

TEST REPORT

Reference No...... : WTX22X03046854W-1
FCC ID : A4X18PNCWPC10
Applicant : CE LINK LIMITED
Address : 22 Dongkang Road, Dalingshan Town, Dongguan City, Guangdong
Province, China.
Manufacturer : SuiChuan CE LINK LIMITED
Address : SuiChuan county industrial park east zone, Ji'an city, Jiangxi province,
China.
Product Name : Magnetic Wireless Charger with Power Bank
Model No...... : PC1P18PNC-WPC10
Standards : FCC Part 18
Date of Receipt sample : 2022-03-17
Date of Test..... : 2022-03-17 to 2022-04-11
Date of Issue : 2022-04-11
Test Report Form No. : WTX_Part 18W
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:

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Report version

Version No.	Date of issue	Description
Rev.00	2022-04-11	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Factory name: CE LINK VIET NAM COMPANY LIMITED
 Factory address: Lot CNSG04&CNSG06 Van Trung Industrial Zone, Viet Yen district, Bac Giang Province, Vietnam

General Description of EUT	
Product Name:	Magnetic Wireless Charger with Power Bank
Trade Name:	CE-LINK
Model No.:	PC1P18PNC-WPC10
Adding Model(s):	/
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Frequency Range:	110~205kHz
Modulation Type:	FSK
Antenna Type:	Coil Antenna
Antenna Gain	0dBi
Rated Voltage:	Battery Capacity: 4000mAh(14.8Wh) Type C Input: 5V 3A, 9V 1.67A Type C output: 5V 3A, 9V 2A Wireless Charger: 5W/7.5W/10W Total Output: 18W Max
Rated Current:	Input : 3A/ 1.67A Output : 3A/ 2A
Rated Power:	Wireless Output : 5W, 7.5W, 10W

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 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 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	/	Output 5W
TM2	Wireless Charging	/	Output 10W

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
Adapter	GaN2 Pro	CCDAN65C2	/
Wireless Charging Load	YBZ	YBZ wireless charging tester	/

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
USB Cable	1.02	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	Rohde & Schwarz	FSP	836079/035	2021-03-30	2022-03-29
Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2022-03-22	2023-03-21
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2021-04-12	2022-04-11
Amplifier	Agilent	8447F	3113A06717	2022-01-07	2023-01-06
Amplifier	C&D	PAP-1G18	2002	2021-04-12	2022-04-11
Trilog Broadband Antenna	Schwarz beck	VULB9163	9163-333	2021-03-20	2023-03-19
Horn Antenna	ETS	3117	00086197	2021-03-19	2023-03-18
Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2023-03-19
Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2021-04-09	2023-04-08
Amplifier	Agilent	8447D	2944A10179	2021-04-12	2022-04-11
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2021-04-15	2022-04-14

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:

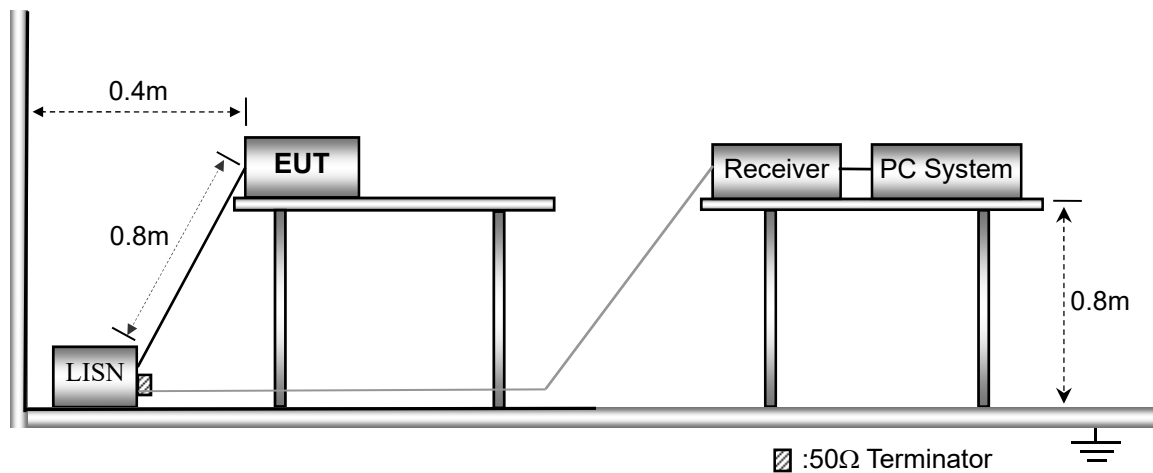
Frequency (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

