

TEST REPORT

Reference No...... : WTA25X11317625W
FCC ID..... : 2BTE6HJRF
Applicant..... : RICHMAT (THAILAND) CO.,LTD.
Address..... : Rojana Nongyai industrial 60 Village No. 3, Tombol Hang Sung, Amphur
Nong Yai , Chonburi Province Thailand 20190
Manufacturer..... : The same as Applicant
Address..... : The same as Applicant
Product Name..... : Control box
Model No...... : HJC18
Standards..... : FCC Part 15.249
Date of Receipt sample..... : 2025-11-28
Date of Test..... : 2026-03-12 to 2026-03-24
Date of Issue..... : 2026-03-26
Test Report Form No...... : WTX_Part 15_249W
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:

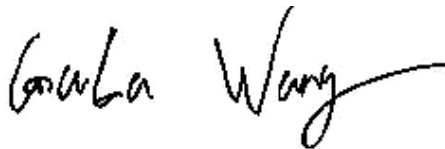
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Tested by:



Gala Wang/Project Engineer

Approved by:



Jason Su/Manager

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Report version

Version No.	Date of issue	Description
Rev.00	2026-03-26	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	Control box
Trade Name:	/
Model No.:	HJC18
Adding Model(s):	/
Rated Voltage:	DC 29V
Battery Capacity	/
Power Adapter Model:	/
<i>Note: The sample information is provided by the customer.</i>	

Technical Characteristics of EUT	
Frequency Range:	2405MHz-2480MHz
Max. Field Strength:	85.74dBuV/m
Modulation:	FSK
Quantity of Channels:	151
Channel Separation:	0.5MHz
Antenna Type:	PCB Antenna
Antenna Gain:	0dBi
<i>Note: 1: The Antenna Gain is provided by the customer and can affect the validity of results.</i> <i>2: The data provided by the customer and can affect the validity of results.</i>	

1.2 Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.249: Operation within the bands 902-928MHz, 2400-2483.5MHz, 5725-5875MHz, and 24.0-24.25GHz.

ANSI C63.10-2020: American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which results 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 C63.10-2020, 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 and the CAB identifier is CN0057.

1.5 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	Low Channel	2405MHz
TM2	Middle Channel	2440MHz
TM3	High Channel	2480MHz

Test Conditions	
Temperature:	24 °C
Relative Humidity:	48 %.
ATM Pressure:	1019 mbar

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
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
/	/	/	/

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	$\pm 0.57\text{dB}$
Occupied Bandwidth	Conducted	$\pm 0.015\text{MHz}$
Conducted Spurious Emission	Conducted	$\pm 2.17\text{dB}$
Conducted Emission 1#	Conducted	@9kHz to 150kHz: $\pm 3.74\text{dB}$
		@150kHz to 30MHz: $\pm 3.34\text{dB}$
Conducted Emission 2#	Conducted	@9kHz to 150kHz: $\pm 3.74\text{dB}$
		@150kHz to 30MHz: $\pm 3.34\text{dB}$
Transmitter Spurious Emissions chamber A	Radiated	@9kHz to 30MHz: $\pm 3.0\text{dB}$
		@30MHz to 1GHz: $\pm 5.70\text{dB}$
		@1GHz to 6GHz: $\pm 5.88\text{dB}$
		@6GHz to 18GHz: $\pm 5.96\text{dB}$
		@18GHz to 40GHz: $\pm 6.12\text{dB}$
Transmitter Spurious Emissions chamber B	Radiated	@30MHz to 1GHz: $\pm 5.36\text{dB}$
Transmitter Spurious Emissions chamber C	Radiated	@9kHz to 30MHz: $\pm 3.0\text{dB}$
		@30MHz to 1GHz: $\pm 5.28\text{dB}$
		@1GHz to 6GHz: $\pm 5.56\text{dB}$
		@6GHz to 18GHz: $\pm 5.72\text{dB}$
		@18GHz to 40GHz: $\pm 6.12\text{dB}$

1.7 Test Equipment List and Details

Internal No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
WTXE1041A 1002	Communication Tester	Rohde & Schwarz	CMW500	1201.0002 k50-14865 0-FB	2026-02-06	2027-02-05
					2026-03-25	2027-03-24
WTXE1005A 1005	MXA Signal Analyzer	Agilent	N9020A	US471401 02	2026-02-06	2027-02-05
					2026-03-25	2027-03-24
WTXE1084A 1001	MXA Signal Analyzer	KEYSIGHT	N9020A	MY543205 48	2026-02-06	2027-02-05
WTXE1005A 1006	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2026-02-06	2027-02-05
WTXW1105A 1136	RF ATTENUATOR	FEIYANG	N-JK	/	2026-02-06	2027-02-05
WTXE1003A 1-005	Coaxial Cable	/	0M4RFC	/	2026-02-23	2027-02-22
☐ Chamber A: Below 1GHz						
WTXE1005A 1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/03 5	2026-02-05	2027-02-04
WTXE1001A 1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2026-02-05	2027-02-04
WTXE1007A 1002	Amplifier	HP	8447F	2805A034 75	2026-02-05	2027-02-04
WTXE1010A 1007	Loop Antenna	Schwarz beck	FMZB 1516	9773	2026-02-05	2027-02-04
WTXE1010A 1006	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2026-03-11	2029-03-10
WTXE1104A 1032-1	Coaxial Cable	/	RC_6G-N-M	/	2026-02-23	2027-02-22
WTXE1104A 1032-2	Coaxial Cable	/	RC_6G-N-M	/	2026-02-23	2027-02-22
WTXE1104A 1032-3	Coaxial Cable	/	RC_6G-N-M	/	2026-02-23	2027-02-22
☐ Chamber A: Above 1GHz						
WTXE1005A 1003	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/03 5	2026-02-05	2027-02-04
WTXE1001A 1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2026-02-05	2027-02-04
WTXE1065A 1001	Amplifier	C&D	PAP-1.0G18	14918	2026-02-05	2027-02-04
WTXE1010A 1005	Horn Antenna	ETS	3117	00086197	2026-02-05	2027-02-04

WTXE1010A 1010	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2026-02-10	2027-02-09
WTXE1003A 1001	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2026-02-05	2027-02-04
WTXE1104A 1033-1	Coaxial Cable	/	C16-07-07	/	2026-02-23	2027-02-22
WTXE1104A 1033-2	Coaxial Cable	/	C16-07-07	/	2026-02-23	2027-02-22
WTXE1104A 1033-3	Coaxial Cable	/	C16-07-07	/	2026-02-23	2027-02-22
☐ Chamber B:Below 1GHz						
WTXE1010A 1006	Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2024-03-17	2027-03-16
WTXE1038A 1001	Amplifier	Agilent	8447D	2944A104 57	2026-02-05	2027-02-04
WTXE1001A 1002	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2026-02-05	2027-02-04
WTXE1104A 1031-1	Coaxial Cable	/	1.5MRFC-LWB3	/	2026-02-23	2027-02-22
WTXE1104A 1031-2	Coaxial Cable	/	RG 316	/	2026-02-23	2027-02-22
WTXE1104A 1031-3	Coaxial Cable	/	RG 316	/	2026-02-23	2027-02-22
☒ Chamber C:Below 1GHz						
WTXE1093A 1001	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2026-02-05	2027-02-04
WTXE1010A 1013-1	Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2024-04-18	2027-04-17
WTXE1010A 1007	Loop Antenna	Schwarz beck	FMZB 1516	9773	2026-02-05	2027-02-04
WTXE1007A 1003	Amplifier	HP	8447F	2944A038 69	2026-02-05	2027-02-04
WTXE1104A 1034-1	Coaxial Cable	/	RC_6G-N-M	/	2026-02-23	2027-02-22
WTXE1104A 1034-2	Coaxial Cable	/	RC_6G-N-M	/	2026-02-23	2027-02-22
WTXE1104A 1034-3	Coaxial Cable	/	RC_6G-N-M	/	2026-02-23	2027-02-22
☒ Chamber C: Above 1GHz						
WTXE1093A	EMI Test	Rohde &	ESIB 26	100401	2026-02-05	2027-02-04

