

# TEST REPORT

**Reference No.**..... : WTX22X09197569W001  
**FCC ID**..... : 2AV4C-UPB-04K0-1CM  
**Applicant** ..... : Trippe Manufacturing Company  
**Address** ..... : 1111 W. 35th Street, Chicago IL 60609, USA  
**Manufacturer** ..... : DONGGUAN CE LINK LIMITED  
**Address** ..... : 22 Dongkang Road, Dalingshan Town, Dongguan City, Guangdong Province, China.  
**Product Name** ..... : Magnetic Wireless Charger with Power Bank  
**Model No.**..... : UPB-04K0-1CM  
**Standards** ..... : FCC Part 18  
**Date of Receipt sample** .... : 2022-09-29  
**Date of Test**..... : 2022-09-29 to 2022-12-06  
**Date of Issue** ..... : 2022-12-06  
**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	2022-12-06	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: SuiChuan county industrial park east zone, Ji'an city  
 Jiangxi province, China.

Factory 2#: CE LINK VIET NAM COMPANY LIMITED.  
 Address of factory: 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:	Tripp Lite
Model No.:	UPB-04K0-1CM
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 Input: 5V, 9V Type C output: 5V, 9V
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 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	1.20	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	Agilent	8447F	3113A0671 7	2022-01-07	2023-01-06
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:

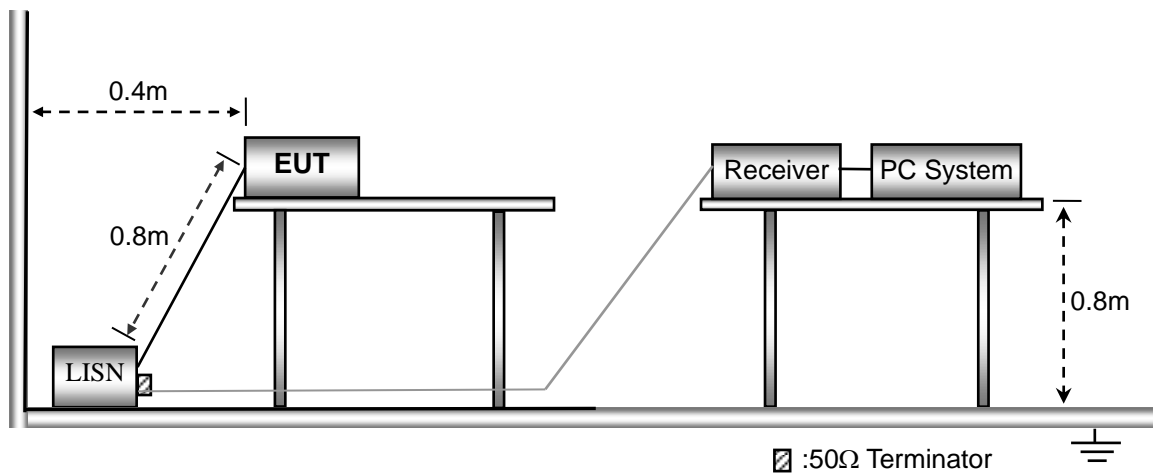
Frequency (MHz)	Conducted limit (dB $\mu$ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

