TEST REPORT

Reference No.	:	WTX23X07167538W001
FCC ID	:	A4X-WPC15-1LCNA
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 Charger
Model No.	:	WPC15-1LCNA
Standards	:	FCC Part 18
Date of Receipt sample	:	2023-07-31
Date of Test	:	2023-07-31 to 2023-08-16
Date of Issue	:	2023-08-16
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:

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:

Gala Wang

Approved by:

Silin Chen

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Report version

Version No.	Date of issue	Description
Rev.00	2023-08-16	Original
/	/	/

1. GENERAL INFORMATION

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:	Wireless Charger
Trade Name:	CE-LINK
Model No.:	WPC15-1LCNA
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:	ASK
Antenna Type:	Coil Antenna
Rated Voltage:	Input: DC 5V/9V/12V
Rated Current:	Input:3A/2A/1.5A
Rate Power:	Output:5W/7.5W/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 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 mai ntained 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 (MAX OUTPUT)

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
Type-C Cable	1.5	Shielded	Without Core

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
Adapter	iottie	CHCRIO160	/

Special Cable List and Details

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

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	2023-02-25	2024-02-24
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2023-02-25	2024-02-24
Amplifier	HP	8447F	2805A03475	2023-02-25	2024-02-24
Amplifier	C&D	PAP-1G18	14918	2023-02-25	2024-02-24
Trilog Broadband Antenna	Schwarz beck	VULB9163	9163-333	2023-03-20	2026-03-19
Horn Antenna	ETS	3117	00086197	2021-03-19	2024-03-18
Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2024-03-19
Trilog Broadband Antenna	Schwarz beck	VULB9163	9163-333	2023-03-22	2024-03-21
Amplifier	Agilent	8447D	2944A10179	2023-02-25	2024-02-24
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2023-02-25	2024-02-24

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

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

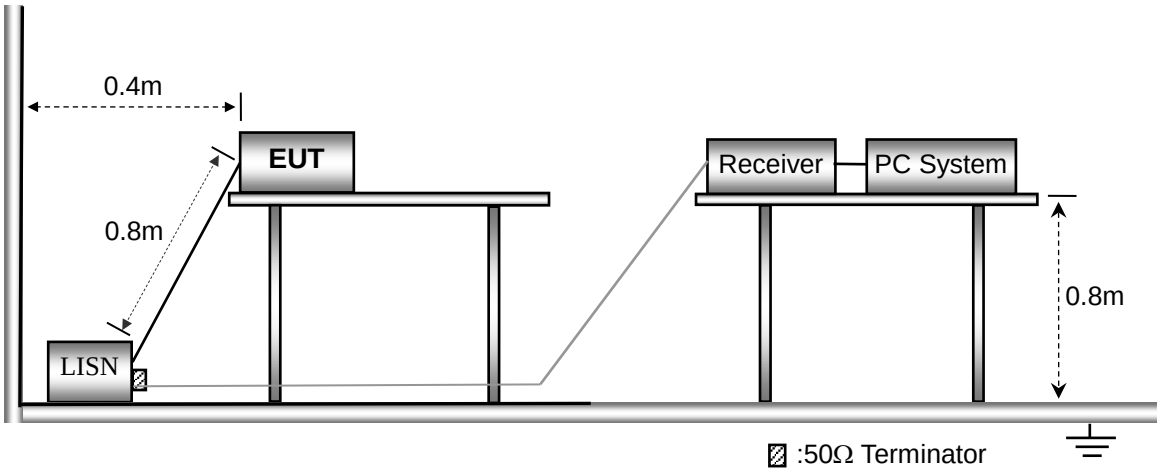
According to FCC 18.307(b), the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies shall not exceed the limits in the following tables:

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

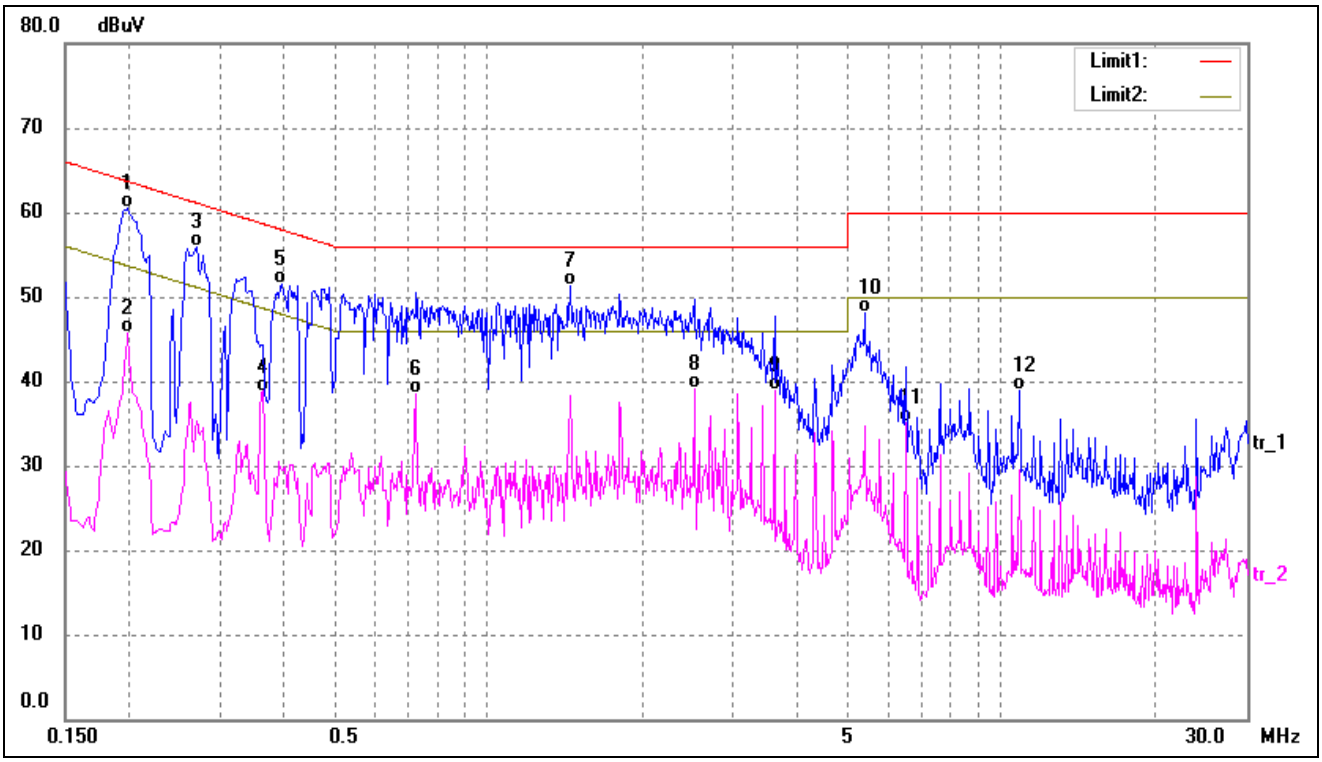
3.5 Test Receiver Setup

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

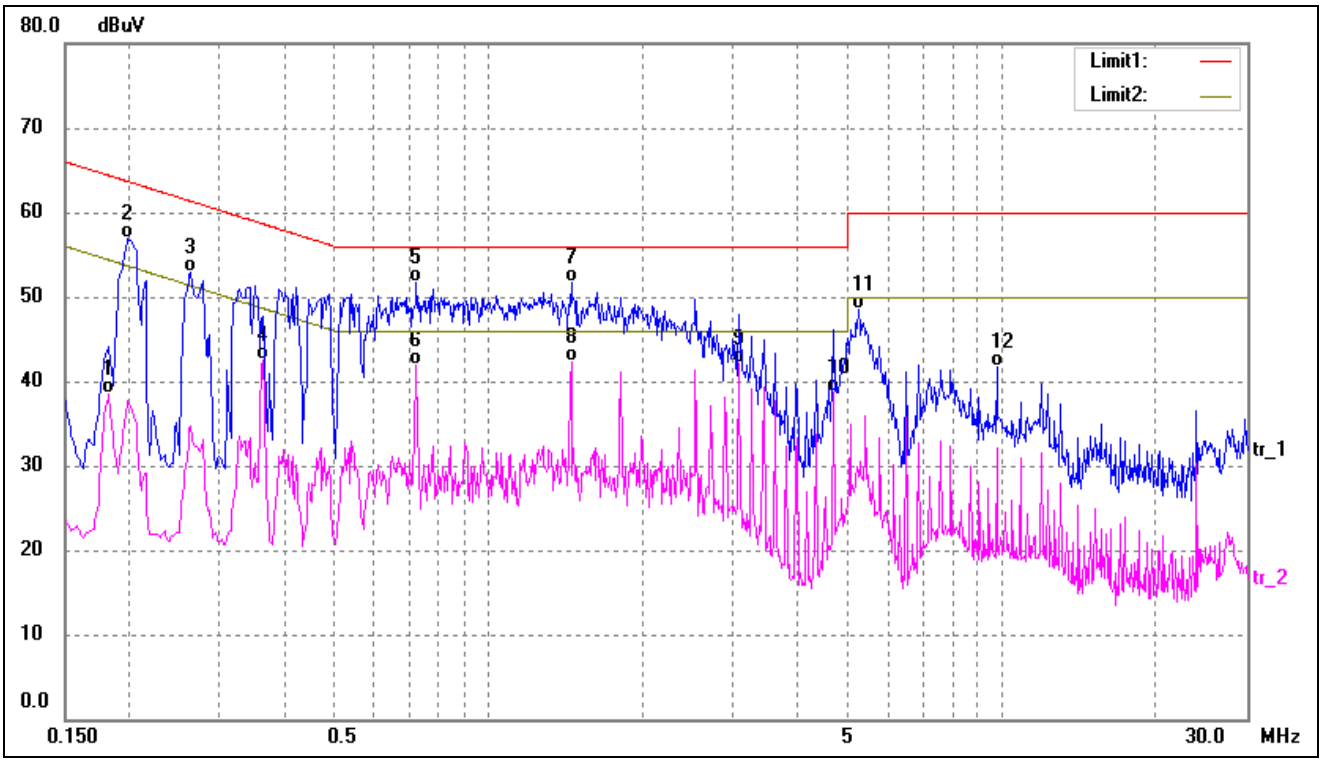
3.6 Summary of Test Results/Plots

Test mode:	TM1	Polarity:	Line



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1*	0.1980	50.14	10.39	60.53	63.69	-3.16	QP
2	0.1980	35.33	10.39	45.72	53.69	-7.97	AVG
3	0.2700	45.54	10.33	55.87	61.12	-5.25	QP
4	0.3620	28.52	10.28	38.80	48.68	-9.88	AVG
5	0.3940	41.21	10.27	51.48	57.98	-6.50	QP
6	0.7220	28.40	10.19	38.59	46.00	-7.41	AVG
7	1.4460	41.01	10.22	51.23	56.00	-4.77	QP
8	2.5260	28.78	10.34	39.12	46.00	-6.88	AVG
9	3.6100	28.48	10.36	38.84	46.00	-7.16	AVG
10	5.4180	37.71	10.38	48.09	60.00	-11.91	QP
11	6.4980	24.66	10.38	35.04	50.00	-14.96	AVG
12	10.8300	28.52	10.35	38.87	60.00	-21.13	QP

Test mode:	TM1	Polarity:	Neutral



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1820	28.08	10.39	38.47	54.39	-15.92	AVG
2	0.1980	46.60	10.39	56.99	63.69	-6.70	QP
3	0.2620	42.50	10.34	52.84	61.37	-8.53	QP
4	0.3620	32.13	10.28	42.41	48.68	-6.27	AVG
5	0.7260	41.47	10.19	51.66	56.00	-4.34	QP
6	0.7260	31.75	10.19	41.94	46.00	-4.06	AVG
7	1.4500	41.43	10.22	51.65	56.00	-4.35	QP
8*	1.4500	32.16	10.22	42.38	46.00	-3.62	AVG
9	3.0780	31.68	10.35	42.03	46.00	-3.97	AVG
10	4.7100	28.28	10.38	38.66	46.00	-7.34	AVG
11	5.2740	38.11	10.38	48.49	60.00	-11.51	QP
12	9.7780	31.41	10.38	41.79	60.00	-18.21	QP

