TEST REPORT

Reference No.	:	WTX22X01012461W-1
FCC ID	:	2AT8C-PS001
Applicant	:	Eye Caramba Oy
Address	:	Tehtaankatu 19 C 16, 00150 Helsinki, Finland
Manufacturer	:	Shenzhen Digital Trading Ltd
Address	:	RM203, E-commerce Jinfanghua Building, No.450, Bulong Road, Bantian Shenzhen City, Longgang District, Guangdong Province 518111, CN
Product Name	:	Power Stand
Model No.	:	PS001
Standards	:	FCC Part 18
Date of Receipt sample	:	2022-01-21
Date of Test	:	2022-01-21 to 2022-04-16
Date of Issue	:	2022-04-16
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.

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Report version

Version No.	Date of issue	Description
Rev.00	2022-04-16	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	Power Stand
Trade Name:	/
Model No.:	PS001
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
Power adapter	FSK
Antenna Type:	Coil Antenna
Antenna Gain	0dBi
Rated Voltage:	Input : DC 5V/ DC 9V
Rated Current:	Input : 2A/ 2A
Rated Power:	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 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	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
USB Cable	1.20	Unshielded	Without Ferrite

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
Wireless charging tester	YBZ	YBZ wireless charging tester	/
Adapter	Xiaomi	MDY-08-ES	/

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	2022-03-22	2023-03-21
Amplifier	Agilent	8447F	3113A06717	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	2944A10179	2021-04-12	2022-04-11
Amplifier	Agilent	8447D	2944A10179	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

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

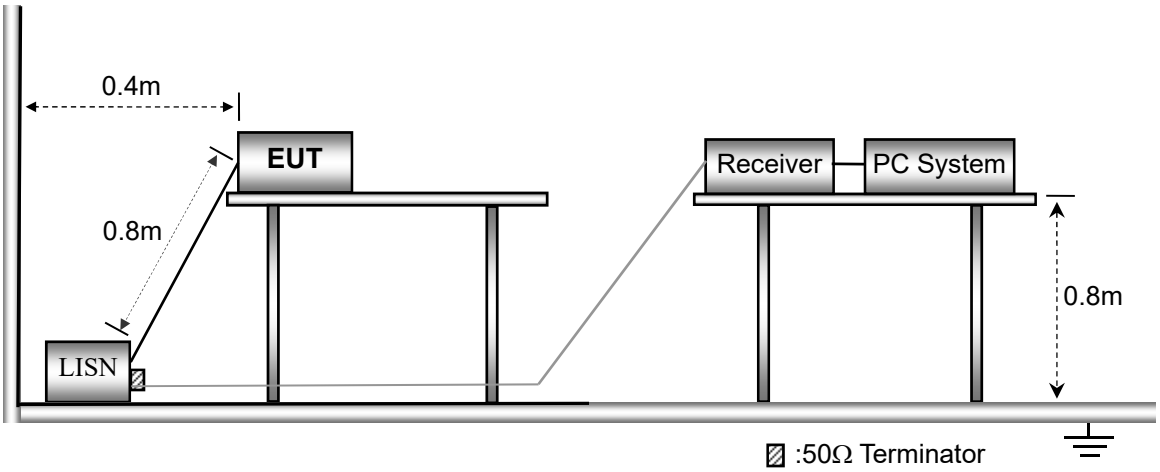
According to FCC 18.307(b), the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies shall not exceed the limits in the following tables:

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

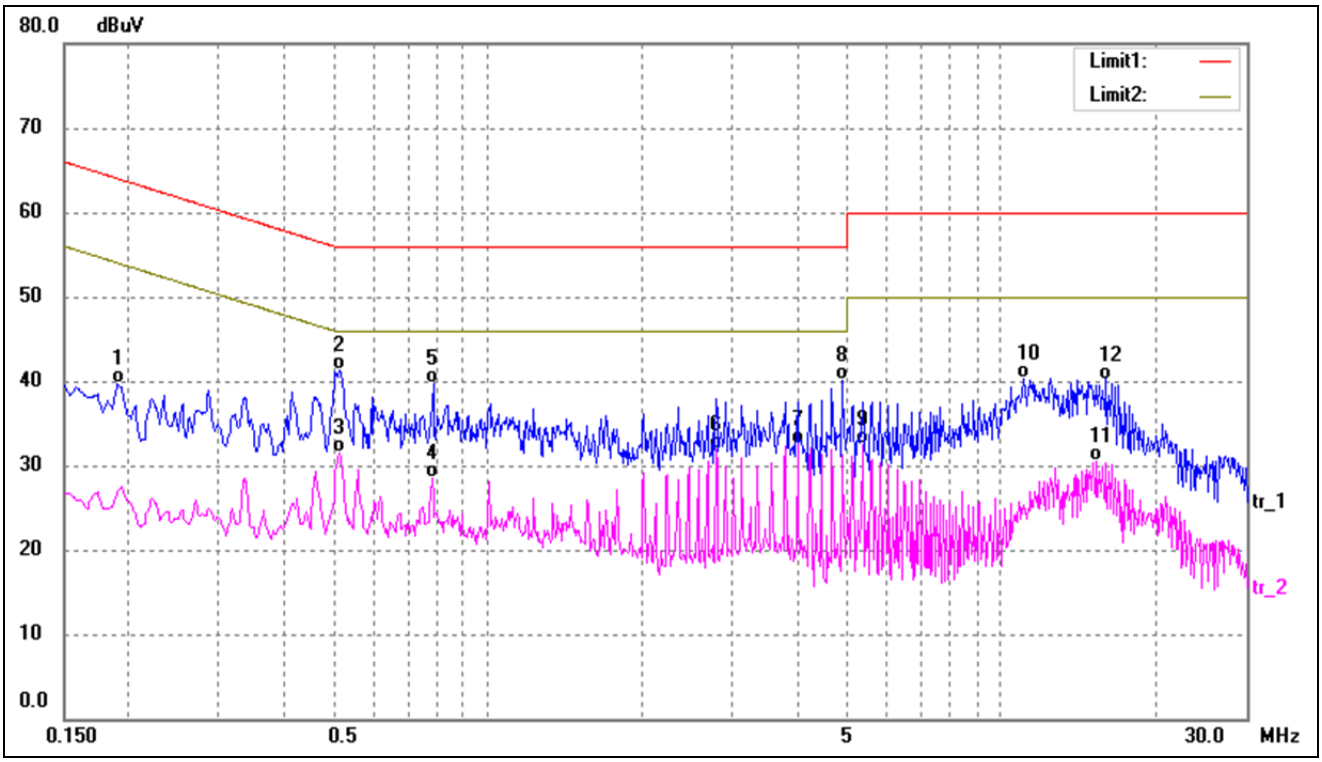
3.5 Test Receiver Setup

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

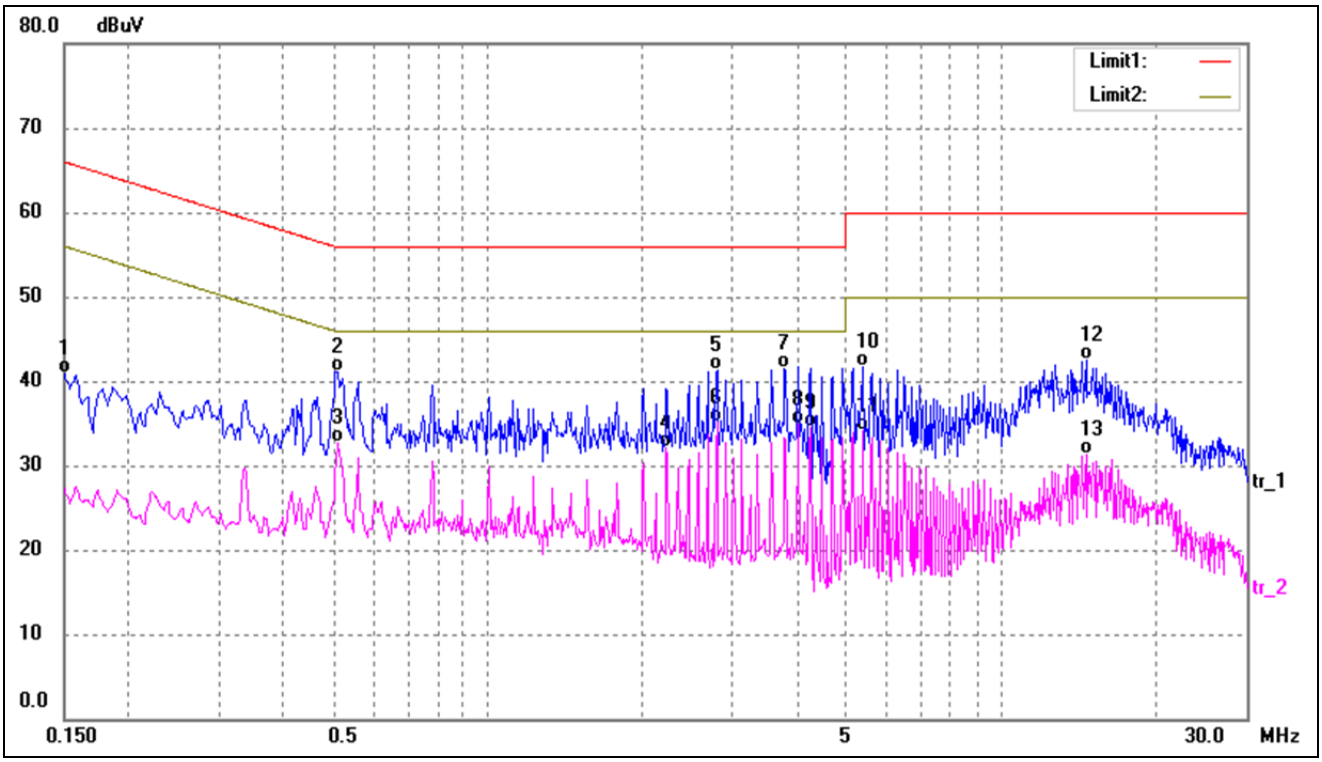
3.6 Summary of Test Results/Plots

Test mode:	TM1	Polarity:	Line



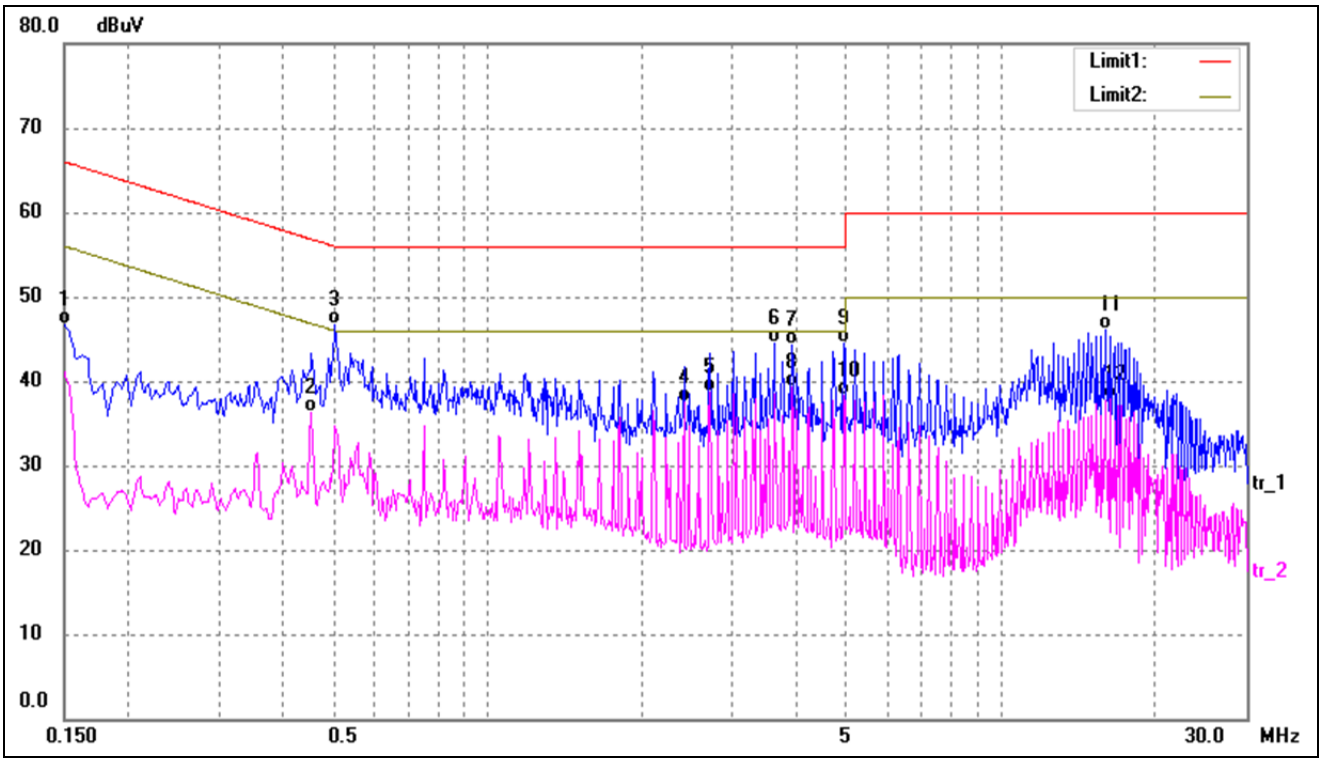
No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1900	29.34	10.37	39.71	64.04	-24.33	QP
2	0.5140	30.97	10.27	41.24	56.00	-14.76	QP
3	0.5140	21.30	10.27	31.57	46.00	-14.43	AVG
4	0.7820	18.04	10.43	28.47	46.00	-17.53	AVG
5	0.7860	29.37	10.43	39.80	56.00	-16.20	QP
6	2.7940	21.88	10.10	31.98	46.00	-14.02	AVG
7*	4.0220	22.54	10.04	32.58	46.00	-13.42	AVG
8	4.9180	30.15	10.00	40.15	56.00	-15.85	QP
9	5.3620	22.44	9.99	32.43	50.00	-17.57	AVG
10	11.0660	30.35	9.93	40.28	60.00	-19.72	QP
11	15.3140	20.27	10.16	30.43	50.00	-19.57	AVG
12	15.9740	30.03	10.17	40.20	60.00	-19.80	QP