#### 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

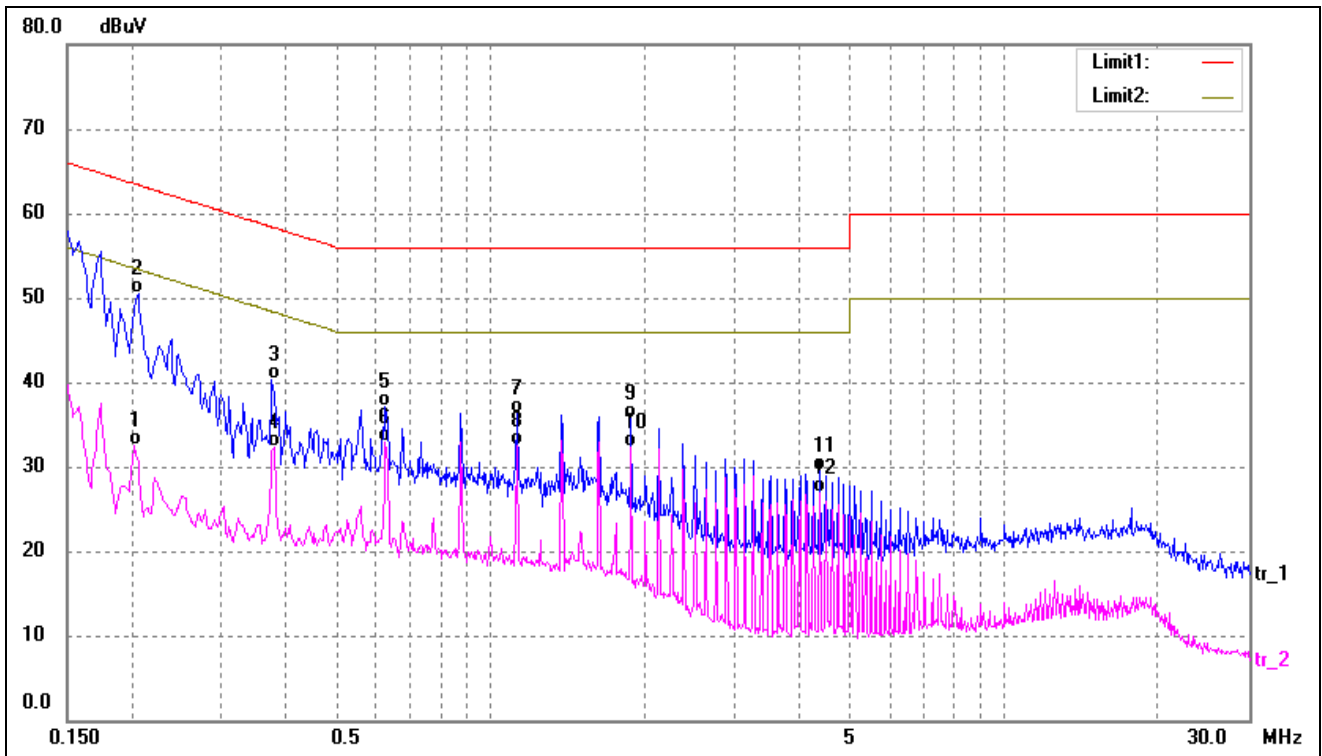
### 3.5 Test Receiver Setup

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

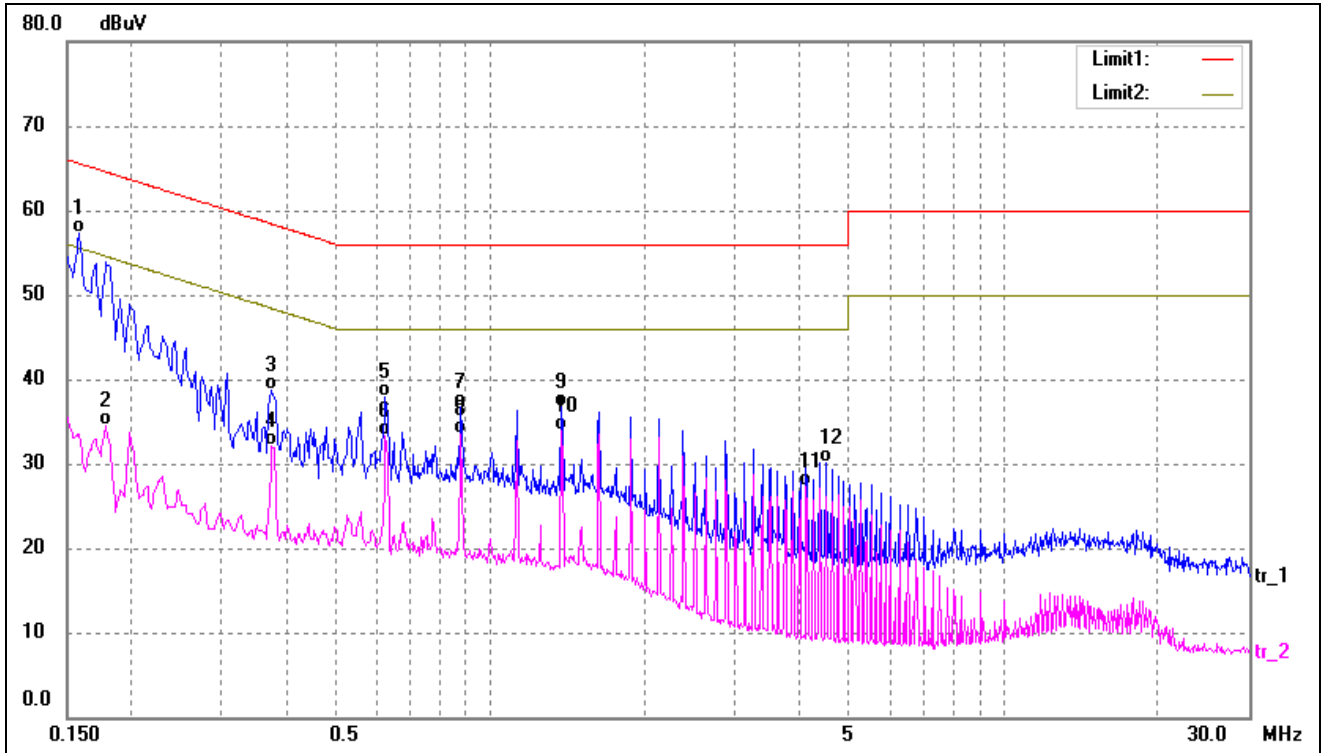
### 3.6 Summary of Test Results/Plots

Test mode:	TM1	Polarity:	Line
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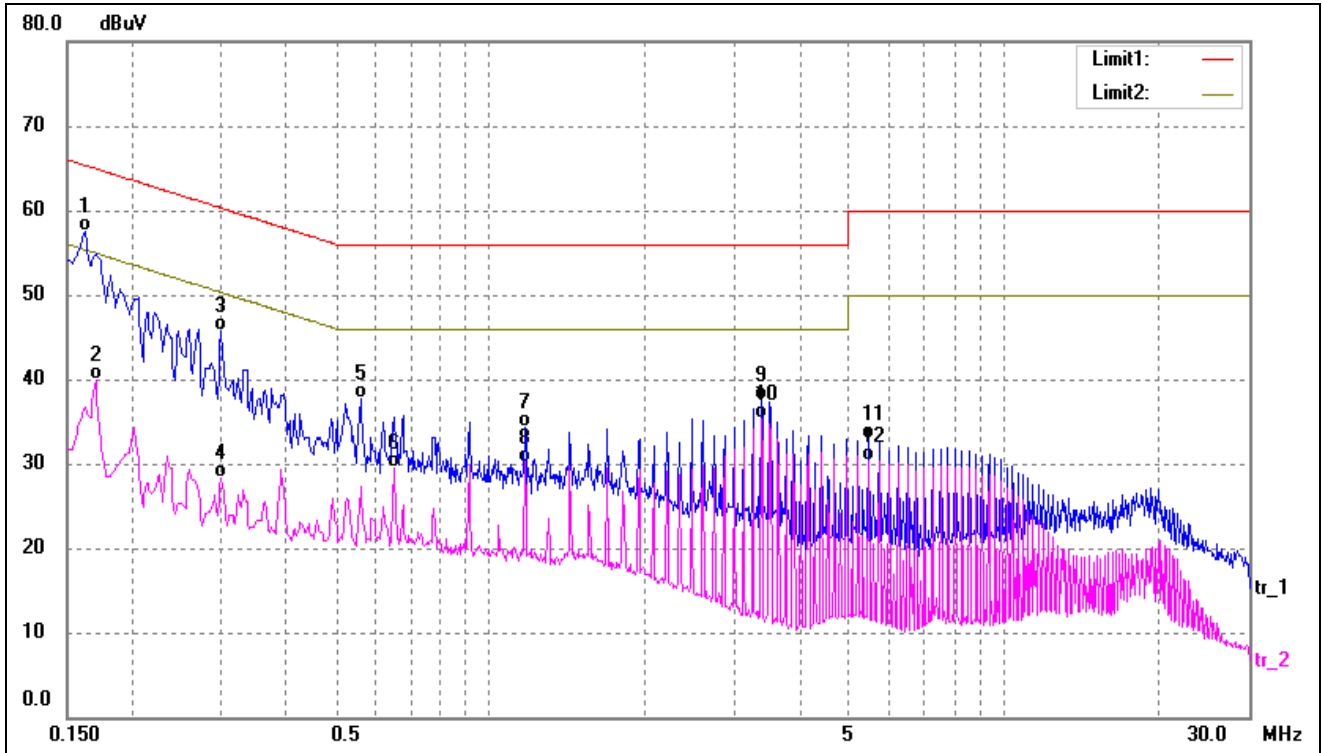
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2020	22.28	10.30	32.58	53.52	-20.94	AVG
2*	0.2060	40.24	10.29	50.53	63.36	-12.83	QP
3	0.3740	29.99	10.23	40.22	58.41	-18.19	QP
4	0.3780	21.98	10.23	32.21	48.32	-16.11	AVG
5	0.6260	26.87	10.20	37.07	56.00	-18.93	QP
6	0.6260	22.66	10.20	32.86	46.00	-13.14	AVG
7	1.1300	26.08	10.15	36.23	56.00	-19.77	QP
8	1.1300	22.37	10.15	32.52	46.00	-13.48	AVG
9	1.8780	25.42	10.24	35.66	56.00	-20.34	QP
10	1.8780	22.14	10.24	32.38	46.00	-13.62	AVG
11	4.3859	19.20	10.31	29.51	56.00	-26.49	QP
12	4.3859	16.58	10.31	26.89	46.00	-19.11	AVG