1001	Receiver	Schwarz				
WTXE1103A 1005	Horn Antenna	POAM	RTF-118A	1820	2025-06-13	2027-06-12
WTXE1103A 1006	Amplifier	Tonscend	TAP01018050	AP22E806 235	2026-02-05	2027-02-04
WTXE1010A 1010	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2026-02-10	2027-02-09
WTXE1003A 1001	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2026-02-05	2027-02-04
WTXE1104A 1035-1	Coaxial Cable	/	RC-18G-N-M	/	2026-02-23	2027-02-22
WTXE1104A 1035-2	Coaxial Cable	/	RC-18G-N-M	/	2026-02-23	2027-02-22
WTXE1104A 1035-3	Coaxial Cable	/	RC-18G-N-M	/	2026-02-23	2027-02-22
☐ Conducted Room 1#						
WTXE1104A 1029	EMI Test Receiver	Rohde & Schwarz	ESCI	100525	2025-11-25	2026-11-24
WTXE1002A 1001	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2026-02-05	2027-02-04
WTXE1003A 1001	AC LISN	Schwarz beck	NSLK8126	8126-279	2026-02-05	2027-02-04
WTXE1104A 1036	Coaxial Cable	/	RG 316	/	2026-02-23	2027-02-22
WTXE1104A 1038	Coaxial Cable	/	6MRFC-DP	/	2026-02-23	2027-02-22
☒ Conducted Room 2#						
WTXE1001A 1004	EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2026-02-05	2027-02-04
WTXE1003A 1003	LISN	Rohde & Schwarz	ENV 216	100097	2026-02-05	2027-02-04
WTXE1104A 1037	Coaxial Cable	/	RG 316	/	2026-02-23	2027-02-22

Software List			
Description	Manufacturer	Model	Version
EMI Test Software/EZ-EMC (Radiated Emission A)	Farad	RA-03A1	1.1.4.2
EMI Test Software/EZ-EMC (Radiated Emission B)	Farad	RA-03A1	1.1.4.2
EMI Test Software/EZ-EMC (Radiated Emission C)	Farad	RA-03A1-2	1.1.4.2
EMI Test Software/EZ-EMC (Conducted Emission Room 1#)	Farad	3A1*CE-RE	1.1.4.3
EMI Test Software/EZ-EMC (Conducted Emission Room 2#)	Farad	3A1*CE-RE	1.1.4.3

*Remark: indicates software version used in the compliance certification testing.

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§15.203	Antenna Requirement	Compliant
§15.205	Restricted Band of Operation	N/A
§15.207(a)	Conducted Emission	Compliant
§15.209(a)(f)	Radiated Spurious Emissions	Compliant
§15.249(a)	Field Strength of Emissions	N/A
§15.249(d)	Out of Band Emission	Compliant
§15.215(c)	Emission Bandwidth	N/A

Class II Permissive Change: Adding a host.

Note: Report is for Class II Permissive Change only. Updated test data include Antenna Requirement, Conducted Emission, Radiated Spurious Emissions and Out of Band Emission. The test data refer to Original equipment (FCC ID: 2BTE6HJRF), the original FCC ID issue date: 12/18/2025.

3. Antenna Requirements

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 PCB antenna, fulfill the requirement of this section.

4. Radiated Emissions

4.1 Standard Applicable

According to §15.249(a), the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency	Field strength of fundamental (milli-volts/meter)	Field strength of Harmonics (micro-volts/meter)
902-928MHz	50	500
2400-2483.5MHz	50	500
5725-5875MHz	50	500
24.0-24.25GHz	250	2500

(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

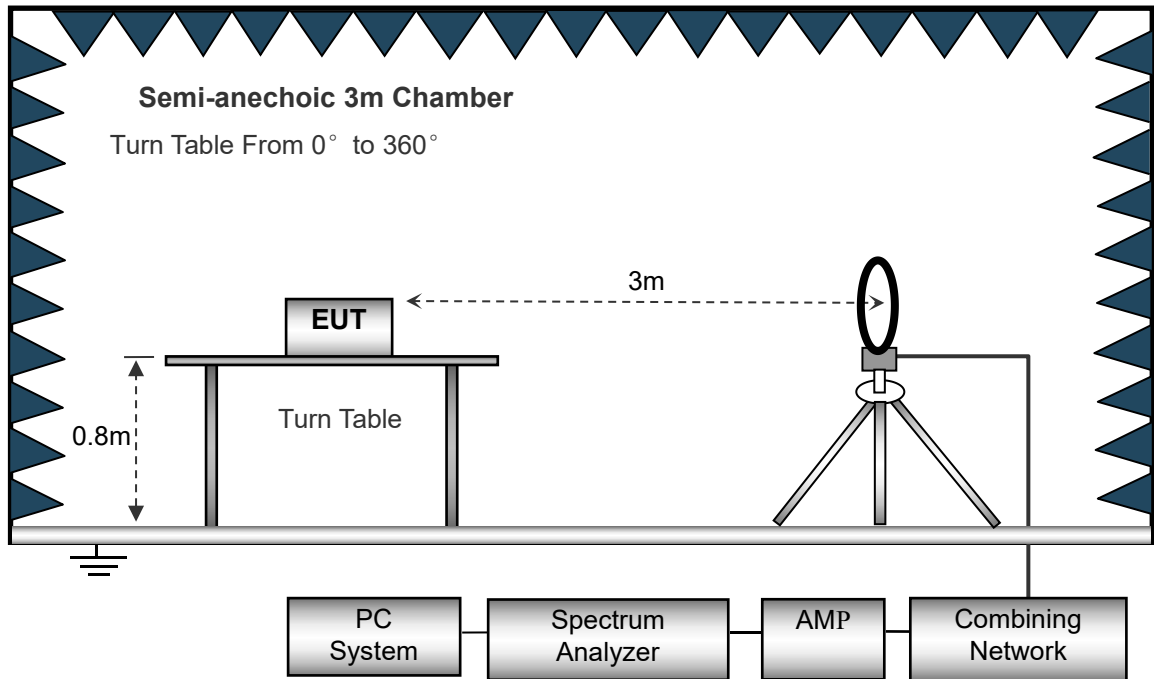
The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

4.2 Test Procedure

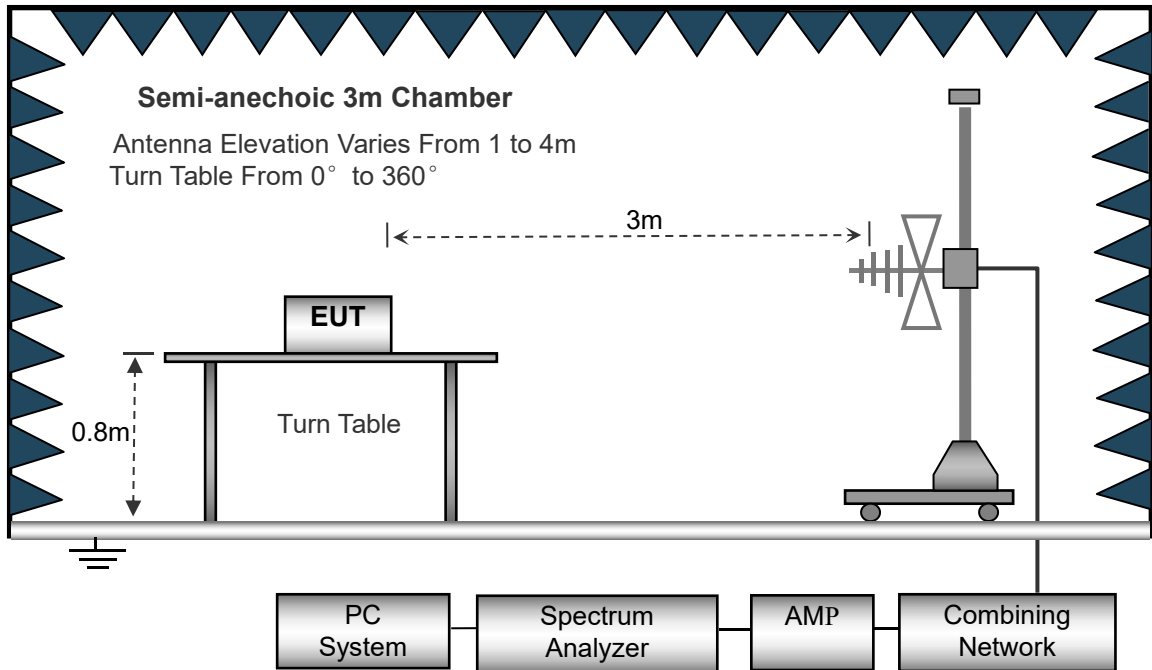
The setup of EUT is according with per ANSI C63.10-2020 measurement procedure. The specification used was with the FCC Part 15.205 15.249(a) and FCC Part 15.209 Limit.

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.