Test mode:	TM1	Polarity:	Neutral



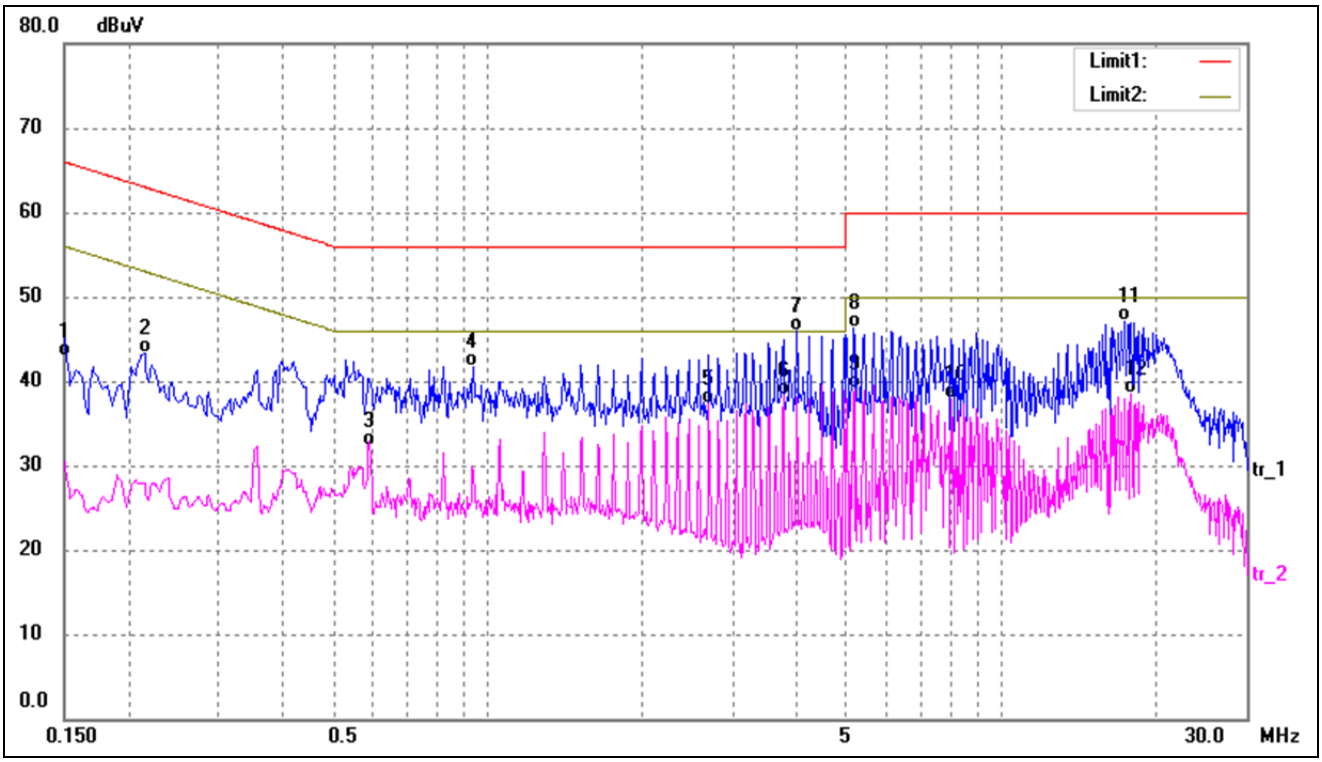
No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1500	30.47	10.38	40.85	66.00	-25.15	QP
2	0.5060	30.89	10.26	41.15	56.00	-14.85	QP
3	0.5100	22.35	10.27	32.62	46.00	-13.38	AVG
4	2.2340	22.00	10.12	32.12	46.00	-13.88	AVG
5	2.7980	31.20	10.10	41.30	56.00	-14.70	QP
6*	2.7980	24.94	10.10	35.04	46.00	-10.96	AVG
7	3.7980	31.53	10.05	41.58	56.00	-14.42	QP
8	4.0260	24.90	10.04	34.94	46.00	-11.06	AVG
9	4.2500	24.39	10.03	34.42	46.00	-11.58	AVG
10	5.3700	31.81	9.99	41.80	60.00	-18.20	QP
11	5.3700	24.06	9.99	34.05	50.00	-15.95	AVG
12	14.6540	32.34	10.13	42.47	60.00	-17.53	QP
13	14.6540	21.08	10.13	31.21	50.00	-18.79	AVG

Test mode:	TM2	Polarity:	Line



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1500	36.36	10.38	46.74	66.00	-19.26	QP
2	0.4540	26.05	10.28	36.33	46.80	-10.47	AVG
3	0.5060	36.37	10.26	46.63	56.00	-9.37	QP
4	2.4140	27.37	10.11	37.48	46.00	-8.52	AVG
5	2.7140	28.68	10.10	38.78	46.00	-7.22	AVG
6	3.6220	34.39	10.06	44.45	56.00	-11.55	QP
7	3.9220	34.27	10.05	44.32	56.00	-11.68	QP
8*	3.9220	29.31	10.05	39.36	46.00	-6.64	AVG
9	4.9500	34.52	10.00	44.52	56.00	-11.48	QP
10	4.9500	28.35	10.00	38.35	46.00	-7.65	AVG
11	15.9660	35.84	10.17	46.01	60.00	-13.99	QP
12	16.2780	27.66	10.18	37.84	50.00	-12.16	AVG