Test mode:	TM1	Polarity:	Neutral
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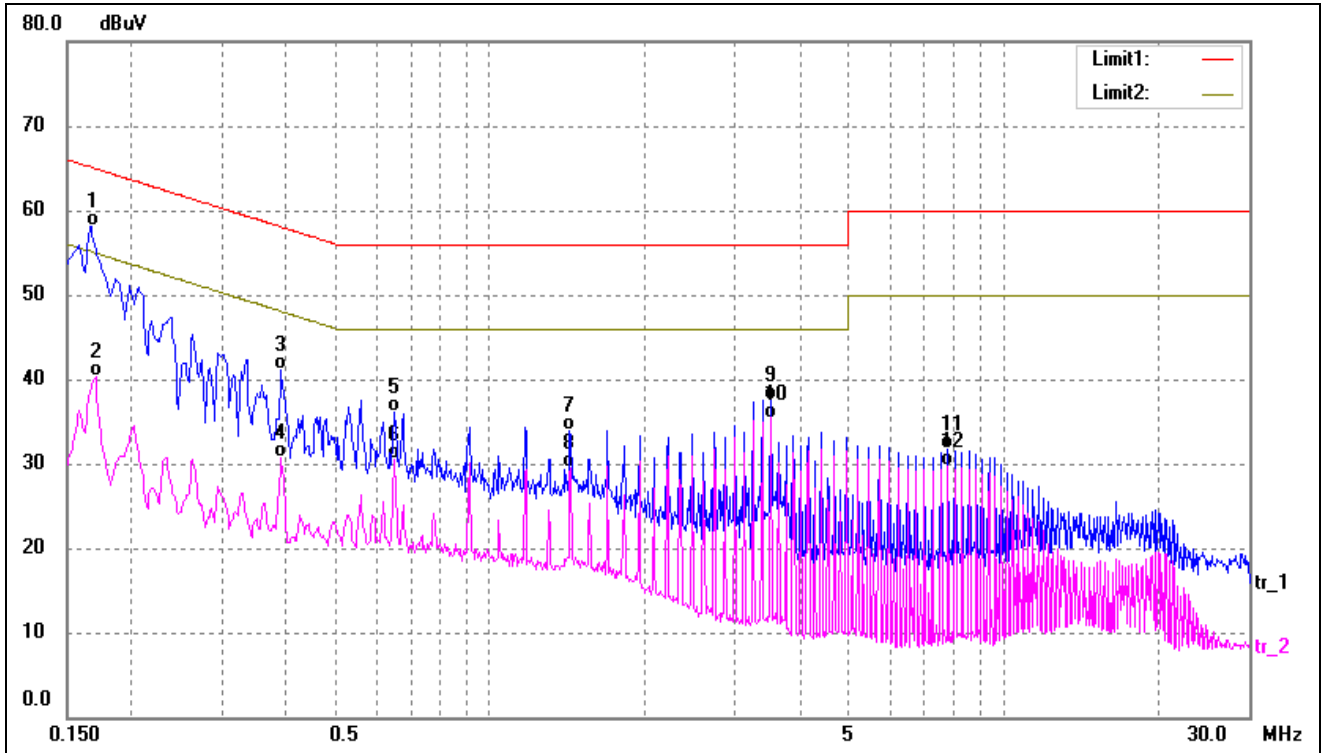
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1580	46.93	10.31	57.24	65.56	-8.32	QP
2	0.1780	24.20	10.31	34.51	54.57	-20.06	AVG
3	0.3740	28.42	10.23	38.65	58.41	-19.76	QP
4	0.3740	21.80	10.23	32.03	48.41	-16.38	AVG
5	0.6260	27.63	10.20	37.83	56.00	-18.17	QP
6	0.6260	23.04	10.20	33.24	46.00	-12.76	AVG
7	0.8780	26.53	10.16	36.69	56.00	-19.31	QP
8	0.8780	23.27	10.16	33.43	46.00	-12.57	AVG
9	1.3779	26.47	10.18	36.65	56.00	-19.35	QP
10	1.3779	23.73	10.18	33.91	46.00	-12.09	AVG
11	4.1340	16.92	10.31	27.23	46.00	-18.77	AVG
12	4.5100	19.81	10.32	30.13	56.00	-25.87	QP

