

# TEST REPORT

Reference No..... : WTX22X12250635W001  
FCC ID..... : A4X-WPC10-1CCOAS  
Applicant..... : CE LINK LIMITED  
Address..... : 22 Dongkang Road, Dalingshan Town, Dongguan City, Guangdong  
Province, China.  
Manufacturer..... : DONGGUAN CE LINK LIMITED  
Address..... : 22 Dongkang Road, Dalingshan Town, Dongguan City, Guangdong  
Province, China.  
Product Name..... : Wireless Charge  
Model No..... : WPC10-1CCOAS  
Standards..... : FCC Part 18  
Date of Receipt sample .... : 2022-12-12  
Date of Test..... : 2022-12-12 to 2023-02-20  
Date of Issue..... : 2023-02-20  
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	2023-02-20	Original
/	/	/

## 1. GENERAL INFORMATION

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### 1.1 Product Description for Equipment Under Test (EUT)

#### Client Information

Factory 1#:	SuiChuan CE LINK LIMITED
Address of factory 1#:	SuiChuan county industrial park east zone, Ji'an city, Jiangxi Province, China.
Factory 2#:	CE LINK VIET NAM COMPANY LIMITED.
Address of factory 2#:	Lot CNSG04&CNSG06 Van Trung Industrial Zone, Viet Yen district, Bac Giang Province, Vietnam

General Description of EUT	
Product Name:	Wireless Charge
Trade Name:	CE-LINK
Model No.:	WPC10-1CCOAS
Adding Model(s):	/
<i>Note: The test data is gathered from a production sample, provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Frequency Range:	110~205kHz
Modulation Type:	/
Antenna Type:	Coil Antenna
Antenna Gain:	0dBi
Rated Voltage:	TYPE-C-PD: Input: 5V =2A, 9V =1.67A, 12V =1.25A, Output: 5V =1A, 9V=1.1A
Rated Power:	Wireless Output: 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 and FCC MP-5:1986, 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	Connect to the adapter;	AC120V/60Hz for adapter; Wireless charging: output: 5W
TM2	Wireless Charging	Connect to the adapter;	AC120V/60Hz for adapter; 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
Wireless charging tester	YBZ	YBZ wireless charging tester	/
Adapter	Xiaomi	MDY-08-ES	/
Smart phone	Apple	IPhone 12 Pro Max	/

### Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
USB Cable	1.50	Unshielded	Without Ferrite

## 1.6 Measurement Uncertainty

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

## 1.7 Test Equipment List and Details

Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
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	HP	8447F	2805A0347 5	2022-01-07	2023-01-06
Amplifier	HP	8447F	2805A0347 5	2022-12-30	2023-12-29
Amplifier	C&D	PAP-1G18	2002	2022-03-22	2023-03-21
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	2944A1017 9	2022-03-22	2023-03-21
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2022-03-25	2023-03-24

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

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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:

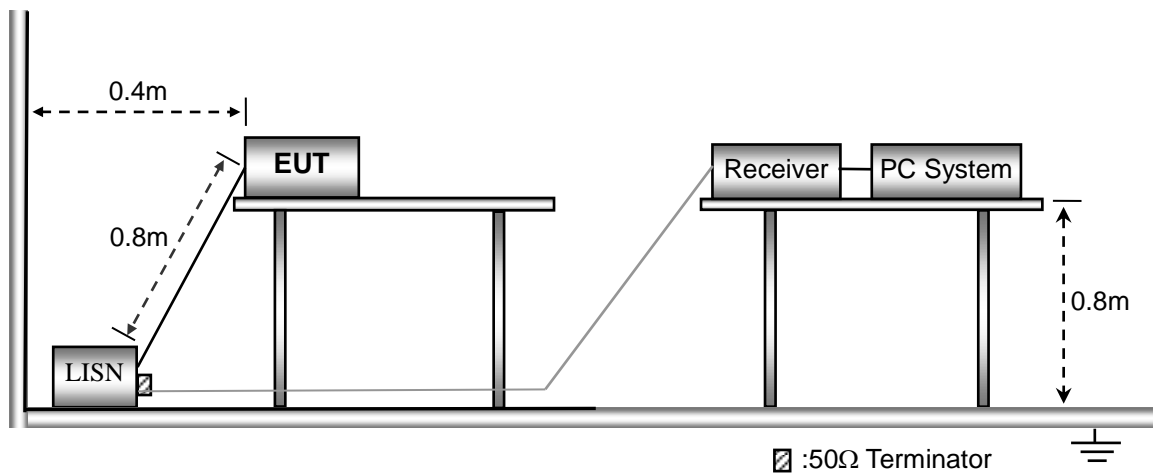
Frequency (MHz)	Conducted limit (dB $\mu$ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