Test mode:	TM2	Polarity:	Neutral



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1516	32.51	10.37	42.88	65.91	-23.03	QP
2	0.2140	33.01	10.37	43.38	63.05	-19.67	QP
3	0.5900	21.90	10.31	32.21	46.00	-13.79	AVG
4	0.9420	31.17	10.53	41.70	56.00	-14.30	QP
5	2.7060	27.26	10.10	37.36	46.00	-8.64	AVG
6*	3.7620	28.35	10.05	38.40	46.00	-7.60	AVG
7	3.9980	35.94	10.04	45.98	56.00	-10.02	QP
8	5.1580	36.39	10.00	46.39	60.00	-13.61	QP
9	5.2020	29.16	10.00	39.16	50.00	-10.84	AVG
10	8.0100	27.97	9.92	37.89	50.00	-12.11	AVG
11	17.3860	36.83	10.20	47.03	60.00	-12.97	QP
12	17.8500	28.23	10.21	38.44	50.00	-11.56	AVG

4. Radiated Emissions

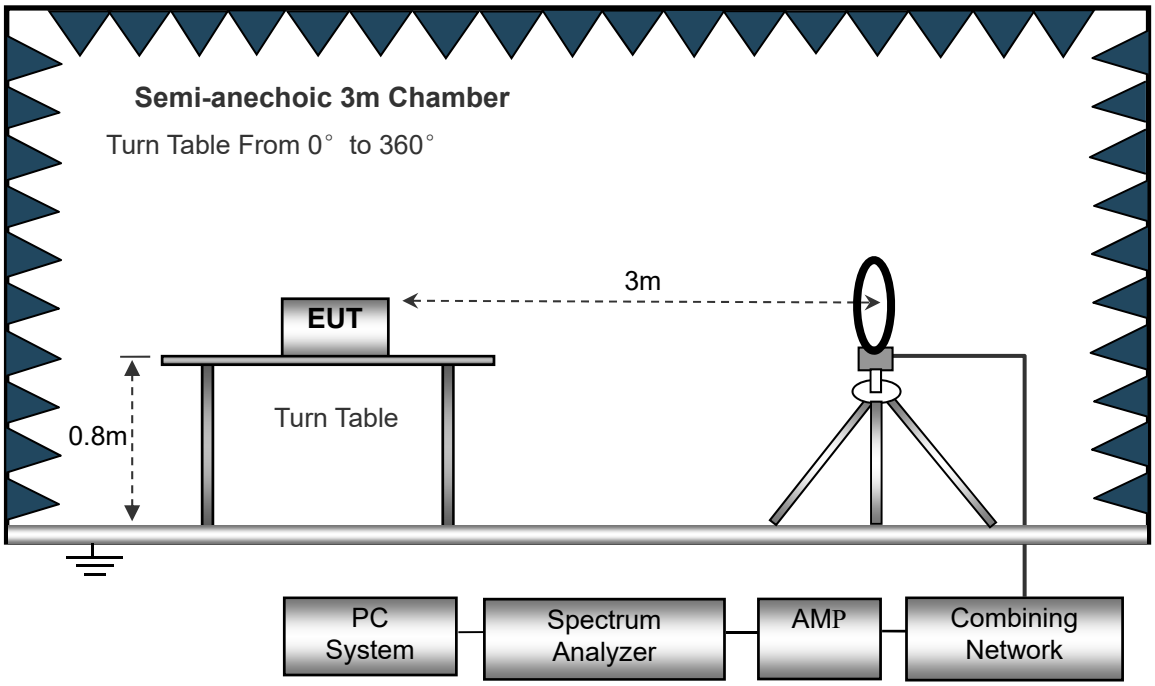
4.1 Test Procedure

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.

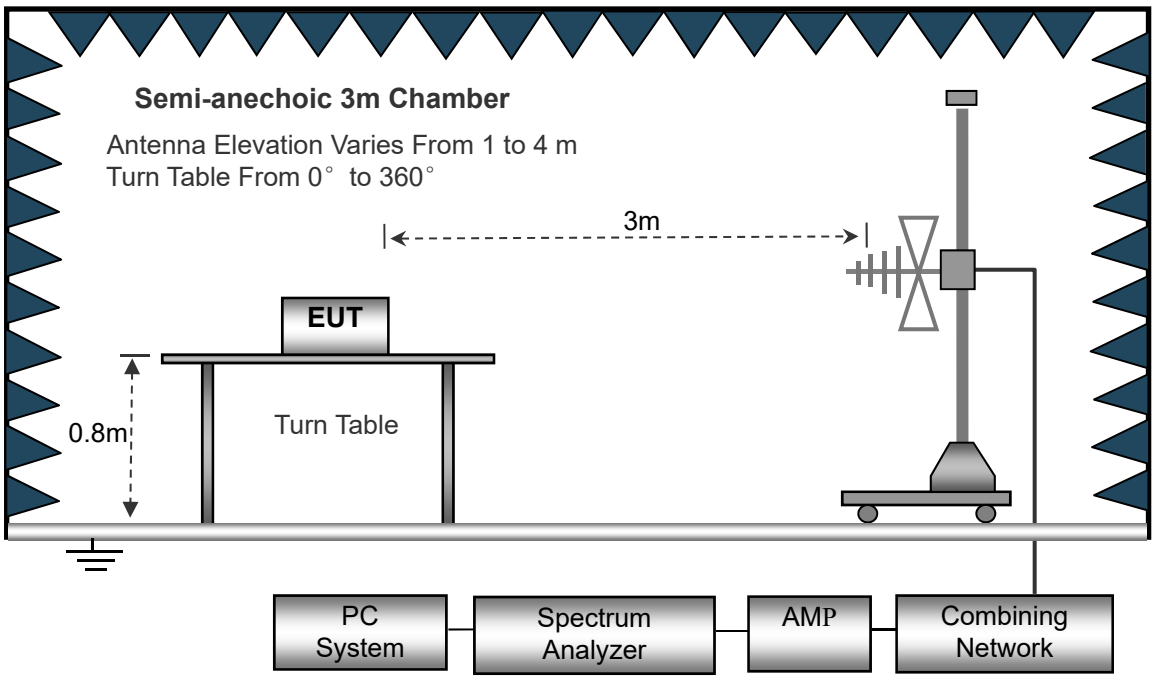
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

