

TEST REPORT

Reference No..... : WTX21X08081704W-2
FCC ID : 2A29P-YM001
Applicant : Shenzhen Kunpeng Innovation Intelligent Technology Co., Ltd.
Address..... : RM6227 Chuang Ye Cheng, No.106 Xing Hua Road, Xing Wei Community, Fu Yong Street, Bao an District, ShenZhen
Product Name : Intelligent audio desk lamp
Test Model. : YM001
Standards : FCC Part 15.207&15.209
Date of Receipt sample : Aug. 10, 2021
Date of Test..... : Aug. 10, 2021 to Sept. 13, 2021
Date of Issue : Sept. 13, 2021
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 compiler and 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

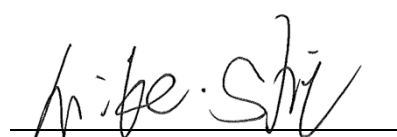
Tel.: +86-755-33663308

Fax.: +86-755-33663309

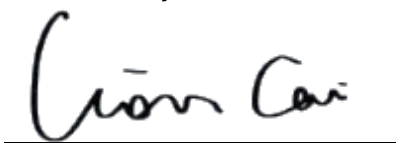
Tested by:

Reviewed By:

Approved & Authorized By:



Mike Shi/ Project Engineer



Lion Cai / RF Manager



Silin Chen / Manager

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Report version

Version No.	Date of issue	Description
Rev.00	Sept. 13, 2021	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Shenzhen Kunpeng Innovation Intelligent Technology Co., Ltd.

Address of applicant: RM6227 Chuang Ye Cheng, No.106 Xing Hua Road, Xing Wei Community, Fu Yong Street, Bao an District, ShenZhen

Manufacturer: Shenzhen Kunpeng Innovation Intelligent Technology Co., Ltd.

Address of manufacturer: RM6227 Chuang Ye Cheng, No.106 Xing Hua Road, Xing Wei Community, Fu Yong Street, Bao an District, ShenZhen

General Description of EUT	
Product Name:	Intelligent audio desk lamp
Trade Name	/
Model No.:	YM001
Adding Model(s):	/
Rate Power:	Type-C Input: 5V, 3A , 9V, 3A , 12V, 3A Wireless Output: 5W, 7.5W, 10W Battery:DC3.7V
Battery Capacity:	1200mA
Adapter Model:	/
Software Version:	REV:3.3
Hardware Version:	REV:3.3
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Frequency Range:	112-205kHz
Antenna Type:	Coil Antenna
Antenna Gain:	0dBi
Radio Technology:	/

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 output	Wireless output: 5W	Type-C Input: 5V, 3A , 9V, 3A , 12V, 3A Battery:DC3.7V
TM2	Wireless output	Wireless output: 10W	Type-C Input: 5V, 3A , 9V, 3A , 12V, 3A Battery:DC3.7V

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
Type-C cable	1.0	Unshielded	Without Ferrite

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
Wireless Charging Load	YBZ	YBZ wireless charging tester	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Adapter	/	A138A-120150U-CN2	/

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-1082	Power Divider	RF-Lambda	RFLT4W5M18G	14110400027	2021-03-27	2022-03-26
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-1043	Amplifier	C&D	PAP-1G18	2002	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
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 Systems Inc.	PAP-2640	14145-14153	2021-04-27	2022-04-26
SEMT-1163	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2021-03-27	2022-03-26
SEMT-1166	Power Limiter	Agilent	N9356B	MY45450376	2021-03-27	2022-03-26
SEMT-1076	RF Switcher	Top Precision	RCS03-A2	/	2021-03-19	2023-03-18
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	/	/	/

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
§15.203Antenna 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.