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

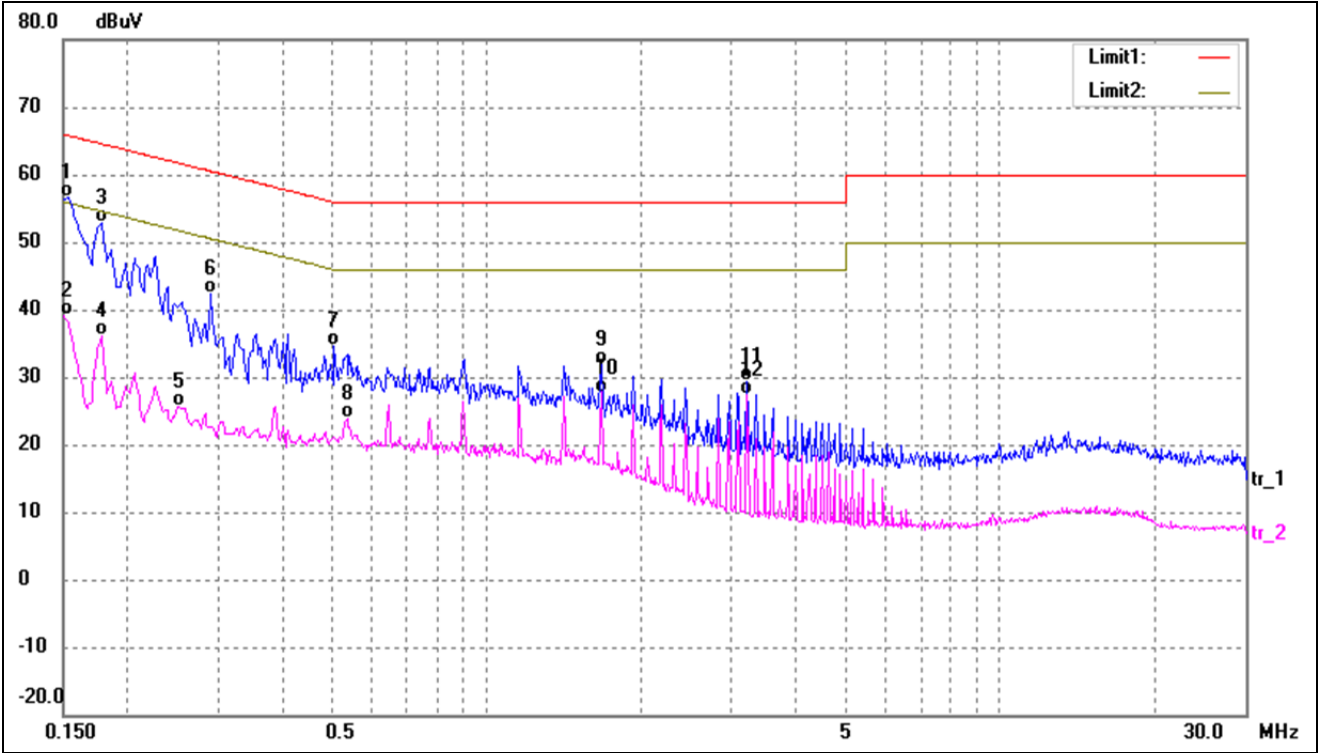
3.5 Test Receiver Setup

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

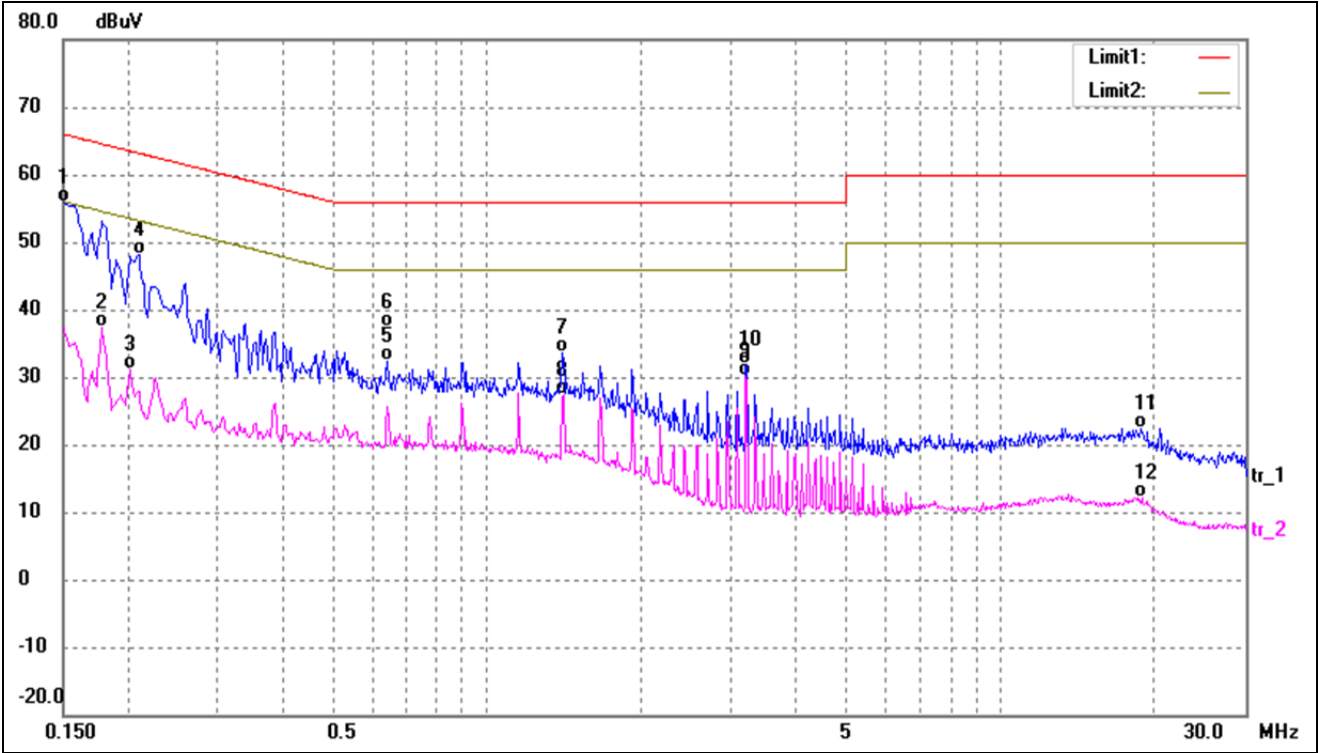
3.6 Summary of Test Results/Plots

Test mode:	TM1	Polarity:	Line
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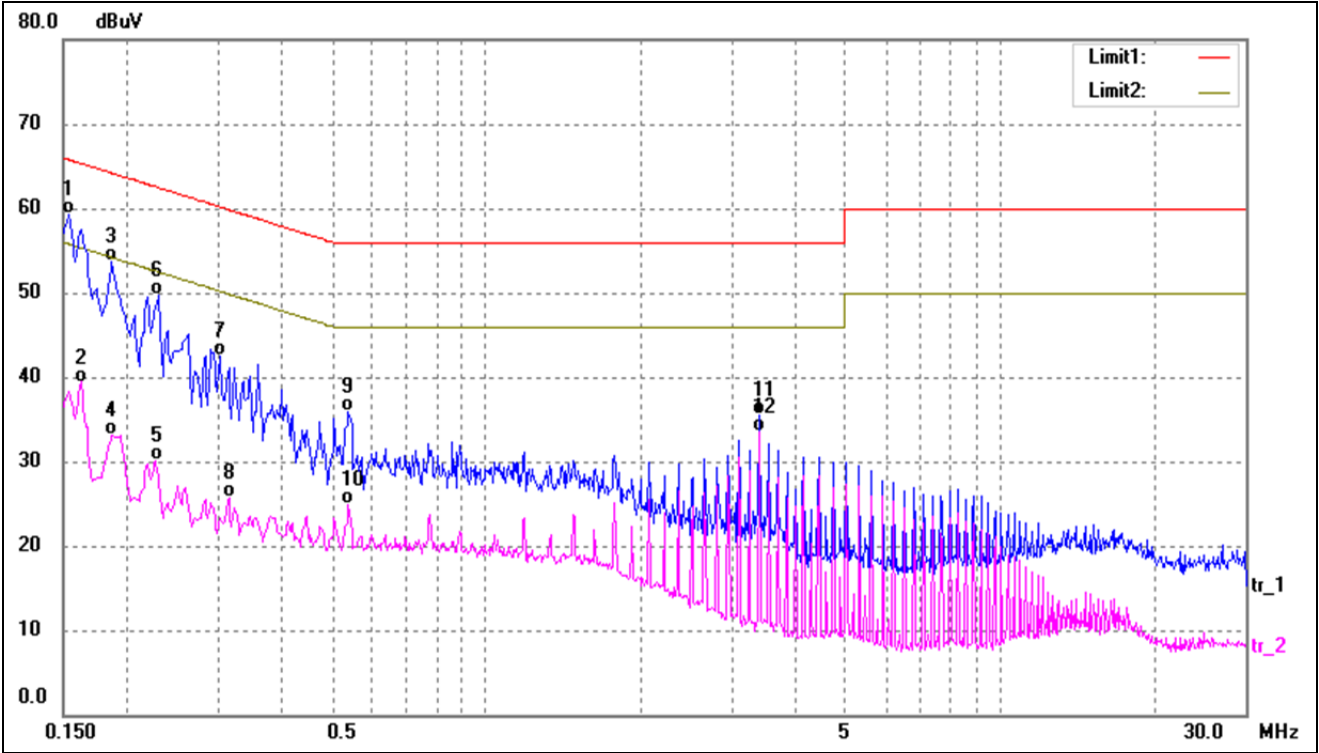
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1539	46.26	10.37	56.63	65.78	-9.15	QP
2	0.1539	28.84	10.37	39.21	55.78	-16.57	AVG
3	0.1780	42.50	10.37	52.87	64.57	-11.70	QP
4	0.1780	25.86	10.37	36.23	54.57	-18.34	AVG
5	0.2500	15.31	10.35	25.66	51.75	-26.09	AVG
6	0.2900	31.92	10.34	42.26	60.52	-18.26	QP
7	0.5060	24.34	10.26	34.60	56.00	-21.40	QP
8	0.5340	13.67	10.28	23.95	46.00	-22.05	AVG
9	1.6740	21.65	10.27	31.92	56.00	-24.08	QP
10	1.6740	17.48	10.27	27.75	46.00	-18.25	AVG
11	3.2220	19.42	10.08	29.50	56.00	-26.50	QP
12	3.2220	17.27	10.08	27.35	46.00	-18.65	AVG