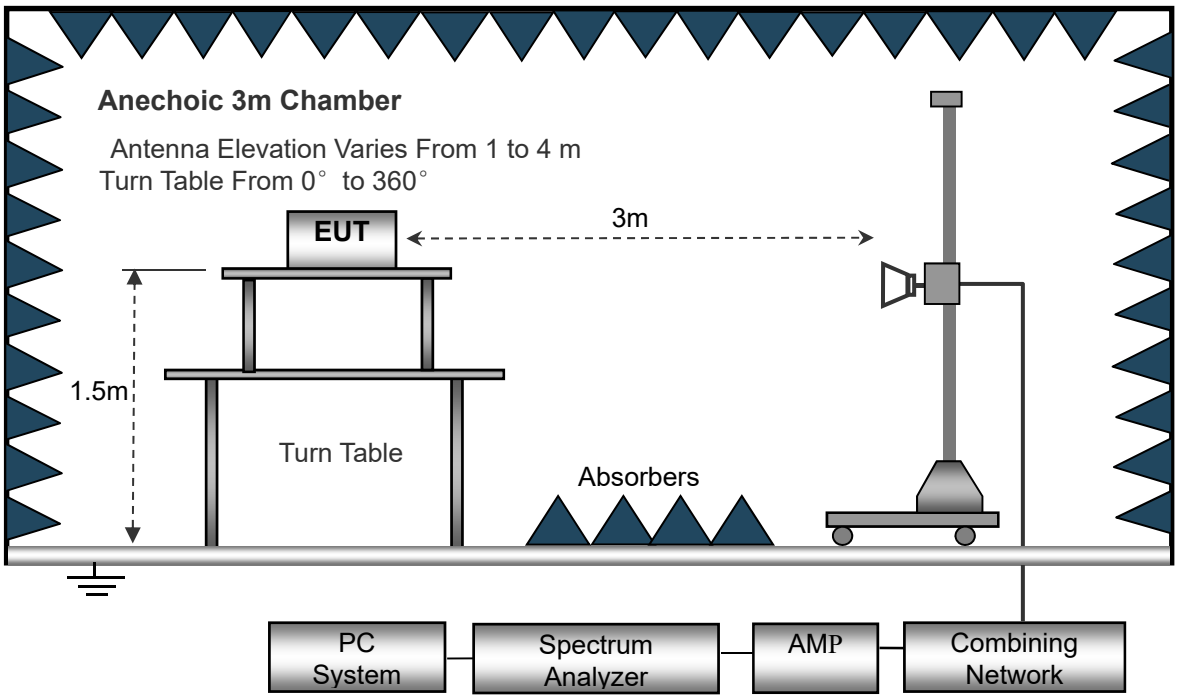
The test setup for emission measurement below 30MHz..