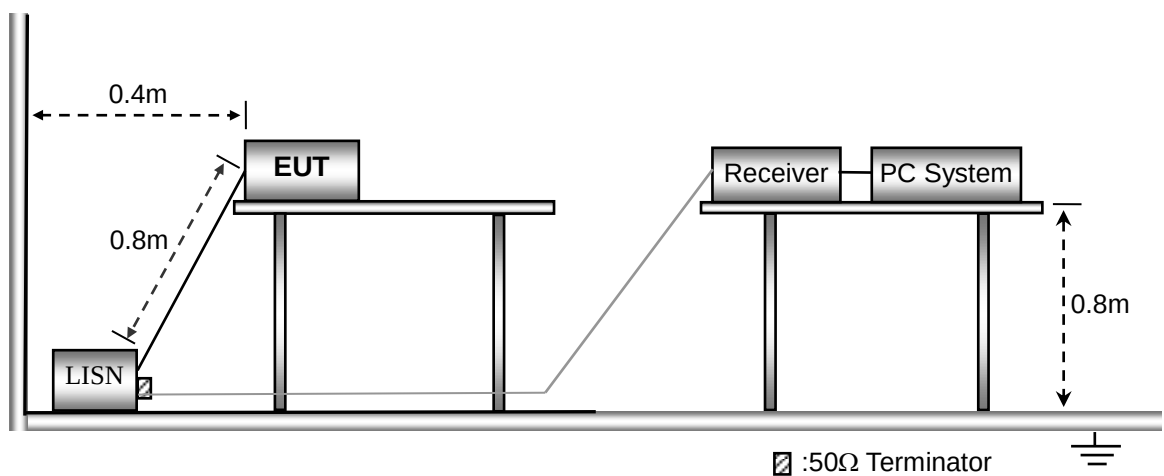
4. Conducted Emissions

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

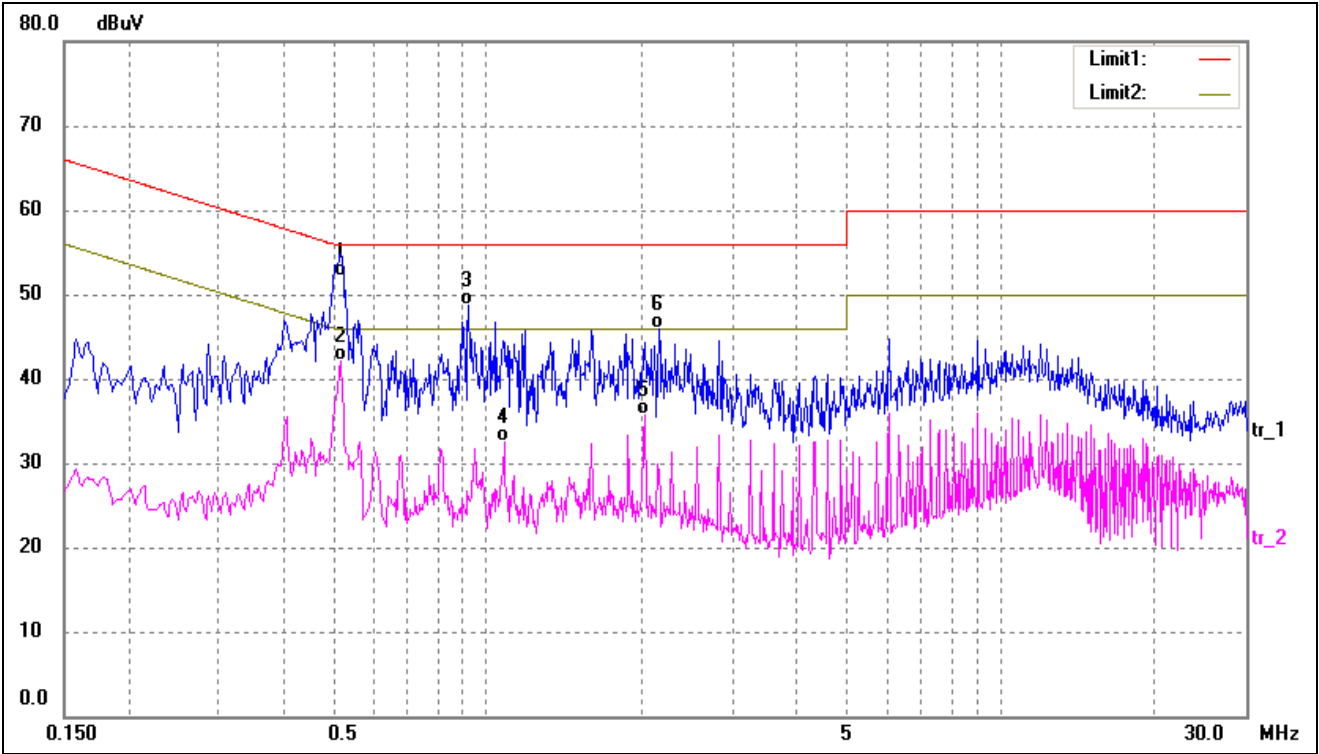


4.3 Environmental Conditions

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

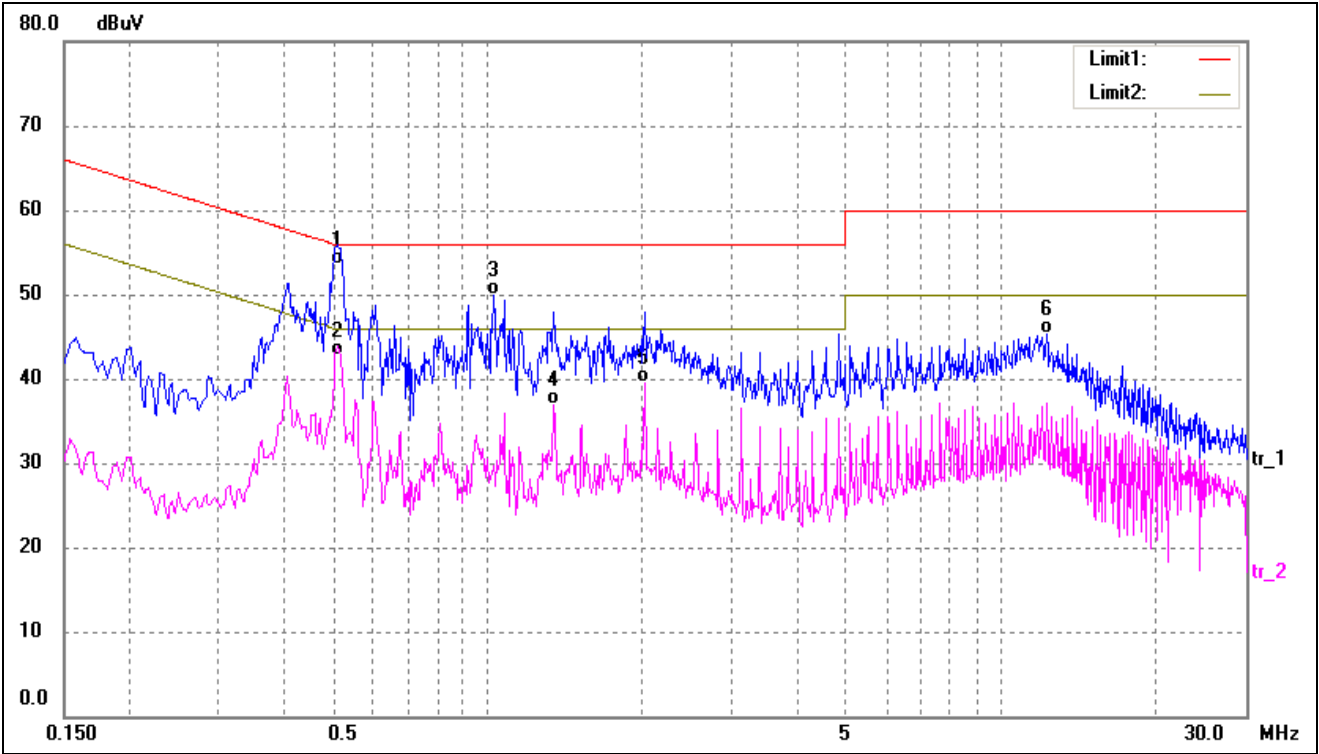
4.4 Summary of Test Results/Plots

Test mode:	TM1	Polarity:	Line
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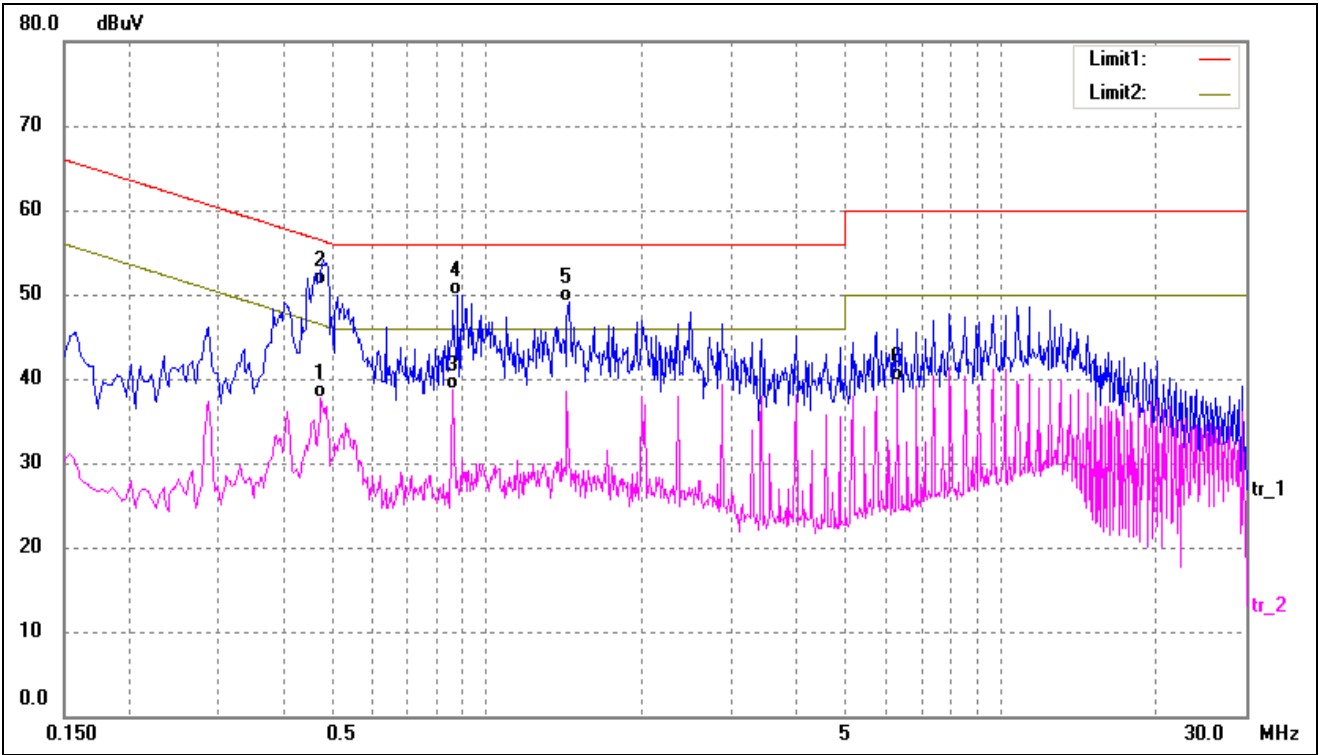
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.5180	41.85	10.22	52.07	56.00	-3.93	QP
2	0.5180	31.79	10.22	42.01	46.00	-3.99	AVG
3	0.9220	38.55	10.22	48.77	56.00	-7.23	QP
4	1.0820	22.30	10.21	32.51	46.00	-13.49	AVG
5	2.0260	25.40	10.29	35.69	46.00	-10.31	AVG
6	2.1580	35.59	10.29	45.88	56.00	-10.12	QP