Test mode:	TM2	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1620	47.16	10.31	57.47	65.36	-7.89	QP
2	0.1700	29.62	10.31	39.93	54.96	-15.03	AVG
3	0.2980	35.39	10.24	45.63	60.30	-14.67	QP
4	0.2980	18.07	10.24	28.31	50.30	-21.99	AVG
5	0.5580	27.47	10.21	37.68	56.00	-18.32	QP
6	0.6500	19.36	10.20	29.56	46.00	-16.44	AVG
7	1.1700	24.22	10.16	34.38	56.00	-21.62	QP
8	1.1700	20.04	10.16	30.20	46.00	-15.80	AVG
9	3.3780	27.24	10.29	37.53	56.00	-18.47	QP
10	3.3780	24.98	10.29	35.27	46.00	-10.73	AVG
11	5.4580	22.53	10.33	32.86	60.00	-27.14	QP
12	5.4580	20.02	10.33	30.35	50.00	-19.65	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*	0.1660	47.86	10.31	58.17	65.15	-6.98	QP
2	0.1700	29.92	10.31	40.23	54.96	-14.73	AVG
3	0.3899	30.94	10.23	41.17	58.06	-16.89	QP
4	0.3899	20.49	10.23	30.72	48.06	-17.34	AVG
5	0.6500	25.96	10.20	36.16	56.00	-19.84	QP
6	0.6500	20.26	10.20	30.46	46.00	-15.54	AVG
7	1.4299	23.73	10.18	33.91	56.00	-22.09	QP
8	1.4340	19.41	10.18	29.59	46.00	-16.41	AVG
9	3.5140	27.28	10.29	37.57	56.00	-18.43	QP
10	3.5140	25.11	10.29	35.40	46.00	-10.60	AVG
11	7.7940	21.43	10.34	31.77	60.00	-28.23	QP
12	7.7940	19.36	10.34	29.70	50.00	-20.30	AVG

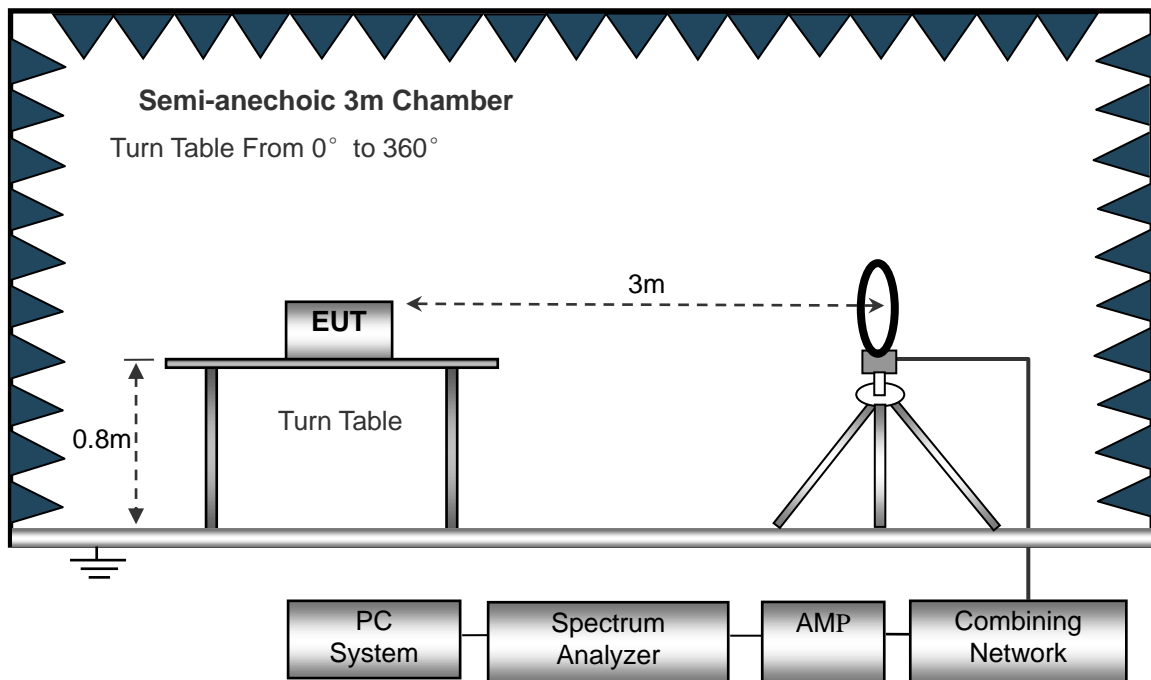
## 4. Radiated Emissions

### 4.1 Test Procedure

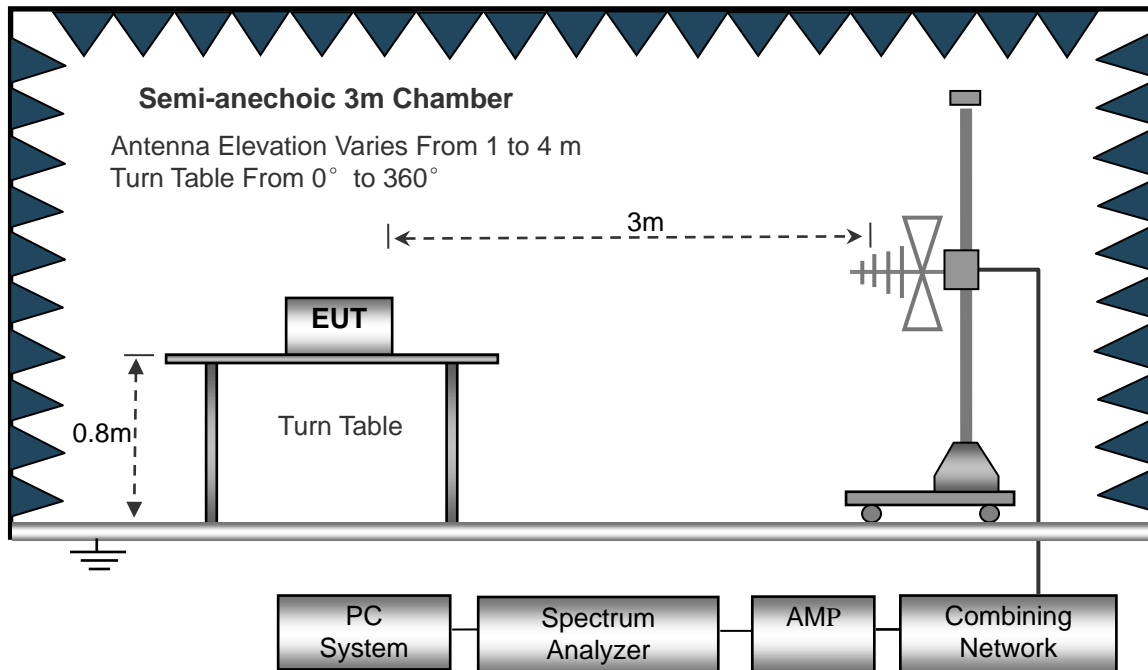
The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 18.305 Limit.