Test mode:	TM1	Polarity:	Neutral
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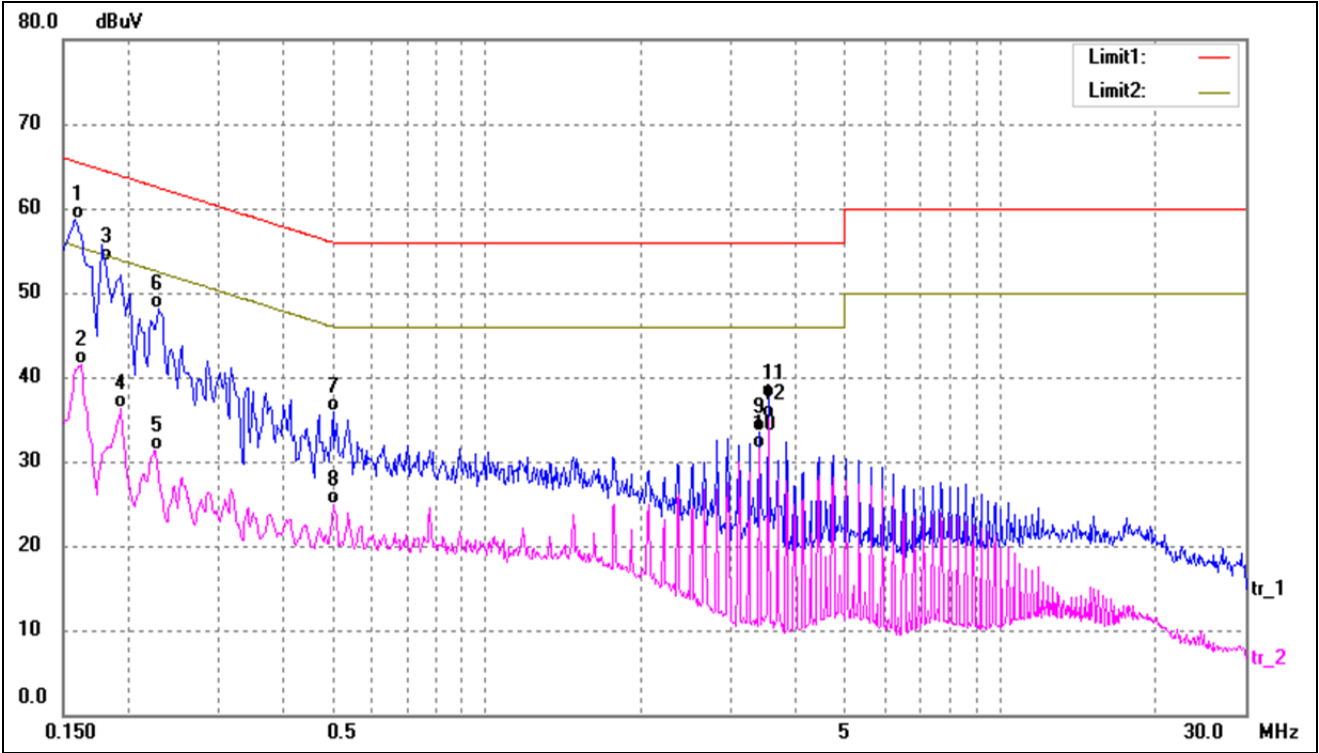
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1500	45.57	10.38	55.95	65.99	-10.04	QP
2	0.1780	26.93	10.37	37.30	54.57	-17.27	AVG
3	0.2020	20.70	10.37	31.07	53.52	-22.45	AVG
4	0.2100	37.82	10.37	48.19	63.20	-15.01	QP
5	0.6419	22.13	10.34	32.47	56.00	-23.53	QP
6*	0.6419	27.00	10.34	37.34	46.00	-8.66	AVG
7	1.4100	23.36	10.39	33.75	56.00	-22.25	QP
8	1.4140	17.10	10.38	27.48	46.00	-18.52	AVG
9	3.2060	20.07	10.08	30.15	46.00	-15.85	AVG
10	3.2139	21.72	10.08	31.80	56.00	-24.20	QP
11	18.7939	12.22	10.23	22.45	60.00	-37.55	QP
12	18.9180	1.91	10.23	12.14	50.00	-37.86	AVG