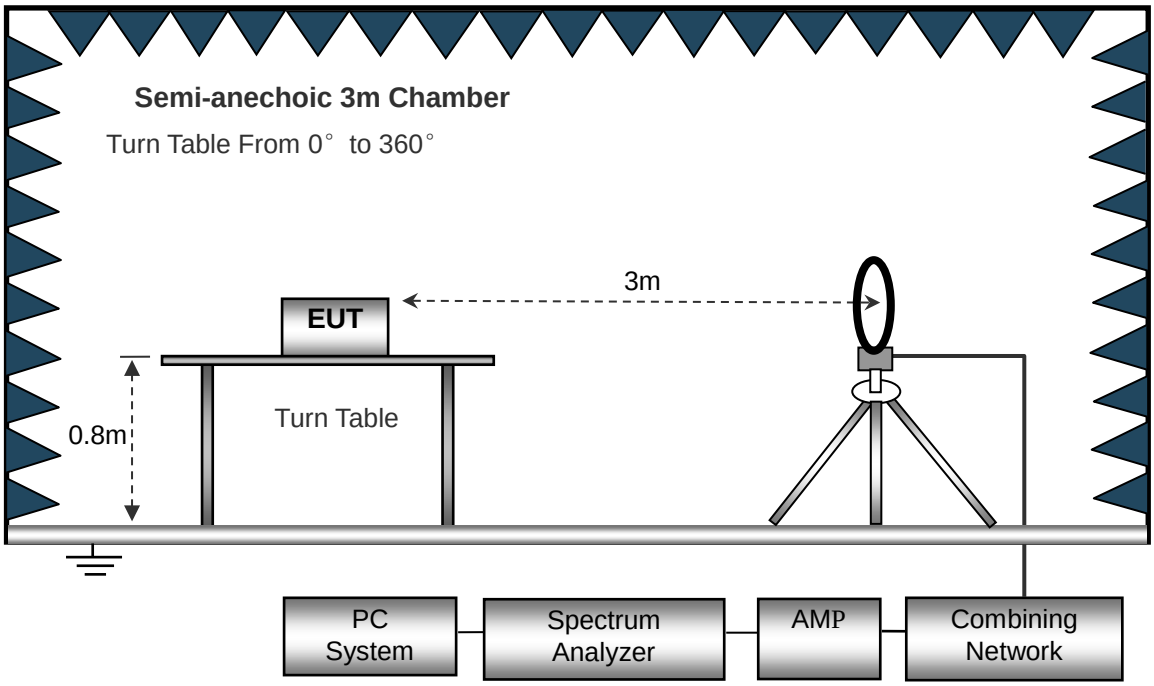
4. Radiated Emissions

4.1 Test Procedure

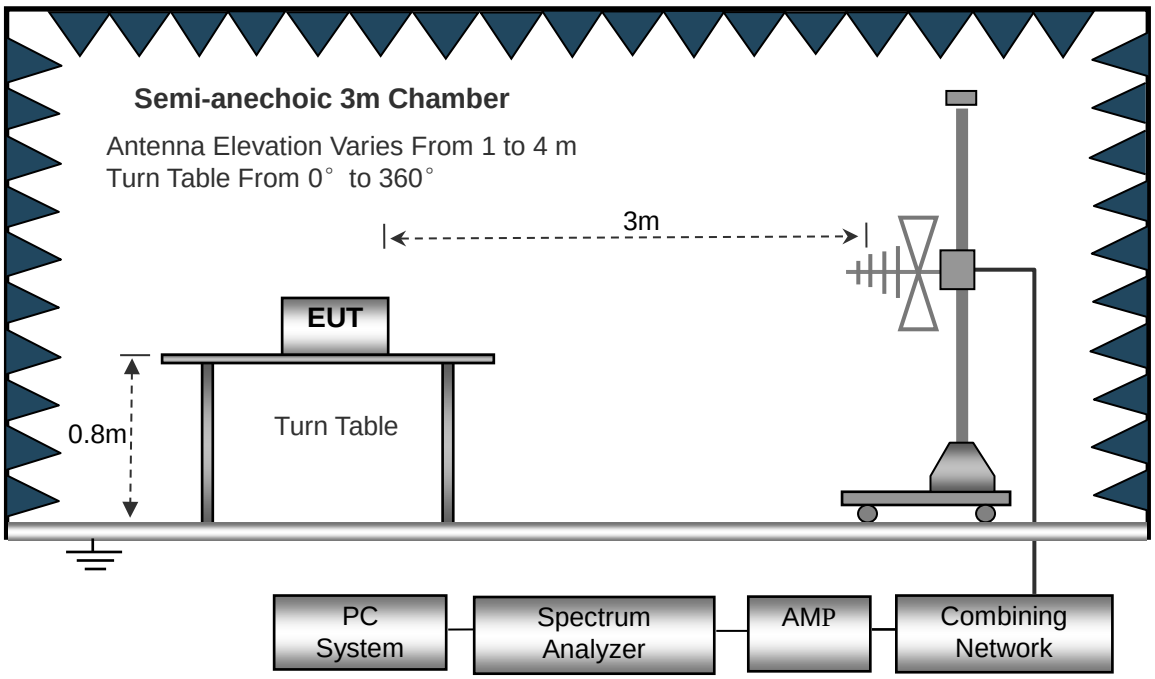
The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 18.305 Limit.