Test mode:	TM1	Polarity:	Neutral
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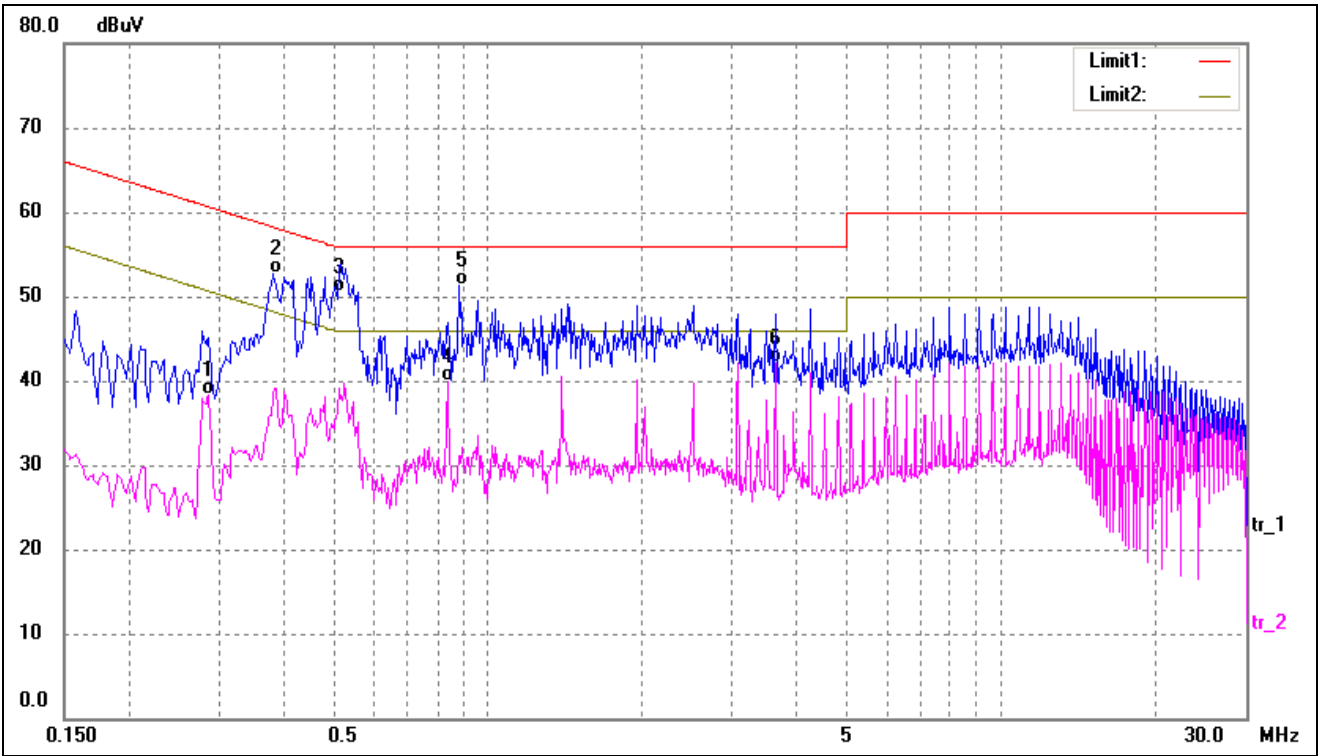
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.5100	43.32	10.22	53.54	56.00	-2.46	QP
2	0.5100	32.47	10.22	42.69	46.00	-3.31	AVG
3	1.0300	39.76	10.20	49.96	56.00	-6.04	QP
4	1.3500	26.75	10.22	36.97	46.00	-9.03	AVG
5	2.0260	29.19	10.29	39.48	46.00	-6.52	AVG
6	12.2900	34.96	10.41	45.37	60.00	-14.63	QP

Test mode:	TM2	Polarity:	Line
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No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.4740	27.50	10.23	37.73	46.44	-8.71	AVG
2*	0.4780	40.93	10.22	51.15	56.37	-5.22	QP
3	0.8580	28.41	10.20	38.61	46.00	-7.39	AVG
4	0.8780	39.74	10.22	49.96	56.00	-6.04	QP
5	1.4460	38.96	10.23	49.19	56.00	-6.81	QP
6	6.2860	29.42	10.24	39.66	50.00	-10.34	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	0.2860	28.02	10.25	38.27	50.64	-12.37	AVG
2	0.3820	42.54	10.23	52.77	58.24	-5.47	QP
3	0.5180	40.26	10.22	50.48	56.00	-5.52	QP
4	0.8380	29.79	10.19	39.98	46.00	-6.02	AVG
5	0.8820	41.12	10.22	51.34	56.00	-4.66	QP
6*	3.6460	31.84	10.25	42.09	46.00	-3.91	AVG

