

TEST REPORT

Reference No...... : WTD22X02029143W-1
FCC ID : 2A4DZ-TSW1000
Applicant : Mita Expeditions LLC
Address : 3821 Bedford Ave Brooklyn NY 11229
Manufacturer : Shenzhen LVSUN Electronics Technology Co., LTD
Address : Building C, ShiGuan Industrial Centre, Longhua, Shenzhen, China, 518109
Product Name : TSWireless Charging Station Supreme
Model No...... : TSW1000
Standards : FCC Part 15.207&15.209
Date of Receipt sample : 2022-02-28
Date of Test..... : 2022-02-28 to 2022-04-14
Date of Issue : 2022-04-14
Test Report Form No. : WTX_Part 15_207_209W
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.

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Report version

Version No.	Date of issue	Description
Rev.00	2022-04-14	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	TSWireless Charging Station Supreme
Trade Name:	TECHSMARTER
Model No.:	TSW1000
Adding Model(s):	LS-UC5T, LS-PD110T,LS-PD110T-2C
Power Adapter Model:	/
<i>Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model TSW1000, but the circuit and the electronic construction do not change, declared by the manufacturer.</i>	

Technical Characteristics of EUT	
Frequency Range:	112~205KHz
Power adapter	/
Antenna Type:	Coil Antenna
Antenna Gain:	0 dBi
Modulation Type:	ASK
Rated Voltage:	Input: DC5V/9V
Rated Current:	Input: 3A/1.67A
Rated Power:	Output: 15W

1.2 Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.207: Conducted limits.

FCC Rules Part 15.209: Radiated emission limits; general requirements.

ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.

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 C63.10-2013, The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions.

1.4 Test Facility

Address of the test laboratory

Laboratory: 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

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. 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	Input: DC5V/9V
TM2	Wireless Charging	Output 10W	Input: DC5V/9V
TM3	Wireless Charging	Output 15W	Input: DC5V/9V

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
AC Cable	1.50	Unshielded	Without Ferrite

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Wireless charging load	/	YBZ	/
Charging Station Supreme	TECHSMARTER	LS-UC5T	/

1.6 Measurement Uncertainty

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

1.7 Test Equipment List and Details

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
SEMT-1075	Communication Tester	Rohde & Schwarz	CMW500	148650	2021-03-27	2022-03-26
SEMT-1063	GSM Tester	Rohde & Schwarz	CMU200	114403	2021-03-27	2022-03-26
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2021-03-27	2022-03-26
SEMT-1079	Spectrum Analyzer	Agilent	N9020A	US47140102	2021-03-27	2022-03-26
SEMT-1080	Signal Generator	Agilent	83752A	3610A01453	2021-03-27	2022-03-26
SEMT-1081	Vector Signal Generator	Agilent	N5182A	MY47070202	2021-03-27	2022-03-26
SEMT-1028	Power Divider	Weinschel	1506A	PM204	2021-03-27	2022-03-26
SEMT-C001	Cable	Zheng DI	LL142-07-07-10M(A)	/	/	/
SEMT-C002	Cable	Zheng DI	ZT40-2.92J-2.92J-6M	/	/	/
SEMT-C003	Cable	Zheng DI	ZT40-2.92J-2.92J-2.5M	/	/	/
SEMT-C004	Cable	Zheng DI	2M0RFC	/	/	/
SEMT-C005	Cable	Zheng DI	1M0RFC	/	/	/
SEMT-C006	Cable	Zheng DI	1M0RFC	/	/	/
☒ Chamber A: Below 1GHz						
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2021-03-27	2022-03-26
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2021-03-27	2022-03-26
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2021-04-12	2022-04-11
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-19	2023-03-18
SEMT-1068	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2021-03-19	2023-03-18
☒ Chamber A: Above 1GHz						
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2021-03-27	2022-03-26
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2021-03-27	2022-03-26
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2021-04-12	2022-04-11
SEMT-1042	Horn Antenna	ETS	3117	00086197	2021-03-19	2023-03-18
SEMT-1121	Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170582	2021-04-27	2023-04-26
SEMT-1169	Pre-amplifier	Direction	PAP-2640	14145-1415	2021-04-27	2022-04-26

		Systems Inc.		3		
SEMT-1163	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2021-03-27	2022-03-26
☐ Chamber B:Below 1GHz						
SEMT-1068	Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2021-04-09	2023-04-08
SEMT-1067	Amplifier	Agilent	8447D	2944A10179	2021-04-12	2022-04-11
SEMT-1066	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2021-05-06	2022-05-05
☐ Chamber C:Below 1GHz						
SEMT-1319	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2021-12-03	2022-12-02
SEMT-1343	Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2021-05-28	2023-05-27
SEMT-1333	Amplifier	HP	8447F	2944A03869	2021-04-15	2022-04-14
☒ Conducted Room 1#						
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2021-04-12	2022-04-11
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2021-04-15	2022-04-14
SEMT-1003	AC LISN	Schwarz beck	NSLK8126	8126-224	2021-04-12	2022-04-11
☐ Conducted Room 2#						
SEMT-1334	EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2021-04-12	2022-04-11
SEMT-1336	LISN	Rohde & Schwarz	ENV 216	100097	2021-04-12	2022-04-11

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
SEMT-1075	Communication Tester	Rohde & Schwarz	CMW500	148650	2022-03-22	2023-03-21
SEMT-1063	GSM Tester	Rohde & Schwarz	CMU200	114403	2022-03-22	2023-03-21
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2022-03-25	2023-03-24
SEMT-1079	Spectrum Analyzer	Agilent	N9020A	US47140102	2022-03-22	2023-03-21
SEMT-1080	Signal Generator	Agilent	83752A	3610A01453	2022-03-22	2023-03-21
SEMT-1081	Vector Signal Generator	Agilent	N5182A	MY47070202	2022-03-22	2023-03-21

SEMT-1028	Power Divider	Weinschel	1506A	PM204	2022-03-22	2023-03-21
☒ Chamber A: Below 1GHz						
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2022-03-22	2023-03-21
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2022-03-22	2023-03-21
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2022-01-07	2023-01-06
☒ Chamber A: Above 1GHz						
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2022-03-22	2023-03-21
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2022-03-22	2023-03-21
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2022-03-22	2023-03-21
SEMT-1163	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2022-03-22	2023-03-21
☐ Chamber B:Below 1GHz						
SEMT-1067	Amplifier	Agilent	8447D	2944A10179	2022-03-22	2023-03-21
☐ Chamber C:Below 1GHz						
SEMT-1333	Amplifier	HP	8447F	2944A03869	2022-03-22	2023-03-21
☒ Conducted Room 1#						
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2022-03-21	2023-03-20
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2022-03-25	2023-03-24
SEMT-1003	AC LISN	Schwarz beck	NSLK8126	8126-224	2022-03-22	2023-03-21
☐ Conducted Room 2#						
SEMT-1334	EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2022-03-22	2023-03-21
SEMT-1336	LISN	Rohde & Schwarz	ENV 216	100097	2022-03-22	2023-03-21

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

Description of Test	Result
§15.203 Antenna Requirement	Compliant
§15.207 (a) Conducted Emission	Compliant
§15.209 Radiated Emission	Compliant

N/A: not applicable.

3. Antenna Requirement

3.1 Standard Applicable

According to FCC Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

3.2 Test Result

This product has a Coil Antenna, fulfill the requirement of this section.

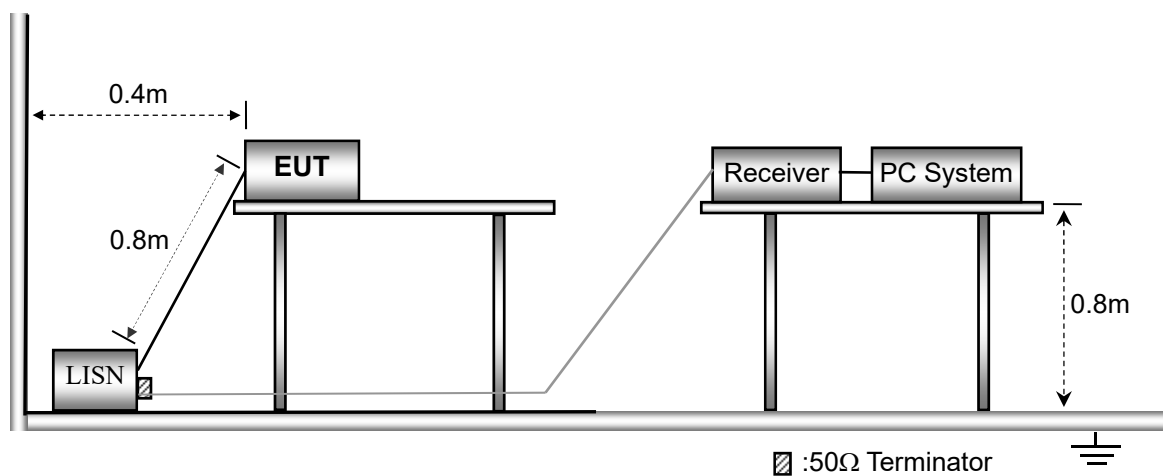
4. Conducted Emissions

4.1 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 Limit.