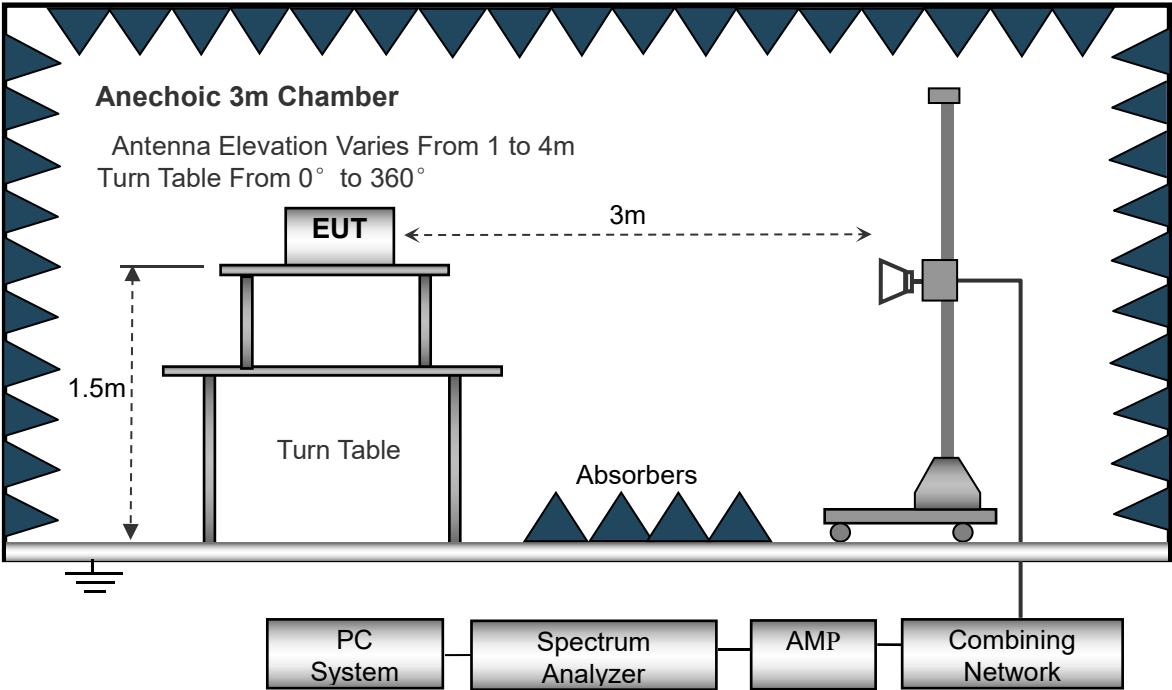
The test setup for emission measurement below 30MHz.



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



The test setup for emission measurement above 1GHz.



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

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:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Ant. Factor} + \text{Cable Loss} - \text{Ampl. Gain}$$

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. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15C Limit}$$

4.4 Summary of Test Results/Plots

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

➤ Spurious Emissions Below 1GHz

Test Channel	Low	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	46.3806	42.45	-8.32	34.13	40.00	-5.87	-	-	peak
2	83.6937	48.38	-13.03	35.35	40.00	-4.65	-	-	peak
3	107.7854	47.19	-11.61	35.58	43.50	-7.92	-	-	peak
4	173.8146	41.22	-9.08	32.14	43.50	-11.36	-	-	peak
5	241.8377	37.22	-10.29	26.93	46.00	-19.07	-	-	peak
6	468.1650	30.24	-4.40	25.84	46.00	-20.16	-	-	peak

Test Channel	Low	Polarity:	Vertical
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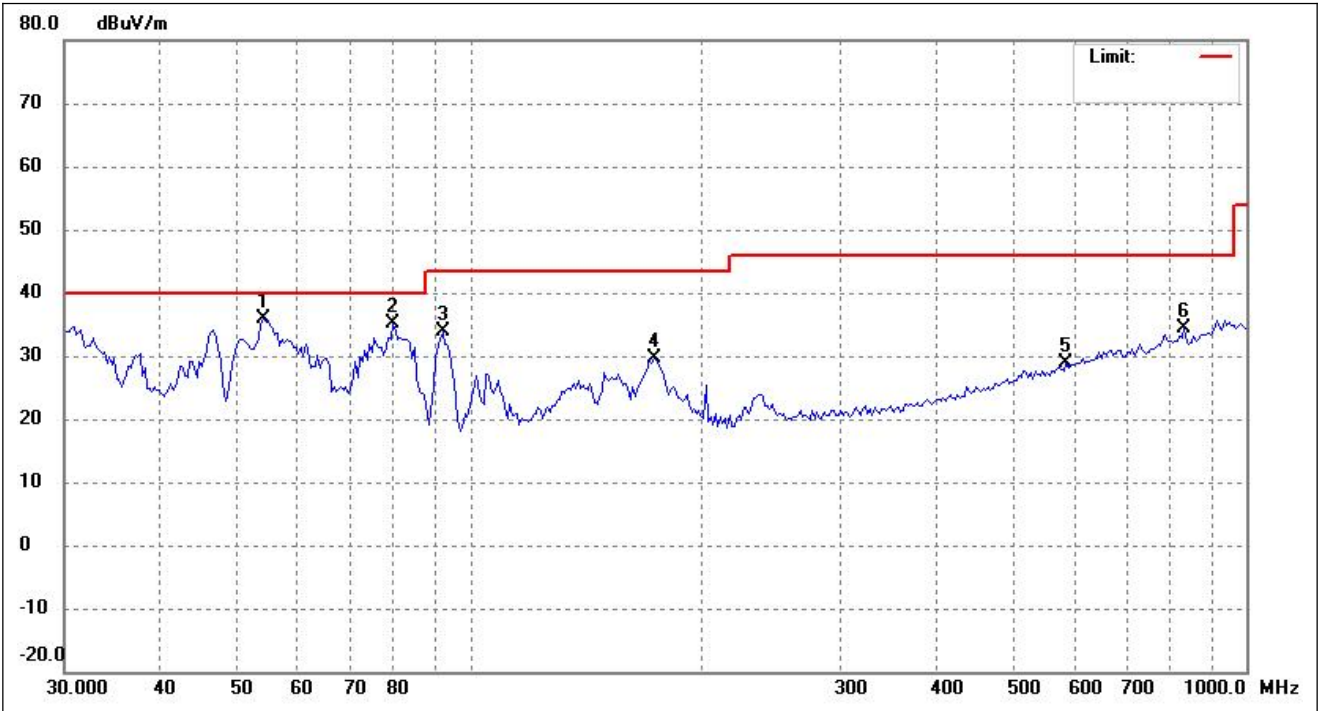
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	31.0728	42.96	-9.66	33.30	40.00	-6.70	-	-	peak
2	54.9011	40.18	-8.50	31.68	40.00	-8.32	-	-	peak
3	80.2383	46.16	-12.40	33.76	40.00	-6.24	-	-	peak
4	172.5975	37.24	-8.96	28.28	43.50	-15.22	-	-	peak
5	439.4730	30.37	-5.09	25.28	46.00	-20.72	-	-	peak
6	815.6352	31.87	1.70	33.57	46.00	-12.43	-	-	peak

Test Channel	Middle	Polarity:	Horizontal
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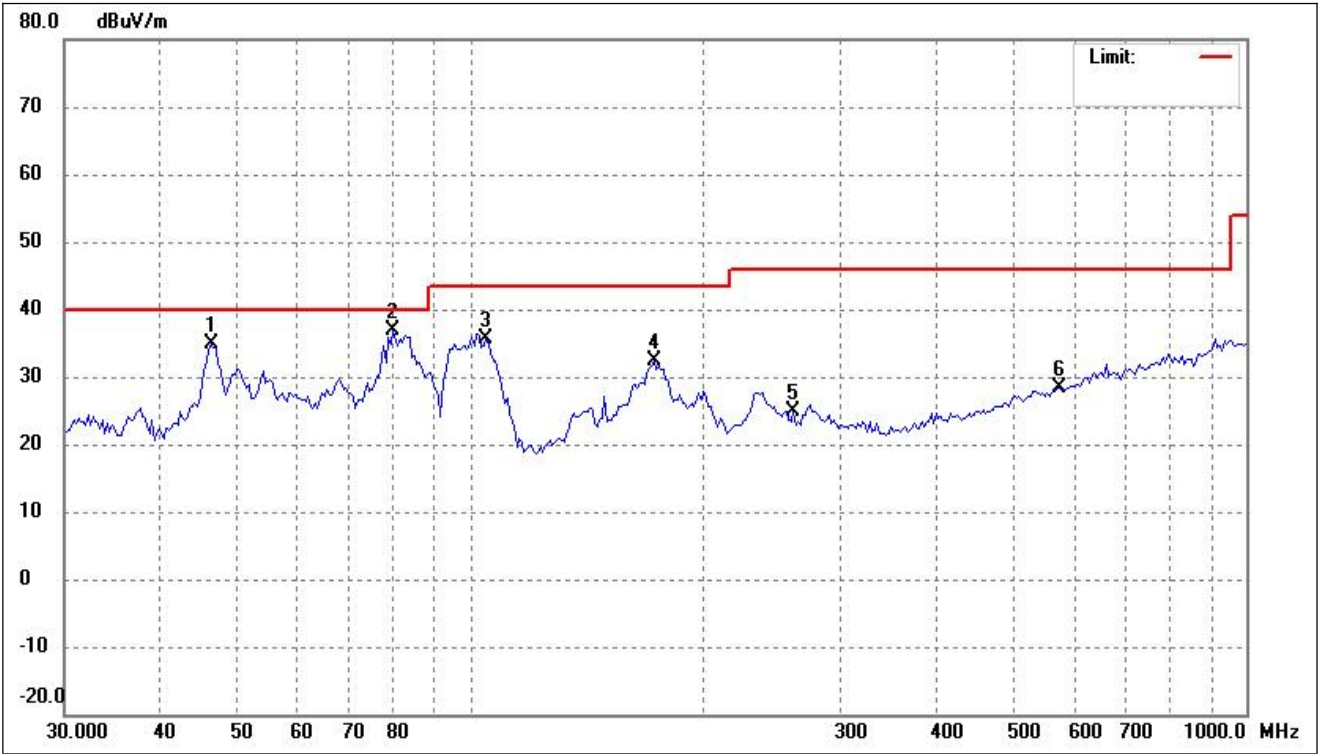
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	46.3806	43.37	-8.32	35.05	40.00	-4.95	-	-	peak
2	80.8041	47.70	-12.53	35.17	40.00	-4.83	-	-	peak
3	106.2811	47.87	-11.85	36.02	43.50	-7.48	-	-	peak
4	173.8146	42.63	-9.08	33.55	43.50	-9.95	-	-	peak
5	280.2935	33.09	-8.79	24.30	46.00	-21.70	-	-	peak
6	461.6313	30.24	-4.49	25.75	46.00	-20.25	-	-	peak