#### 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:	23.5° C
Relative Humidity:	54%
ATM Pressure:	1016 mbar

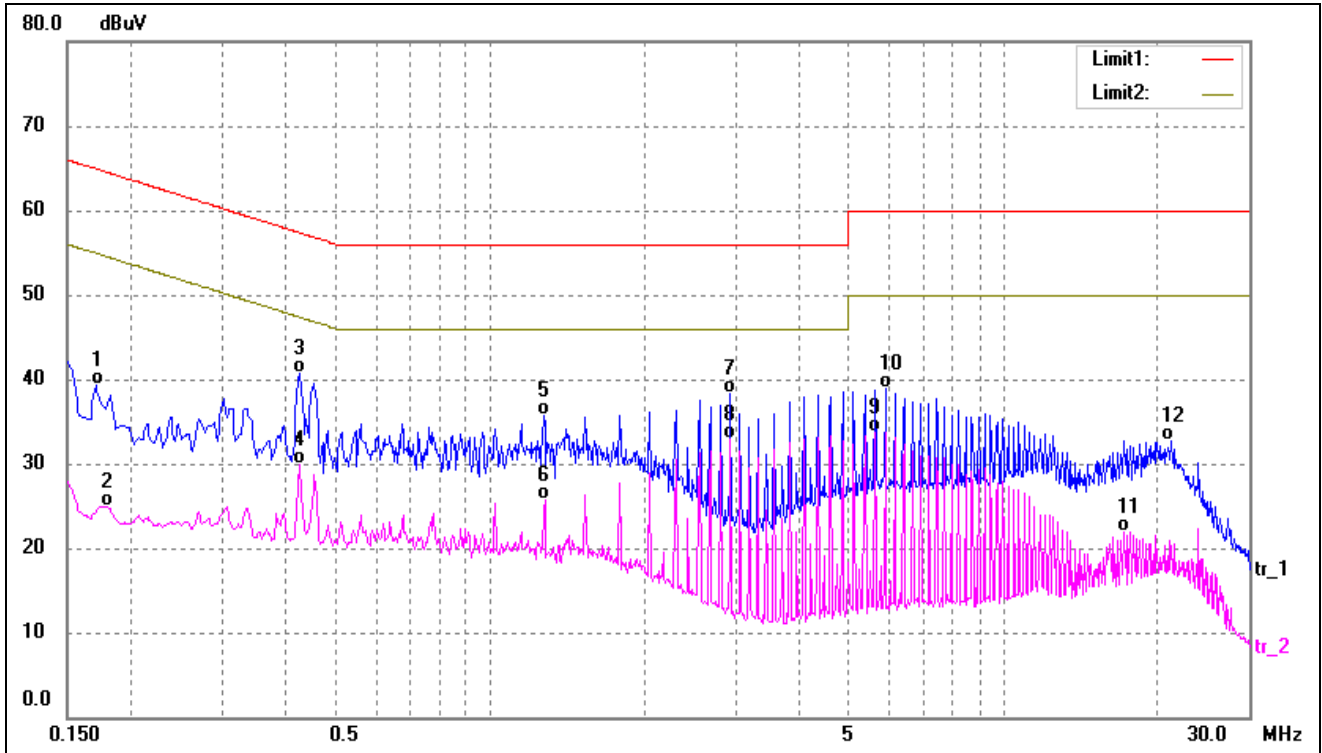
### 3.5 Test Receiver Setup

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

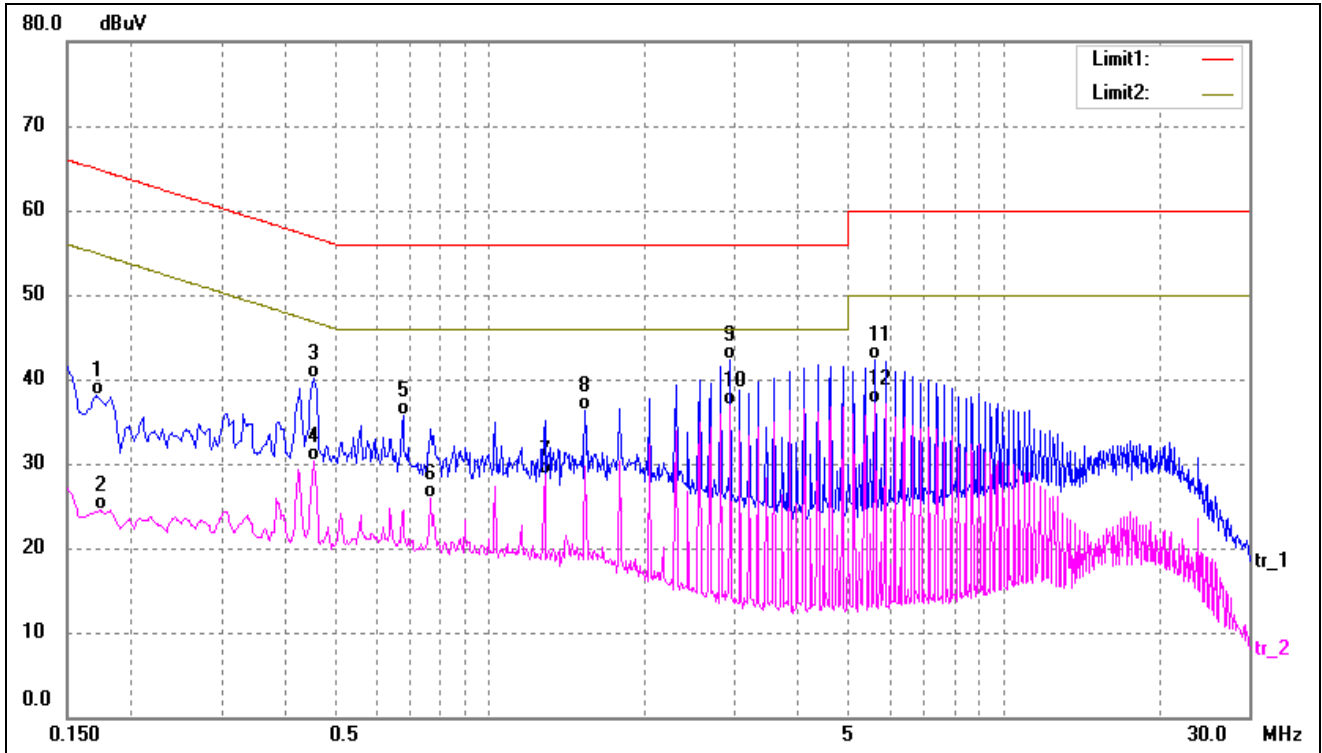
### 3.6 Summary of Test Results/Plots

Test mode:	TM1	Polarity:	Line
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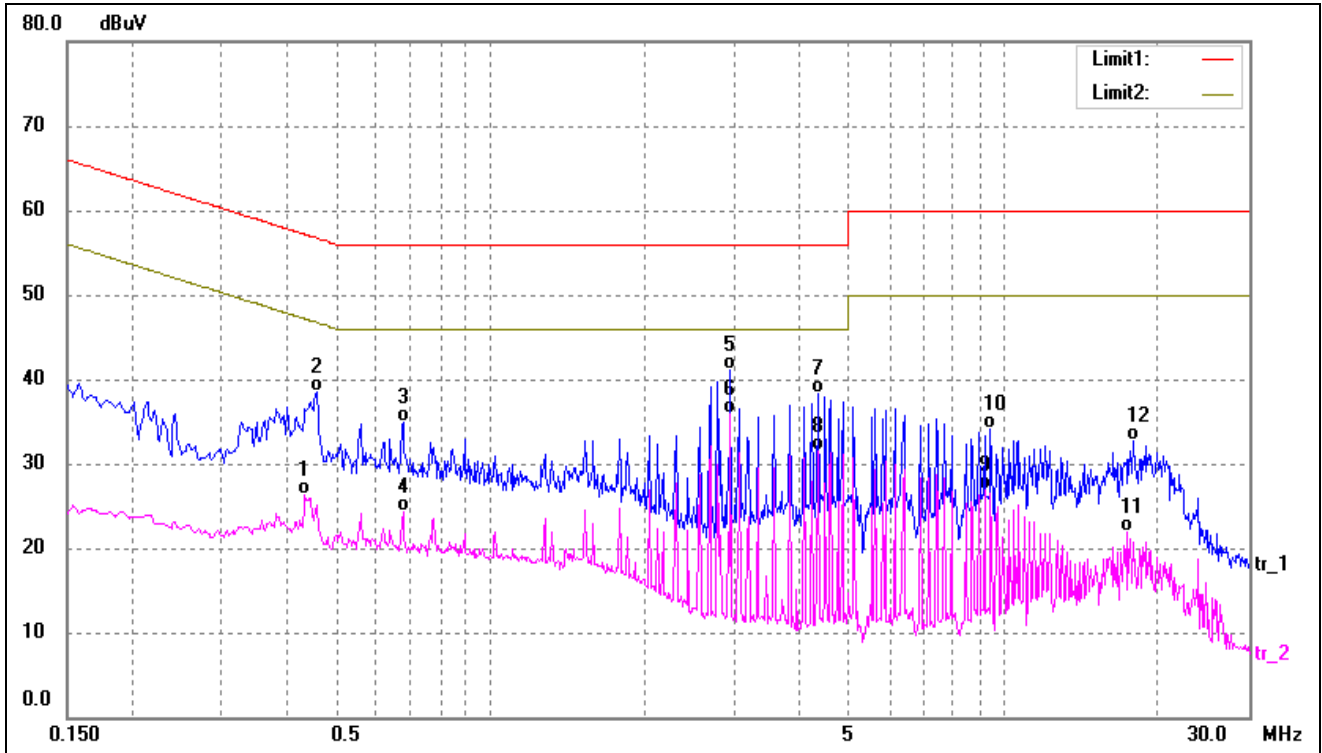
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1700	29.05	10.31	39.36	64.96	-25.60	QP
2	0.1780	14.69	10.31	25.00	54.57	-29.57	AVG
3	0.4260	30.41	10.22	40.63	57.33	-16.70	QP
4	0.4260	19.77	10.22	29.99	47.33	-17.34	AVG
5	1.2740	25.47	10.17	35.64	56.00	-20.36	QP
6	1.2780	15.54	10.17	25.71	46.00	-20.29	AVG
7	2.9380	28.05	10.27	38.32	56.00	-17.68	QP
8*	2.9380	22.59	10.27	32.86	46.00	-13.14	AVG