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

4.2 Basic Test Setup Block Diagram

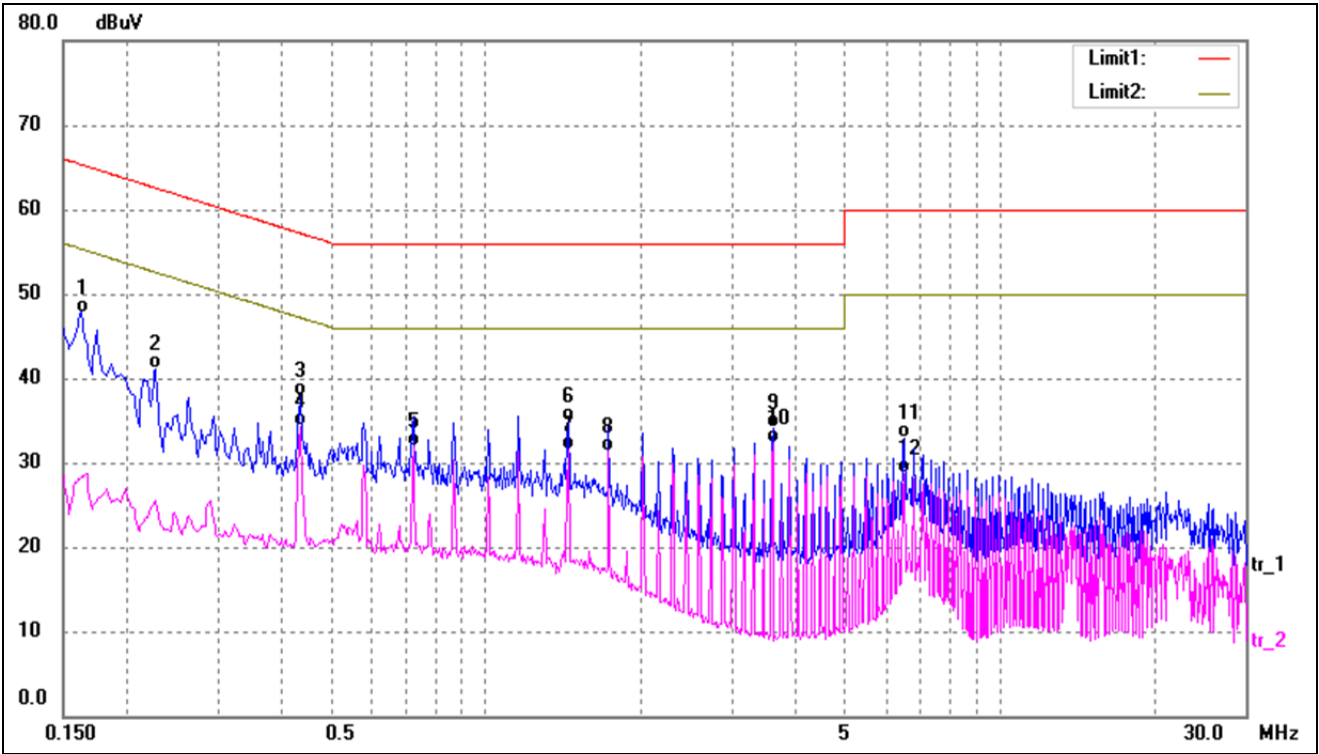


4.3 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	55 %
ATM Pressure:	1011 mbar

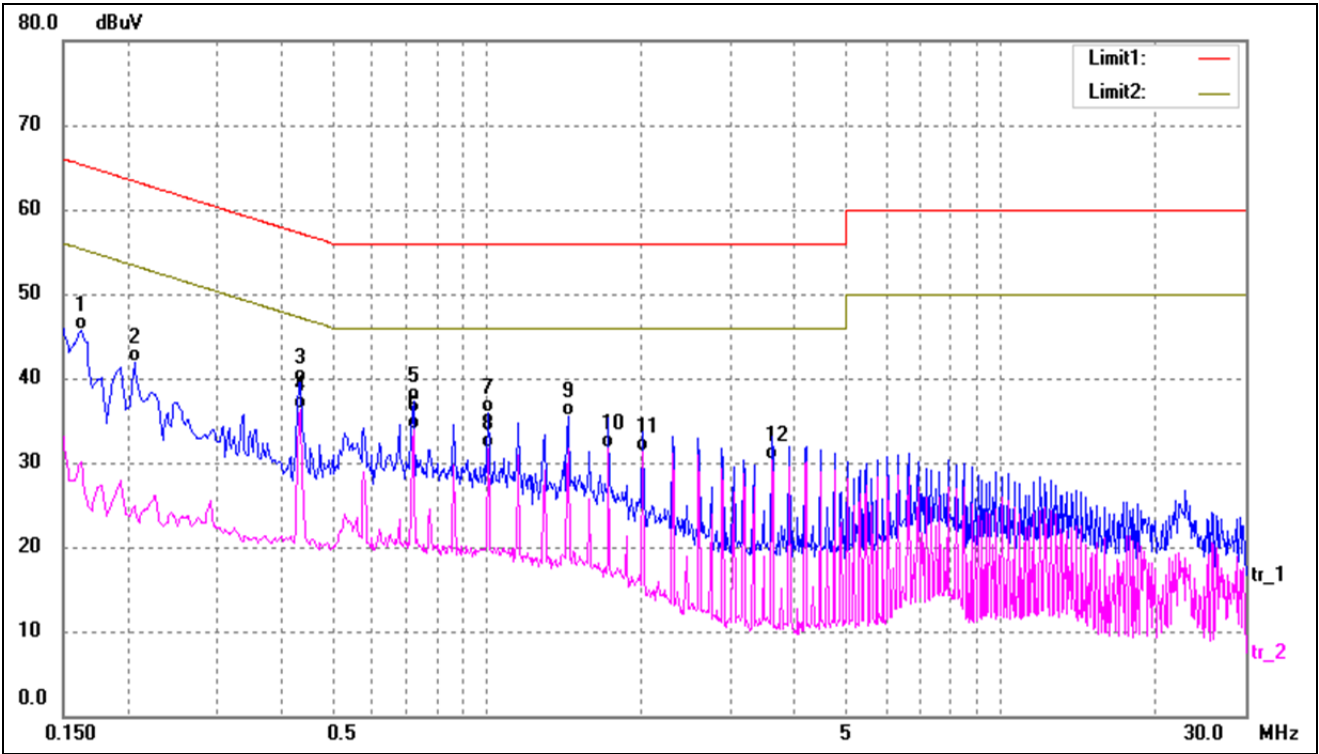
4.4 Summary of Test Results/Plots

Test mode:	TM1	Polarity:	Line
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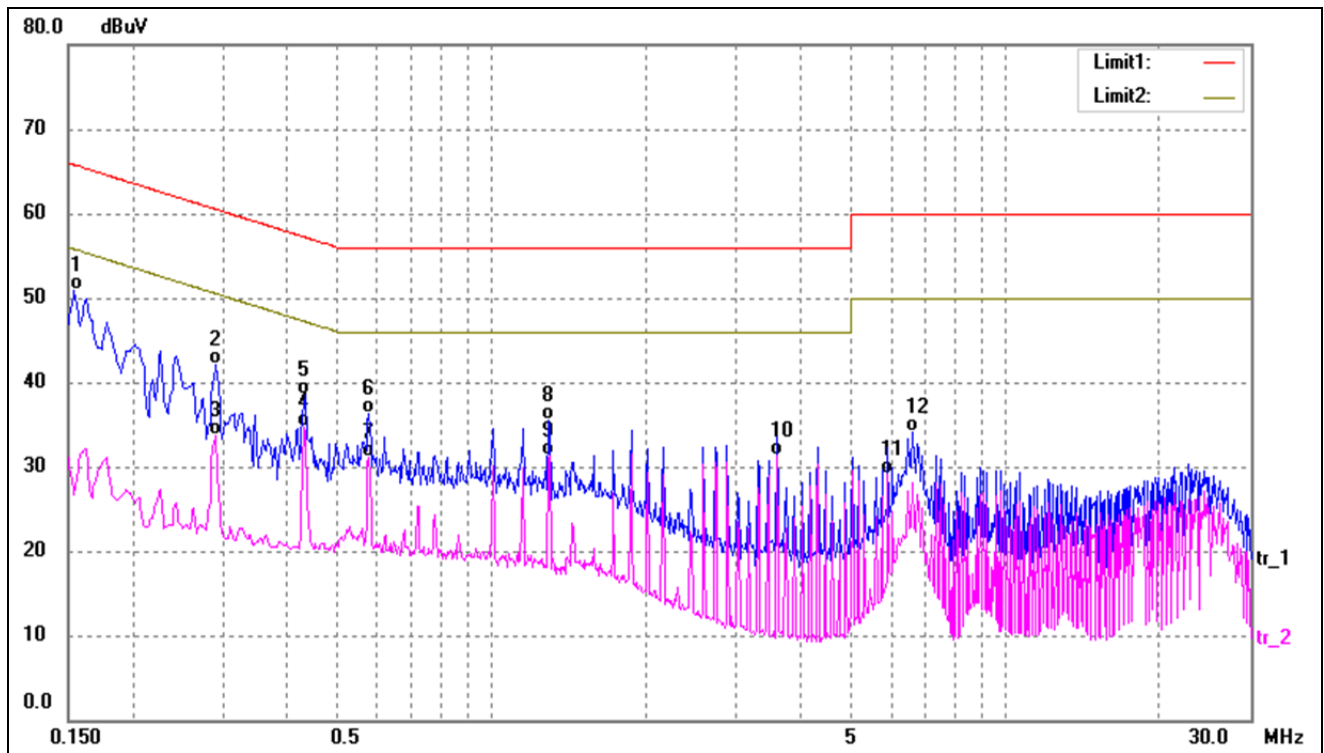
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1620	37.43	10.37	47.80	65.36	-17.56	QP
2	0.2260	30.80	10.36	41.16	62.60	-21.44	QP
3	0.4340	27.57	10.28	37.85	57.18	-19.33	QP
4*	0.4340	24.12	10.28	34.40	47.18	-12.78	AVG
5	0.7220	21.60	10.39	31.99	46.00	-14.01	AVG
6	1.4420	24.52	10.37	34.89	56.00	-21.11	QP
7	1.4420	21.12	10.37	31.49	46.00	-14.51	AVG
8	1.7300	21.00	10.25	31.25	46.00	-14.75	AVG
9	3.6060	24.01	10.06	34.07	56.00	-21.93	QP
10	3.6060	22.18	10.06	32.24	46.00	-13.76	AVG
11	6.4900	23.02	9.96	32.98	60.00	-27.02	QP
12	6.4900	18.70	9.96	28.66	50.00	-21.34	AVG