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:

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



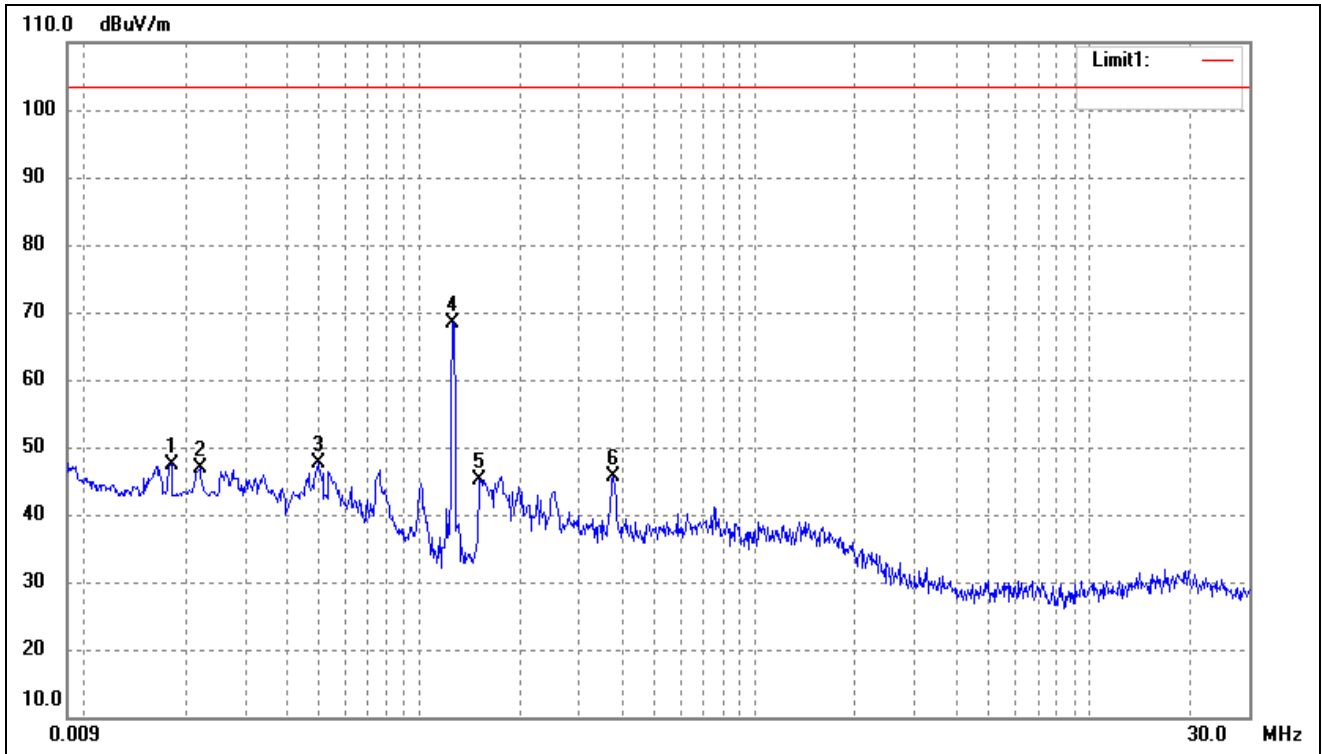
**4.4 Environmental Conditions**

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

**4.5 Summary of Test Results/Plots**

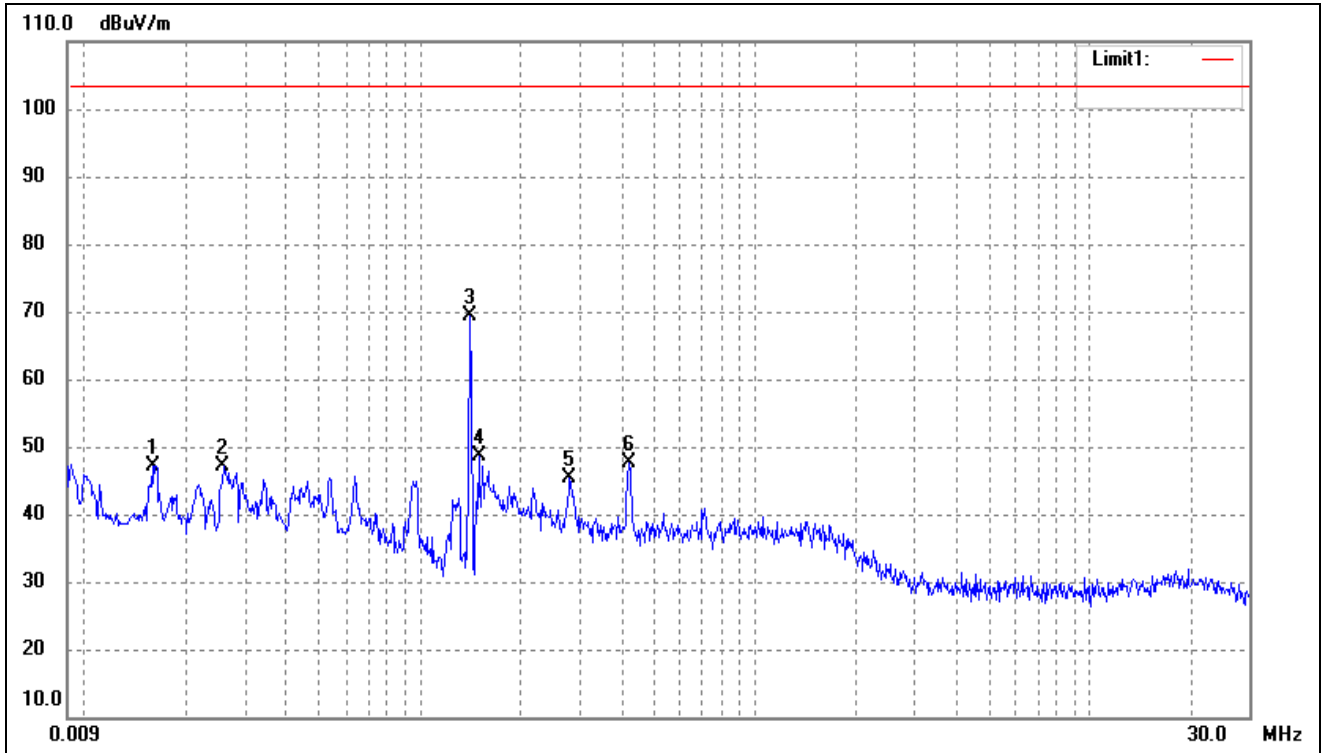
**Plot of Radiated Emissions Test Data (Below 30MHz)**

Test mode:	TM1	Polarity:	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	0.0181	54.46	-6.96	47.50	103.50	-56.00	-	-	peak
2	0.0221	53.60	-6.84	46.76	103.50	-56.74	-	-	peak
3	0.0495	54.25	-6.67	47.58	103.50	-55.92	-	-	peak