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	$20\log^{(500)}$

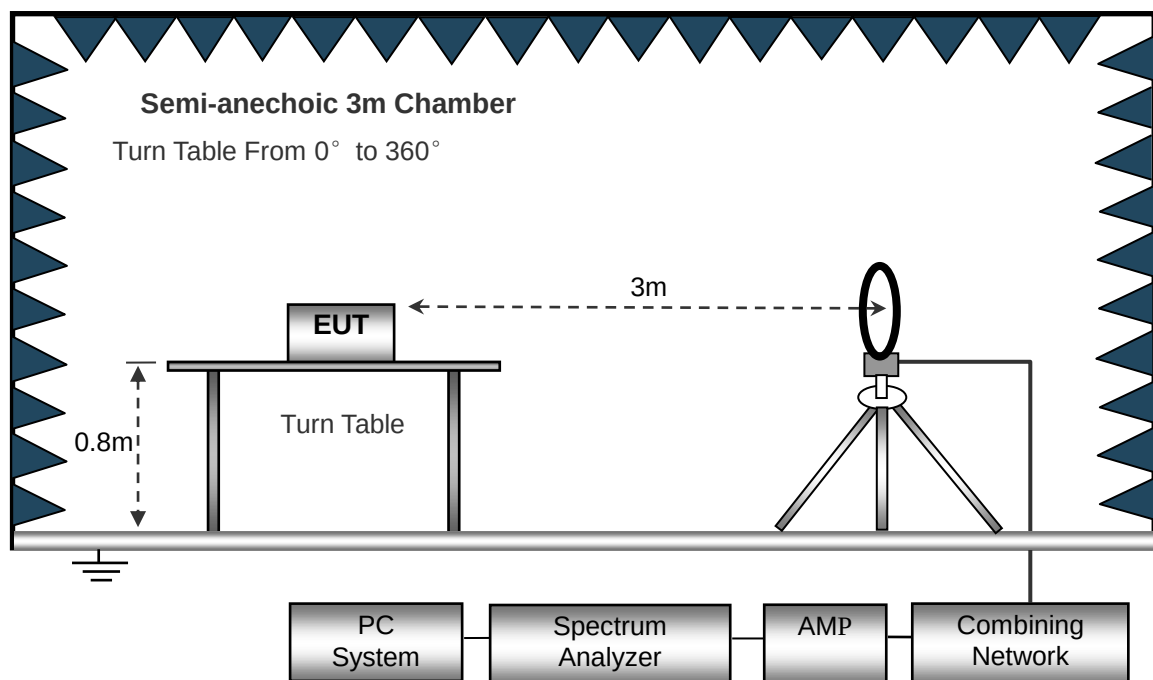
5.2 Test Procedure

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.

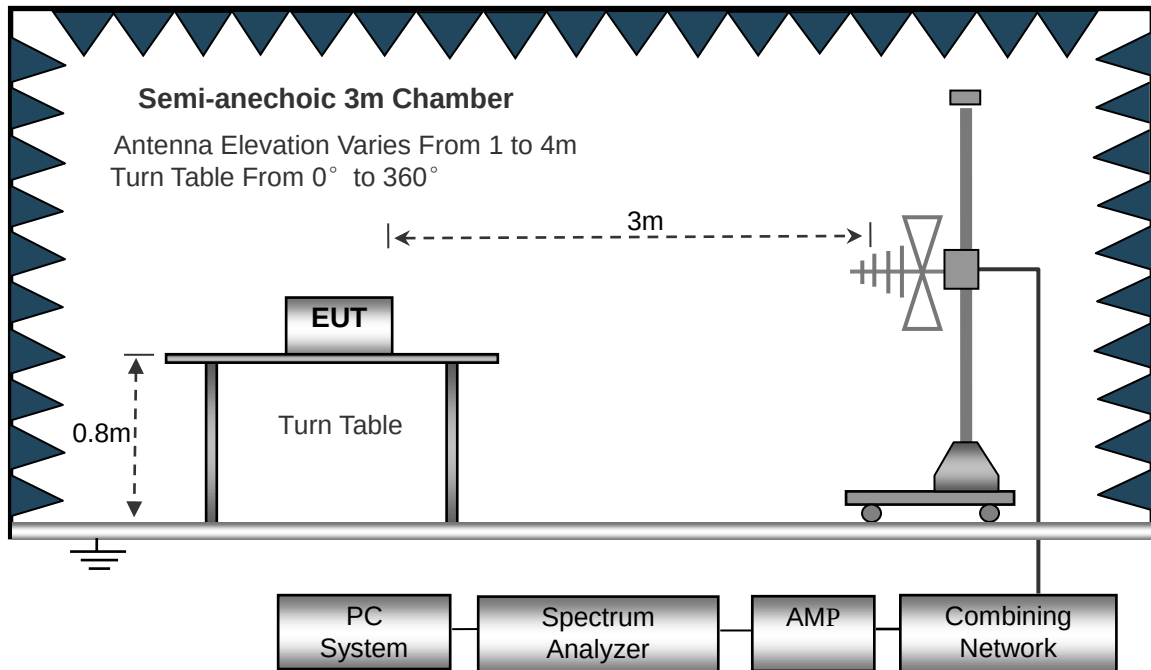
The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle.

The spacing between the peripherals was 10cm.

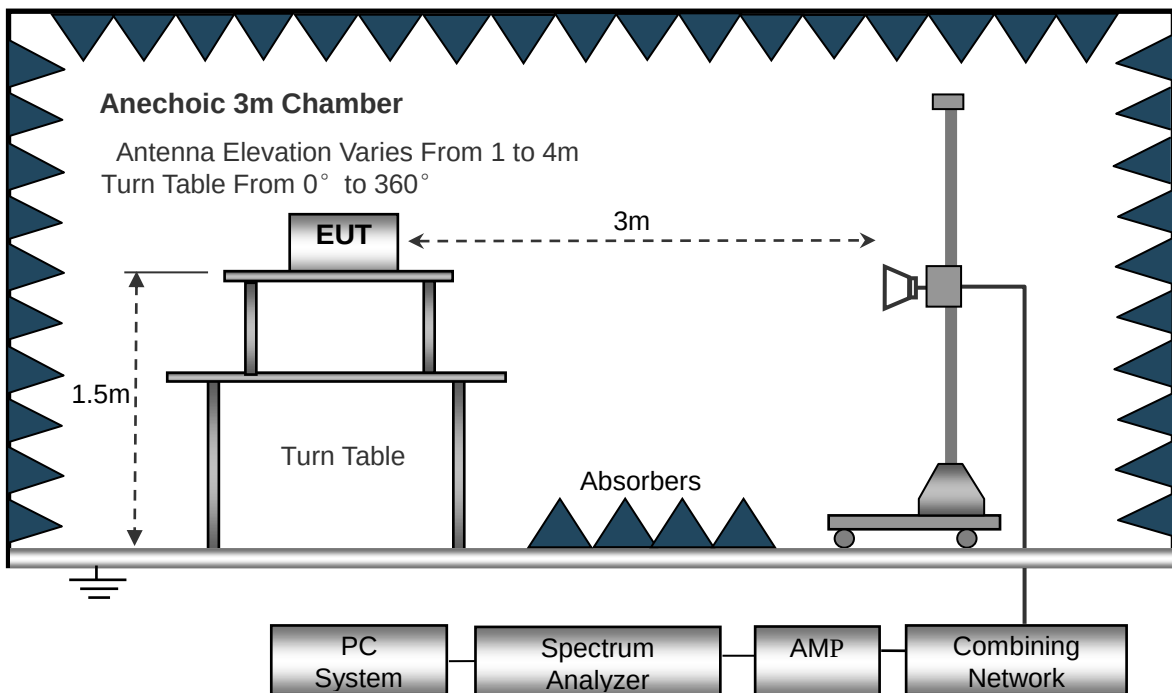
The test setup for emission measurement below 30MHz.