Test mode:	TM1	Polarity:	Neutral
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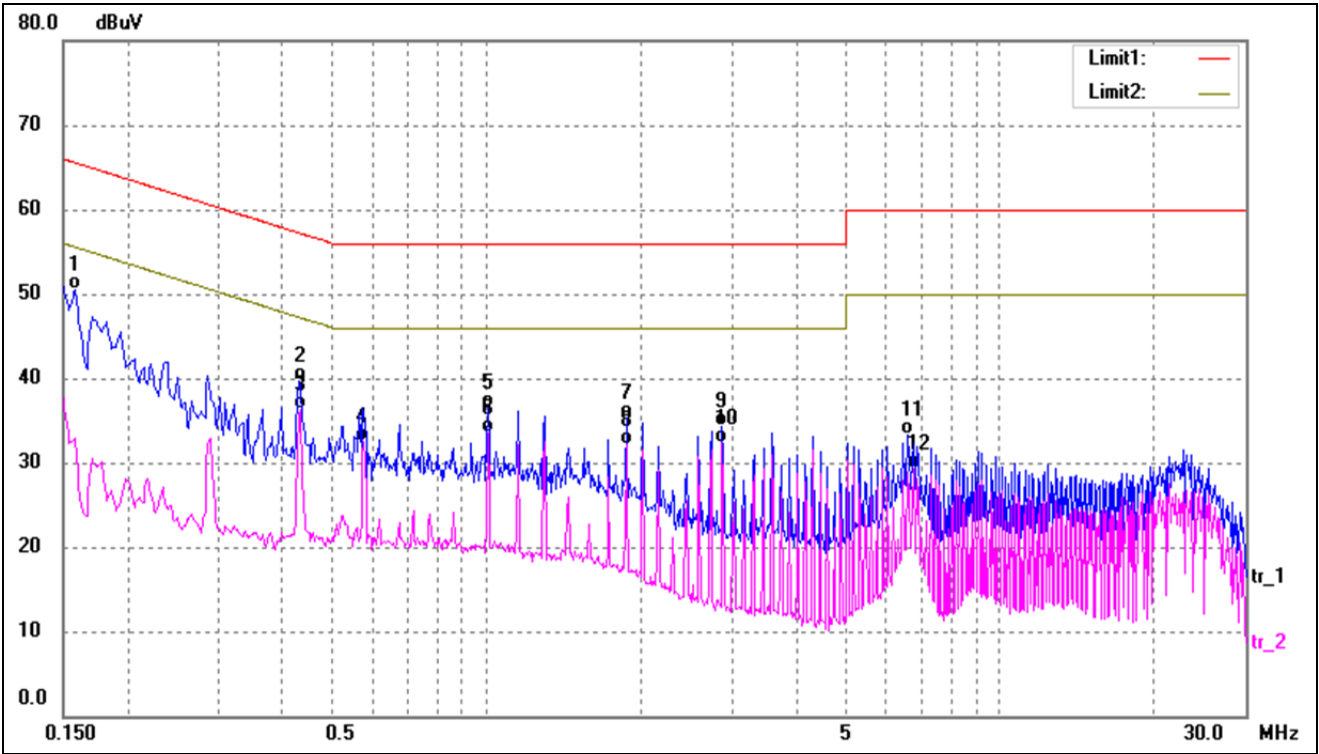
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1620	35.32	10.37	45.69	65.36	-19.67	QP
2	0.2060	31.46	10.37	41.83	63.37	-21.54	QP
3	0.4340	29.31	10.28	39.59	57.18	-17.59	QP
4*	0.4340	26.04	10.28	36.32	47.18	-10.86	AVG
5	0.7220	27.00	10.39	37.39	56.00	-18.61	QP
6	0.7220	23.50	10.39	33.89	46.00	-12.11	AVG
7	1.0100	25.38	10.56	35.94	56.00	-20.06	QP
8	1.0100	21.06	10.56	31.62	46.00	-14.38	AVG
9	1.4420	25.08	10.37	35.45	56.00	-20.55	QP
10	1.7300	21.51	10.25	31.76	46.00	-14.24	AVG
11	2.0180	21.23	10.13	31.36	46.00	-14.64	AVG
12	3.6020	20.19	10.06	30.25	46.00	-15.75	AVG

Test mode:	TM2	Polarity:	Line
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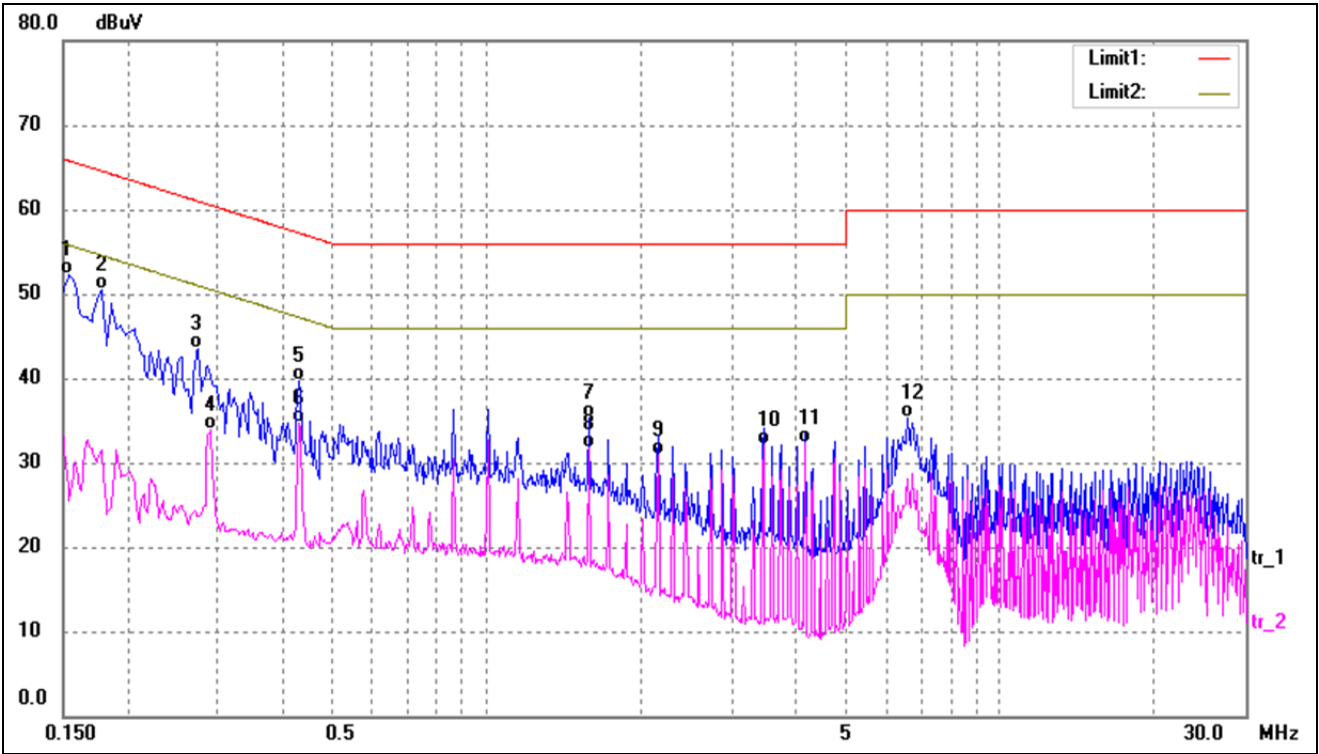
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1540	40.63	10.37	51.00	65.78	-14.78	QP
2	0.2900	31.69	10.34	42.03	60.52	-18.49	QP
3	0.2900	23.40	10.34	33.74	50.52	-16.78	AVG
4*	0.4300	24.33	10.28	34.61	47.25	-12.64	AVG
5	0.4340	28.31	10.28	38.59	57.18	-18.59	QP
6	0.5780	26.00	10.31	36.31	56.00	-19.69	QP
7	0.5780	20.75	10.31	31.06	46.00	-14.94	AVG
8	1.2940	25.09	10.43	35.52	56.00	-20.48	QP
9	1.2980	20.84	10.43	31.27	46.00	-14.73	AVG
10	3.5980	21.31	10.06	31.37	46.00	-14.63	AVG
11	5.9020	19.13	9.97	29.10	50.00	-20.90	AVG
12	6.6220	24.14	9.96	34.10	60.00	-25.90	QP