9	5.6180	23.35	10.33	33.68	50.00	-16.32	AVG
10	5.8740	28.58	10.33	38.91	60.00	-21.09	QP
11	17.1100	11.62	10.29	21.91	50.00	-28.09	AVG
12	21.1980	22.24	10.37	32.61	60.00	-27.39	QP

Test mode:	TM1	Polarity:	Neutral
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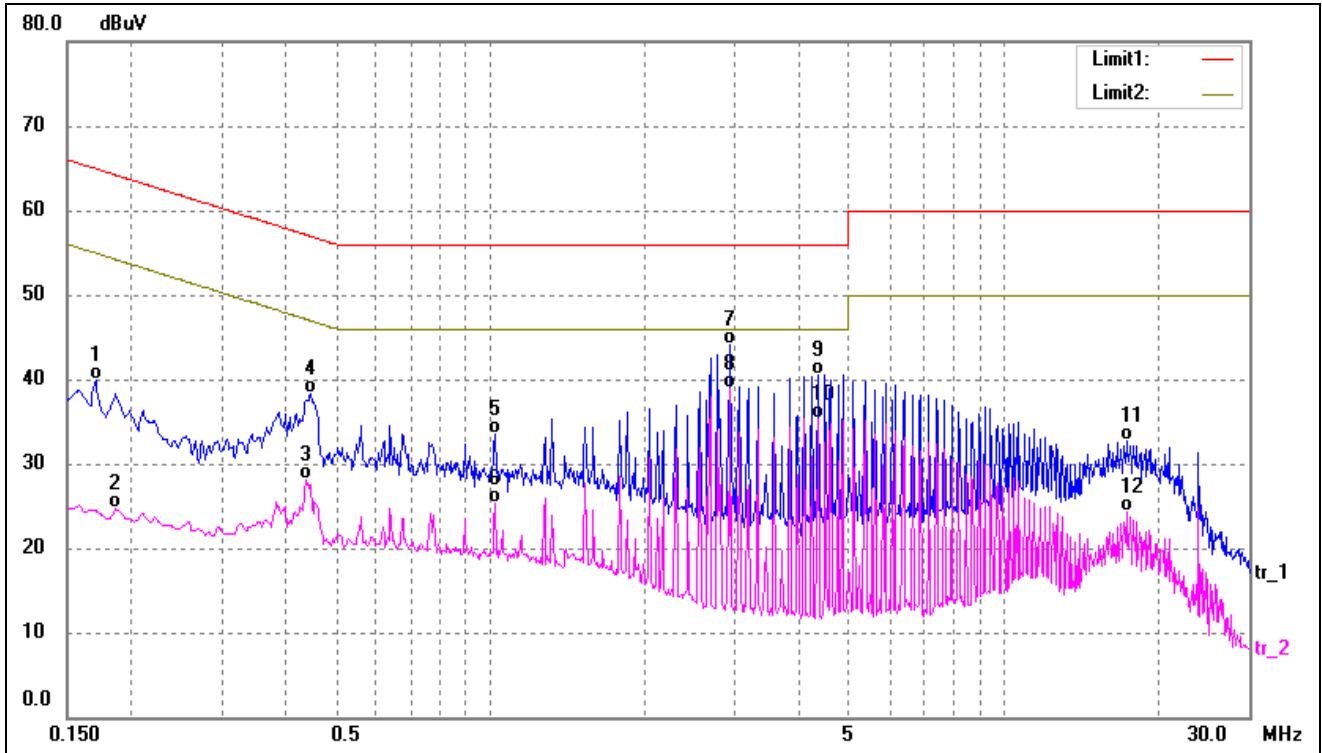
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1700	27.83	10.31	38.14	64.96	-26.82	QP
2	0.1740	14.18	10.30	24.48	54.76	-30.28	AVG
3	0.4540	29.86	10.23	40.09	56.80	-16.71	QP
4	0.4540	20.10	10.23	30.33	46.80	-16.47	AVG
5	0.6780	25.58	10.20	35.78	56.00	-20.22	QP
6	0.7660	15.72	10.17	25.89	46.00	-20.11	AVG
7	1.2780	18.49	10.17	28.66	46.00	-17.34	AVG
8	1.5339	26.05	10.20	36.25	56.00	-19.75	QP
9	2.9380	31.96	10.27	42.23	56.00	-13.77	QP
10*	2.9380	26.69	10.27	36.96	46.00	-9.04	AVG
11	5.6180	31.93	10.33	42.26	60.00	-17.74	QP
12	5.6180	26.80	10.33	37.13	50.00	-12.87	AVG