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 -6dB μ V means the emission is 6dB μ V 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

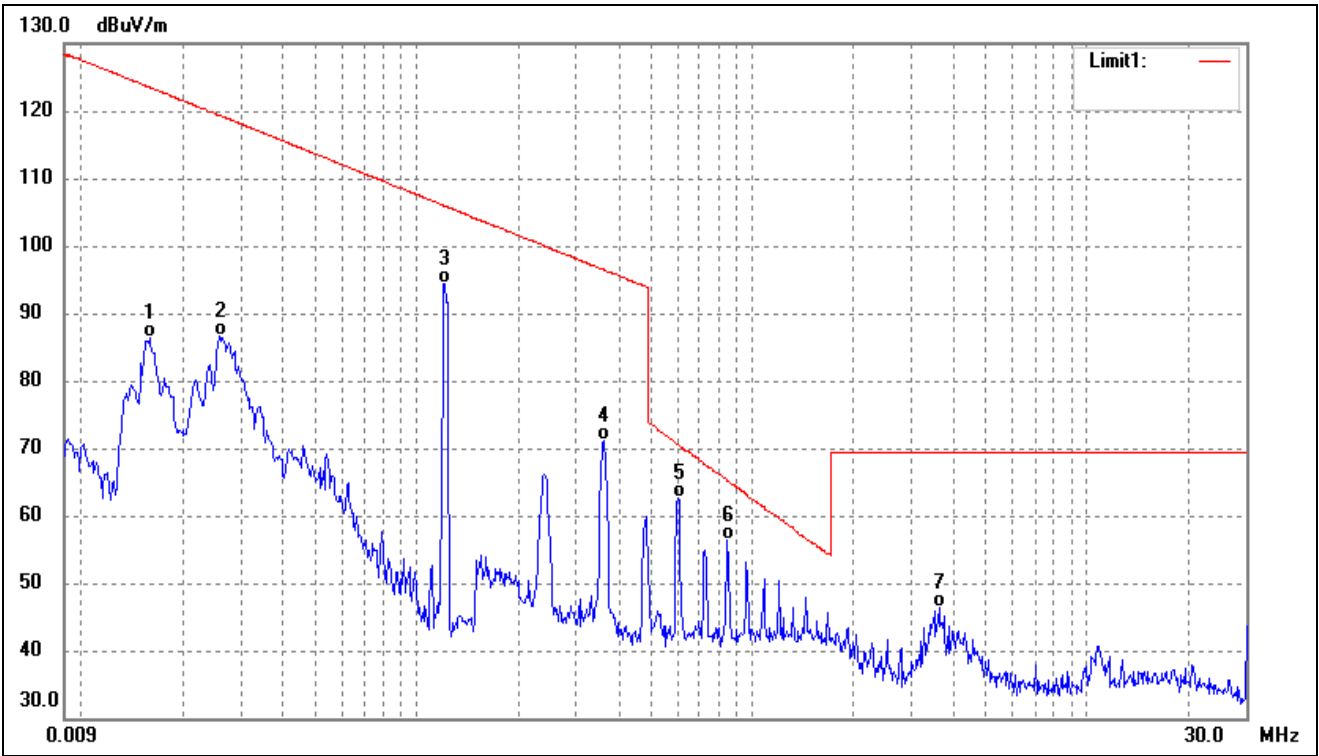
Temperature:	22.5 °C
Relative Humidity:	54 %
ATM Pressure:	1011 mbar

5.6 Summary of Test Results/Plots

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

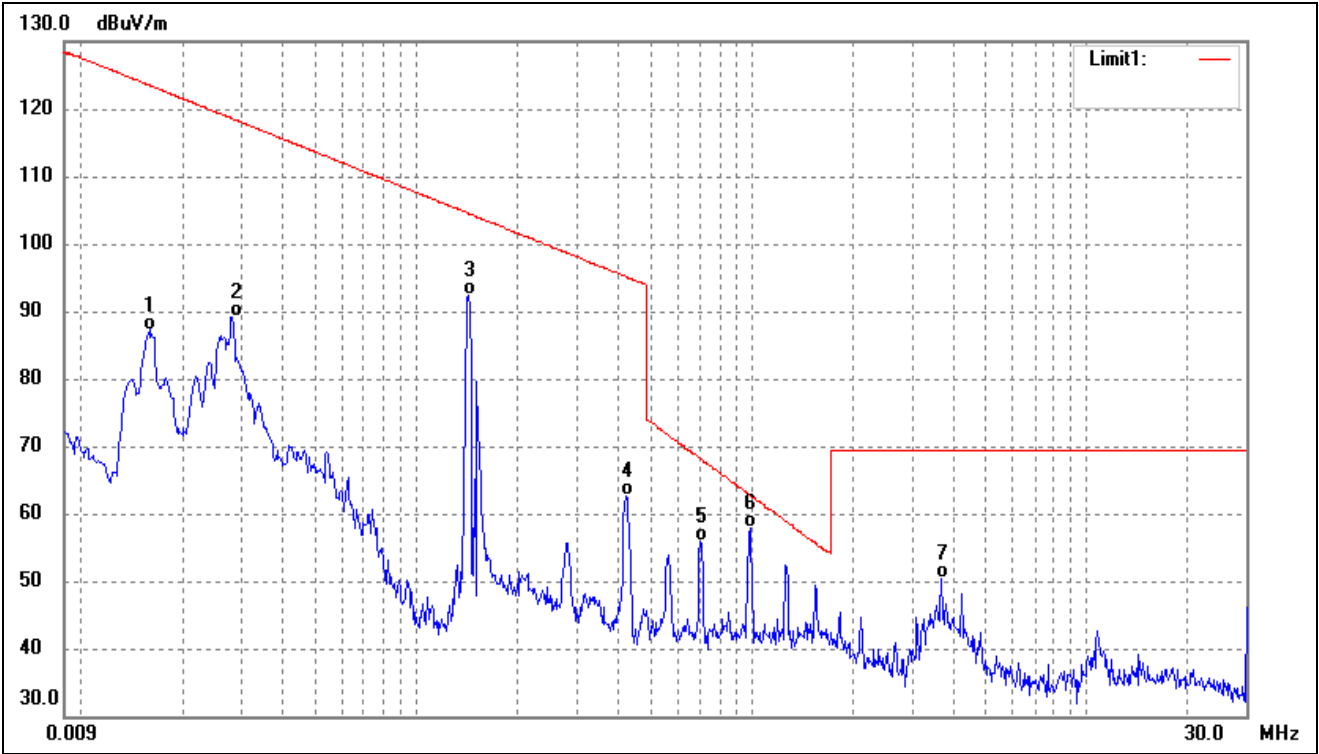
➤ Below 30MHz

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	0.0160	92.07	-5.58	86.49	123.51	-37.02	-	-	QP
2	0.0259	91.89	-5.24	86.65	119.32	-32.67	-	-	QP
3	0.1204	98.96	-4.51	94.45	105.98	-11.53	-	-	QP
4	0.3615	75.95	-4.78	71.17	96.44	-25.27	-	-	QP
5	0.6011	66.59	-3.95	62.64	70.57	-7.93	-	-	QP
6	0.8438	59.40	-3.05	56.35	65.21	-8.86	-	-	QP
7	3.6034	49.20	-2.79	46.41	69.50	-23.09	-	-	QP