Test mode:	TM2	Polarity:	Neutral
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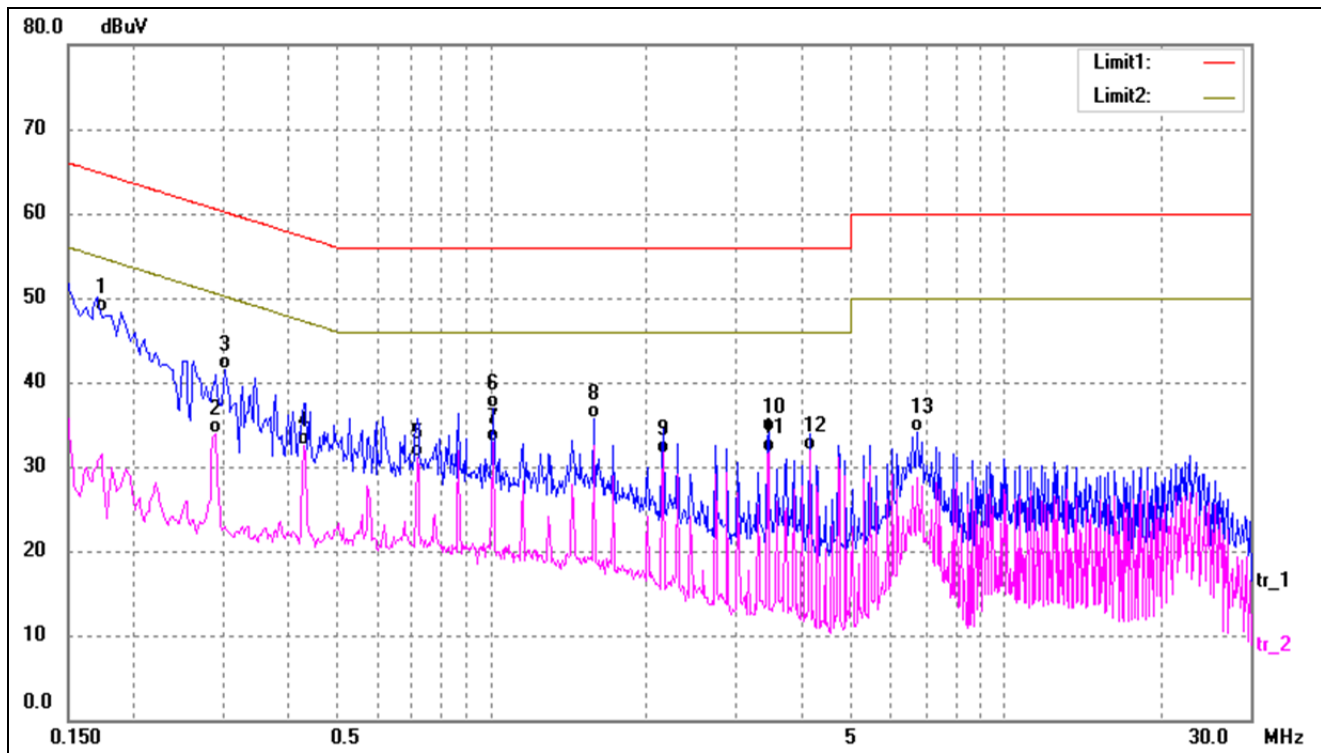
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1580	40.11	10.37	50.48	65.57	-15.09	QP
2	0.4300	29.45	10.28	39.73	57.25	-17.52	QP
3*	0.4340	26.00	10.28	36.28	47.18	-10.90	AVG
4	0.5780	22.18	10.31	32.49	46.00	-13.51	AVG
5	1.0100	26.01	10.56	36.57	56.00	-19.43	QP
6	1.0100	22.95	10.56	33.51	46.00	-12.49	AVG
7	1.8740	25.17	10.18	35.35	56.00	-20.65	QP
8	1.8740	21.84	10.18	32.02	46.00	-13.98	AVG
9	2.8820	24.29	10.09	34.38	56.00	-21.62	QP
10	2.8820	22.24	10.09	32.33	46.00	-13.67	AVG
11	6.6260	23.27	9.96	33.23	60.00	-26.77	QP
12	6.7700	19.28	9.95	29.23	50.00	-20.77	AVG

Test mode:	TM3	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1540	41.84	10.37	52.21	65.78	-13.57	QP
2	0.1780	40.17	10.37	50.54	64.58	-14.04	QP
3	0.2740	33.08	10.35	43.43	61.00	-17.57	QP
4	0.2900	23.50	10.34	33.84	50.52	-16.68	AVG
5	0.4300	29.33	10.28	39.61	57.25	-17.64	QP
6*	0.4300	24.34	10.28	34.62	47.25	-12.63	AVG
7	1.5820	24.91	10.31	35.22	56.00	-20.78	QP
8	1.5820	21.32	10.31	31.63	46.00	-14.37	AVG
9	2.1580	20.77	10.12	30.89	46.00	-15.11	AVG
10	3.4540	22.03	10.07	32.10	46.00	-13.90	AVG
11	4.1740	22.28	10.04	32.32	46.00	-13.68	AVG
12	6.6220	25.37	9.96	35.33	60.00	-24.67	QP

Test mode:	TM3	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1731	37.86	10.37	48.23	64.81	-16.58	QP
2	0.2900	23.65	10.34	33.99	50.52	-16.53	AVG
3	0.3020	31.23	10.34	41.57	60.19	-18.62	QP
4	0.4300	22.28	10.28	32.56	47.25	-14.69	AVG
5	0.7180	20.73	10.39	31.12	46.00	-14.88	AVG
6	1.0060	26.40	10.56	36.96	56.00	-19.04	QP
7*	1.0060	22.26	10.56	32.82	46.00	-13.18	AVG
8	1.5820	25.47	10.31	35.78	56.00	-20.22	QP
9	2.1580	21.48	10.12	31.60	46.00	-14.40	AVG
10	3.4540	23.96	10.07	34.03	56.00	-21.97	QP
11	3.4540	21.69	10.07	31.76	46.00	-14.24	AVG
12	4.1700	21.94	10.04	31.98	46.00	-14.02	AVG
13	6.7620	24.14	9.95	34.09	60.00	-25.91	QP

5. RADIATED EMISSION

5.1 Standard Applicable

According to 15.209(a), radiated emission limits; general requirements.

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	$2400/F(\text{kHz})$	300	$10000 * 2400/F(\text{kHz})$	$20\log^{(2400/F(\text{kHz}))} + 80$
0.490 ~ 1.705	$24000/F(\text{kHz})$	30	$100 * 24000/F(\text{kHz})$	$20\log^{(24000/F(\text{kHz}))} + 40$
1.705 ~ 30	30	30	$100 * 30$	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

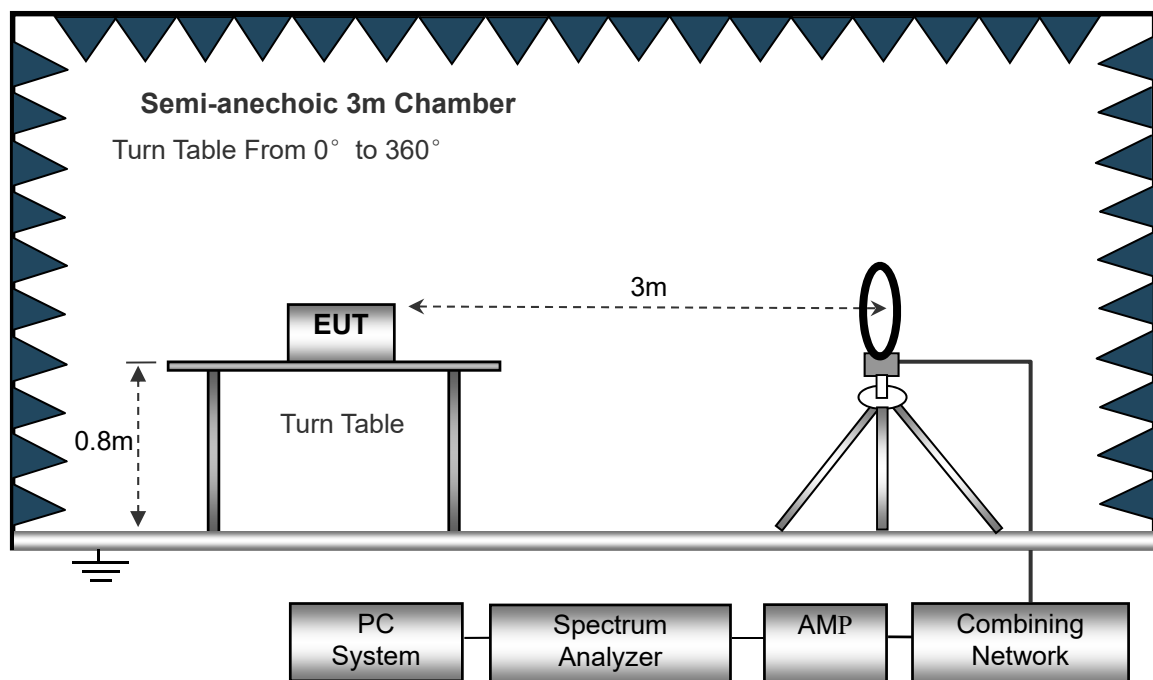
5.2 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.209 Limit.

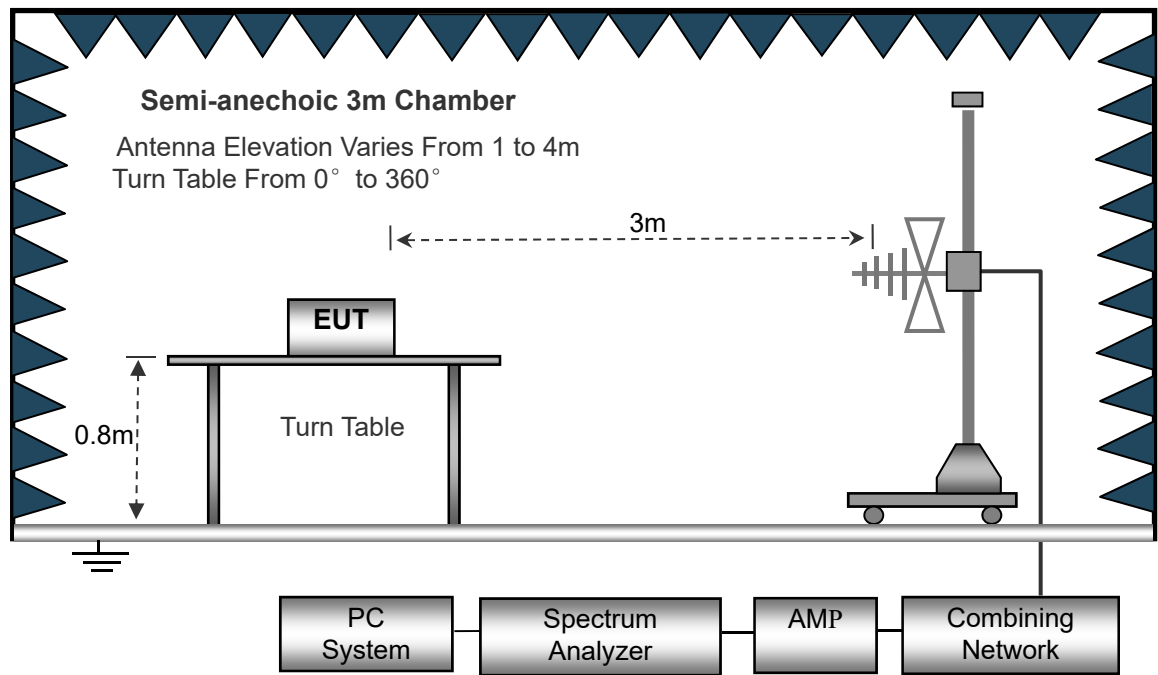
The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle.

The spacing between the peripherals was 10cm.