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:

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

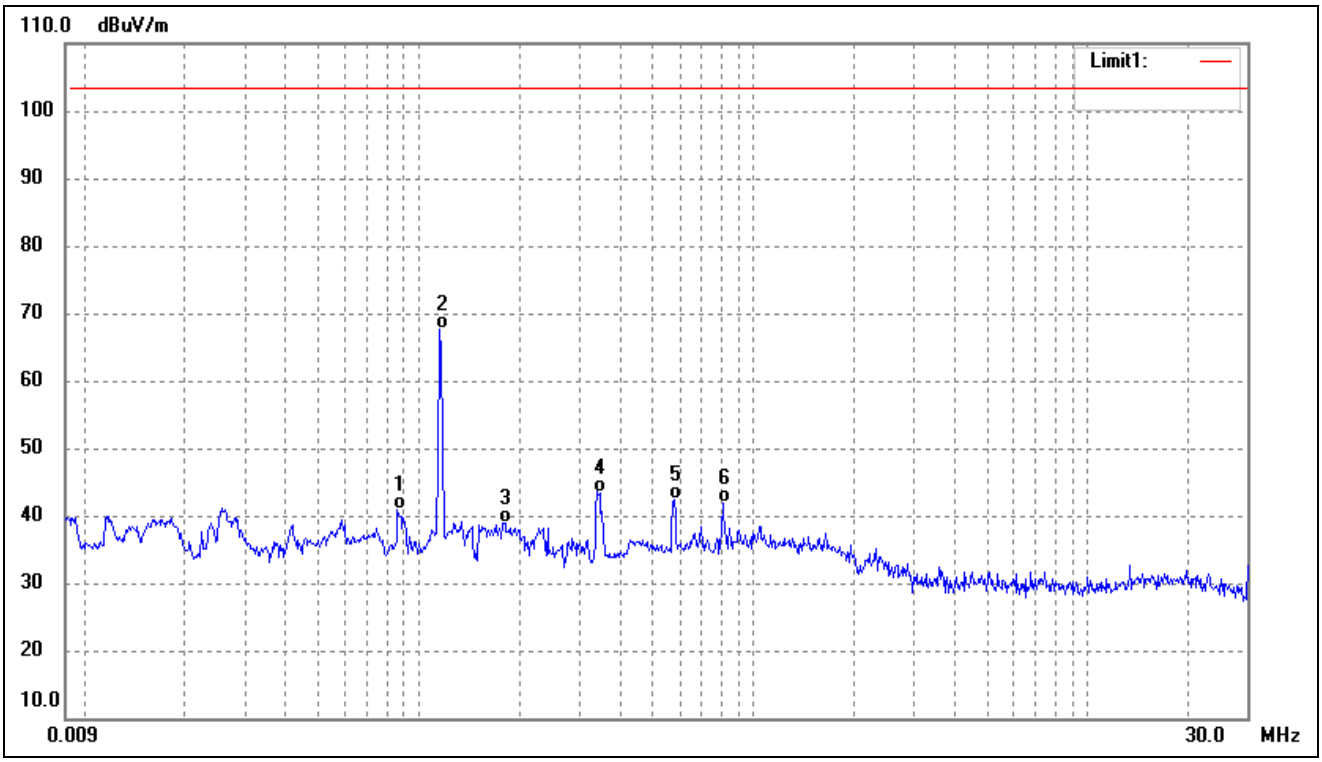
4.4 Environmental Conditions

Temperature:	23.5 °C
Relative Humidity:	54 %
ATM Pressure:	1011 mbar

4.5 Summary of Test Results/Plots

Plot of Radiated Emissions Test Data (Below 30MHz)