Test Channel	Middle	Polarity:	Vertical
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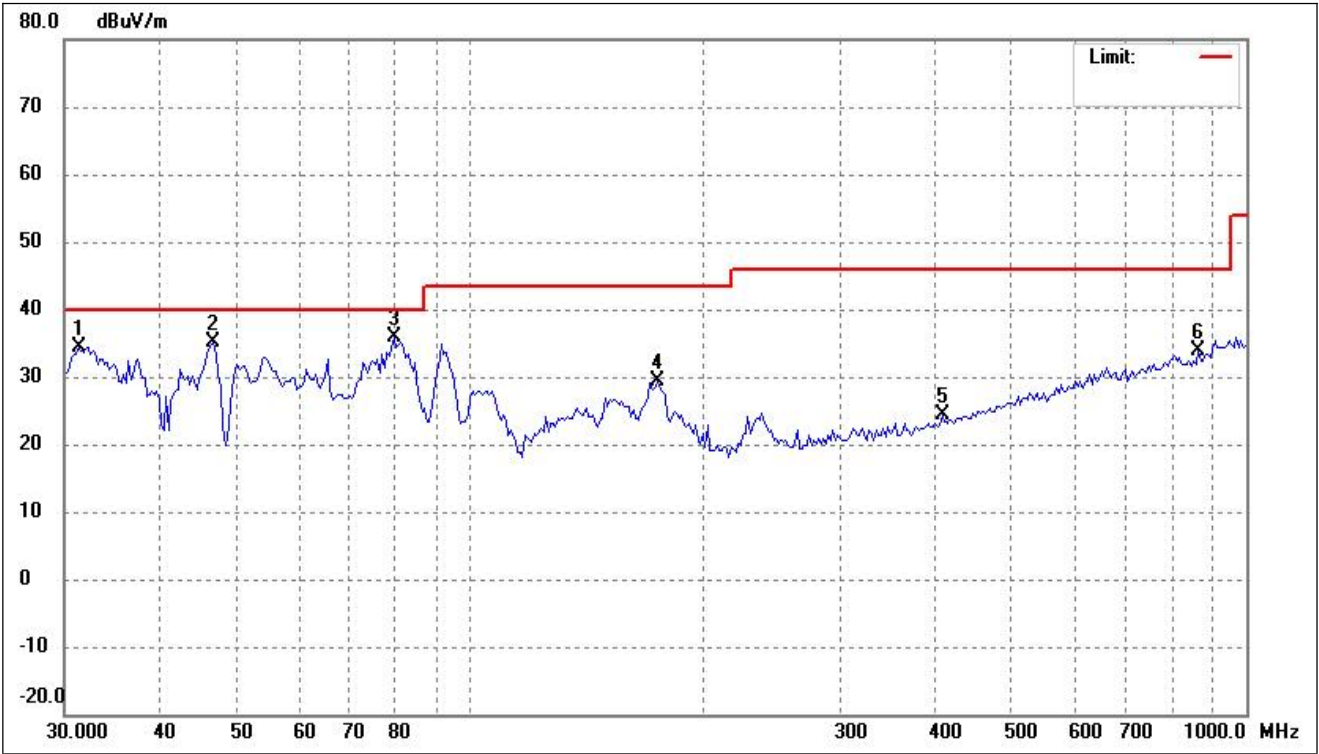
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	54.1349	44.42	-8.44	35.98	40.00	-4.02	-	-	peak
2	79.6764	47.50	-12.28	35.22	40.00	-4.78	-	-	peak
3	92.3462	47.62	-13.74	33.88	43.50	-9.62	-	-	peak
4	172.5975	38.70	-8.96	29.74	43.50	-13.76	-	-	peak
5	586.2171	30.10	-1.34	28.76	46.00	-17.24	-	-	peak
6	833.0126	32.80	1.67	34.47	46.00	-11.53	-	-	peak

Test Channel	High	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	46.3806	43.10	-8.32	34.78	40.00	-5.22	-	-	peak
2	79.6764	49.20	-12.28	36.92	40.00	-3.08	-	-	peak
3	104.7978	47.77	-12.09	35.68	43.50	-7.82	-	-	peak
4	172.5975	41.34	-8.96	32.38	43.50	-11.12	-	-	peak
5	261.2729	34.52	-9.67	24.85	46.00	-21.15	-	-	peak
6	573.9882	30.21	-1.79	28.42	46.00	-17.58	-	-	peak

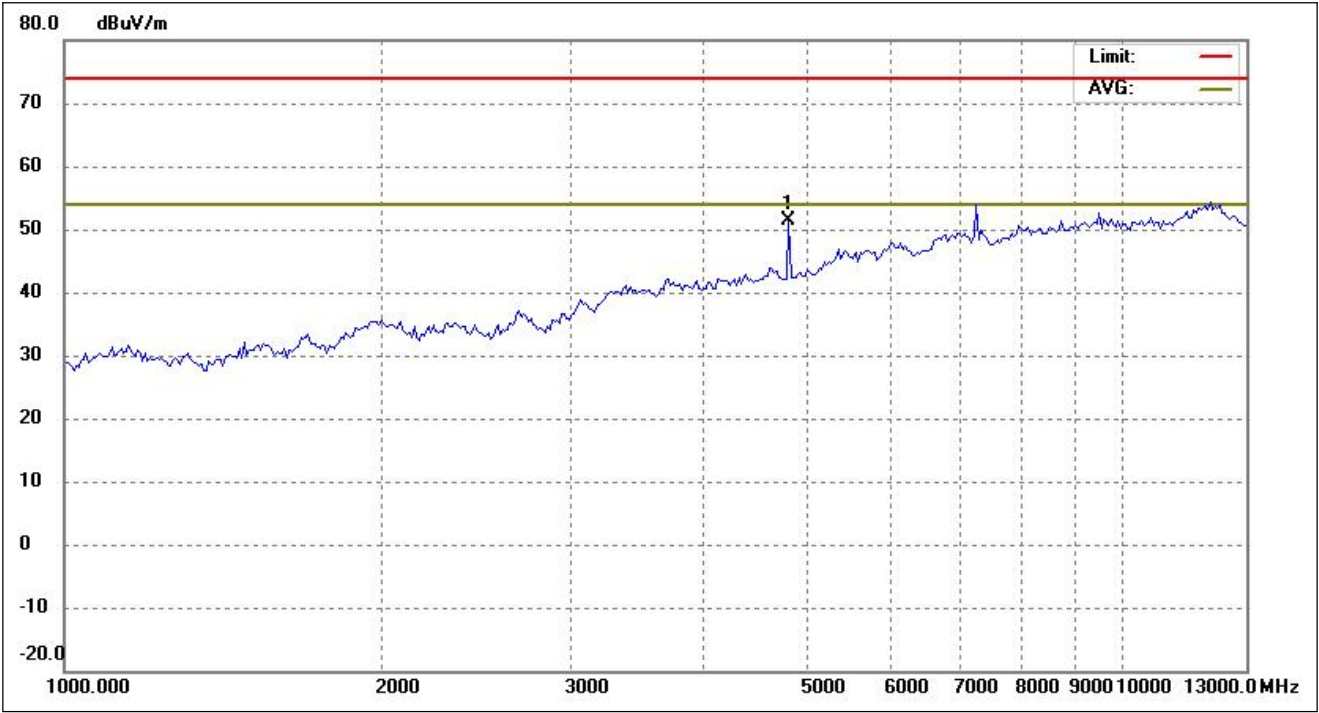
Test Channel	High	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	31.2946	43.96	-9.66	34.30	40.00	-5.70	-	-	peak
2	46.7492	43.46	-8.32	35.14	40.00	-4.86	-	-	peak
3	79.8329	48.15	-12.31	35.84	40.00	-4.16	-	-	peak
4	174.4290	38.42	-9.12	29.30	43.50	-14.20	-	-	peak
5	406.0479	30.62	-6.13	24.49	46.00	-21.51	-	-	peak
6	868.6408	31.84	2.01	33.85	46.00	-12.15	-	-	peak