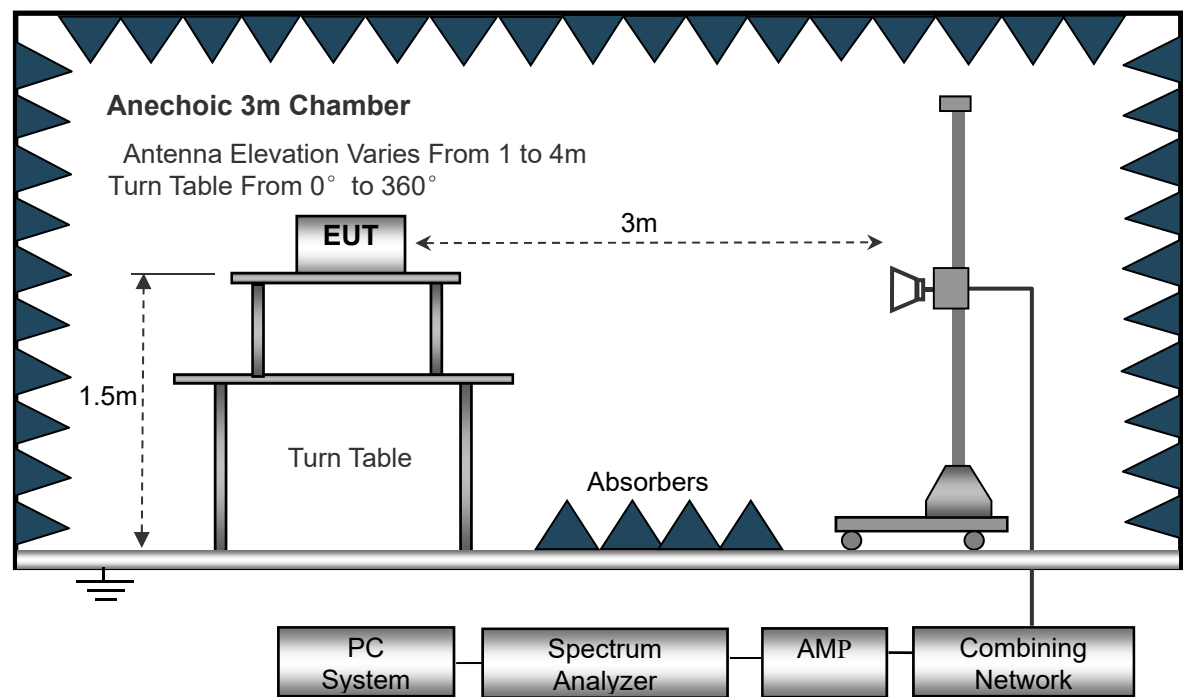
The test setup for emission measurement below 30MHz.



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



The test setup for emission measurement above 1GHz.



5.3 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

5.4 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 a Class B device. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15.209(a) Limit}$$

5.5 Environmental Conditions

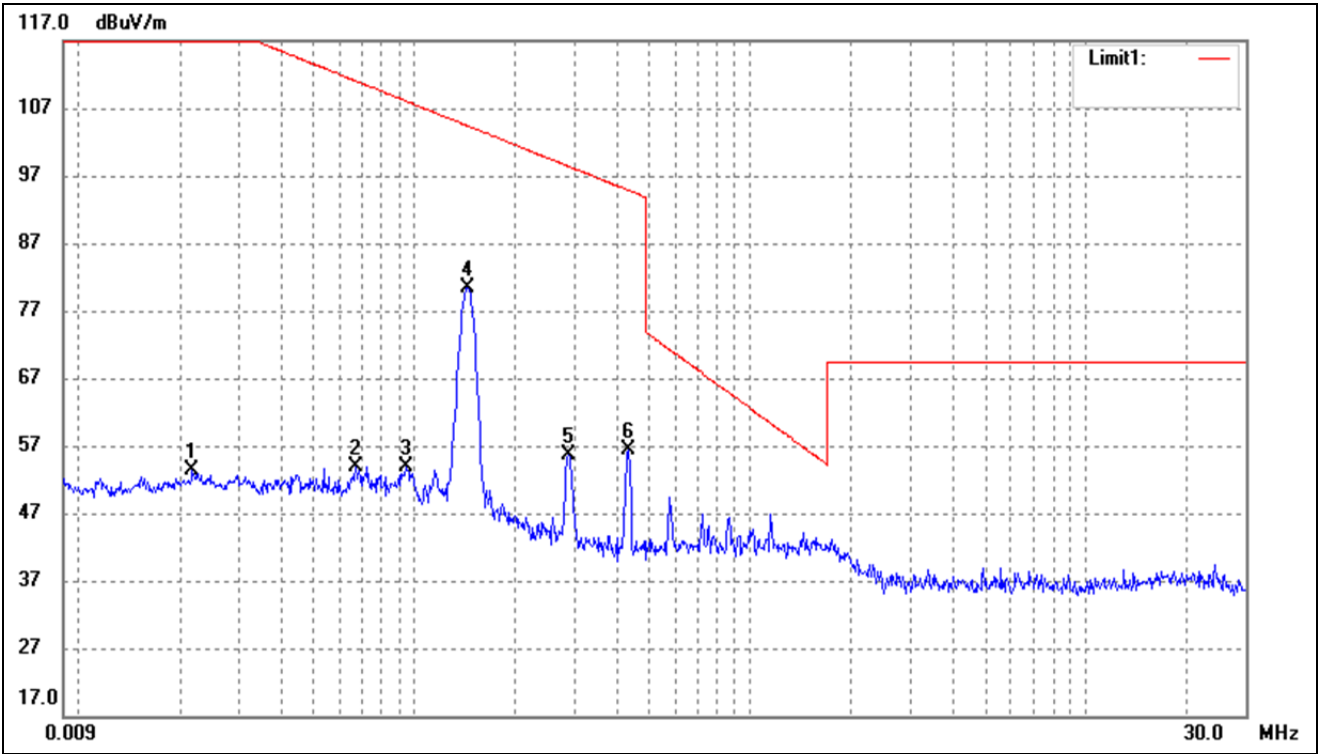
Temperature:	25 °C
Relative Humidity:	55 %
ATM Pressure:	1011 mbar

5.6 Summary of Test Results/Plots

Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.

