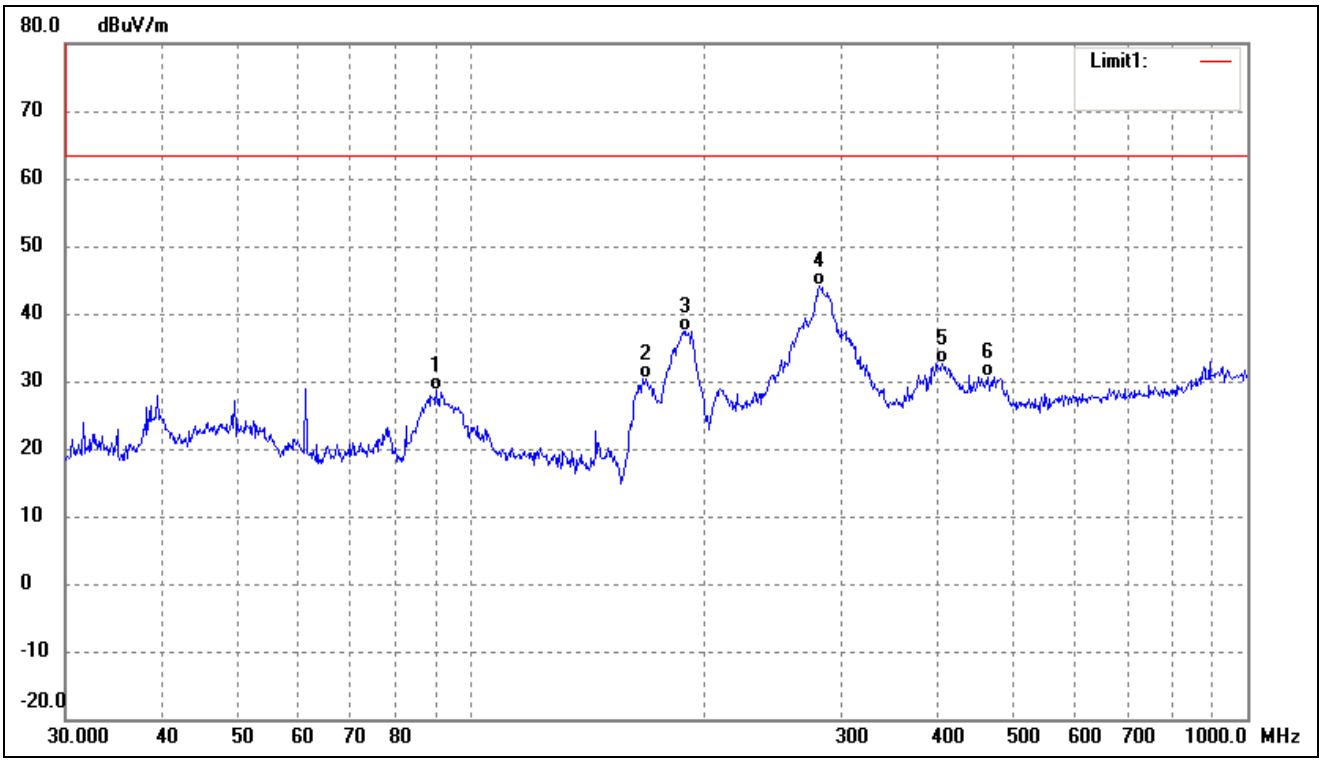
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	38.4809	38.54	-12.56	25.98	63.50	-37.52	-	-	QP
2	89.5900	44.02	-15.03	28.99	63.50	-34.51	-	-	QP
3	169.5990	43.92	-15.05	28.87	63.50	-34.63	-	-	QP
4	189.7385	49.03	-13.15	35.88	63.50	-27.62	-	-	QP
5	281.9946	52.57	-10.24	42.33	63.50	-21.17	-	-	QP
6	411.8240	38.21	-6.19	32.02	63.50	-31.48	-	-	QP