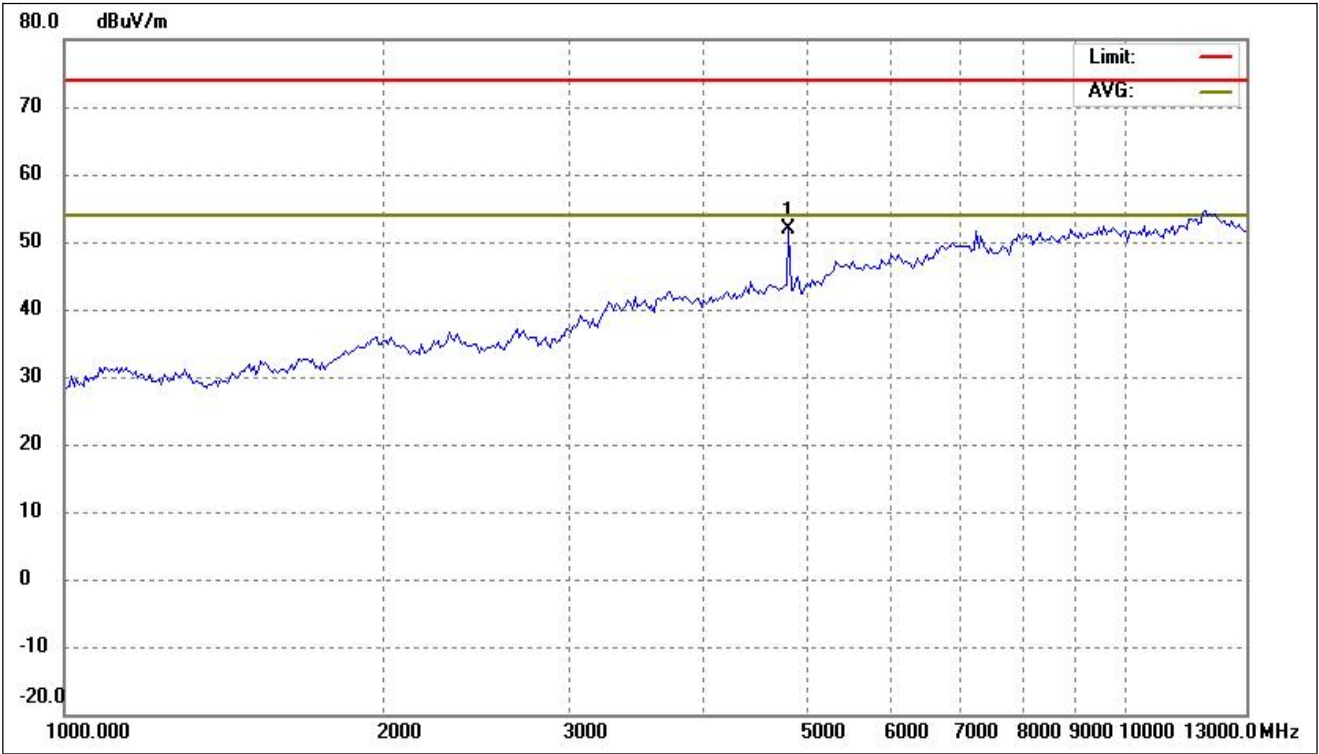
Spurious Emissions Above 1GHz

Test Channel	Low	Polarity:	Horizontal
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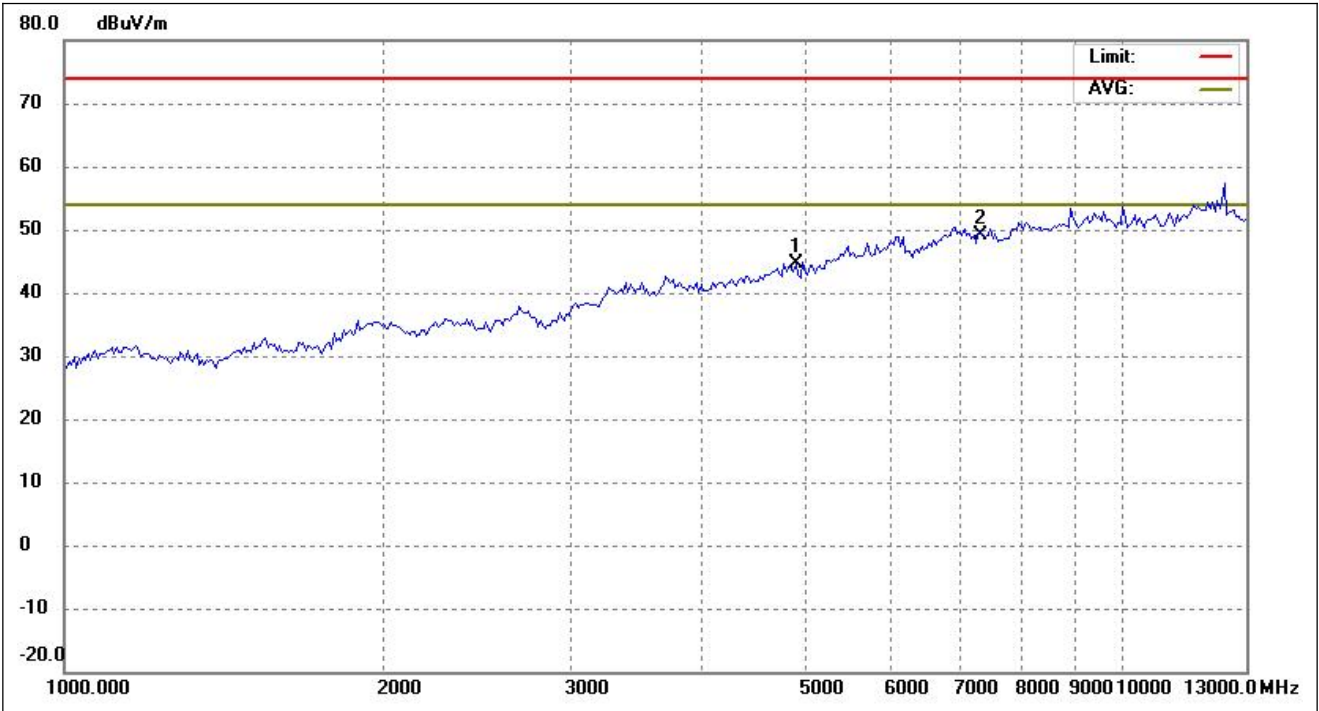
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4820.583	63.27	-11.95	51.32	74.00	-22.68	-	-	peak

Test Channel	Low	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	4820.583	63.85	-11.95	51.90	74.00	-22.10	-	-	peak