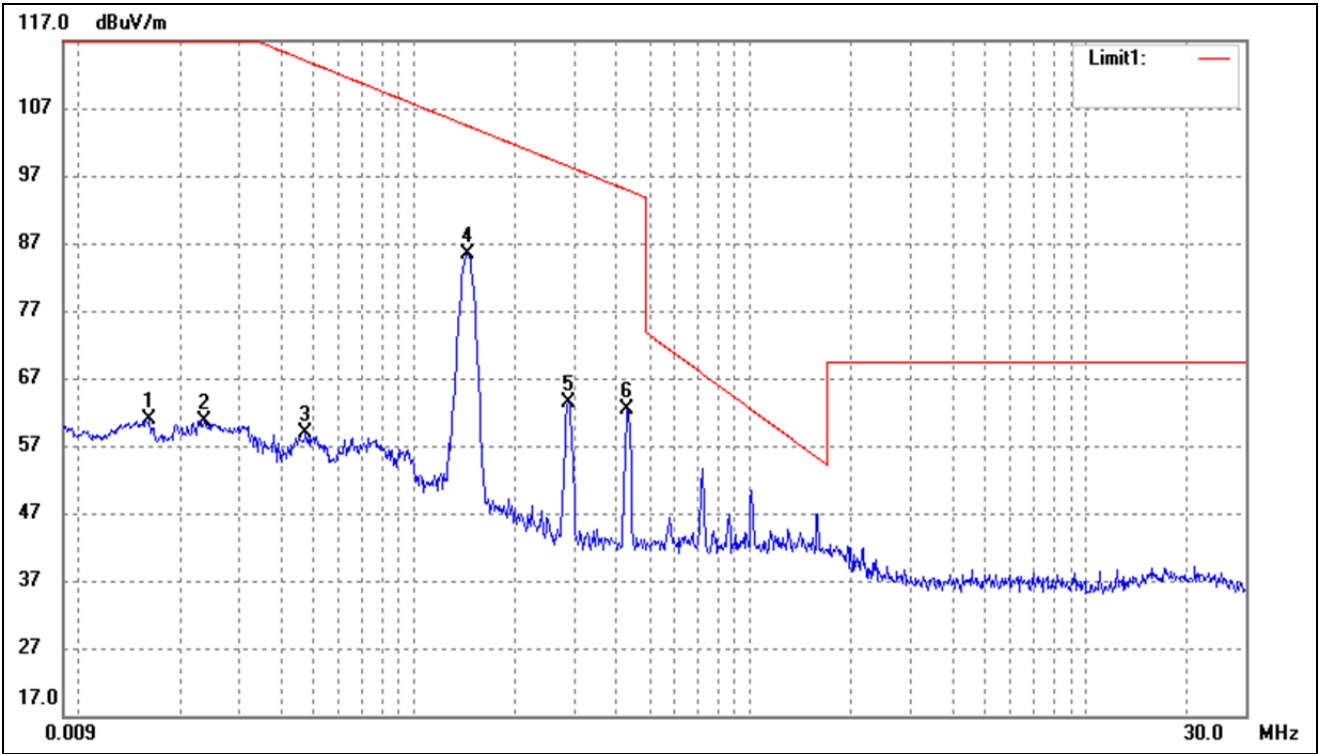
➤ Below 30MHz

Test mode:	TM1	Polarity:	Horizontal
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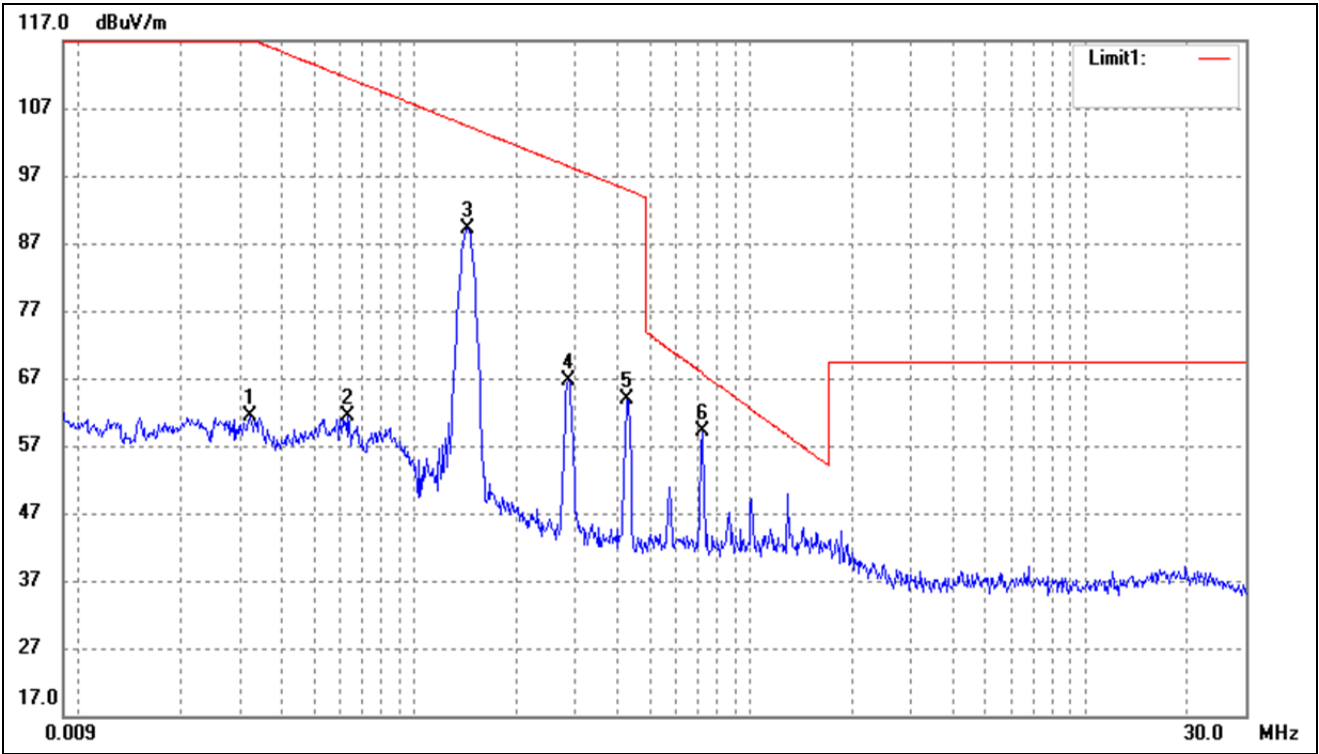
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	0.0218	58.83	-5.48	53.35	120.74	-67.39	-	-	peak
2	0.0667	58.39	-4.39	54.00	111.06	-57.06	-	-	peak
3	0.0946	58.68	-4.72	53.96	108.04	-54.08	-	-	peak
4	0.1442	84.59	-4.25	80.34	104.39	-24.05	-	-	peak
5	0.2874	60.59	-4.93	55.66	98.42	-42.76	-	-	peak
6	0.4347	61.04	-4.62	56.42	94.84	-38.42	-	-	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	0.0163	66.44	-5.58	60.86	123.34	-62.48	-	-	peak
2	0.0236	66.12	-5.37	60.75	120.13	-59.38	-	-	peak
3	0.0475	62.96	-3.97	58.99	114.06	-55.07	-	-	peak
4	0.1442	89.58	-4.25	85.33	104.42	-19.09	-	-	peak
5	0.2874	68.39	-4.93	63.46	98.43	-34.97	-	-	peak
6	0.4312	66.99	-4.62	62.37	94.91	-32.54	-	-	peak

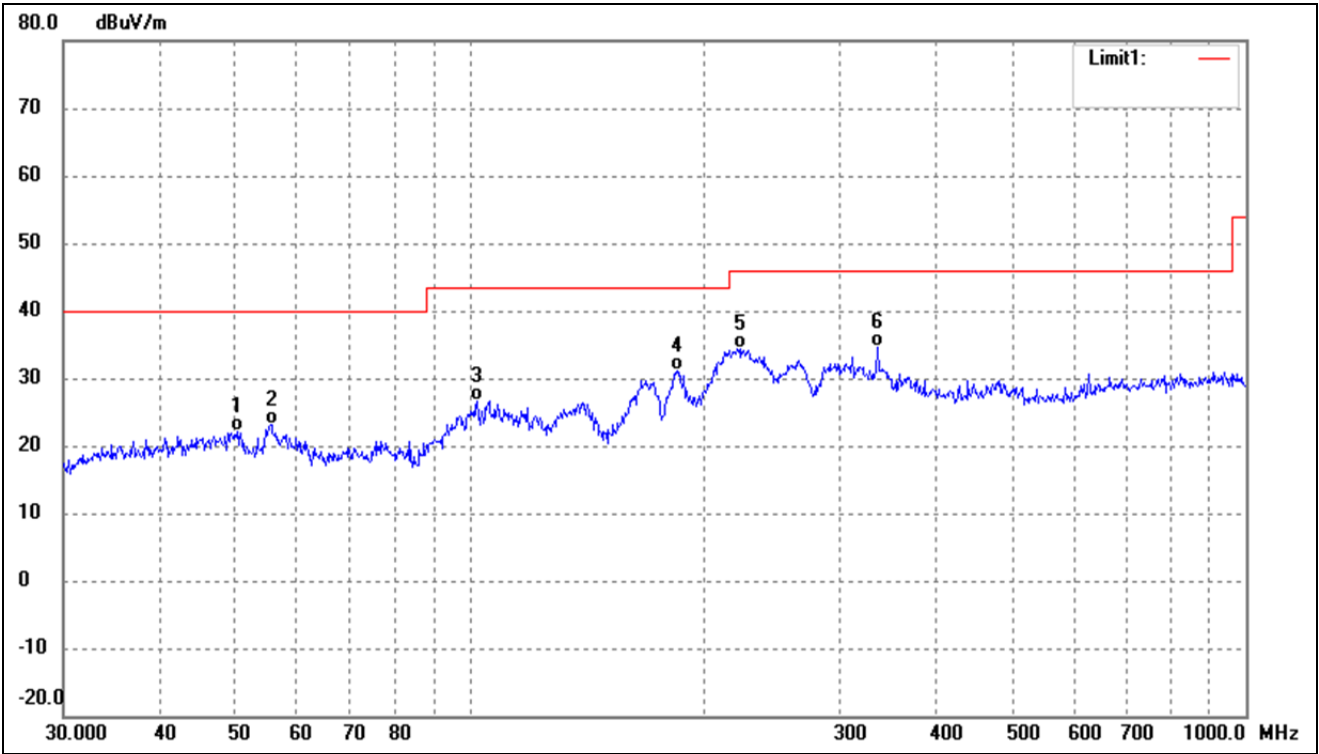
Test mode:	TM3	Polarity:	Horizontal
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No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	()	(cm)	
1	0.0323	66.12	-4.85	61.27	117.27	-56.00	-	-	peak
2	0.0631	65.59	-4.28	61.31	111.49	-50.18	-	-	peak
3	0.1442	93.36	-4.25	89.11	104.36	-15.25	-	-	peak
4	0.2874	71.51	-4.93	66.58	98.41	-31.83	-	-	peak
5	0.4312	68.51	-4.62	63.89	94.90	-31.01	-	-	peak
6	0.7188	62.54	-3.34	59.20	67.75	-8.55	-	-	peak