Test mode:	TM2	Polarity:	Line
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No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1*	0.1539	49.00	10.37	59.37	65.78	-6.41	QP
2	0.1620	29.03	10.37	39.40	55.36	-15.96	AVG
3	0.1860	43.29	10.37	53.66	64.21	-10.55	QP
4	0.1860	22.77	10.37	33.14	54.21	-21.07	AVG
5	0.2260	19.70	10.36	30.06	52.59	-22.53	AVG
6	0.2300	39.26	10.36	49.62	62.45	-12.83	QP
7	0.3020	32.24	10.34	42.58	60.19	-17.61	QP
8	0.3140	15.42	10.33	25.75	49.86	-24.11	AVG
9	0.5380	25.55	10.28	35.83	56.00	-20.17	QP
10	0.5380	14.61	10.28	24.89	46.00	-21.11	AVG
11	3.3980	25.35	10.07	35.42	56.00	-20.58	QP
12	3.4020	23.45	10.07	33.52	46.00	-12.48	AVG

Test mode:	TM2	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1580	48.34	10.37	58.71	65.56	-6.85	QP
2	0.1620	31.07	10.37	41.44	55.36	-13.92	AVG
3	0.1806	43.31	10.37	53.68	64.45	-10.77	QP
4	0.1940	25.97	10.37	36.34	53.86	-17.52	AVG
5	0.2260	20.95	10.36	31.31	52.59	-21.28	AVG
6	0.2300	37.79	10.36	48.15	62.45	-14.30	QP
7	0.5020	25.61	10.26	35.87	56.00	-20.13	QP
8	0.5020	14.58	10.26	24.84	46.00	-21.16	AVG
9	3.3900	23.47	10.07	33.54	56.00	-22.46	QP
10	3.3900	21.52	10.07	31.59	46.00	-14.41	AVG
11	3.5380	27.42	10.06	37.48	56.00	-18.52	QP
12	3.5380	25.08	10.06	35.14	46.00	-10.86	AVG

4. Radiated Emissions

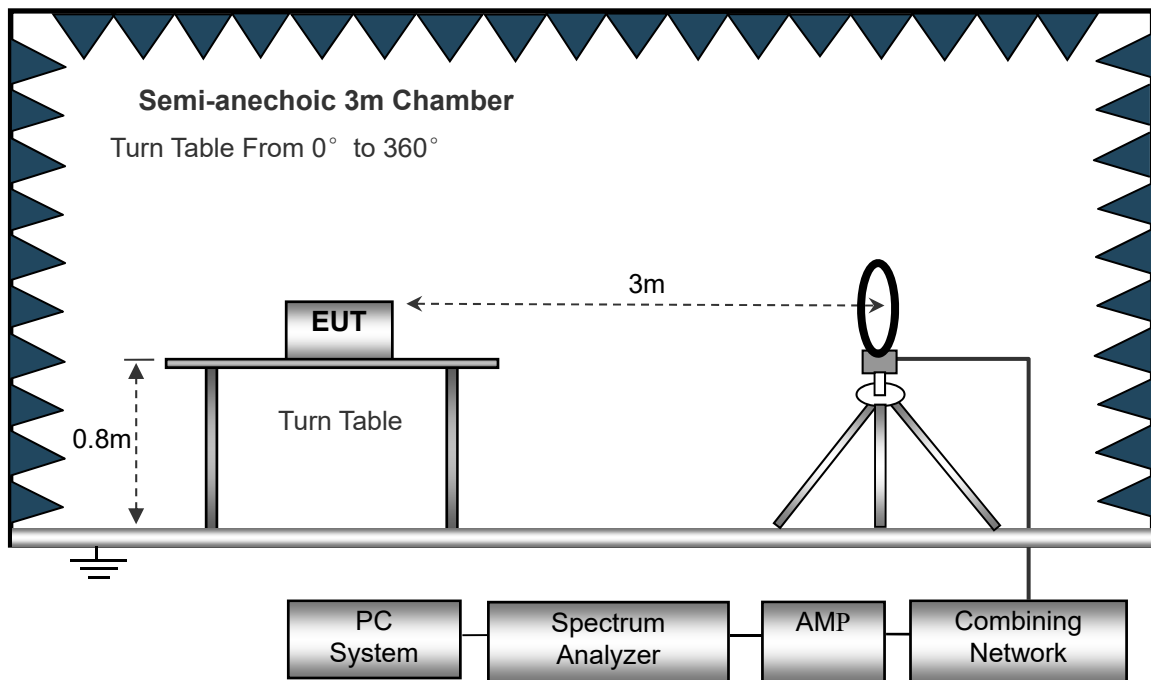
4.1 Test Procedure

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.

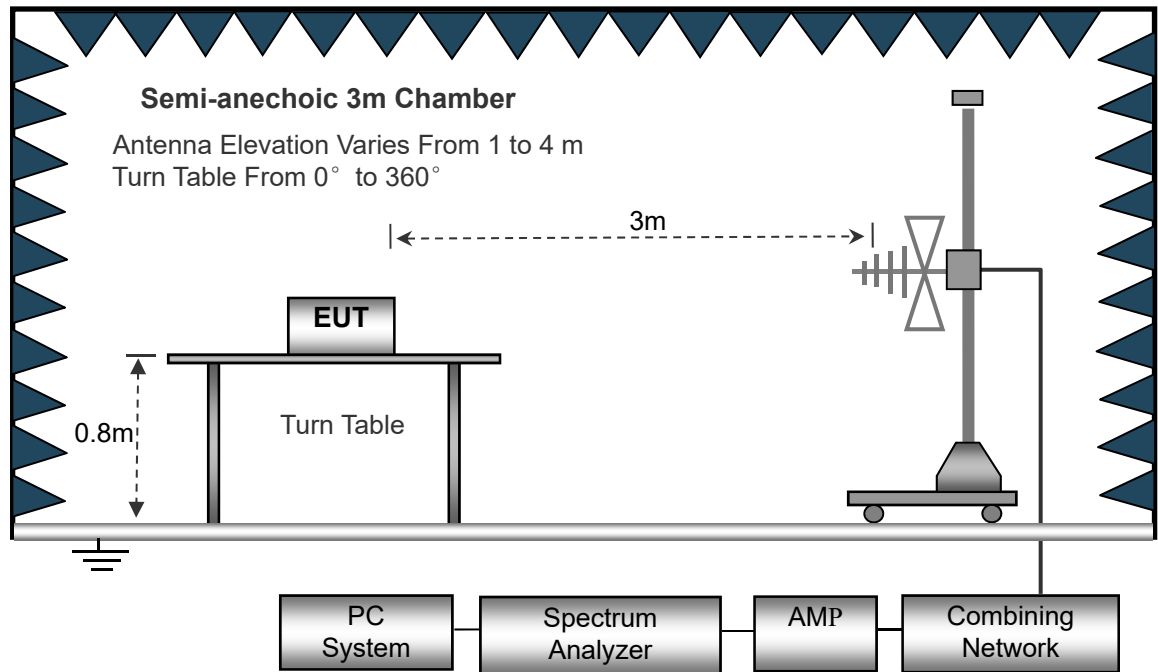
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