Test mode:	TM2	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.4340	16.07	10.23	26.30	47.18	-20.88	AVG
2	0.4580	28.20	10.23	38.43	56.73	-18.30	QP
3	0.6780	24.77	10.20	34.97	56.00	-21.03	QP
4	0.6780	14.08	10.20	24.28	46.00	-21.72	AVG
5	2.9380	30.93	10.27	41.20	56.00	-14.80	QP
6*	2.9380	25.61	10.27	35.88	46.00	-10.12	AVG
7	4.3420	27.99	10.31	38.30	56.00	-17.70	QP
8	4.3420	21.15	10.31	31.46	46.00	-14.54	AVG
9	9.1940	16.49	10.35	26.84	50.00	-23.16	AVG
10	9.4500	23.81	10.35	34.16	60.00	-25.84	QP
11	17.3660	11.63	10.30	21.93	50.00	-28.07	AVG
12	17.8779	22.45	10.32	32.77	60.00	-27.23	QP

Test mode:	TM2	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1700	29.67	10.31	39.98	64.96	-24.98	QP
2	0.1860	14.36	10.31	24.67	54.21	-29.54	AVG
3	0.4380	17.97	10.23	28.20	47.10	-18.90	AVG
4	0.4460	28.02	10.23	38.25	56.95	-18.70	QP
5	1.0220	23.29	10.14	33.43	56.00	-22.57	QP
6	1.0220	15.21	10.14	25.35	46.00	-20.65	AVG
7	2.9380	33.89	10.27	44.16	56.00	-11.84	QP
8*	2.9380	28.69	10.27	38.96	46.00	-7.04	AVG
9	4.3420	30.26	10.31	40.57	56.00	-15.43	QP
10	4.3420	25.07	10.31	35.38	46.00	-10.62	AVG
11	17.3660	22.31	10.30	32.61	60.00	-27.39	QP
12	17.3660	13.92	10.30	24.22	50.00	-25.78	AVG