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

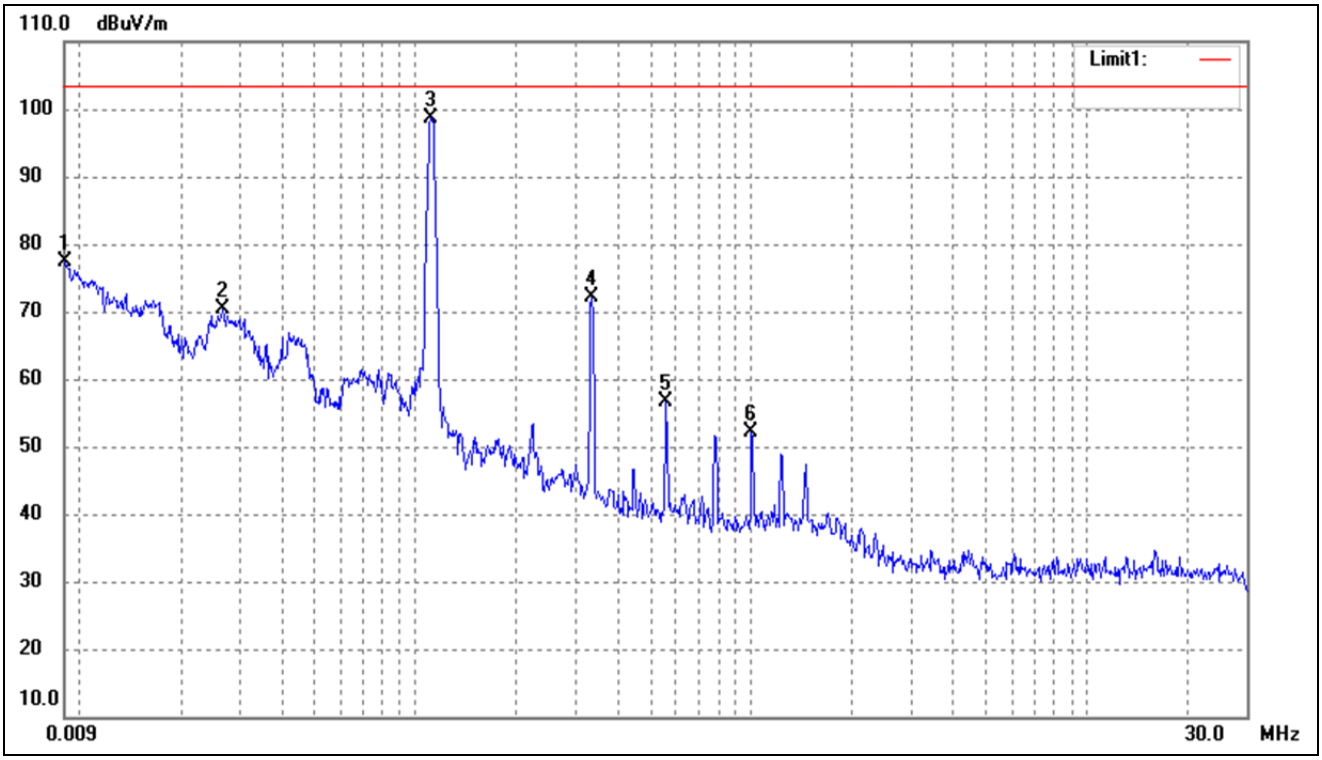
4.4 Environmental Conditions

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

4.5 Summary of Test Results/Plots

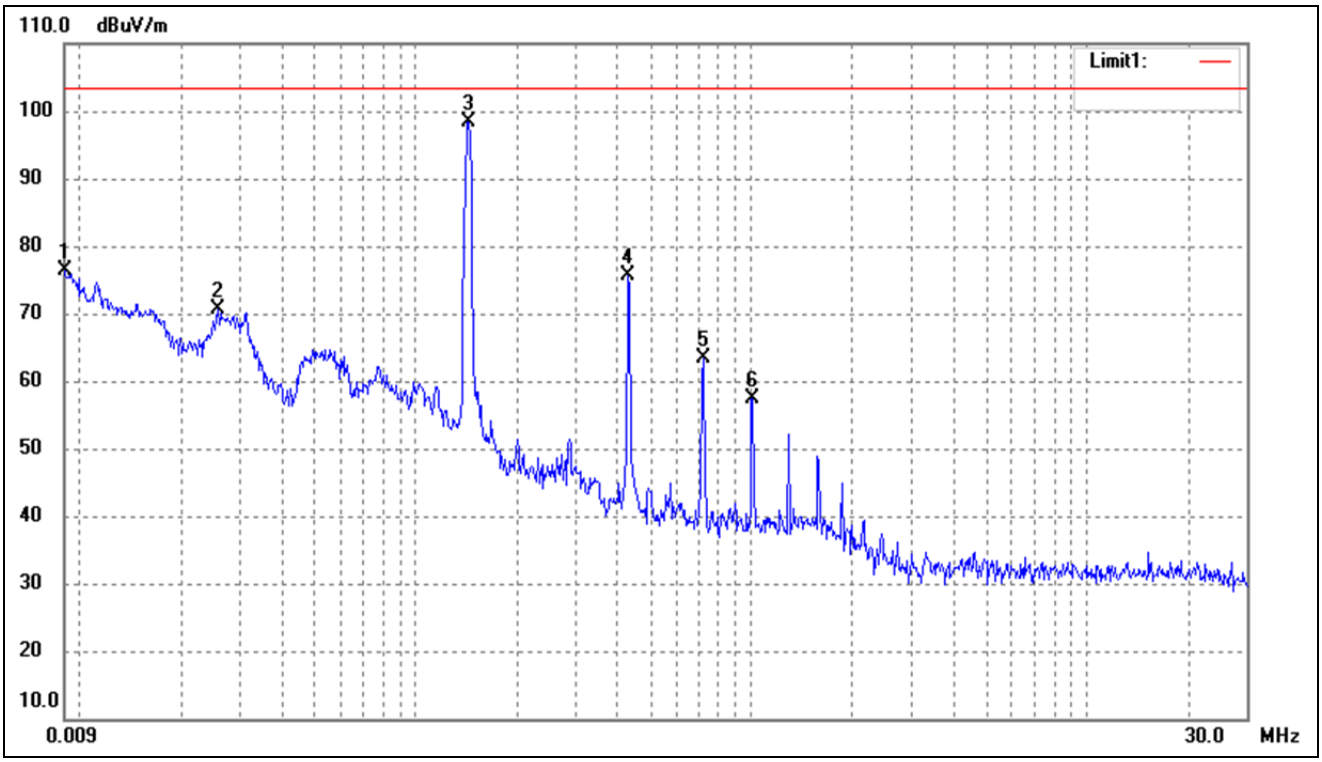
Plot of Radiated Emissions Test Data (Below 30MHz)

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	0.0090	103.67	-26.20	77.47	103.50	-26.03	-	-	peak
2	0.0267	96.54	-26.17	70.37	103.50	-33.13	-	-	peak
3	0.1113	124.72	-26.02	98.70	103.50	-4.80	-	-	peak
4	0.3353	98.04	-25.83	72.21	103.50	-31.29	-	-	peak
5	0.5590	82.30	-25.63	56.67	103.50	-46.83	-	-	peak
6	1.0024	77.33	-25.25	52.08	103.50	-51.42	-	-	peak

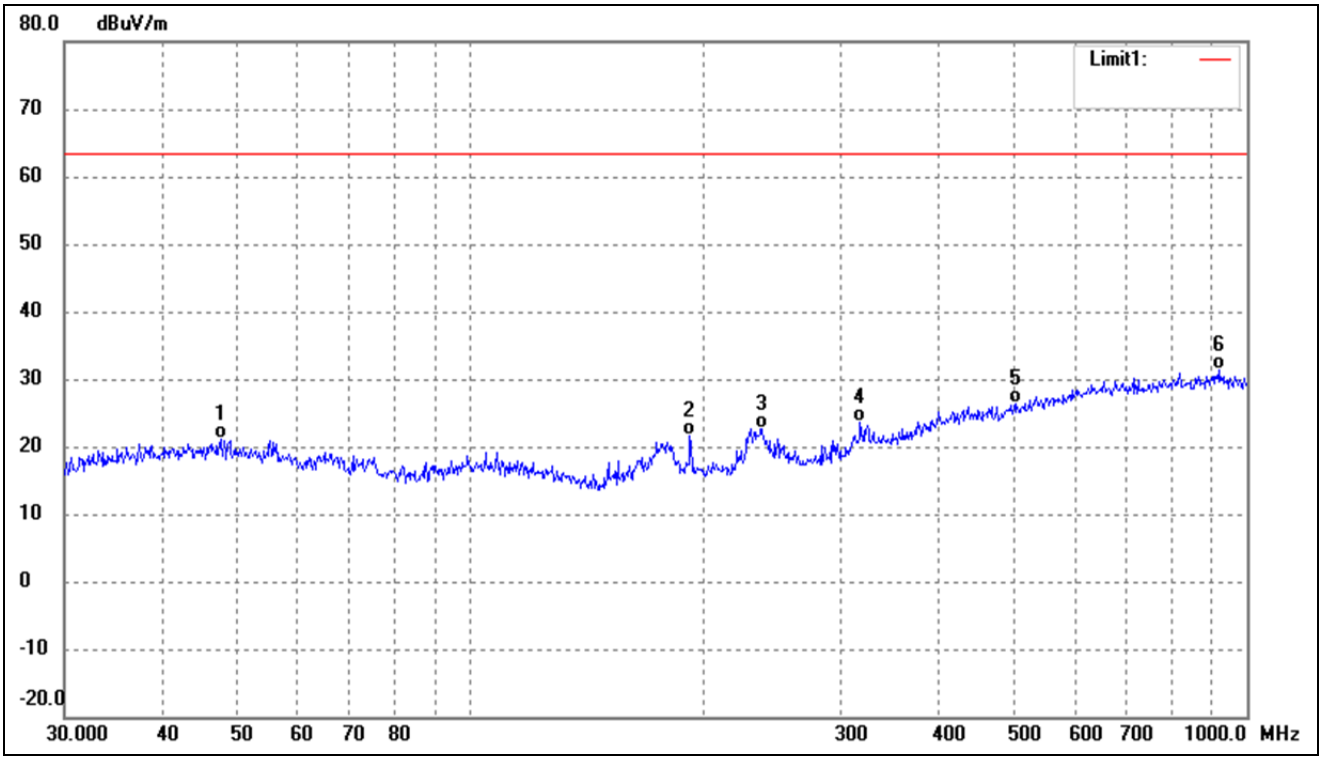
Test mode:	TM2	Polarity:	Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	0.0089	102.56	-26.20	76.36	103.50	-27.14	-	-	peak
2	0.0258	96.77	-26.17	70.60	103.50	-32.90	-	-	peak
3	0.1442	124.31	-25.99	98.32	103.50	-5.18	-	-	peak
4	0.4312	101.47	-25.74	75.73	103.50	-27.77	-	-	peak
5	0.7188	88.99	-25.50	63.49	103.50	-40.01	-	-	peak
6	1.0106	82.66	-25.25	57.41	103.50	-46.09	-	-	peak