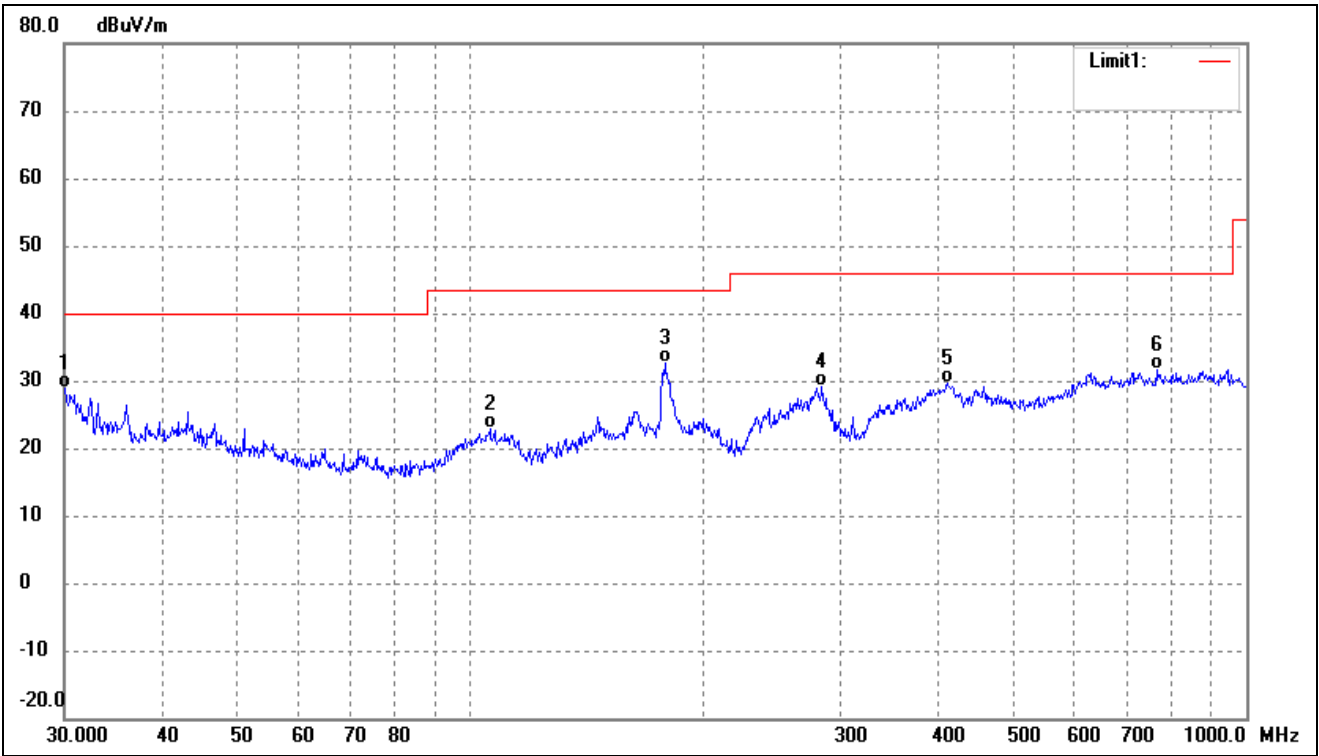
Test mode:	TM2	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	0.0161	92.83	-5.58	87.25	123.45	-36.20	-	-	QP
2	0.0281	94.33	-5.10	89.23	118.62	-29.39	-	-	QP
3	0.1426	96.68	-4.26	92.42	104.52	-12.10	-	-	QP
4	0.4215	67.22	-4.64	62.58	95.11	-32.53	-	-	QP
5	0.7010	59.40	-3.43	55.97	68.14	-12.17	-	-	QP
6	0.9839	60.72	-2.87	57.85	62.79	-4.94	-	-	QP
7	3.6611	53.16	-2.79	50.37	69.50	-19.13	-	-	QP