Test Channel	Middle	Polarity:	Horizontal
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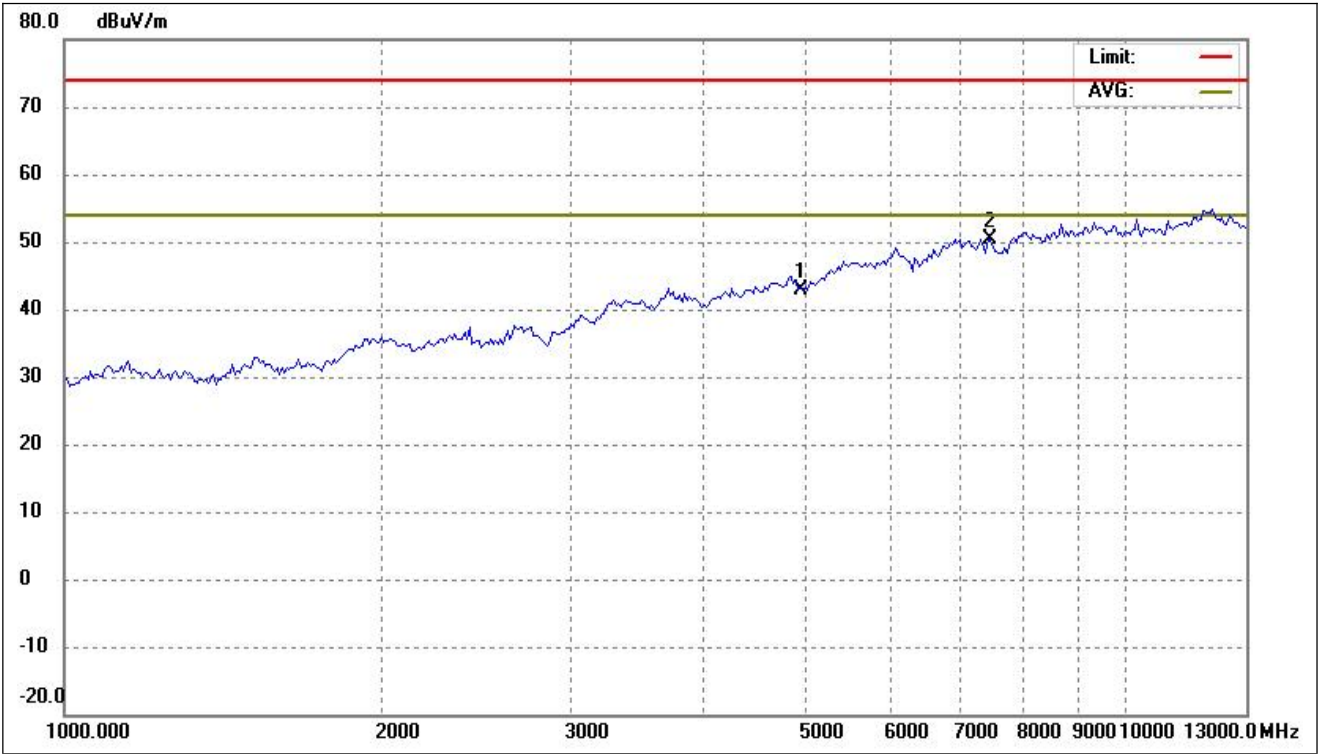
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4880.000	56.52	-11.83	44.69	74.00	-29.31	-	-	peak
2	7320.000	54.21	-5.05	49.16	74.00	-24.84	-	-	peak

Test Channel	Middle	Polarity:	Vertical
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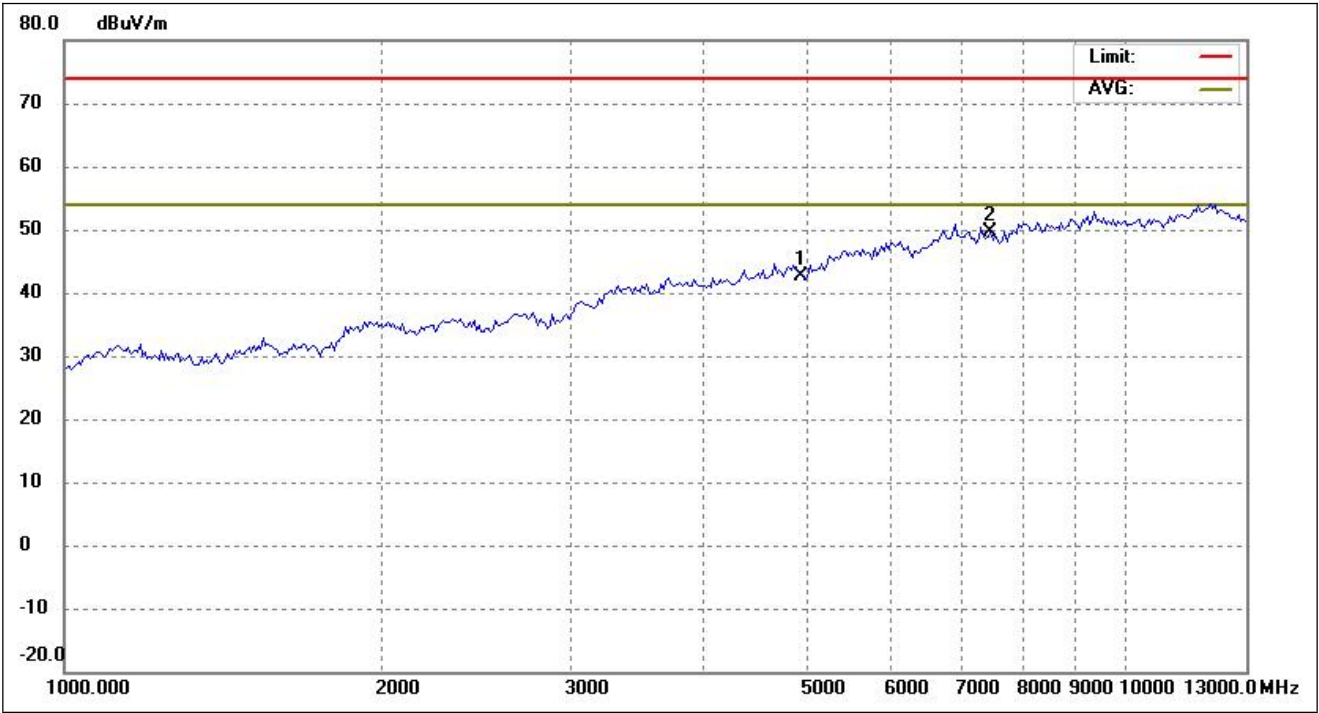
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	4880.000	55.45	-11.83	43.62	74.00	-30.38	-	-	peak
2	7320.000	54.13	-5.05	49.08	74.00	-24.92	-	-	peak

Test Channel	High	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	4960.000	55.59	-12.72	42.87	74.00	-31.13	-	-	peak
2	7440.000	56.35	-5.97	50.38	74.00	-23.62	-	-	peak

Test Channel	High	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	4960.000	55.43	-12.72	42.71	74.00	-31.29	-	-	peak
2	7440.000	55.58	-5.97	49.61	74.00	-24.39	-	-	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.

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, which above 5th Harmonics are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. The measurements greater than 20dB below the limit from 9kHz to 30MHz..

5. Out of Band Emissions

5.1 Standard Applicable

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

5.2 Test Procedure

As the radiation test, set the Lowest and Highest Transmitting Channel, observed the outside band of 2400MHz to 2483.5MHz, than mark the higher-level emission for comparing with the FCC rules.

5.3 Summary of Test Results/Plots

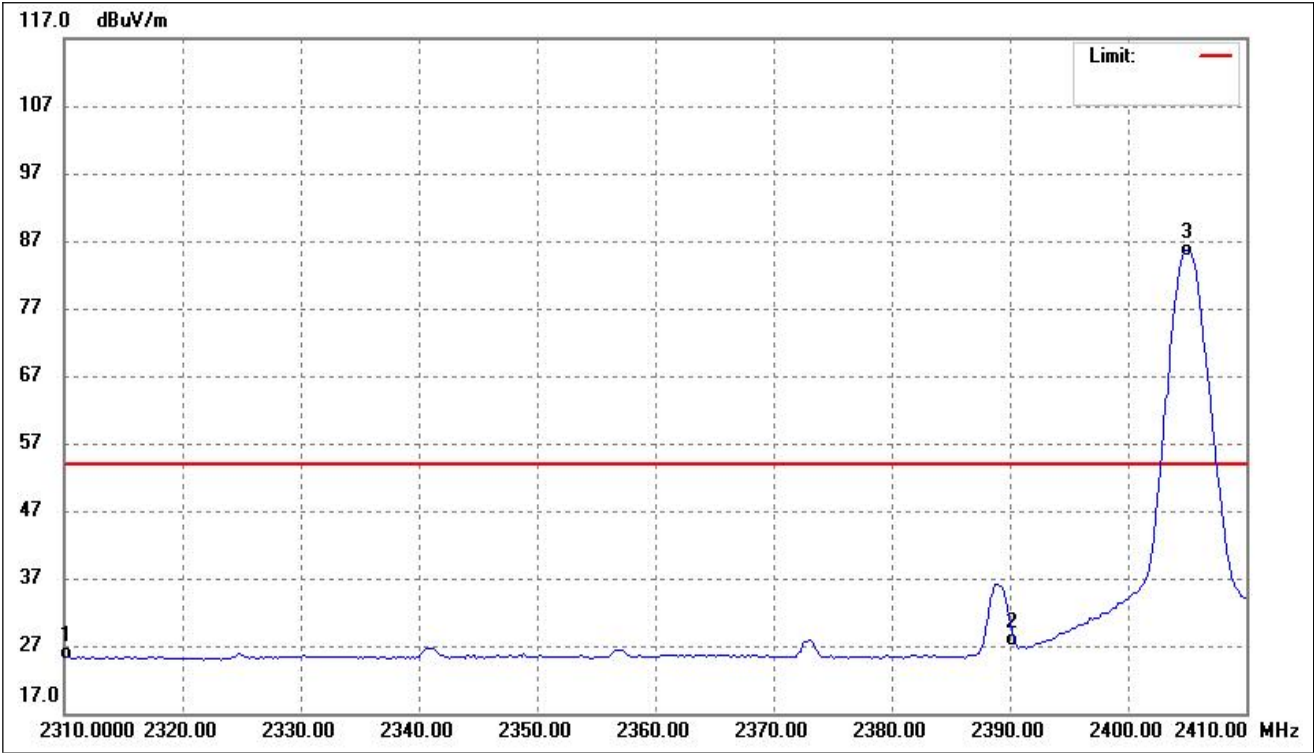
Test mode	Frequency	Limit	Result
	MHz	dBuV / dBc	
Lowest	2310.00	<54dBuV	Pass
	2390.00	<54dBuV	Pass
	2400.00	<54dBuV	Pass
Highest	2483.50	<54dBuV	Pass
	2500.00	<54dBuV	Pass

The edge emissions are below the FCC 15.209 Limits or complies with the 15.249 requirements.