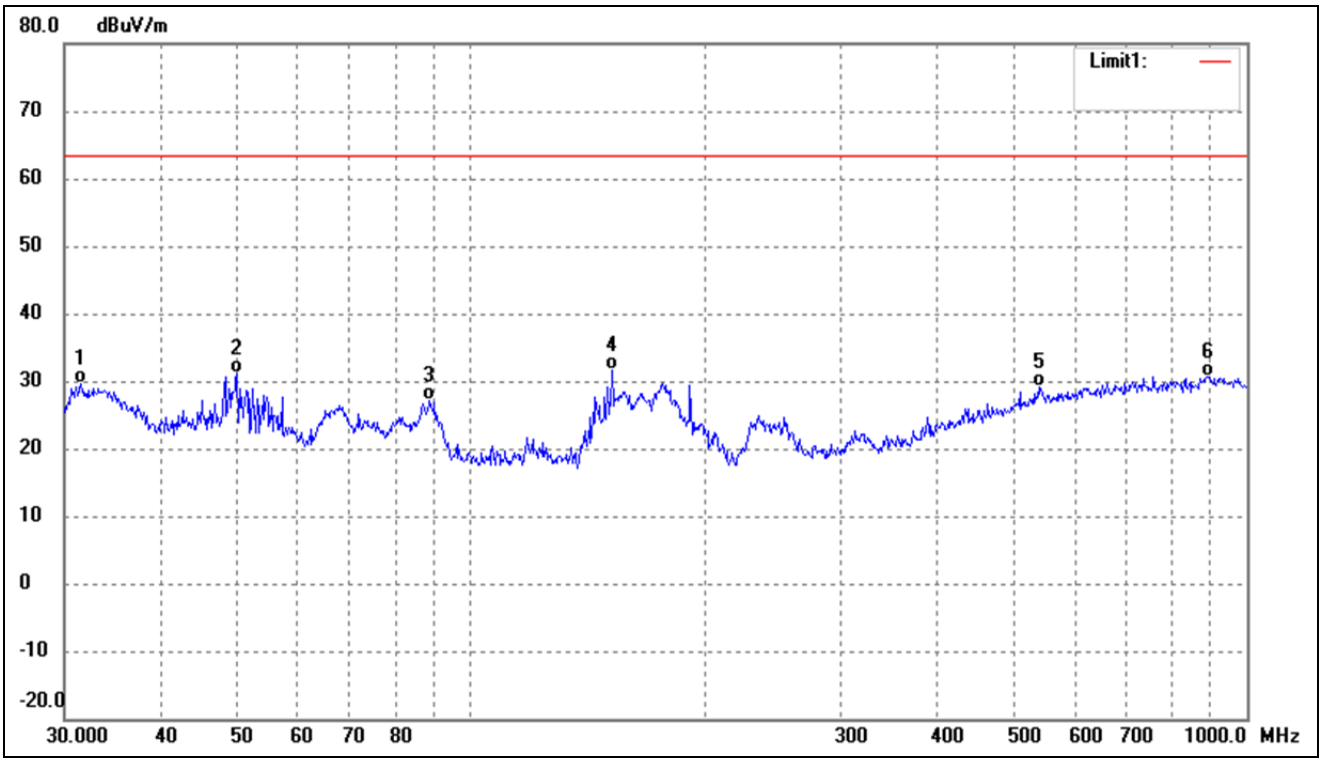
Plot of Radiated Emissions Test Data (Above 30MHz)

Test mode:	TM1	Polarity:	Horizontal



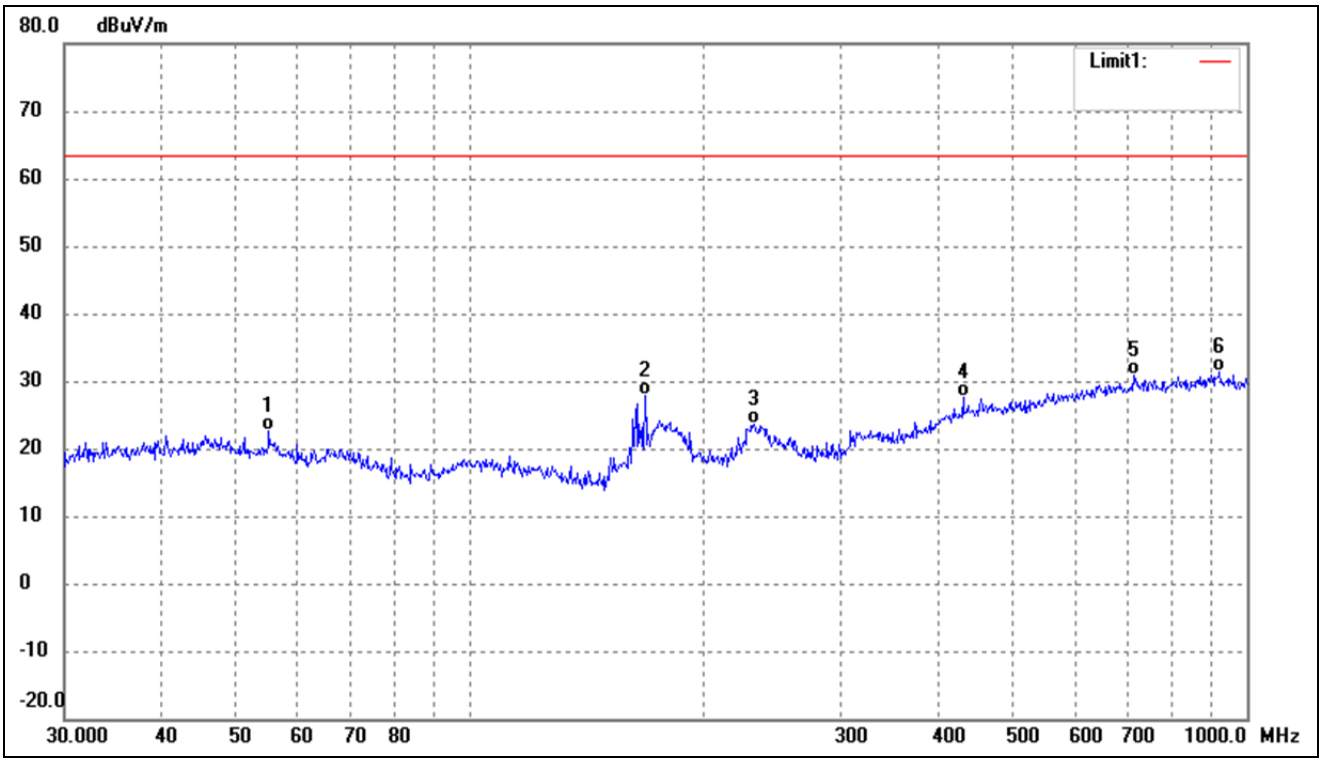
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	47.6586	27.99	-6.97	21.02	63.50	-42.48	-	-	QP
2	191.7450	31.52	-9.98	21.54	63.50	-41.96	-	-	QP
3	237.4760	31.41	-8.66	22.75	63.50	-40.75	-	-	QP
4	317.7011	30.07	-6.41	23.66	63.50	-39.84	-	-	QP
5	502.9395	27.52	-1.25	26.27	63.50	-37.23	-	-	QP
6	922.5157	28.69	2.67	31.36	63.50	-32.14	-	-	QP