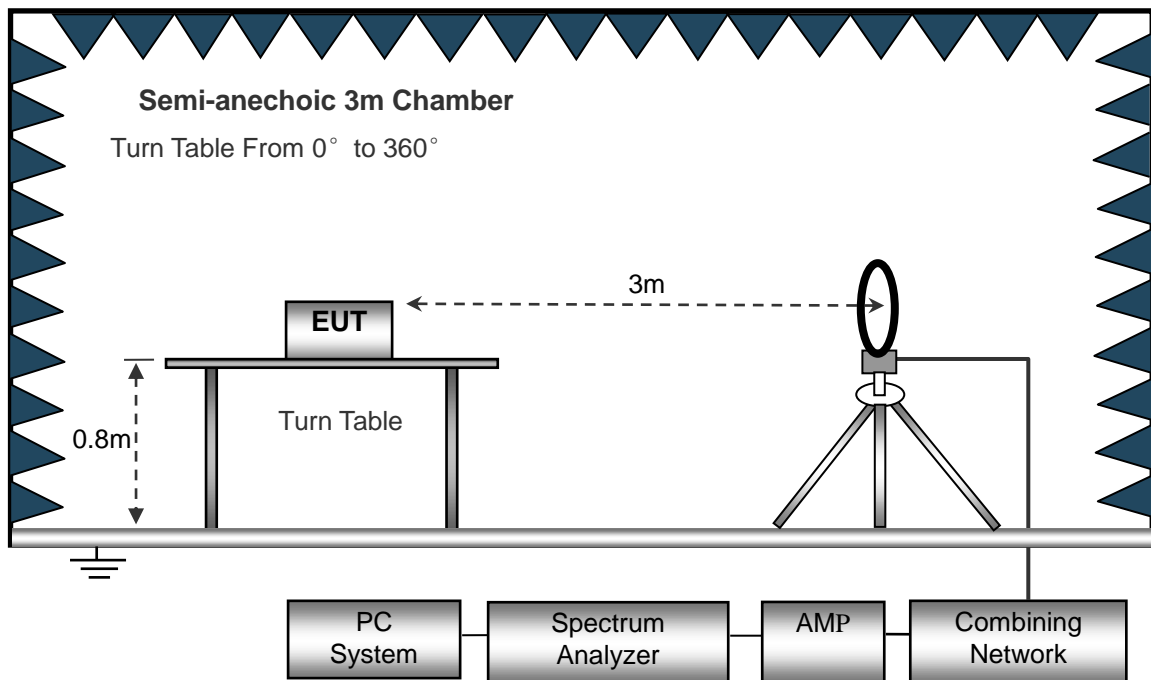
## 4. Radiated Emissions

### 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.

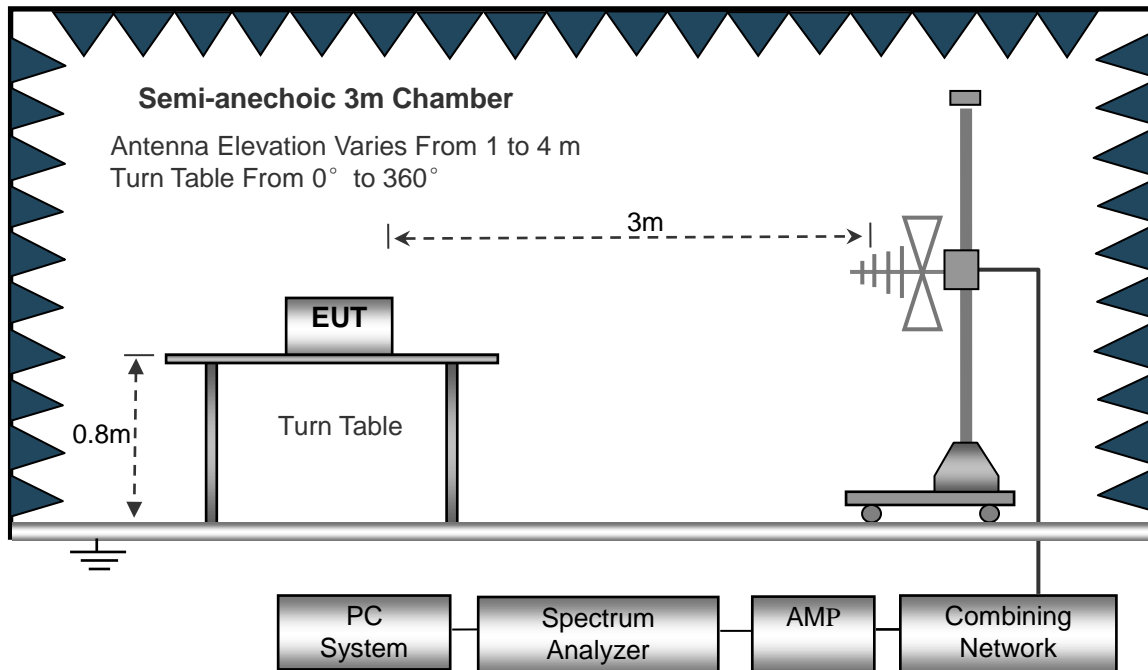
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle. The spacing between the peripherals was 10 cm.

The test setup for emission measurement below 30MHz..





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



#### 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

#### 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 -6dB $\mu$ V means the emission is 6dB $\mu$ V below the maximum limit for Any non-ISM frequency device. The equation for margin calculation is as follows:

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

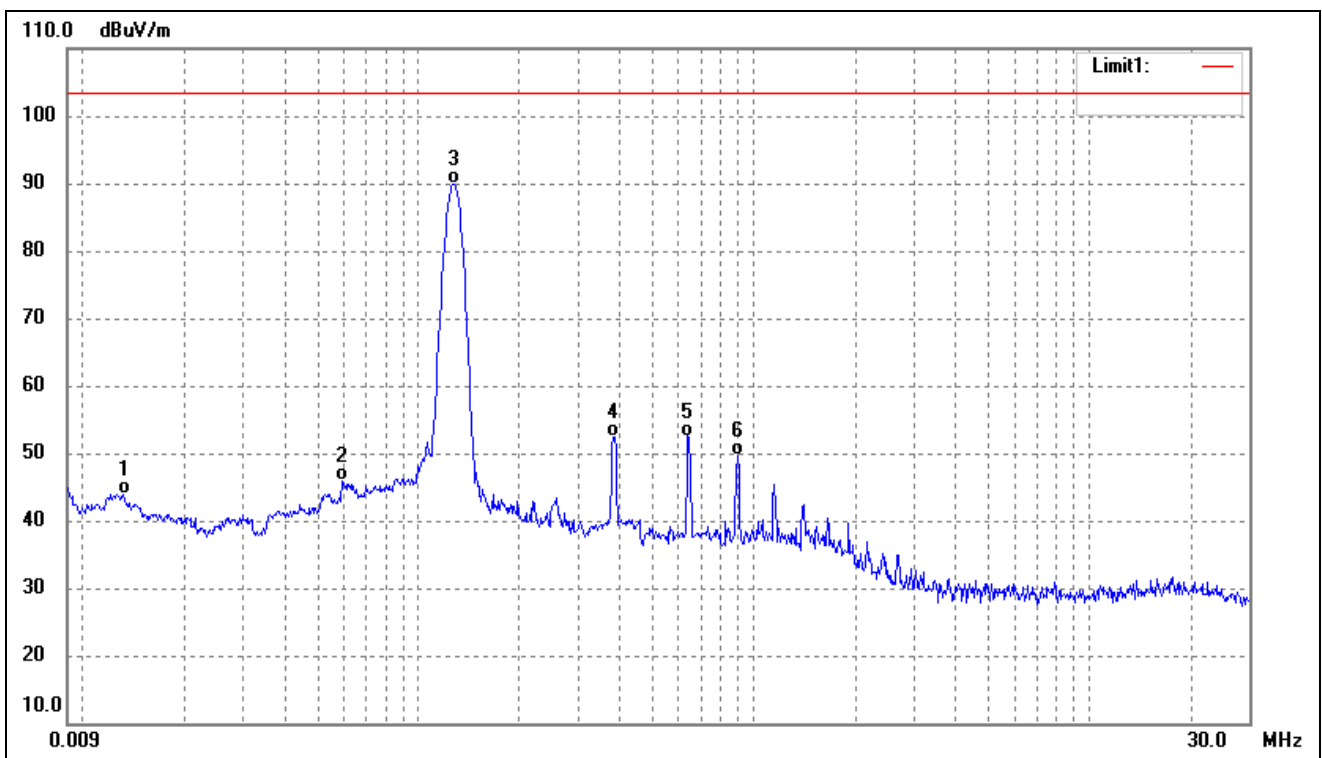
### 4.4 Environmental Conditions

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

### 4.5 Summary of Test Results/Plots

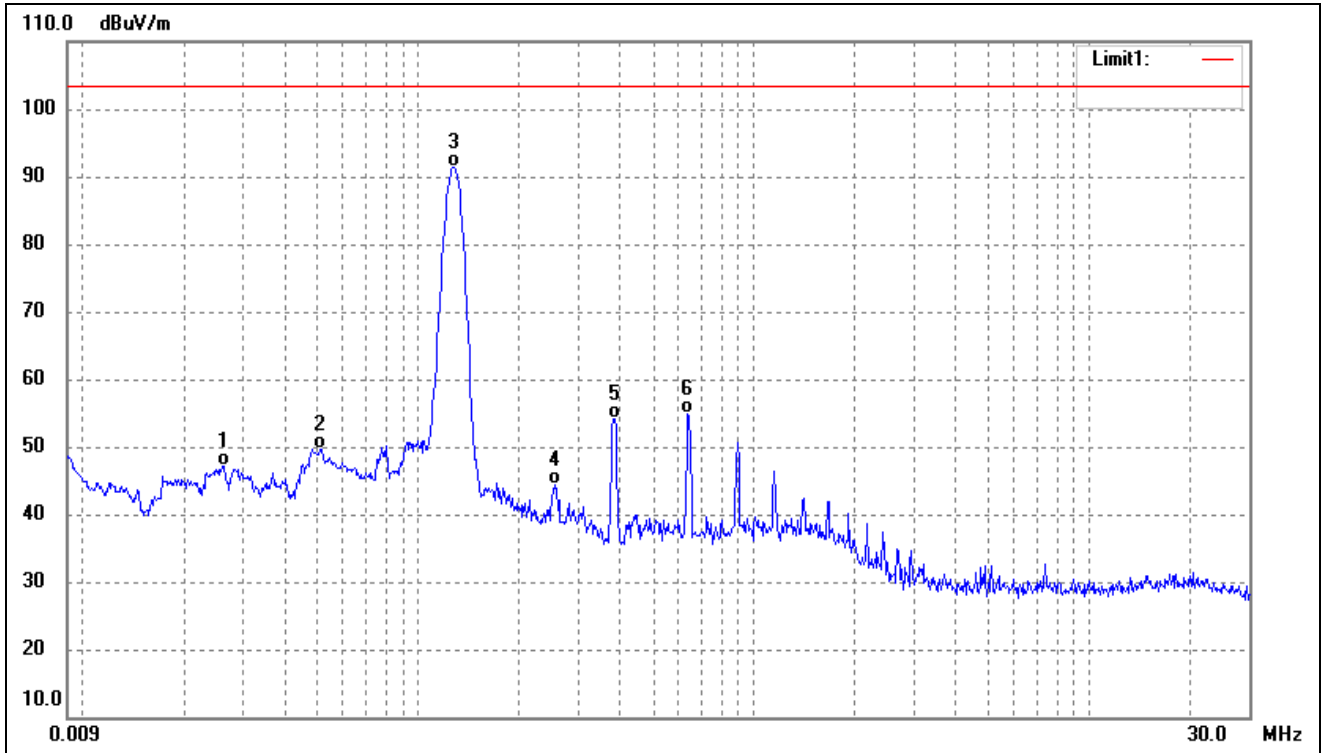
Plot of Radiated Emissions Test Data (Below 30MHz)

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	0.0132	50.95	-7.02	43.93	103.50	-59.57	-	-	QP
2	0.0591	51.65	-5.79	45.86	103.50	-57.64	-	-	QP
3	0.1276	96.27	-6.45	89.82	103.50	-13.68	-	-	QP
4	0.3818	60.01	-7.71	52.30	103.50	-51.20	-	-	QP
5	0.6363	59.42	-6.92	52.50	103.50	-51.00	-	-	QP
6	0.8948	55.85	-6.31	49.54	103.50	-53.96	-	-	QP

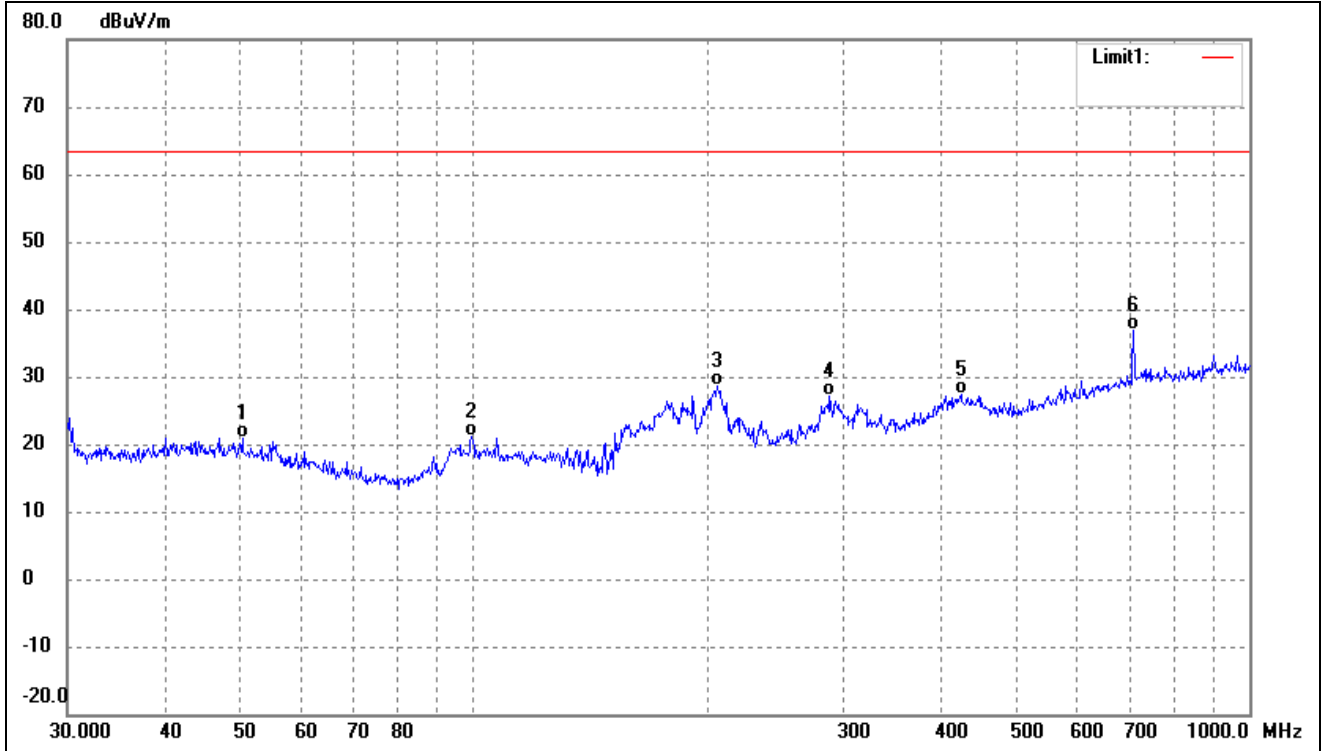
Test mode:	TM2	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	0.0265	53.88	-6.69	47.19	103.50	-56.31	-	-	QP
2	0.0511	55.19	-5.48	49.71	103.50	-53.79	-	-	QP
3	0.1276	97.92	-6.45	91.47	103.50	-12.03	-	-	QP
4	0.2545	52.04	-7.68	44.36	103.50	-59.14	-	-	QP
5	0.3849	61.77	-7.71	54.06	103.50	-49.44	-	-	QP
6	0.6363	61.81	-6.92	54.89	103.50	-48.61	-	-	QP