Please refer to the test plots as below.

RBW: 1MHz; VBW: 3MHz

Test Channel	Low	Polarity:	Horizontal (worst case)
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	44.55	-18.74	25.81	54.00	-28.19	Ave Detector
	2310.000	56.22	-18.74	37.48	74.00	-36.52	Peak Detector
2	2390.000	46.44	-18.68	27.76	54.00	-26.24	Ave Detector
	2390.000	58.09	-18.68	39.41	74.00	-34.59	Peak Detector
3	2404.888	104.23	-18.68	85.55	/	/	Ave Detector
	2404.684	104.42	-18.68	85.74	/	/	Peak Detector

Test Channel	High	Polarity:	Horizontal (worst case)
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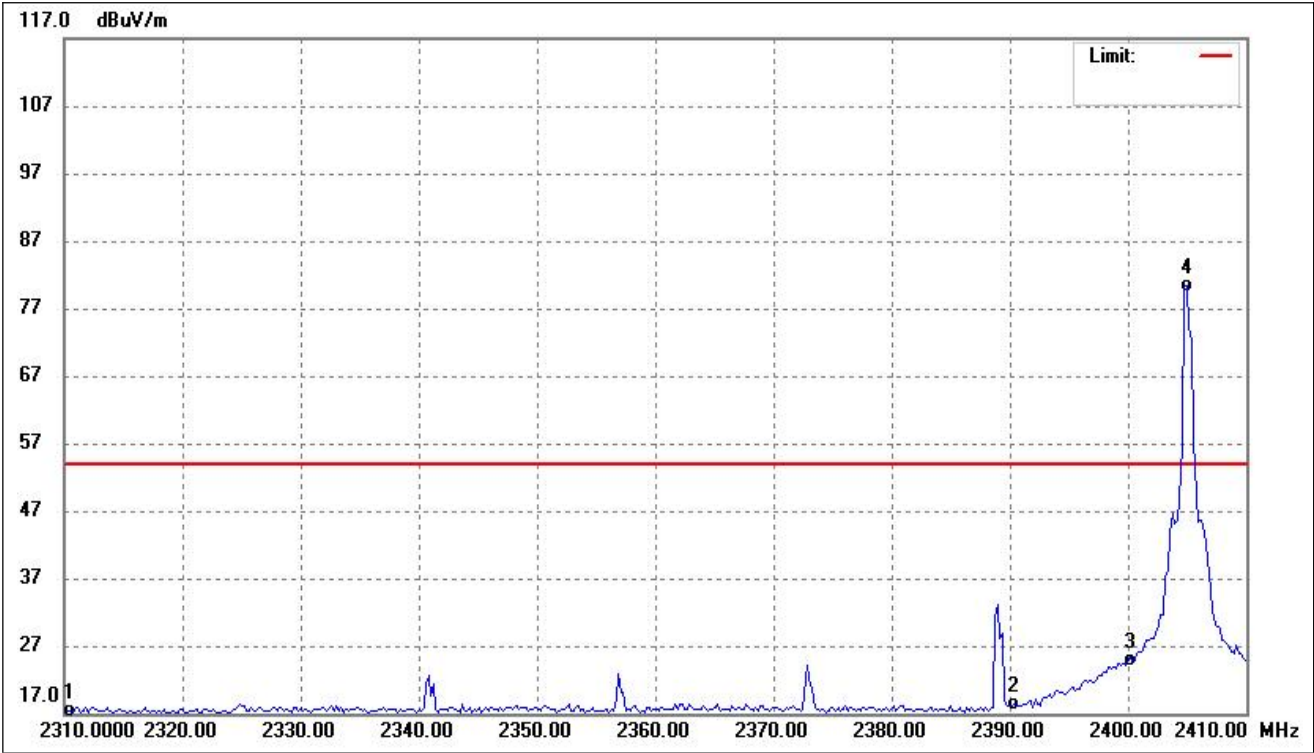


No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2479.740	100.33	-18.52	81.81	/	/	Ave Detector
	2479.690	100.44	-18.52	81.92	/	/	Peak Detector
2	2483.500	51.88	-18.54	33.34	54.00	-20.66	Ave Detector
	2483.500	66.13	-18.54	47.59	74.00	-26.41	Peak Detector
3	2500.000	43.84	-18.64	25.20	54.00	-28.80	Ave Detector
	2500.000	55.96	-18.64	37.32	74.00	-36.68	Peak Detector

Band edge

RBW: 100kHz; VBW: 300kHz

Test Channel	Low	Polarity:	Horizontal(worst case)
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	36.01	-18.74	17.27	54.00	-36.73	Ave Detector
	2310.000	45.41	-18.74	26.67	74.00	-47.33	Peak Detector
2	2390.000	37.15	-18.68	18.47	54.00	-35.53	Ave Detector
	2390.000	45.42	-18.68	26.74	74.00	-47.26	Peak Detector
3	2400.000	43.52	-18.72	24.80	54.00	-29.20	Ave Detector
	2400.000	54.46	-18.72	35.74	74.00	-38.26	Peak Detector
4	2404.888	99.00	-18.68	80.32	/	/	Ave Detector
	2404.888	104.23	-18.68	85.55	/	/	Peak Detector

Test Channel	High	Polarity:	Horizontal(worst case)
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2479.790	100.24	-18.52	81.72	/	/	Ave Detector
	2479.790	100.39	-18.52	81.87	/	/	Peak Detector
2	2483.500	41.66	-18.54	23.12	54.00	-30.88	Ave Detector
	2483.500	52.52	-18.54	33.98	74.00	-40.02	Peak Detector
3	2500.000	35.97	-18.64	17.33	54.00	-36.67	Ave Detector
	2500.000	47.50	-18.64	28.86	74.00	-45.14	Peak Detector

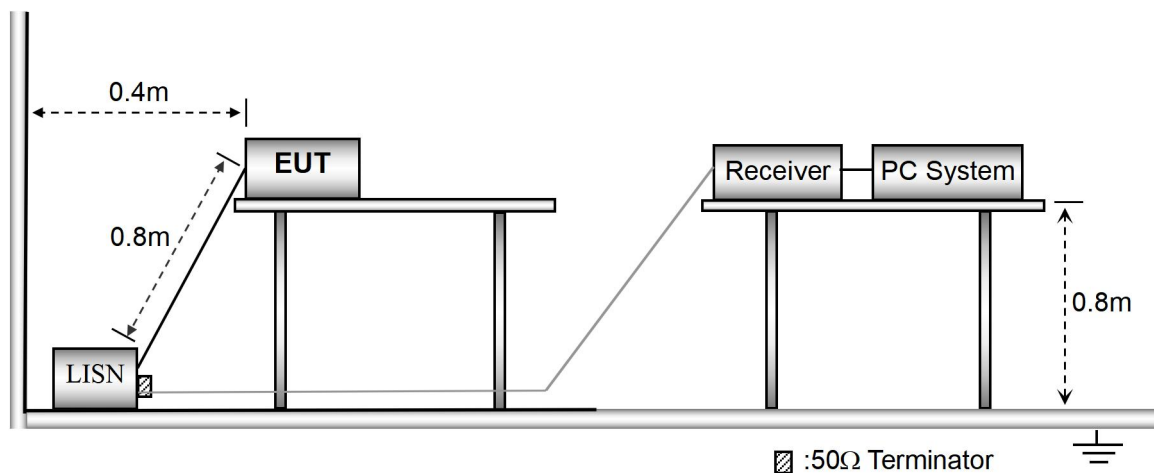
6. Conducted Emissions

6.1 Test Procedure

The setup of EUT is according with per ANSI C63.10-2020 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.