4	0.1255	74.82	-6.46	68.36	103.50	-35.14	-	-	peak
5	0.1516	51.80	-6.59	45.21	103.50	-58.29	-	-	peak
6	0.3790	53.32	-7.72	45.60	103.50	-57.90	-	-	peak

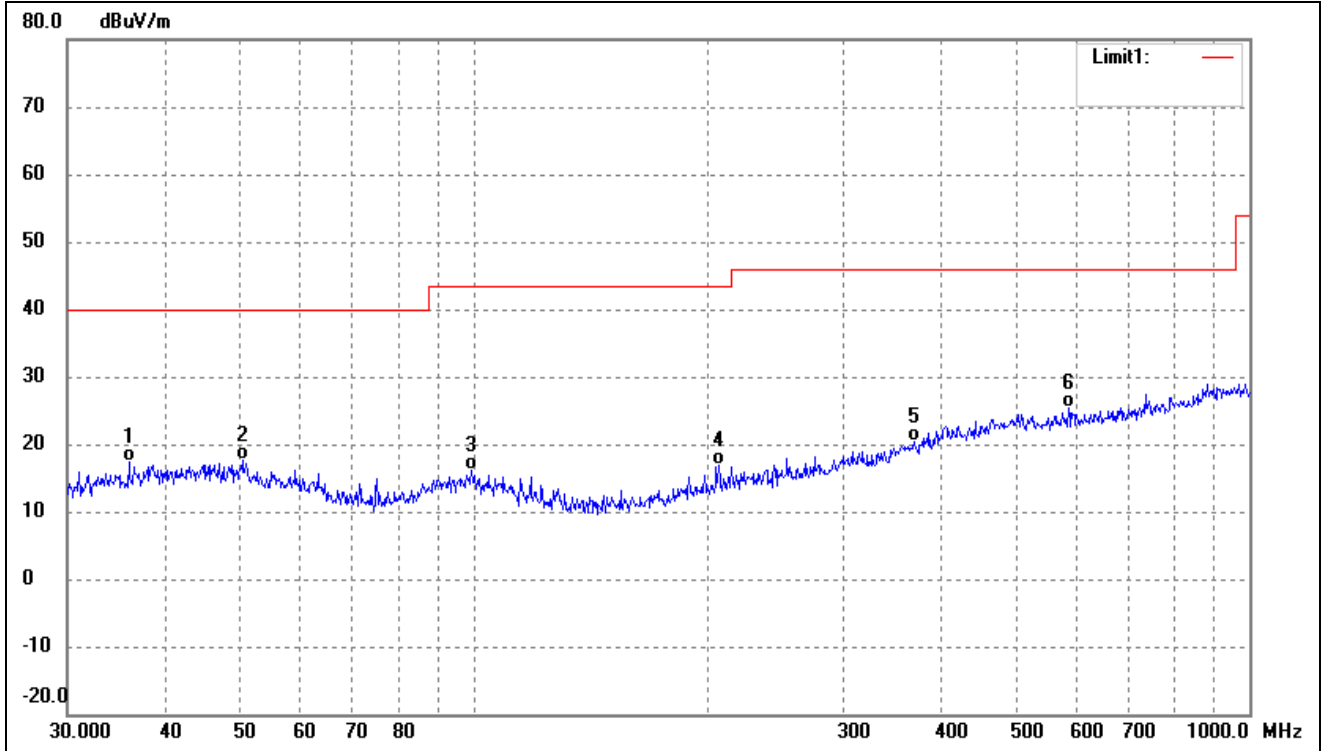
Test mode:	TM2	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	0.0159	54.20	-7.02	47.18	103.50	-56.32	-	-	peak
2	0.0258	53.75	-6.70	47.05	103.50	-56.45	-	-	peak
3	0.1408	75.85	-6.38	69.47	103.50	-34.03	-	-	peak
4	0.1499	55.09	-6.47	48.62	103.50	-54.88	-	-	peak
5	0.2802	53.08	-7.76	45.32	103.50	-58.18	-	-	peak
6	0.4213	55.29	-7.65	47.64	103.50	-55.86	-	-	peak