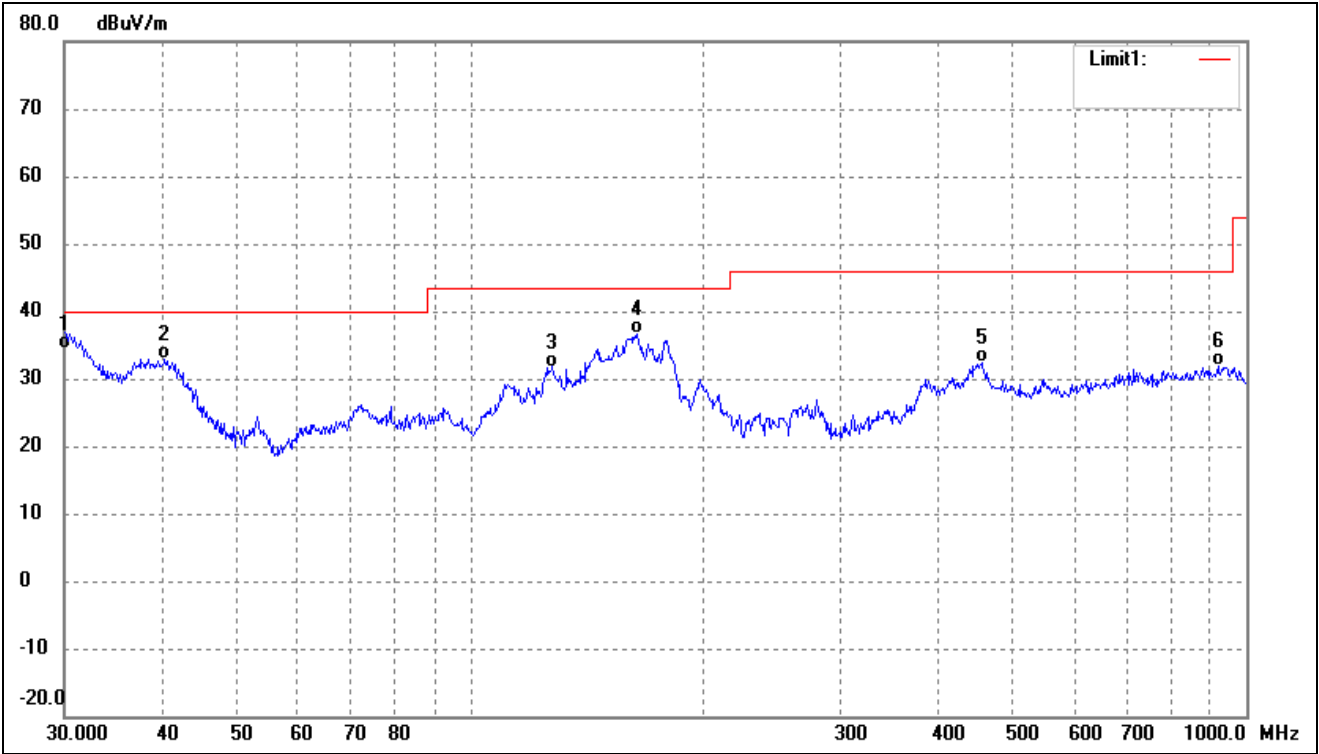
➤ 30MHz-1GHz

➤ Test mode:	TM1	Polarity:	Horizontal
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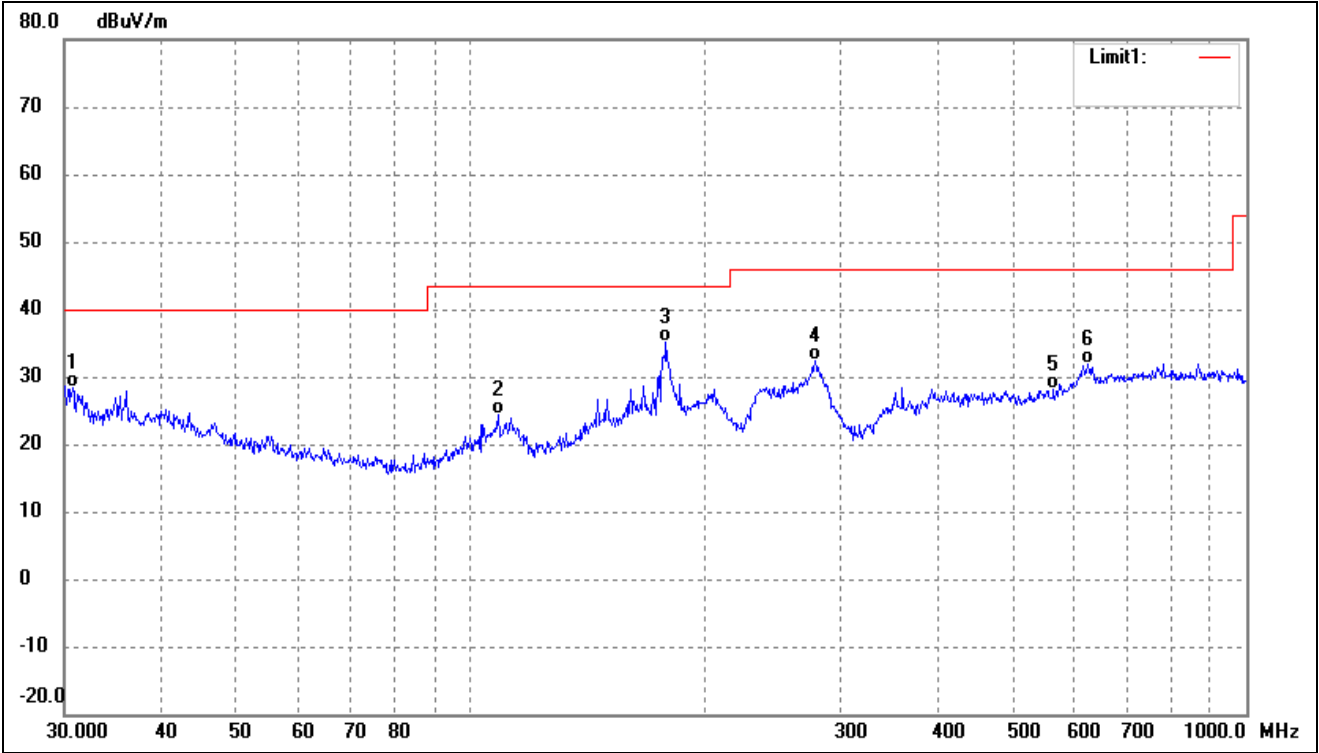
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	30.1054	38.37	-9.43	28.94	40.00	-11.06	-	-	QP
2	106.0126	31.65	-8.82	22.83	43.50	-20.67	-	-	QP
3	178.1327	44.04	-11.36	32.68	43.50	-10.82	-	-	QP
4	283.9792	36.48	-7.38	29.10	46.00	-16.90	-	-	QP
5	411.8240	33.21	-3.57	29.64	46.00	-16.36	-	-	QP
6	766.0572	29.70	1.87	31.57	46.00	-14.43	-	-	QP

Test mode:	TM1	Polarity:	Vertical
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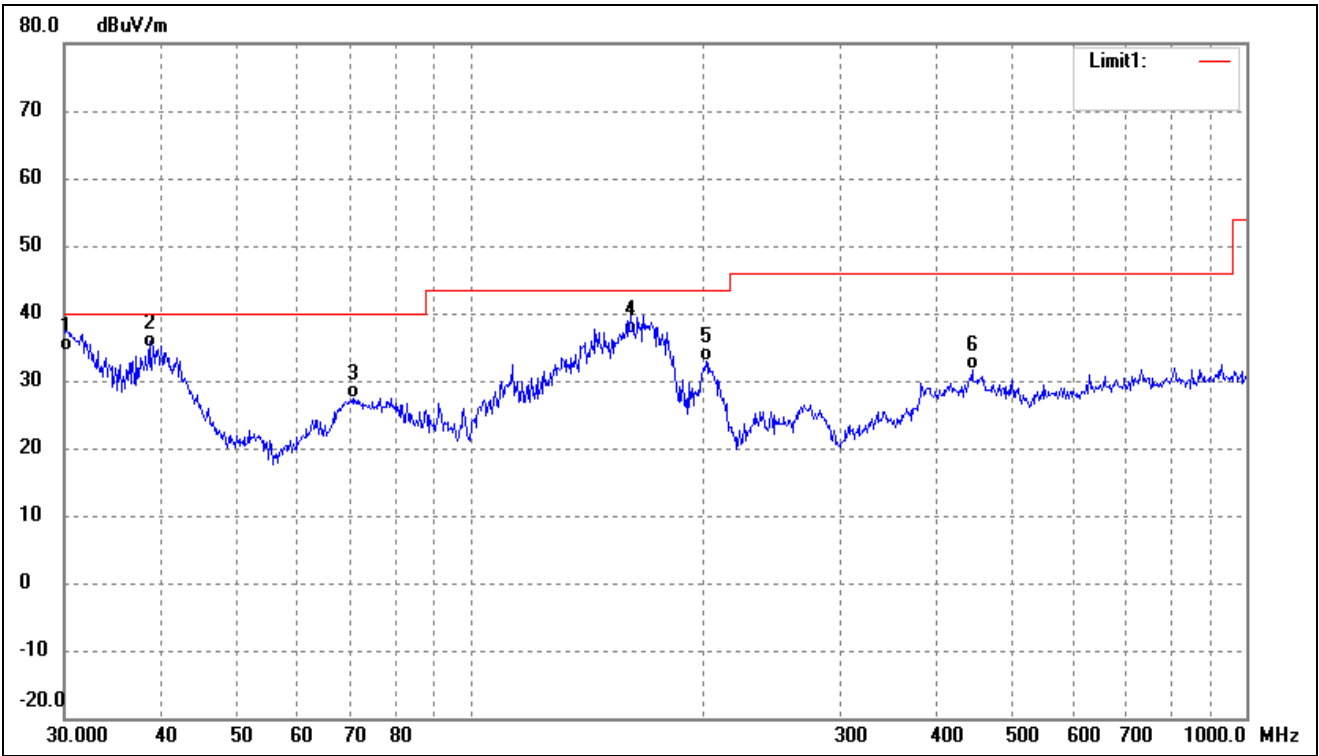
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	()	(cm)	
1	30.0000	43.85	-9.45	34.40	40.00	-5.60	-	-	QP
2	40.4172	39.94	-6.99	32.95	40.00	-7.05	-	-	QP
3	127.6645	42.76	-11.01	31.75	43.50	-11.75	-	-	QP
4	163.7550	48.59	-12.00	36.59	43.50	-6.91	-	-	QP
5	455.9058	34.79	-2.41	32.38	46.00	-13.62	-	-	QP
6	919.2866	29.07	2.69	31.76	46.00	-14.24	-	-	QP