6.2 Basic Test Setup Block Diagram



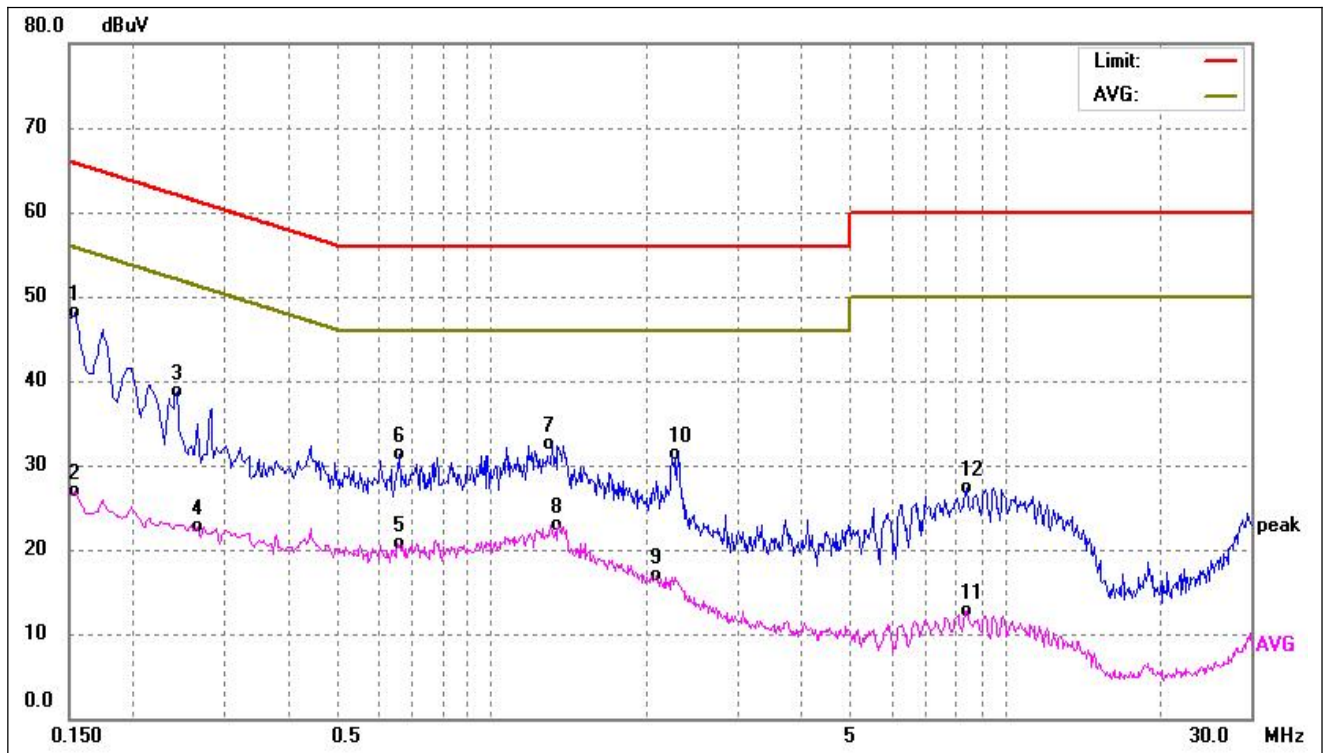
6.3 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency.....	150kHz
Stop Frequency.....	30MHz
Sweep Speed.....	Auto
IF Bandwidth.....	10kHz
Quasi-Peak Adapter Bandwidth.....	9kHz
Quasi-Peak Adapter Mode.....	Normal

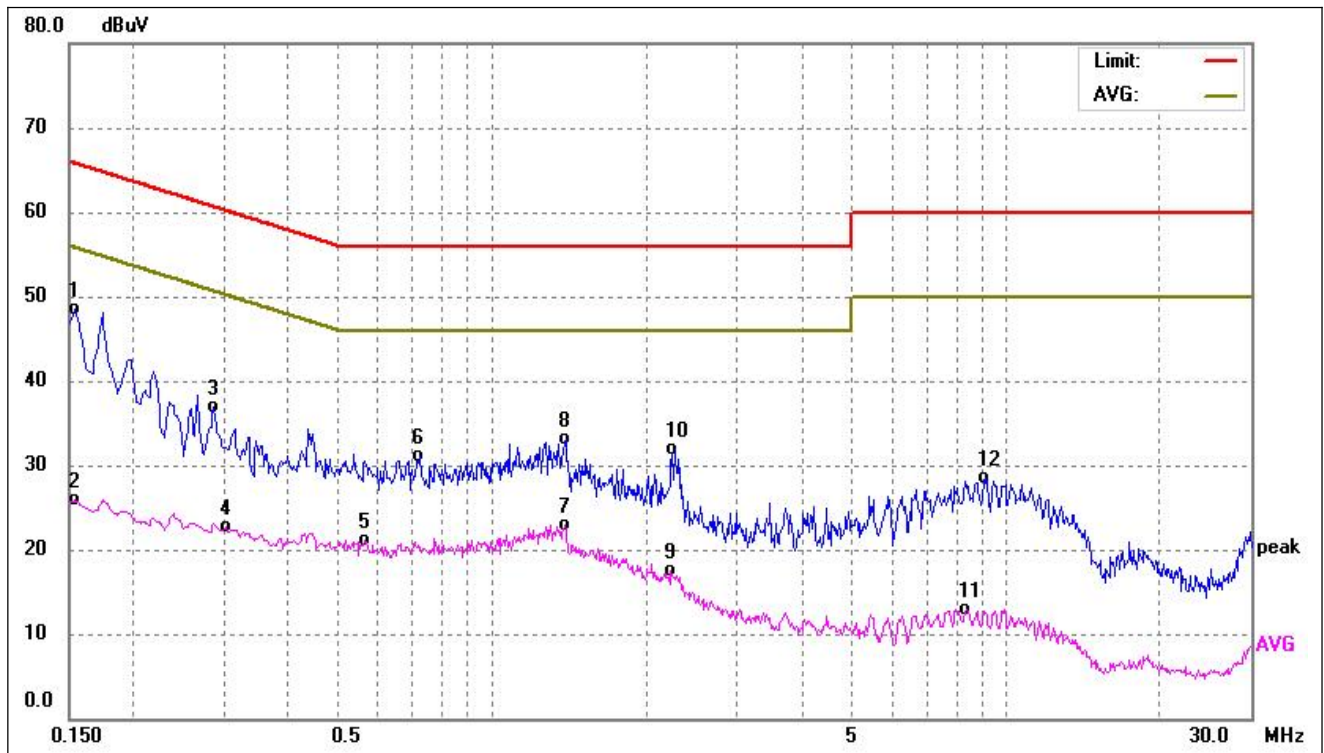
6.4 Summary of Test Results/Plots

Test Mode	Communication	AC120V 60Hz	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1539	38.61	9.45	48.06	65.78	-17.72	QP
2	0.1539	17.44	9.45	26.89	55.78	-28.89	AVG
3	0.2419	28.99	9.63	38.62	62.03	-23.41	QP
4	0.2660	13.16	9.63	22.79	51.24	-28.45	AVG
5	0.6540	10.98	9.72	20.70	46.00	-25.30	AVG
6	0.6580	21.67	9.72	31.39	56.00	-24.61	QP
7	1.3140	22.90	9.63	32.53	56.00	-23.47	QP
8	1.3460	13.32	9.62	22.94	46.00	-23.06	AVG
9	2.0899	7.49	9.36	16.85	46.00	-29.15	AVG
10	2.2980	21.88	9.37	31.25	56.00	-24.75	QP
11	8.3857	2.82	9.80	12.62	50.00	-37.38	AVG
12	8.3858	17.59	9.80	27.39	60.00	-32.61	QP

Test Mode	Communication	AC120V 60Hz	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1539	39.06	9.45	48.51	65.78	-17.27	QP
2	0.1539	16.39	9.45	25.84	55.78	-29.94	AVG
3	0.2859	27.23	9.63	36.86	60.64	-23.78	QP
4	0.3019	13.08	9.63	22.71	50.19	-27.48	AVG
5	0.5658	11.34	9.68	21.02	46.00	-24.98	AVG
6	0.7259	21.29	9.74	31.03	56.00	-24.97	QP
7	1.3859	13.26	9.61	22.87	46.00	-23.13	AVG
8	1.3940	23.47	9.60	33.07	56.00	-22.93	QP
9	2.2259	8.12	9.37	17.49	46.00	-28.51	AVG
10	2.2620	22.45	9.37	31.82	56.00	-24.18	QP
11	8.3979	3.19	9.80	12.99	50.00	-37.01	AVG
12	9.1180	18.66	9.80	28.46	60.00	-31.54	QP

APPENDIX PHOTOGRAPHS

Please refer to “ANNEX”

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