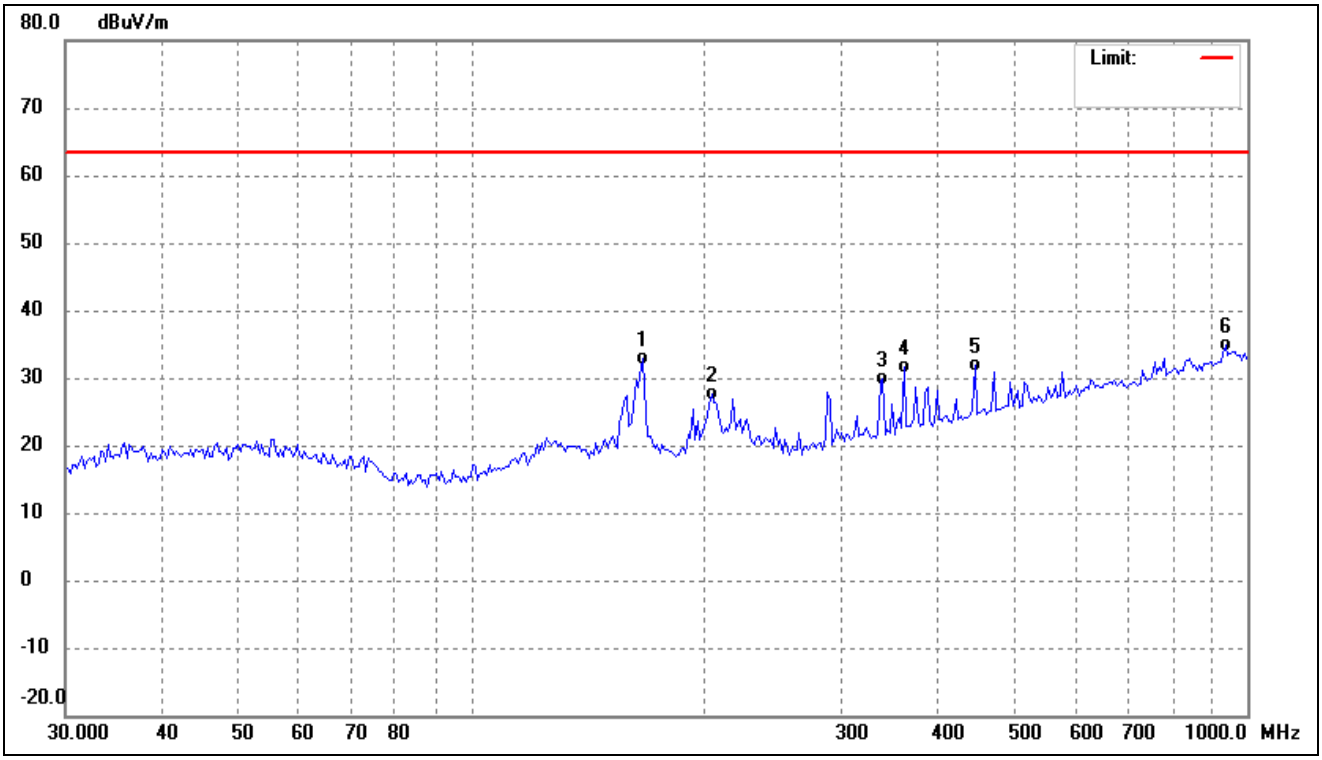
Test mode:	TM1	Polarity:	Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(□)	(cm)	
1	0.0859	47.02	-6.14	40.88	103.50	-62.62	-	-	QP
2	0.1278	74.14	-6.52	67.62	103.50	-35.88	-	-	QP
3	0.1786	45.79	-6.86	38.93	103.50	-64.57	-	-	QP
4	0.3410	51.23	-7.73	43.50	103.50	-60.00	-	-	QP
5	0.5762	49.63	-7.19	42.44	103.50	-61.06	-	-	QP
6	0.8084	48.89	-6.95	41.94	103.50	-61.56	-	-	QP