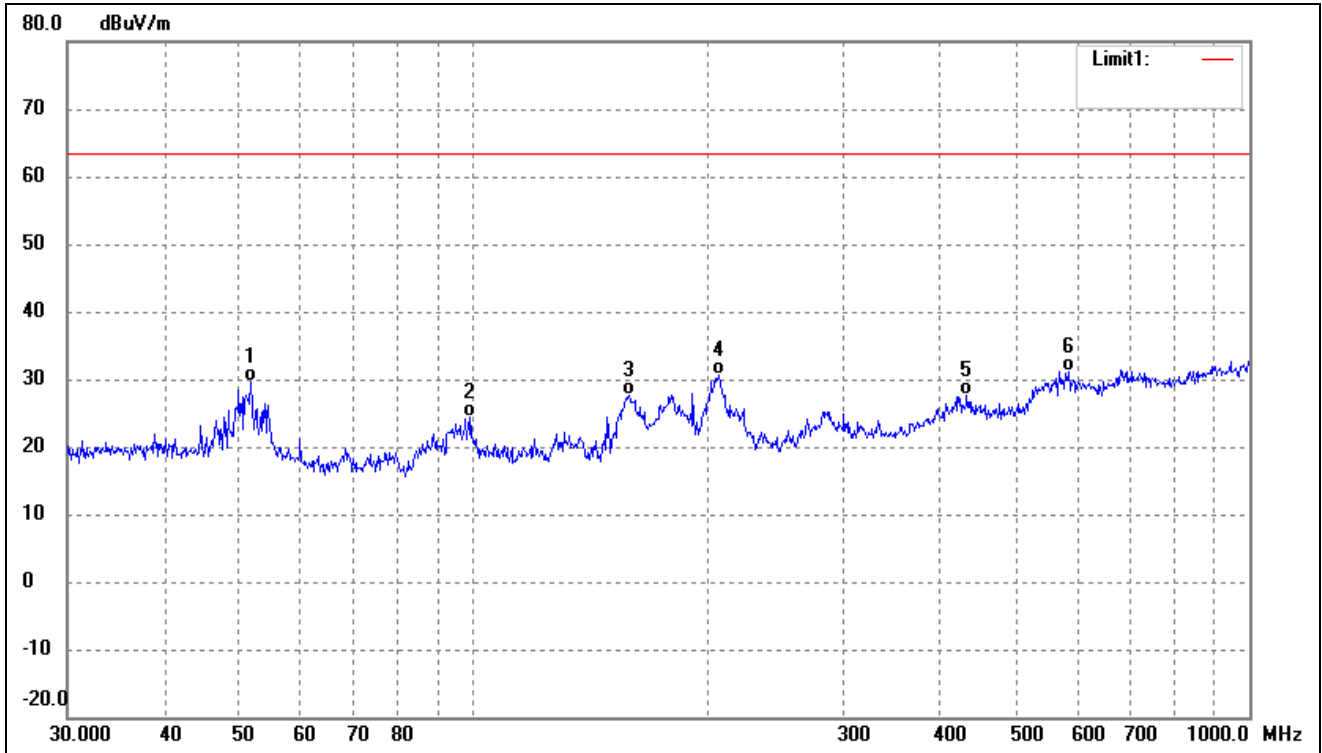
**Plot of Radiated Emissions Test Data ( Above 30MHz)**

Test mode:	TM1	Polarity:	Horizontal
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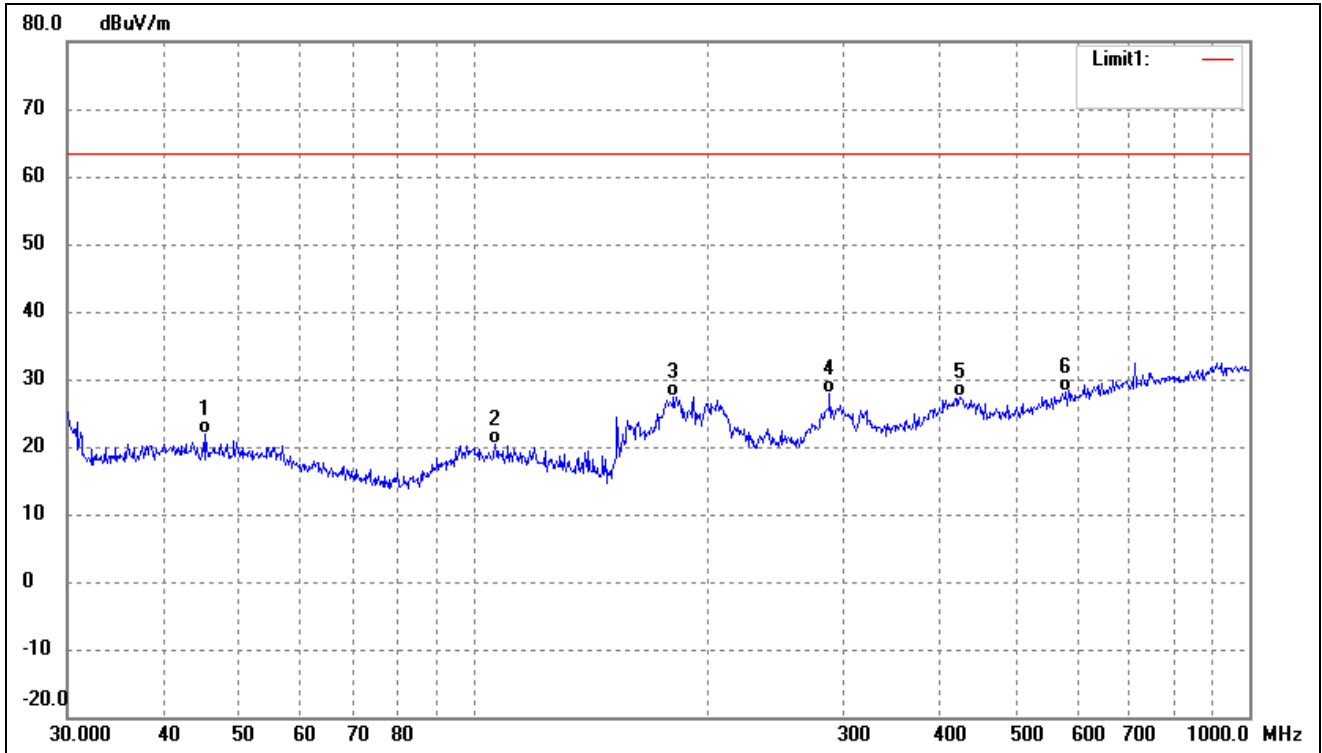
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	50.4089	28.34	-7.39	20.95	63.50	-42.55	-	-	QP
2	99.5281	29.31	-8.18	21.13	63.50	-42.37	-	-	QP
3	206.3976	36.83	-8.20	28.63	63.50	-34.87	-	-	QP
4	287.9904	32.56	-5.42	27.14	63.50	-36.36	-	-	QP
5	425.0280	30.30	-3.04	27.26	63.50	-36.24	-	-	QP
6	709.1823	35.44	1.45	36.89	63.50	-26.61	-	-	QP