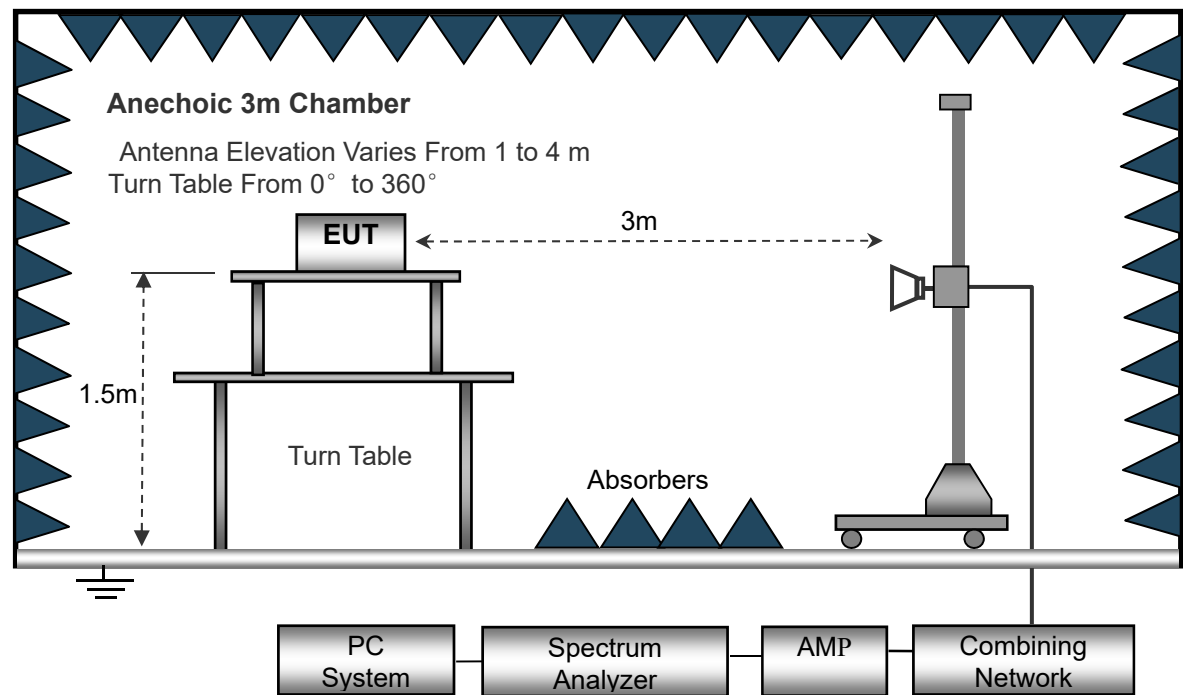
The test setup for emission measurement below 30MHz..



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

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

4.3 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:

$$\text{Corr. Ampl.} = \text{Indicated Reading} - \text{Corr. Factor}$$

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:

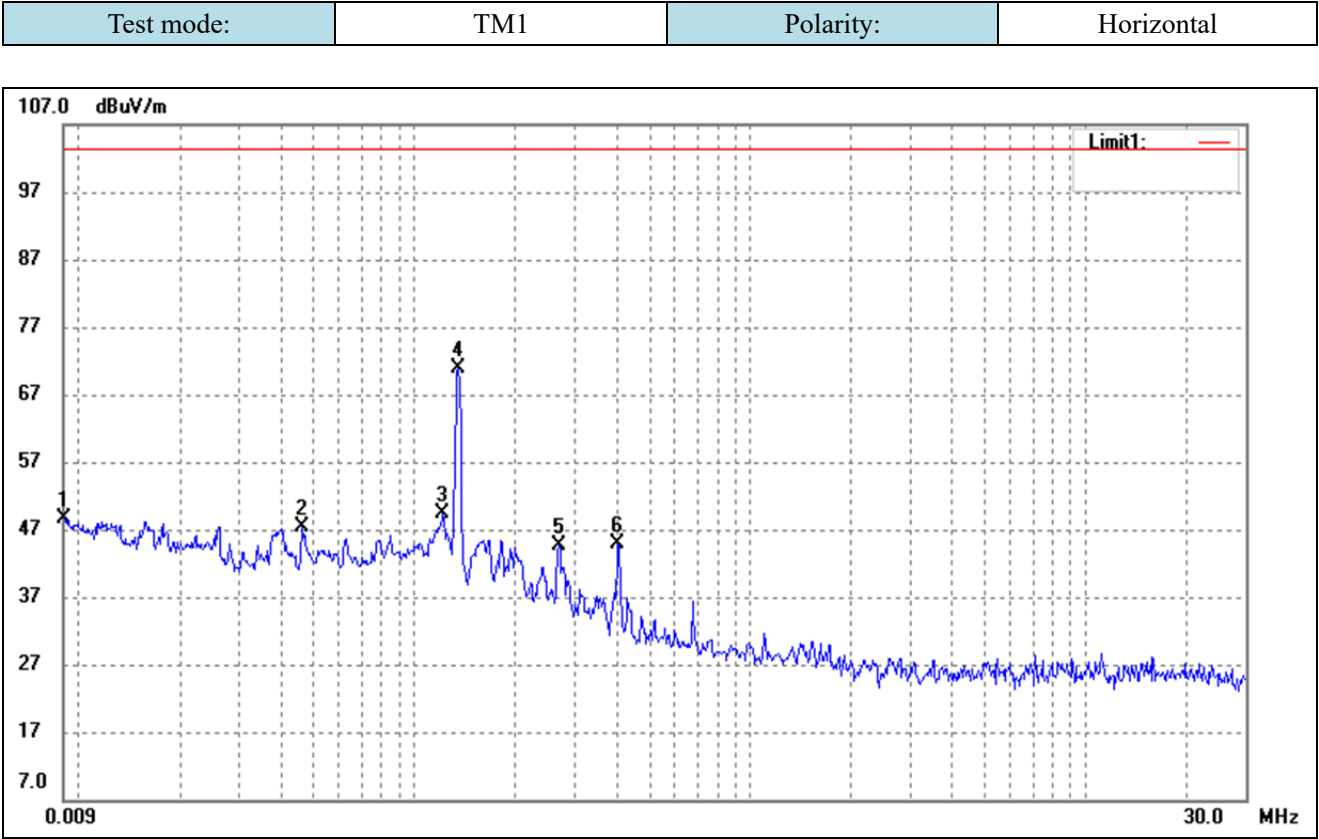
$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 18.305 Limit}$$