Test mode:	TM1	Polarity:	Vertical



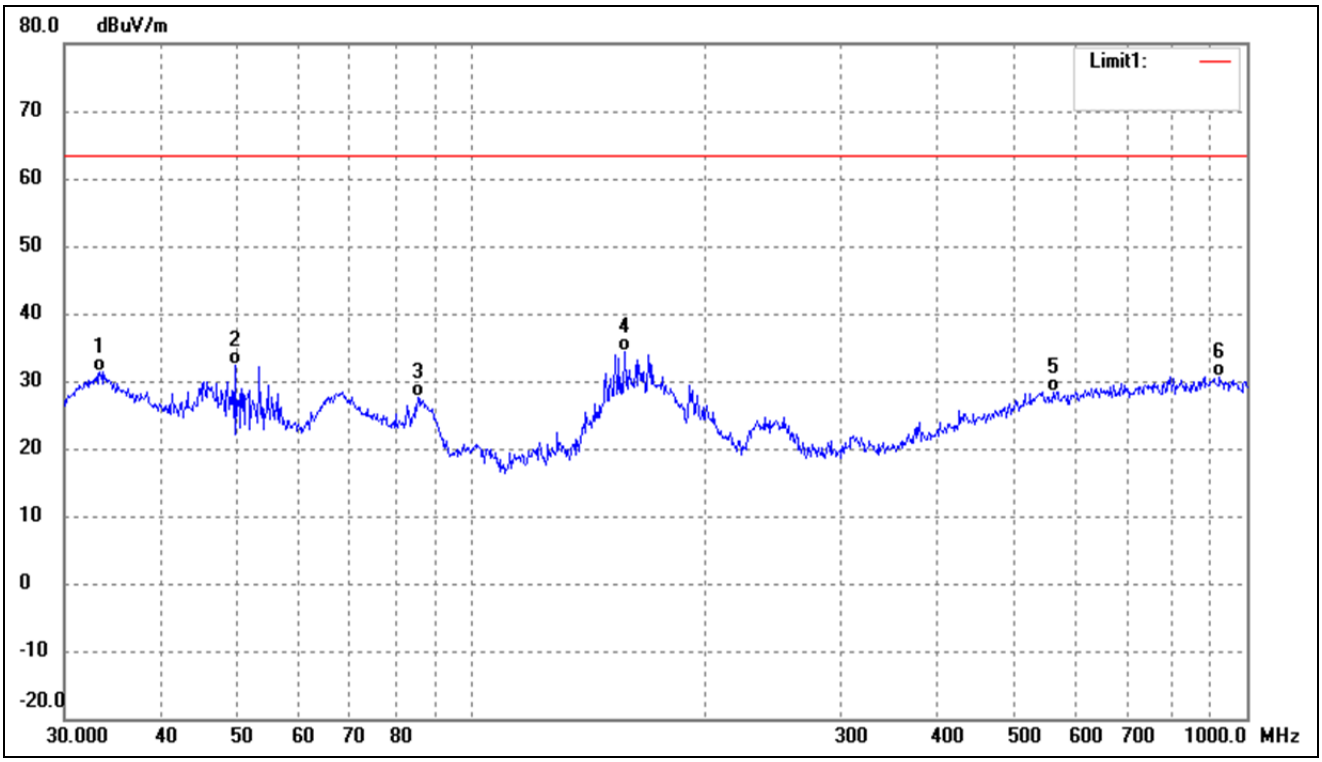
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	31.5095	38.80	-9.08	29.72	63.50	-33.78	-	-	QP
2	50.0566	38.09	-6.97	31.12	63.50	-32.38	-	-	QP
3	88.6525	37.80	-10.60	27.20	63.50	-36.30	-	-	QP
4	152.1297	44.04	-12.51	31.53	63.50	-31.97	-	-	QP
5	539.4775	29.85	-0.65	29.20	63.50	-34.30	-	-	QP
6	890.7278	28.04	2.68	30.72	63.50	-32.78	-	-	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	55.0274	30.22	-7.69	22.53	63.50	-40.97	-	-	QP
2	167.8243	39.65	-11.82	27.83	63.50	-35.67	-	-	QP
3	231.7179	32.37	-8.83	23.54	63.50	-39.96	-	-	QP
4	431.0316	30.60	-3.06	27.54	63.50	-35.96	-	-	QP
5	714.1734	29.24	1.52	30.76	63.50	-32.74	-	-	QP
6	922.5157	28.60	2.67	31.27	63.50	-32.23	-	-	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	33.3279	39.99	-8.63	31.36	63.50	-32.14	-	-	QP
2	49.7068	39.44	-6.96	32.48	63.50	-31.02	-	-	QP
3	85.5977	38.17	-10.65	27.52	63.50	-35.98	-	-	QP
4	158.1123	46.69	-12.26	34.43	63.50	-29.07	-	-	QP
5	562.6624	28.68	-0.25	28.43	63.50	-35.07	-	-	QP
6	922.5157	28.06	2.67	30.73	63.50	-32.77	-	-	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 *******