➤ Test mode:	TM2	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	30.7455	37.54	-9.27	28.27	40.00	-11.73	-	-	QP
2	108.6470	33.31	-8.84	24.47	43.50	-19.03	-	-	QP
3	178.7584	46.53	-11.34	35.19	43.50	-8.31	-	-	QP
4	278.0669	39.95	-7.55	32.40	46.00	-13.60	-	-	QP
5	564.6389	28.34	-0.22	28.12	46.00	-17.88	-	-	QP
6	625.0780	31.11	0.65	31.76	46.00	-14.24	-	-	QP

Test mode:	TM2	Polarity:	Vertical
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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	30.2111	43.85	-9.41	34.44	40.00	-5.56	-	-	QP
2	38.6161	42.10	-7.34	34.76	40.00	-5.24	-	-	QP
3	70.8315	37.53	-10.21	27.32	40.00	-12.68	-	-	QP
4	160.9089	48.95	-12.12	36.83	43.50	-6.67	-	-	QP
5	201.3930	42.42	-9.66	32.76	43.50	-10.74	-	-	QP
6	443.2943	34.34	-2.74	31.60	46.00	-14.40	-	-	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. 20dB Emission bandwidth.

6.1 Standard Applicable

According to 15.215, 20dB emission bandwidth.

6.2 Test Procedure

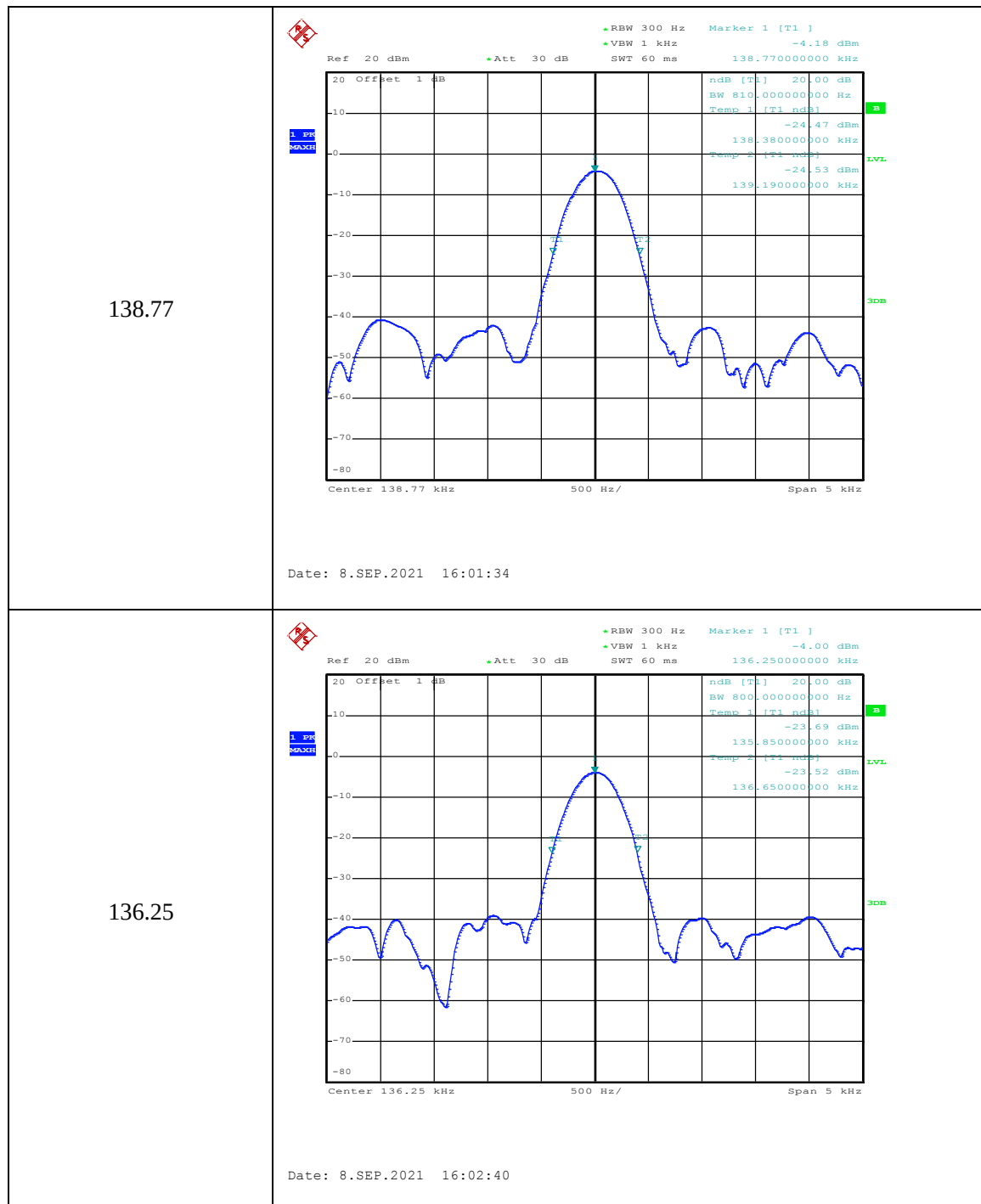
- The transmitter shall be operated at its maximum carrier power measured under normal test conditions.
- The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.
- The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the occupied 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 Channel(kHz)	20dB Emission Bandwidth(kHz)
138.77	0.81
136.25	0.80



APPENDIX PHOTOGRAPHS

Please refer to “ANNEX”

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