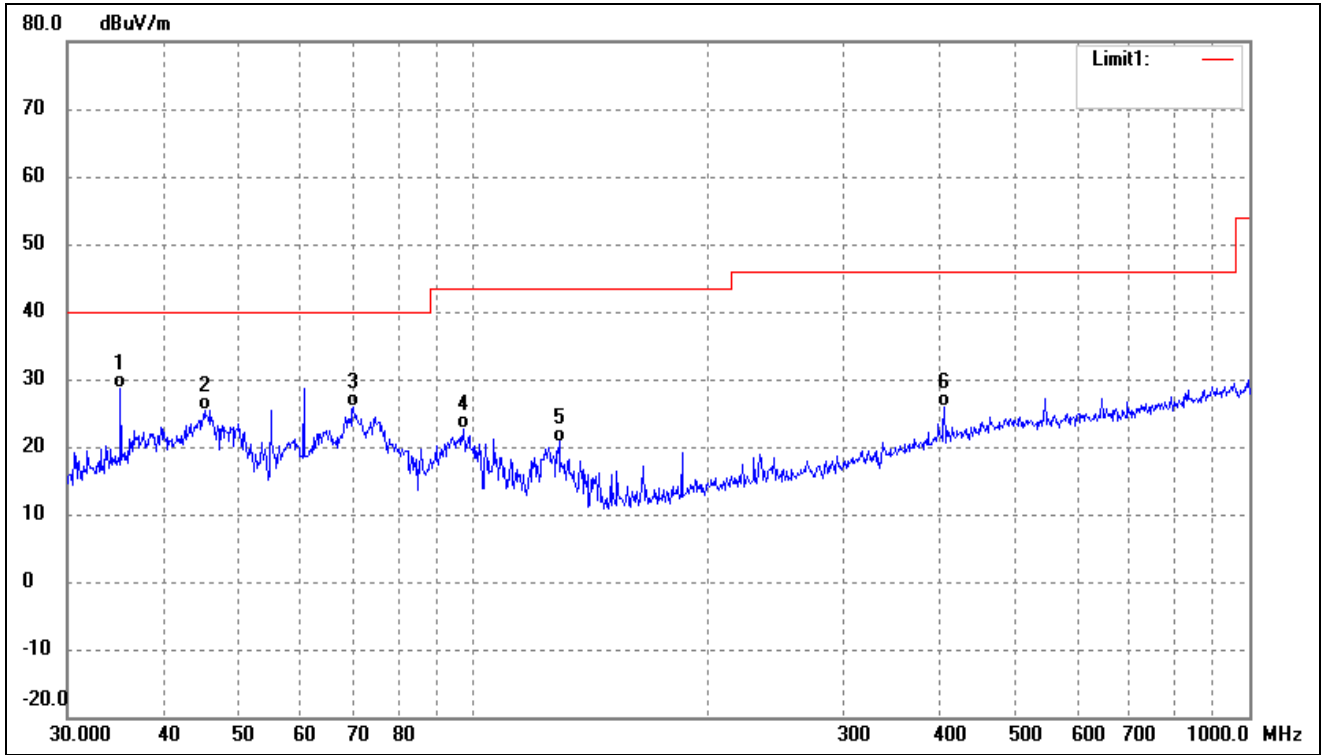
**Plot of Radiated Emissions Test Data ( Above 30MHz)**

Test mode:	TM1	Polarity:	Horizontal
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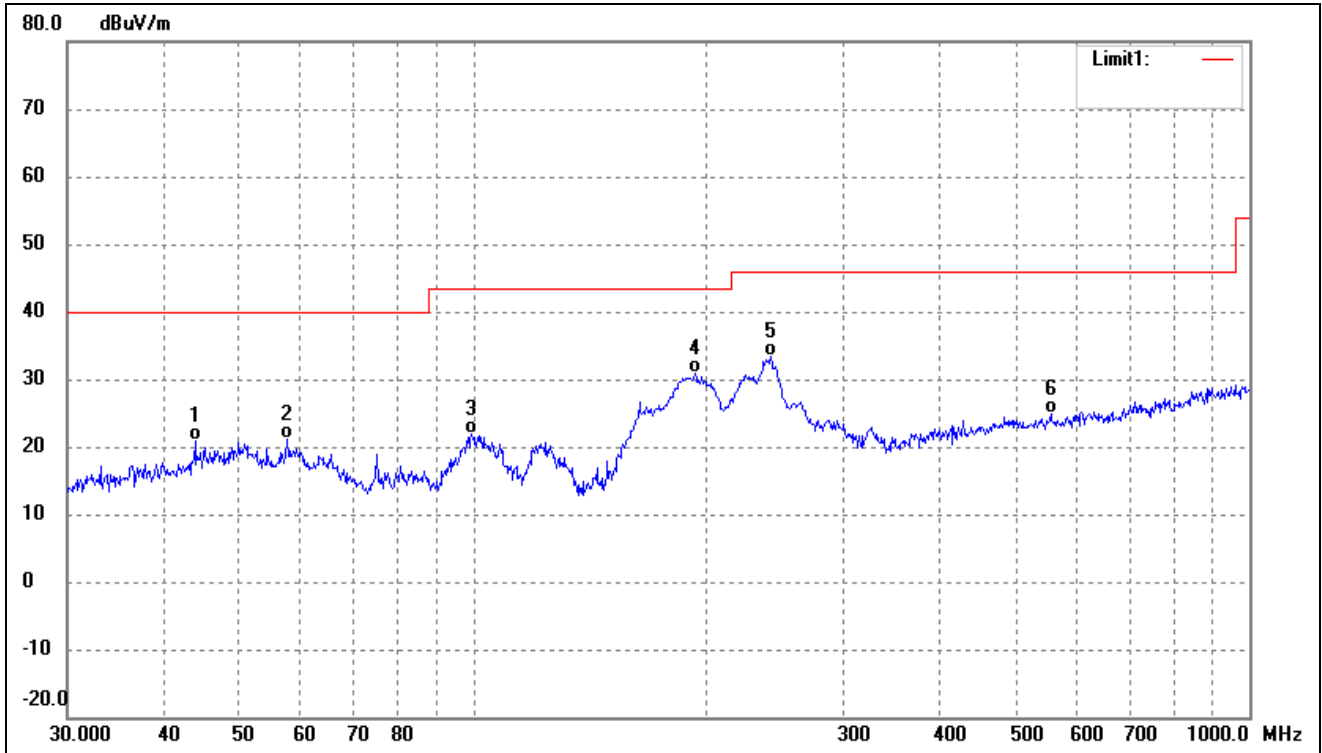
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	36.0007	27.65	-10.30	17.35	40.00	-22.65	-	-	QP
2	50.4089	27.36	-9.74	17.62	40.00	-22.38	-	-	QP
3	99.5281	26.92	-10.90	16.02	43.50	-27.48	-	-	QP
4	207.1226	27.93	-11.09	16.84	43.50	-26.66	-	-	QP
5	369.4047	26.32	-6.02	20.30	46.00	-25.70	-	-	QP
6	584.7895	28.41	-3.01	25.40	46.00	-20.60	-	-	QP