Test mode:	TM2	Polarity:	Vertical



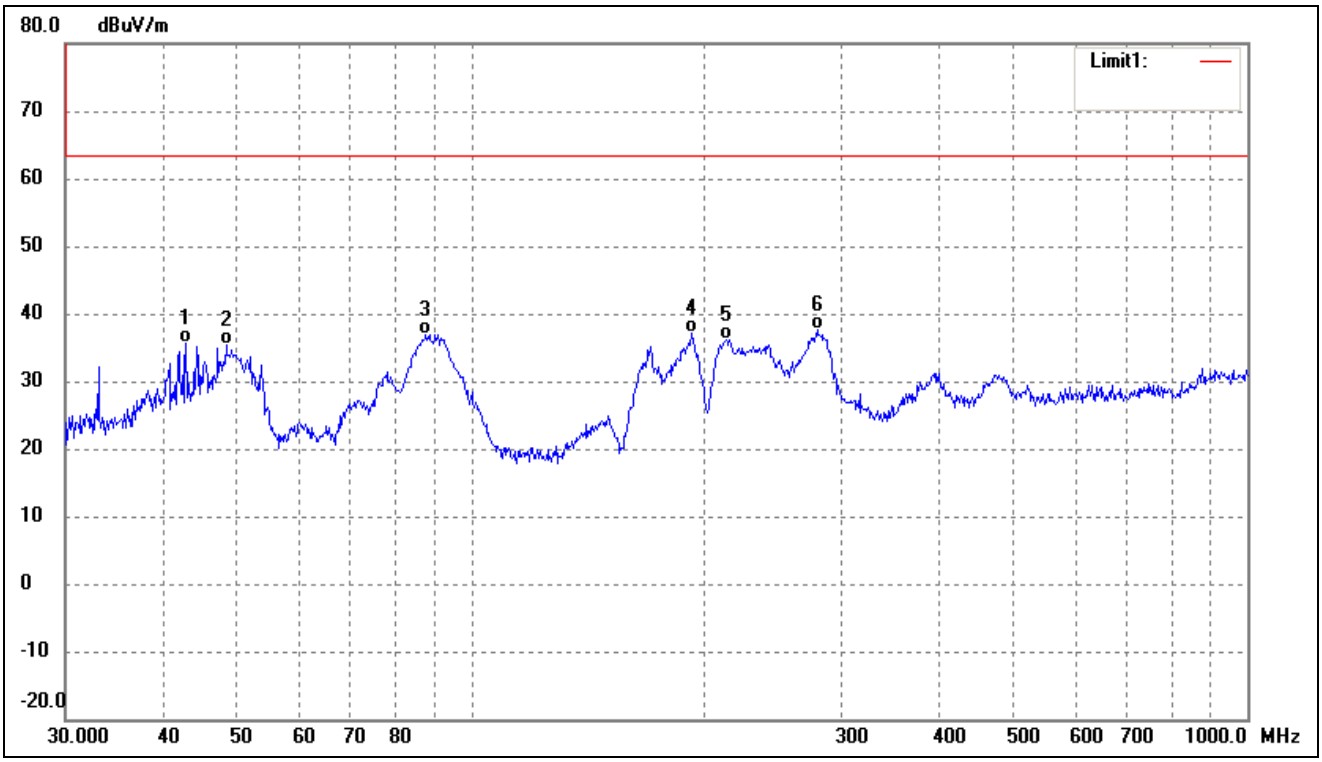
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	43.0505	47.48	-11.87	35.61	63.50	-27.89	-	-	QP
2	49.3594	45.85	-11.57	34.28	63.50	-29.22	-	-	QP
3	89.2764	53.61	-15.12	38.49	63.50	-25.01	-	-	QP
4	191.7450	51.91	-12.99	38.92	63.50	-24.58	-	-	QP
5	213.0151	46.85	-12.27	34.58	63.50	-28.92	-	-	QP
6	281.0075	46.11	-10.32	35.79	63.50	-27.71	-	-	QP

Test mode:	TM3	Polarity:	Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	90.2205	43.54	-14.91	28.63	63.50	-34.87	-	-	QP
2	167.8243	45.57	-15.14	30.43	63.50	-33.07	-	-	QP
3	189.0743	50.59	-13.22	37.37	63.50	-26.13	-	-	QP
4	281.0075	54.48	-10.32	44.16	63.50	-19.34	-	-	QP
5	404.6665	38.92	-6.36	32.56	63.50	-30.94	-	-	QP
6	462.3455	35.90	-5.22	30.68	63.50	-32.82	-	-	QP

Test mode:	TM3	Polarity:	Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	42.8998	47.38	-11.87	35.51	63.50	-27.99	-	-	QP
2	48.3318	47.06	-11.62	35.44	63.50	-28.06	-	-	QP
3	87.4177	52.47	-15.51	36.96	63.50	-26.54	-	-	QP
4	192.4186	50.10	-12.94	37.16	63.50	-26.34	-	-	QP
5	213.0151	48.41	-12.27	36.14	63.50	-27.36	-	-	QP
6	279.0436	48.21	-10.46	37.75	63.50	-25.75	-	-	QP

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

******* END OF REPORT *******