Test mode:	TM1	Polarity:	Vertical
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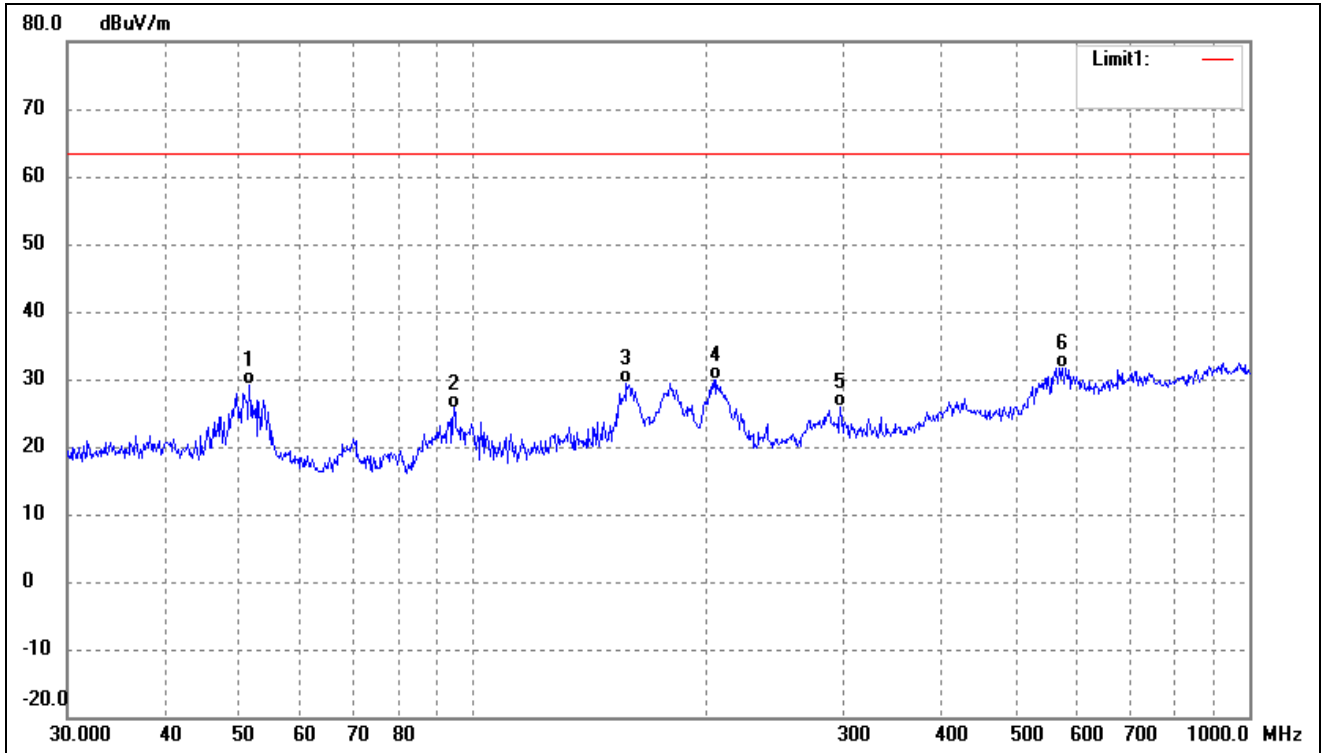
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	51.6616	37.22	-7.61	29.61	63.50	-33.89	-	-	QP
2	99.1797	32.68	-8.29	24.39	63.50	-39.11	-	-	QP
3	158.6677	38.78	-11.23	27.55	63.50	-35.95	-	-	QP
4	207.1226	38.74	-8.17	30.57	63.50	-32.93	-	-	QP
5	432.5457	30.66	-2.96	27.70	63.50	-35.80	-	-	QP
6	584.7895	31.61	-0.44	31.17	63.50	-32.33	-	-	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	45.2166	29.18	-7.23	21.95	63.50	-41.55	-	-	QP
2	106.7587	28.46	-8.12	20.34	63.50	-43.16	-	-	QP
3	181.2834	37.37	-9.97	27.40	63.50	-36.10	-	-	QP
4	287.9904	33.25	-5.42	27.83	63.50	-35.67	-	-	QP
5	423.5403	30.36	-3.06	27.30	63.50	-36.20	-	-	QP
6	580.7026	28.69	-0.52	28.17	63.50	-35.33	-	-	QP

Test mode:	TM2	Polarity:	Vertical
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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	51.4807	36.82	-7.58	29.24	63.50	-34.26	-	-	QP
2	94.4284	35.37	-9.62	25.75	63.50	-37.75	-	-	QP
3	157.5588	40.75	-11.28	29.47	63.50	-34.03	-	-	QP
4	205.6751	38.16	-8.22	29.94	63.50	-33.56	-	-	QP
5	297.2241	30.93	-5.11	25.82	63.50	-37.68	-	-	QP
6	574.6258	32.30	-0.63	31.67	63.50	-31.83	-	-	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

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Please refer to "ANNEX"

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