Test mode:	TM1	Polarity:	Vertical
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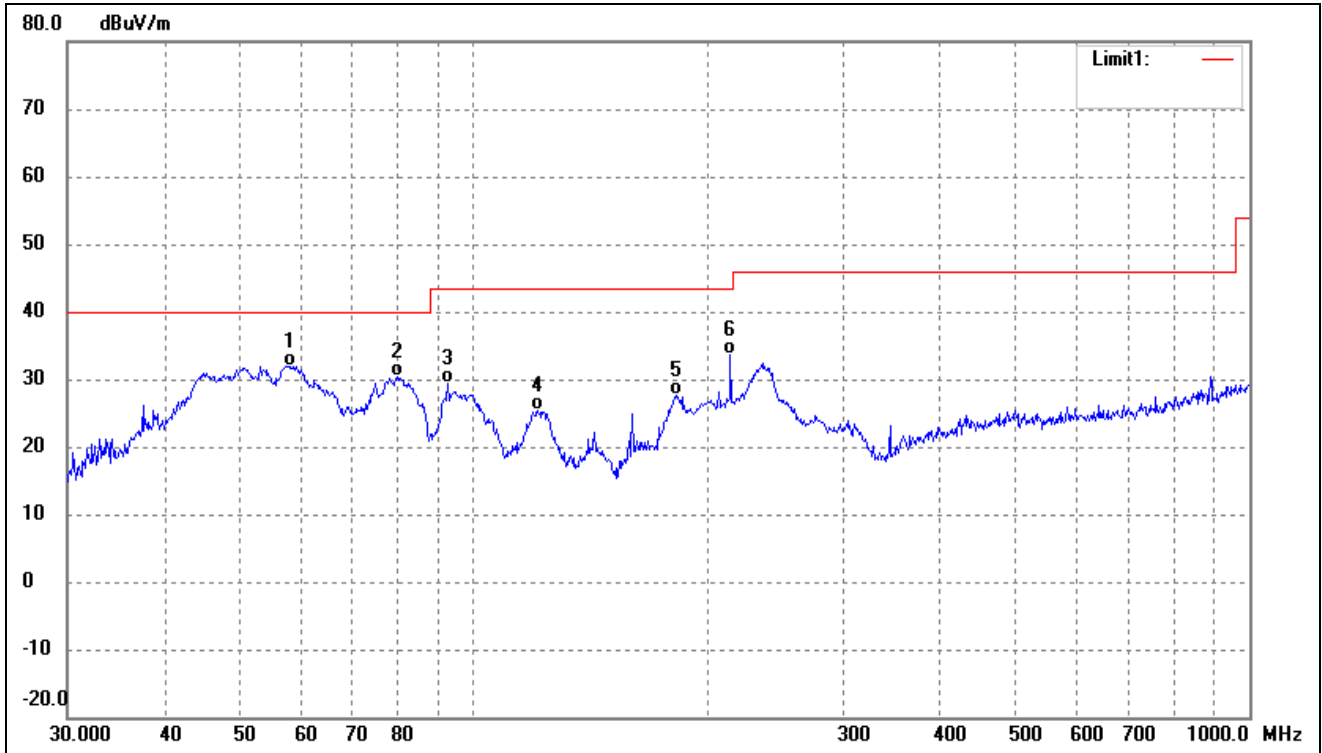
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	35.1278	39.20	-10.45	28.75	40.00	-11.25	-	-	QP
2	45.0583	34.99	-9.65	25.34	40.00	-14.66	-	-	QP
3	70.0903	40.09	-14.21	25.88	40.00	-14.12	-	-	QP
4	97.1148	33.61	-11.09	22.52	43.50	-20.98	-	-	QP
5	129.0146	34.28	-13.53	20.75	43.50	-22.75	-	-	QP
6	404.6665	30.59	-4.77	25.82	46.00	-20.18	-	-	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	43.8119	30.48	-9.65	20.83	40.00	-19.17	-	-	QP
2	57.5939	32.31	-11.09	21.22	40.00	-18.78	-	-	QP
3	99.5281	32.88	-10.90	21.98	43.50	-21.52	-	-	QP
4	193.0945	42.47	-11.58	30.89	43.50	-12.61	-	-	QP
5	241.6763	43.35	-10.04	33.31	46.00	-12.69	-	-	QP
6	554.8254	28.26	-3.34	24.92	46.00	-21.08	-	-	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	57.9993	43.11	-11.17	31.94	40.00	-8.06	-	-	QP
2	79.8003	44.29	-13.96	30.33	40.00	-9.67	-	-	QP
3	92.7871	40.82	-11.40	29.42	43.50	-14.08	-	-	QP
4	121.1231	38.22	-12.81	25.41	43.50	-18.09	-	-	QP
5	182.5592	40.25	-12.59	27.66	43.50	-15.84	-	-	QP
6	214.5143	44.41	-10.88	33.53	43.50	-9.97	-	-	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 \*\*\*\*