4.4 Environmental Conditions

Temperature:	22.5 °C
Relative Humidity:	54 %
ATM Pressure:	1011 mbar

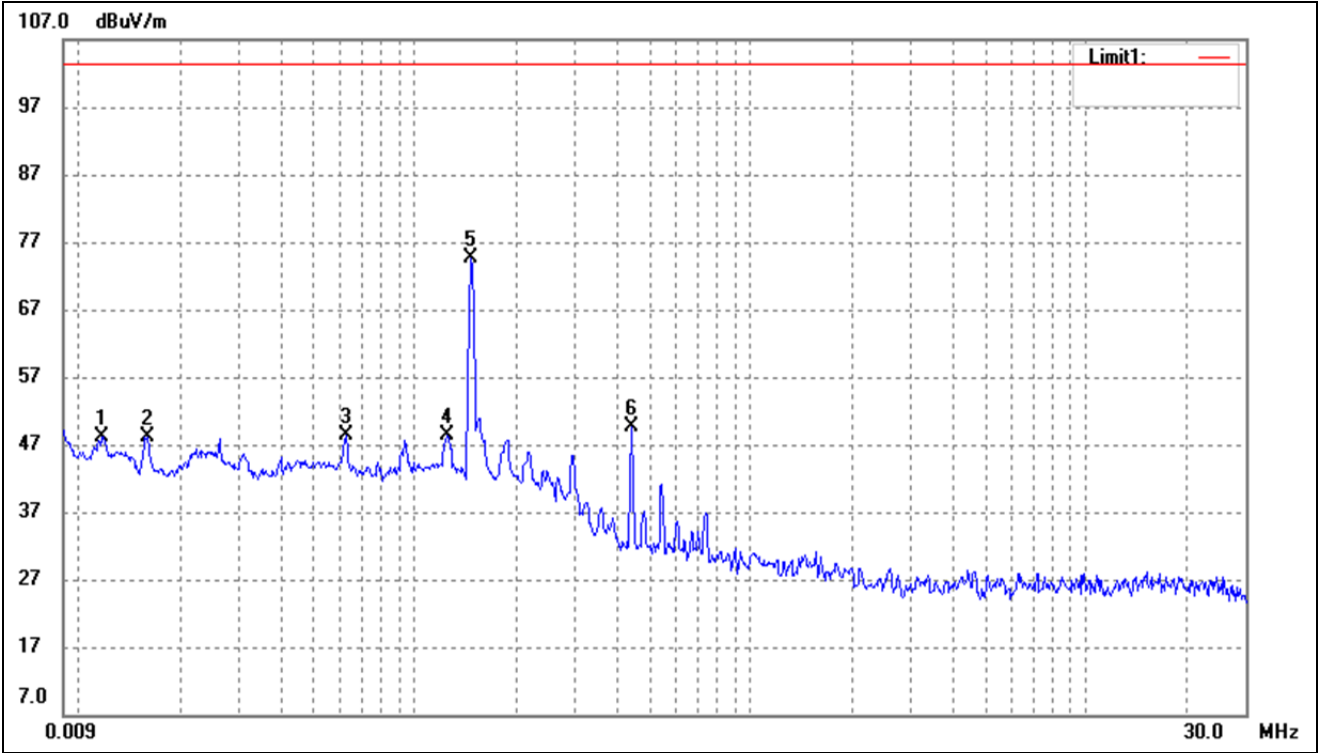
4.5 Summary of Test Results/Plots

Plot of Radiated Emissions Test Data (Below 30MHz)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	()	(cm)	
1	0.0089	74.95	-26.20	48.75	103.50	-54.75	-	-	peak
2	0.0463	73.56	-26.13	47.43	103.50	-56.07	-	-	peak
3	0.1215	75.28	-26.01	49.27	103.50	-54.23	-	-	peak
4	0.1351	96.87	-26.00	70.87	103.50	-32.63	-	-	peak
5	0.2693	70.61	-25.88	44.73	103.50	-58.77	-	-	peak
6	0.4041	70.76	-25.76	45.00	103.50	-58.50	-	-	peak

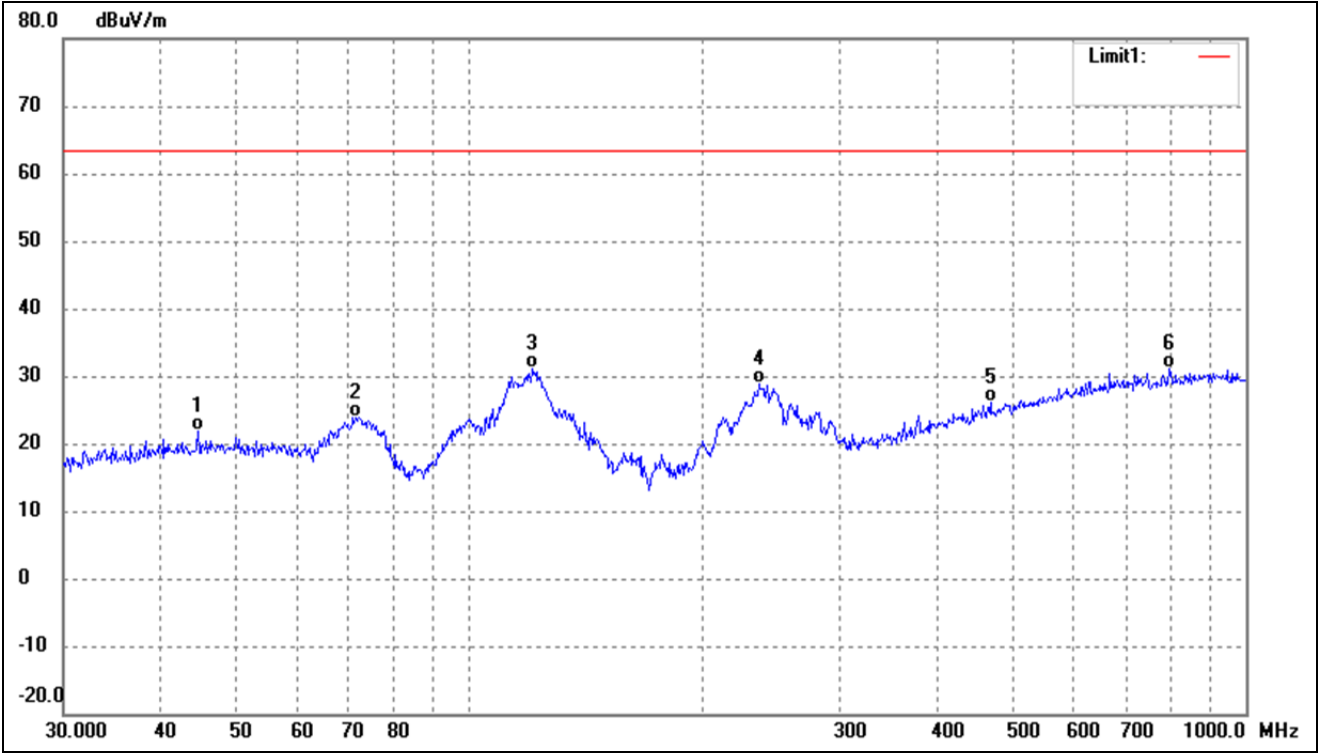
Test mode:	TM2	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	0.0117	74.40	-26.20	48.20	103.50	-55.30	-	-	peak
2	0.0160	74.37	-26.18	48.19	103.50	-55.31	-	-	peak
3	0.0625	74.42	-26.10	48.32	103.50	-55.18	-	-	peak
4	0.1257	74.29	-26.01	48.28	103.50	-55.22	-	-	peak
5	0.1477	100.70	-25.99	74.71	103.50	-28.79	-	-	peak
6	0.4418	75.33	-25.73	49.60	103.50	-53.90	-	-	peak