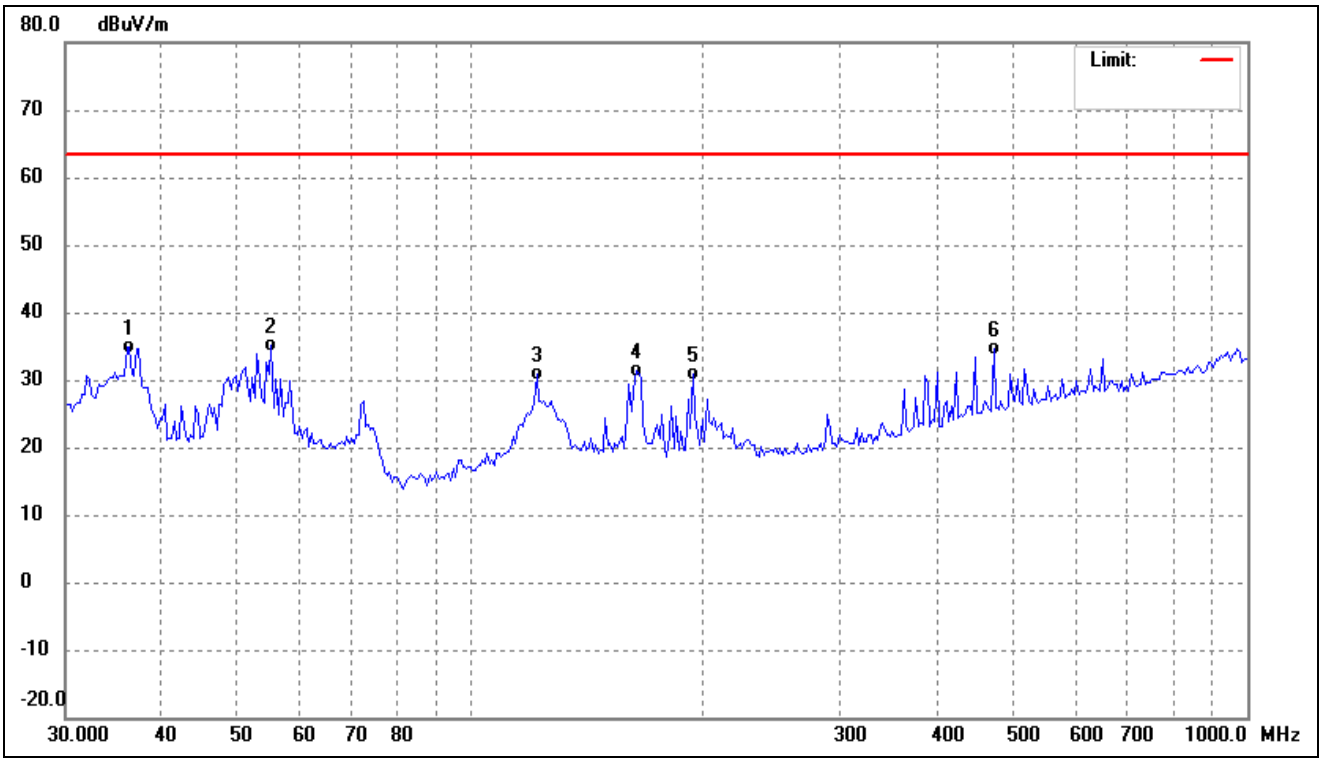
Plot of Radiated Emissions Test Data (Above 30MHz)

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	166.6385	41.56	-8.79	32.77	63.50	-30.73	-	-	peak
2	204.3052	39.59	-12.06	27.53	63.50	-35.97	-	-	peak
3	338.8546	37.20	-7.31	29.89	63.50	-33.61	-	-	peak
4	360.9775	38.41	-6.83	31.58	63.50	-31.92	-	-	peak
5	445.6932	36.55	-4.71	31.84	63.50	-31.66	-	-	peak
6	938.7139	32.86	2.01	34.87	63.50	-28.63	-	-	peak

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	36.2678	44.11	-9.28	34.83	63.50	-28.67	-	-	peak
2	55.2883	43.87	-8.64	35.23	63.50	-28.27	-	-	peak
3	121.4623	41.34	-10.43	30.91	63.50	-32.59	-	-	peak
4	163.1623	40.08	-8.70	31.38	63.50	-32.12	-	-	peak
5	193.1366	42.49	-11.60	30.89	63.50	-32.61	-	-	peak
6	471.4665	38.88	-4.29	34.59	63.50	-28.91	-	-	peak

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 *******