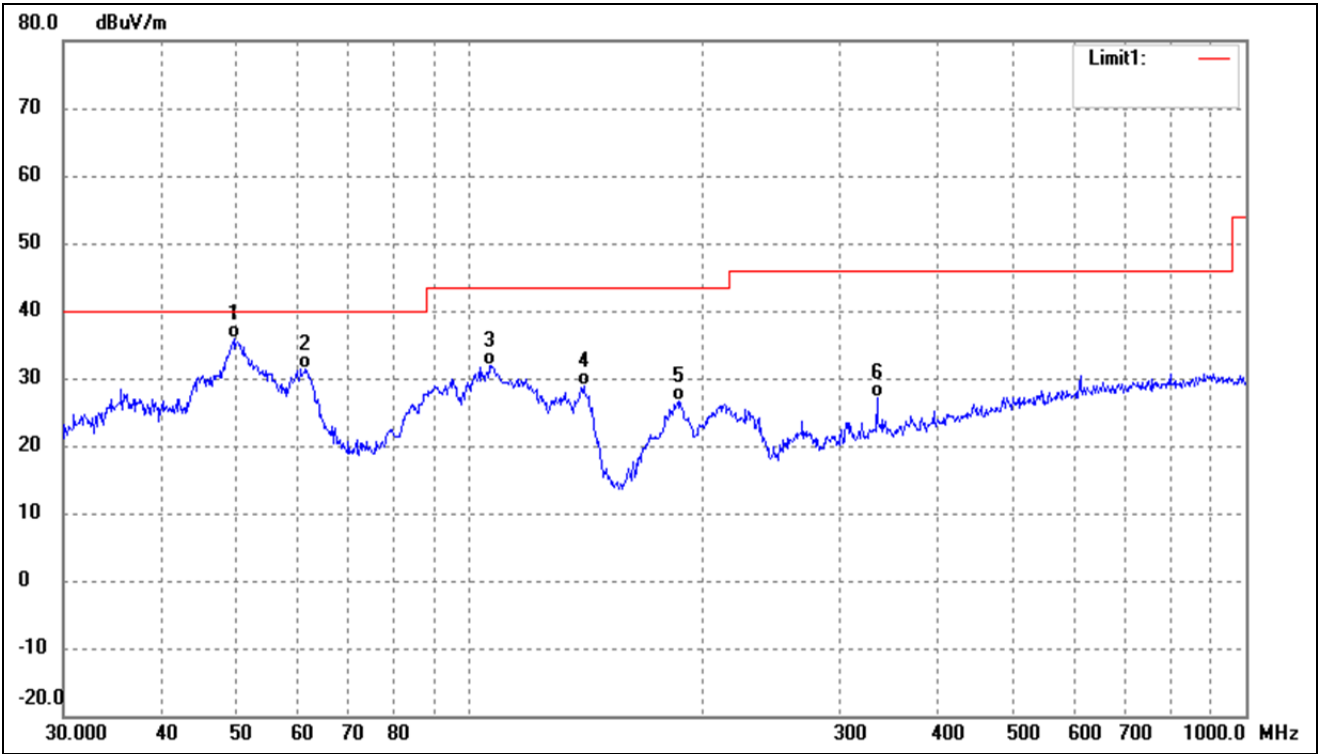
➤ 30MHz-1GHz

➤ Test mode:	TM1	Polarity:	Horizontal
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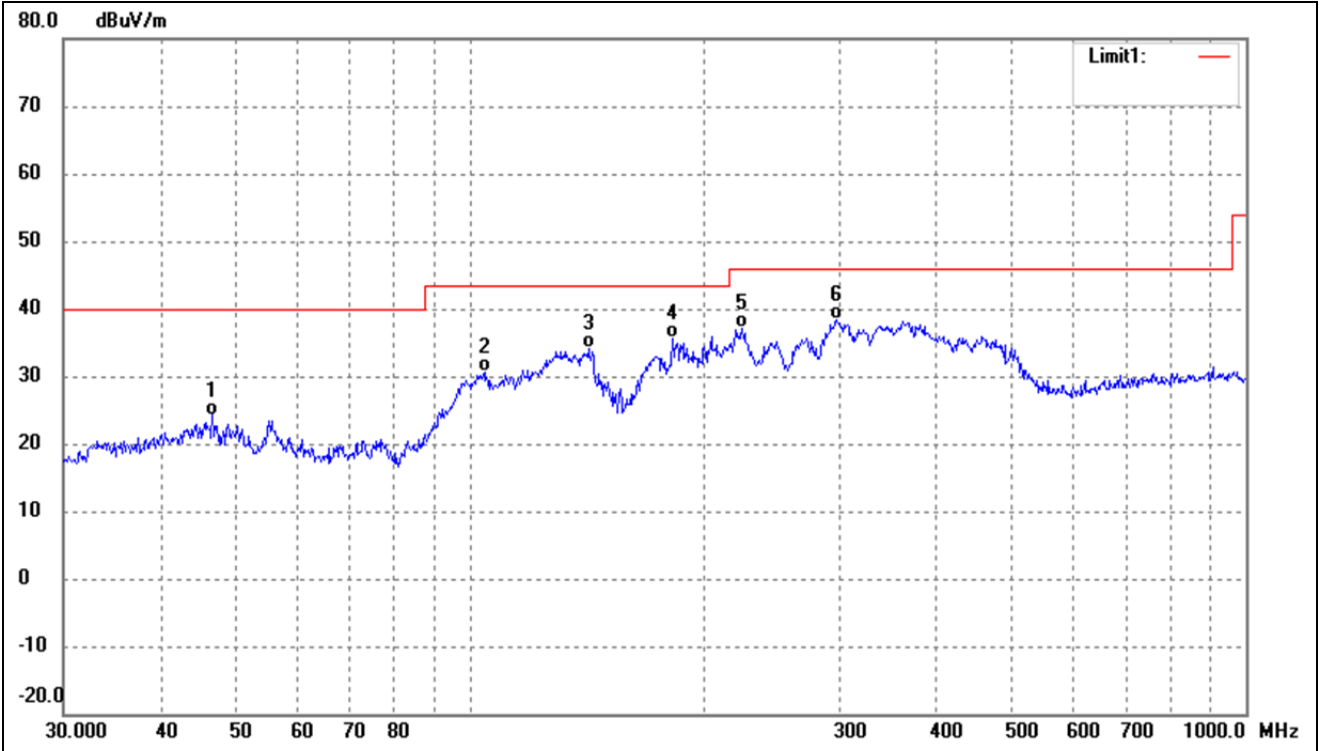
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	50.2324	29.07	-6.99	22.08	40.00	-17.92	-	-	QP
2	55.6094	31.00	-7.78	23.22	40.00	-16.78	-	-	QP
3	102.3597	35.52	-8.77	26.75	43.50	-16.75	-	-	QP
4	185.1379	41.88	-10.64	31.24	43.50	-12.26	-	-	QP
5	222.9502	43.45	-9.07	34.38	46.00	-11.62	-	-	QP
6	336.0352	40.43	-5.83	34.60	46.00	-11.40	-	-	QP

Test mode:	TM1	Polarity:	Vertical
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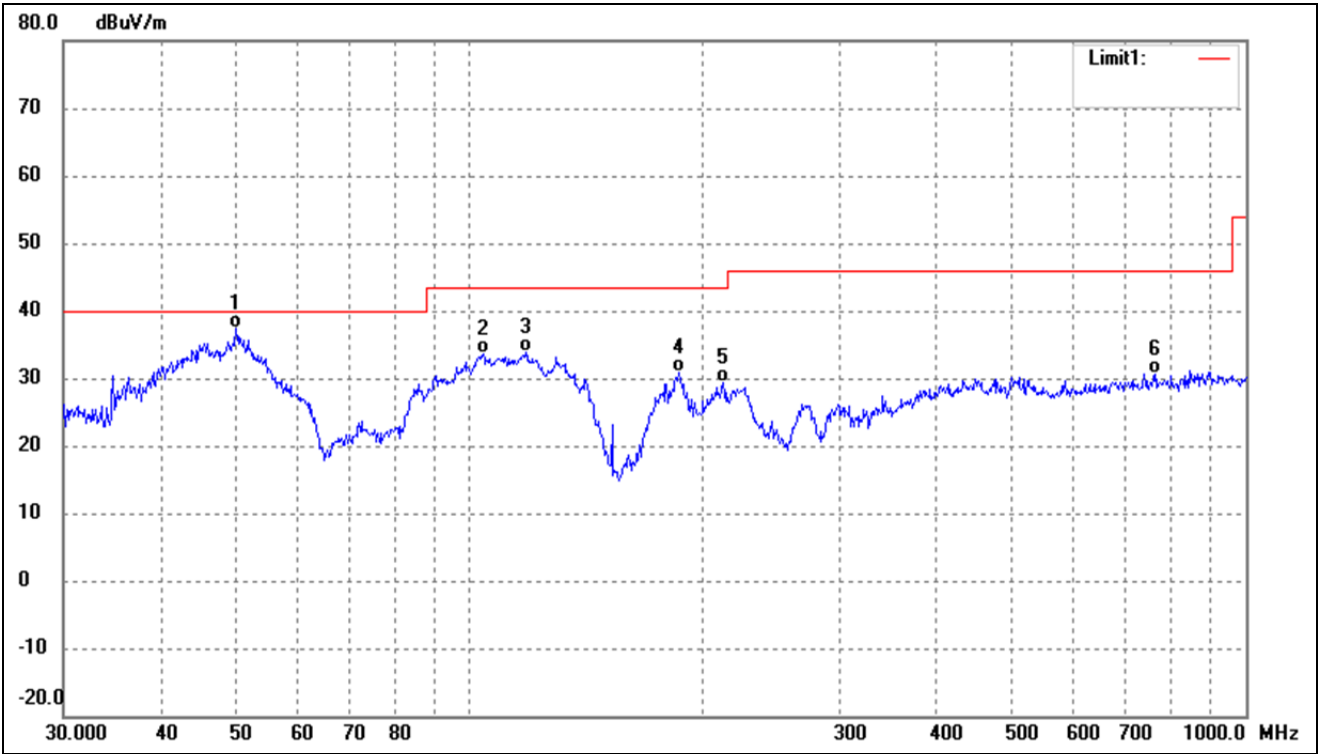
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	49.7068	42.94	-6.96	35.98	40.00	-4.02	-	-	QP
2	61.5618	40.12	-8.70	31.42	40.00	-8.58	-	-	QP
3	106.0126	40.73	-8.82	31.91	43.50	-11.59	-	-	QP
4	140.3421	41.15	-12.28	28.87	43.50	-14.63	-	-	QP
5	185.7882	37.23	-10.56	26.67	43.50	-16.83	-	-	QP
6	334.8589	32.96	-5.87	27.09	46.00	-18.91	-	-	QP

➤ Test mode:	TM2	Polarity:	Horizontal
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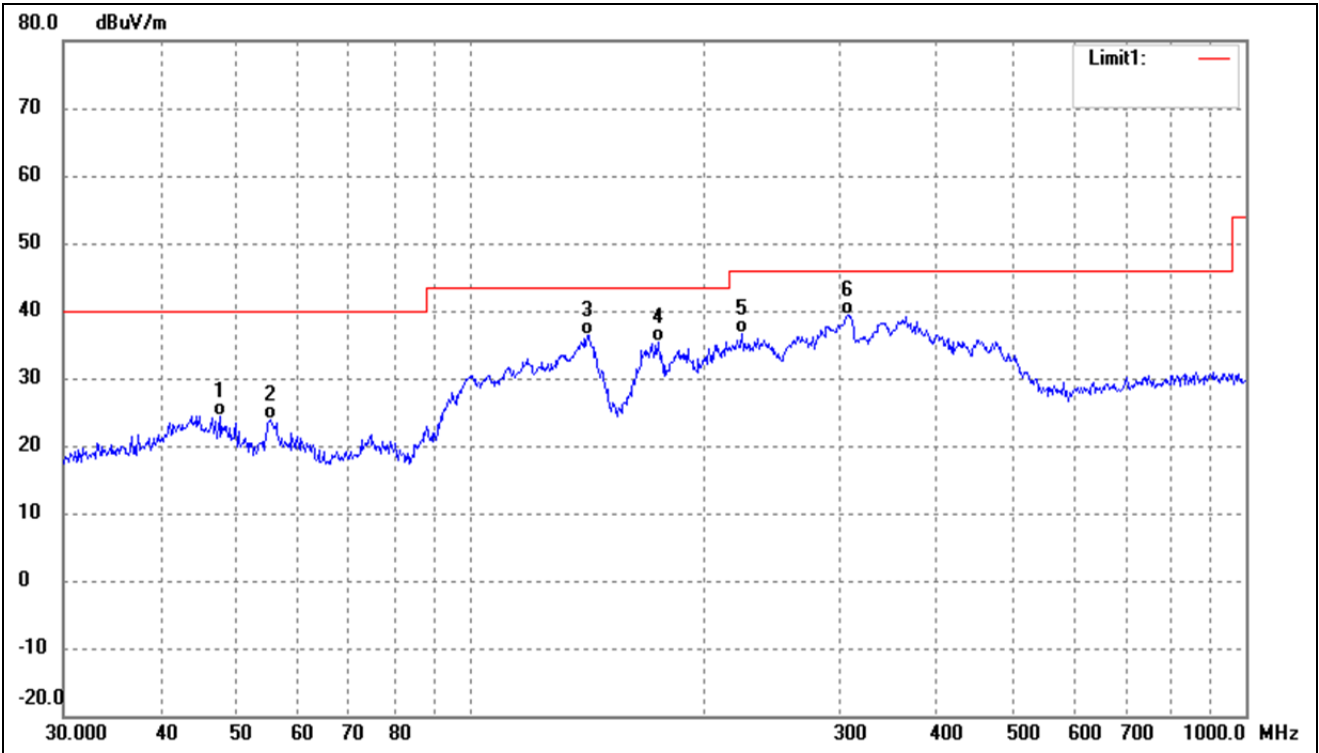
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	46.6664	31.23	-6.98	24.25	40.00	-15.75	-	-	QP
2	104.5361	39.35	-8.79	30.56	43.50	-12.94	-	-	QP
3	142.3243	46.55	-12.35	34.20	43.50	-9.30	-	-	QP
4	182.5592	46.56	-10.96	35.60	43.50	-7.90	-	-	QP
5	224.5193	46.25	-9.02	37.23	46.00	-8.77	-	-	QP
6	297.2241	45.40	-7.03	38.37	46.00	-7.63	-	-	QP