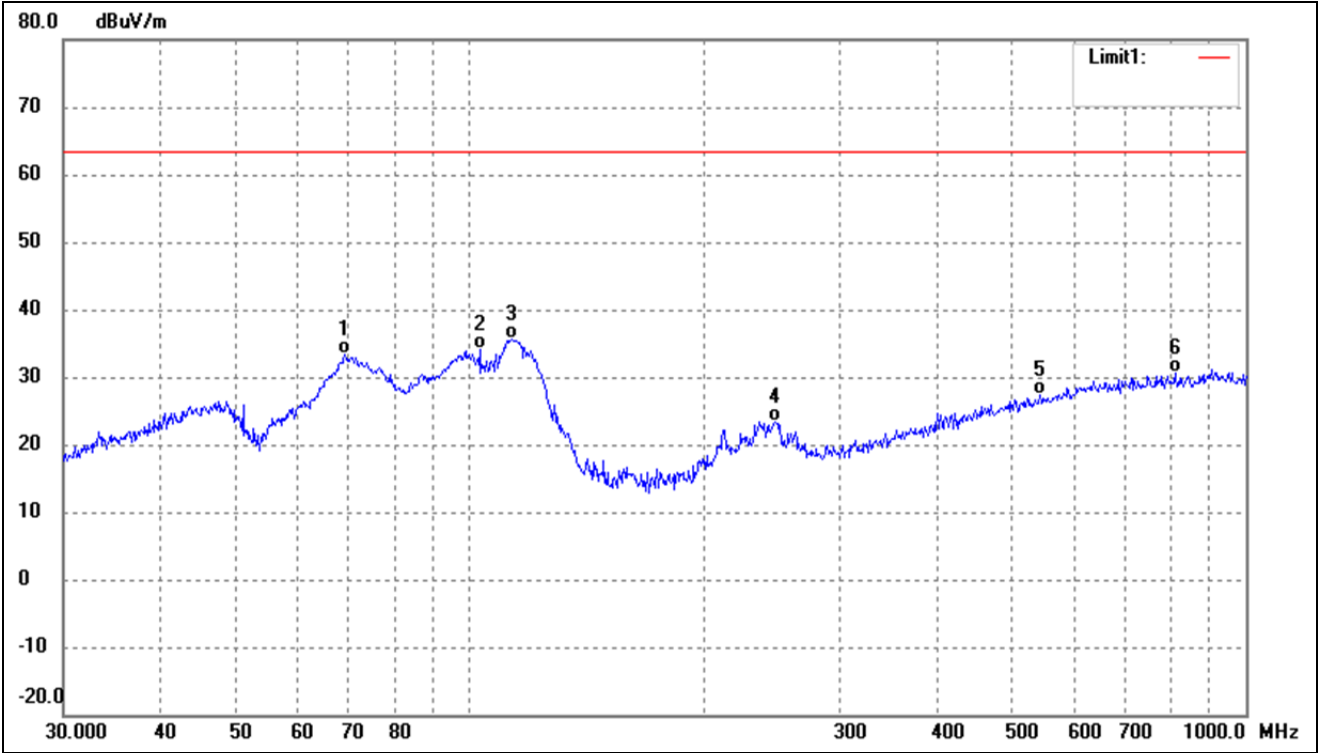
Plot of Radiated Emissions Test Data (Above 30MHz)

Test mode:	TM1	Polarity:	Horizontal
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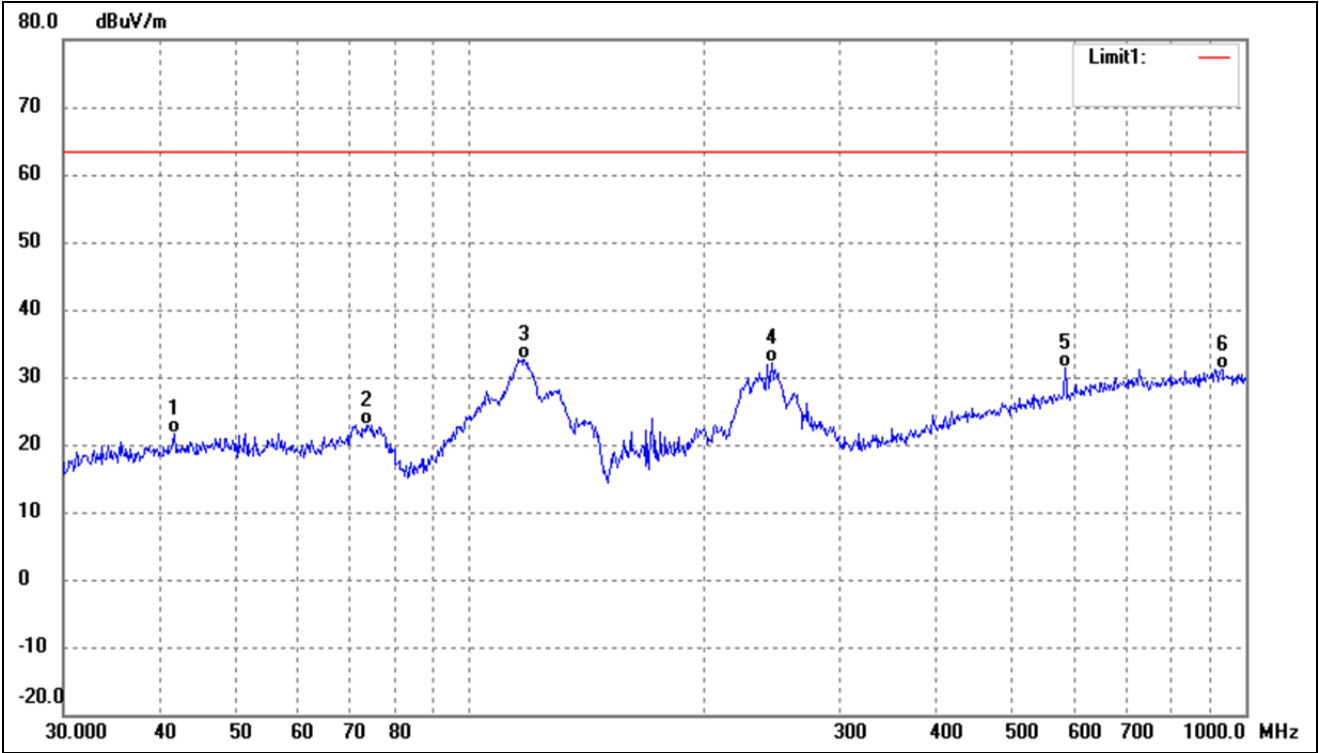
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	44.7434	28.79	-6.98	21.81	63.50	-41.69	-	-	QP
2	71.3300	34.15	-10.25	23.90	63.50	-39.60	-	-	QP
3	120.6991	40.97	-9.72	31.25	63.50	-32.25	-	-	QP
4	235.8164	37.48	-8.71	28.77	63.50	-34.73	-	-	QP
5	468.8762	28.20	-2.09	26.11	63.50	-37.39	-	-	QP
6	796.1830	29.08	2.08	31.16	63.50	-32.34	-	-	QP

Test mode:	TM1	Polarity:	Vertical
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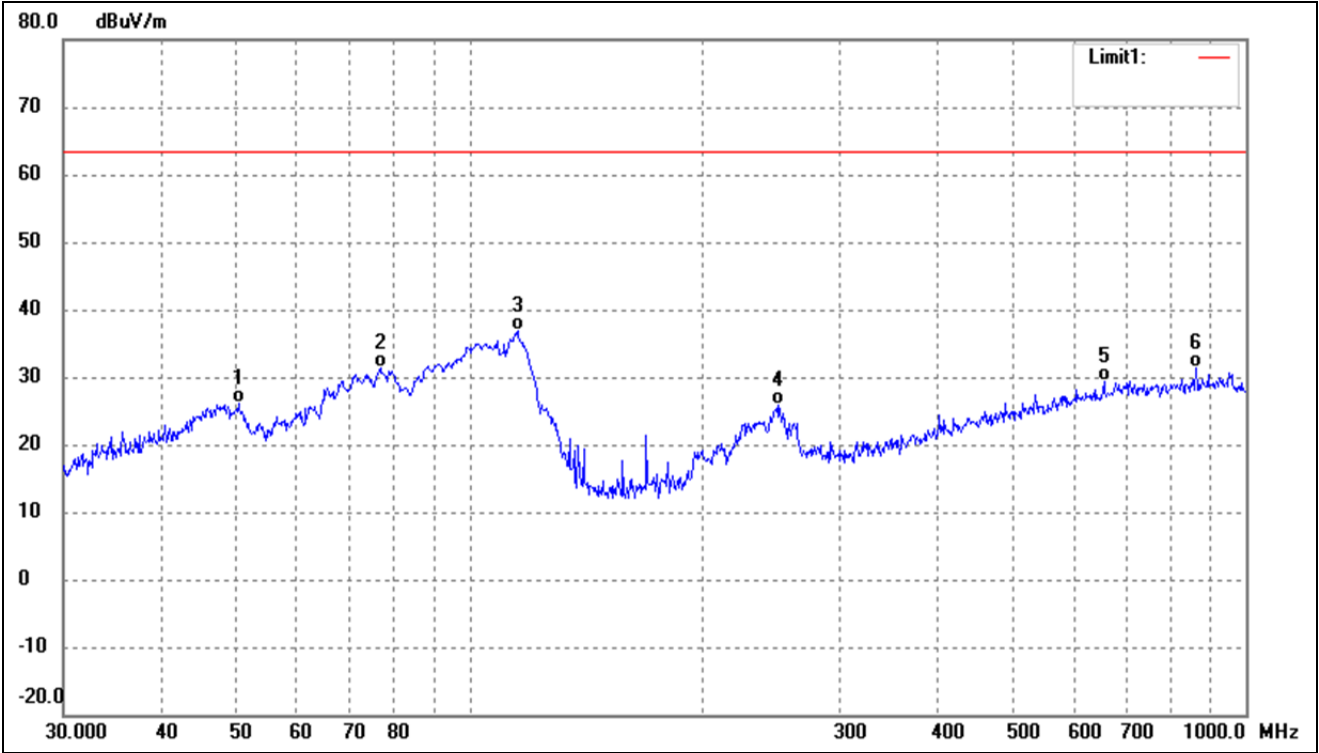
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	()	(cm)	
1	69.1141	43.31	-10.01	33.30	63.50	-30.20	-	-	QP
2	103.0800	42.99	-8.77	34.22	63.50	-29.28	-	-	QP
3	113.3163	44.74	-9.11	35.63	63.50	-27.87	-	-	QP
4	247.6819	31.78	-8.38	23.40	63.50	-40.10	-	-	QP
5	543.2742	27.91	-0.57	27.34	63.50	-36.16	-	-	QP
6	810.2654	28.58	2.16	30.74	63.50	-32.76	-	-	QP

Test mode:	TM2	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	41.7130	28.57	-7.00	21.57	63.50	-41.93	-	-	QP
2	73.6170	33.27	-10.38	22.89	63.50	-40.61	-	-	QP
3	117.7725	42.17	-9.43	32.74	63.50	-30.76	-	-	QP
4	245.0900	40.49	-8.45	32.04	63.50	-31.46	-	-	QP
5	584.7895	31.27	0.11	31.38	63.50	-32.12	-	-	QP
6	932.2715	28.47	2.64	31.11	63.50	-32.39	-	-	QP

Test mode:	TM2	Polarity:	Vertical
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No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	()	(cm)	
1	50.4089	33.06	-7.02	26.04	63.50	-37.46	-	-	QP
2	76.7808	41.87	-10.56	31.31	63.50	-32.19	-	-	QP
3	115.3205	46.06	-9.26	36.80	63.50	-26.70	-	-	QP
4	249.4250	34.17	-8.32	25.85	63.50	-37.65	-	-	QP
5	656.5300	28.37	0.98	29.35	63.50	-34.15	-	-	QP
6	863.0562	28.91	2.48	31.39	63.50	-32.11	-	-	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.

APPENDIX PHOTOGRAPHS

Please refer to “ANNEX”

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