Test mode:	TM2	Polarity:	Vertical
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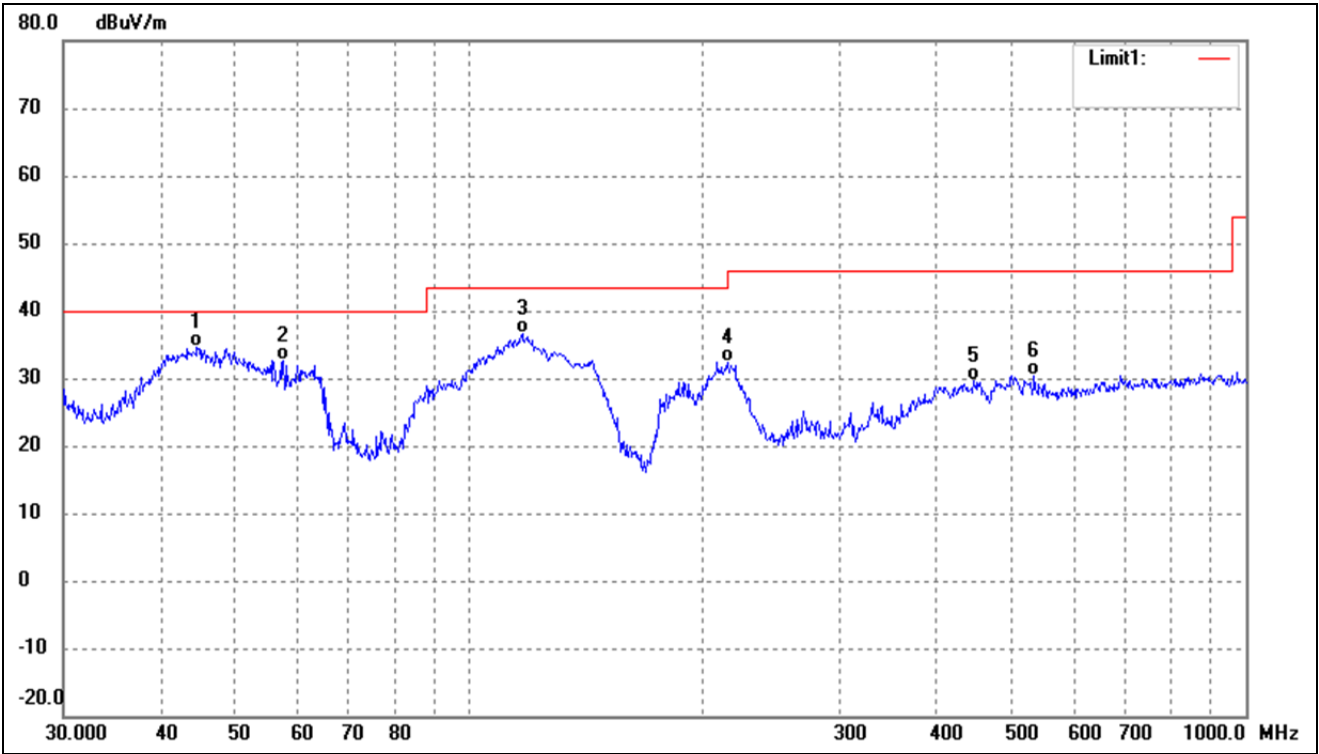
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	50.0566	44.36	-6.97	37.39	40.00	-2.61	-	-	QP
2	104.1701	42.33	-8.78	33.55	43.50	-9.95	-	-	QP
3	118.1862	43.24	-9.47	33.77	43.50	-9.73	-	-	QP
4	185.7882	41.35	-10.56	30.79	43.50	-12.71	-	-	QP
5	212.2695	38.83	-9.37	29.46	43.50	-14.04	-	-	QP
6	763.3757	28.79	1.85	30.64	46.00	-15.36	-	-	QP

➤ Test mode:	TM3	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	47.8260	31.46	-6.96	24.50	40.00	-15.50	-	-	QP
2	55.4147	31.52	-7.75	23.77	40.00	-16.23	-	-	QP
3	141.8262	48.80	-12.32	36.48	43.50	-7.02	-	-	QP
4	175.0367	46.94	-11.50	35.44	43.50	-8.06	-	-	QP
5	224.5192	45.54	-9.02	36.52	46.00	-9.48	-	-	QP
6	306.7536	46.15	-6.76	39.39	46.00	-6.61	-	-	QP

Test mode:	TM3	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	44.5868	41.68	-6.99	34.69	40.00	-5.31	-	-	QP
2	57.5939	40.66	-8.07	32.59	40.00	-7.41	-	-	QP
3	116.9495	45.93	-9.38	36.55	43.50	-6.95	-	-	QP
4	215.2678	41.60	-9.28	32.32	43.50	-11.18	-	-	QP
5	446.4141	32.29	-2.65	29.64	46.00	-16.36	-	-	QP
6	533.8321	31.19	-0.74	30.45	46.00	-15.55	-	-	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.

6. Occupied Bandwidth

6.1 Standard Applicable

According to 15.215,20dB emission bandwidth.

6.2 Test Procedure

- The transmitter shall be operated at its maximum carrier power measured under normal test conditions.
- The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.
- The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the occupied bandwidth (OBW) and video bandwidth (VBW) shall be approximately 3x RBW.

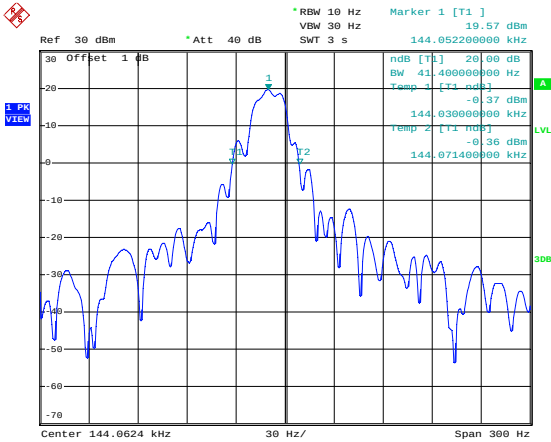
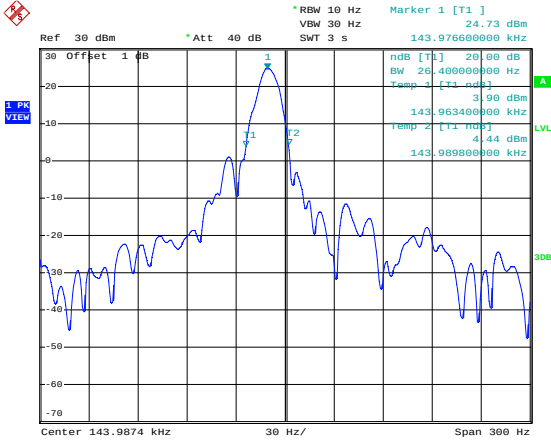
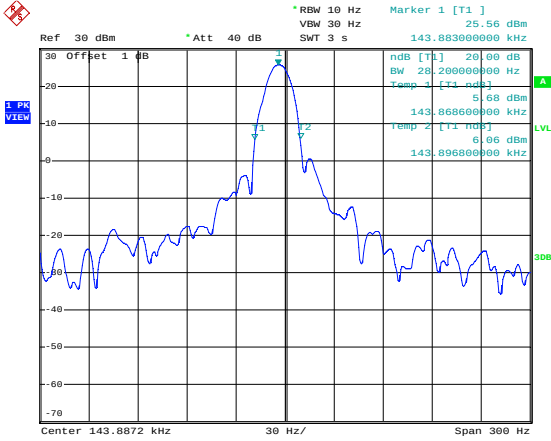
6.3 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

6.4 Summary of Test Results/Plots

Test mode	Test Channel(kHz)	20dB Bandwidth(Hz)
TM1	144.0624	41.40
TM2	143.9874	26.40
TM3	143.8872	28.20

Please refer to the attached plots.

TM1	 Date: 12.APR.2022 15:16:41
TM2	 Date: 12.APR.2022 15:17:28
TM3	 Date: 12.APR.2022 15:19:21

Note: The RBW of the analyzer that measured 99% OBW cannot go lower than 10Hz, so it was set to 10Hz, even though it is more than 5% of the OBW. This produces a worst case measurement.

APPENDIX PHOTOGRAPHS

Please refer to “ANNEX”

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