

RF TEST REPORT

For

Guangzhou Pinzhong Electronic Technology Co.,Ltd.

**Product Name: BEITONG KunPeng 40 Intelligent Gaming
Controller**

Test Model(s): BTP-KP40

Report Reference No. : DACE241113002RL002

FCC ID : 2AWMK-BTP-KP40

Applicant's Name : Guangzhou Pinzhong Electronic Technology Co.,Ltd.

Address : Room 611-612, Greenland Center of Financial City, No. 662, Huangpu
Avenue Middle Road, Tianhe District, Guangzhou City

Testing Laboratory : Shenzhen DACE Testing Technology Co., Ltd.

Address : 102, Building H1, & 1/F., Building H, Hongfa Science & Technology Park,
Tangtou Community, Shiyan Subdistrict, Bao'an District, Shenzhen,
Guangdong, China

Test Specification Standard : 47 CFR Part 15.249

Date of Receipt : November 13, 2024

Date of Test : November 13, 2024 to November 25, 2024

Data of Issue : November 25, 2024

Result : Pass

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Apply for company information

Applicant's Name	:	Guangzhou Pinzhong Electronic Technology Co.,Ltd.
Address	:	Room 611-612, Greenland Center of Financial City, No. 662, Huangpu Avenue Middle Road, Tianhe District, Guangzhou City
Product Name	:	BEITONG KunPeng 40 Intelligent Gaming Controller
Test Model(s)	:	BTP-KP40
Test Specification Standard(s)	:	47 CFR Part 15.249

NOTE1:

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

Compiled by:

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Keren Huang / Test Engineer

November 25, 2024

Supervised by:

Stone Yin

Stone Yin / Project Engineer

November 25, 2024



Approved by:

Tom Chen

Tom Chen / Manager

November 25, 2024

Revision History Of Report

Version	Description	REPORT No.	Issue Date
V1.0	Original	DACE241113002RL002	November 25, 2024

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1 TEST SUMMARY

1.1 Test Standards

The tests were performed according to following standards:

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

1.2 Summary of Test Result

Item	Method	Requirement	Result
Antenna requirement	/	47 CFR Part 15.203	Pass
Conducted Emission at AC power line	ANSI C63.10-2013 section 6.2	47 CFR 15.207(a)	Pass
Occupied Bandwidth	ANSI C63.10-2013, section 6.9.2	47 CFR 15.215(c)	Pass
Field strength of fundamental	ANSI C63.10-2013 section 6.6	47 CFR 15.249(a) 47 CFR 15.249(b)(1)	Pass
Band edge emissions (Radiated)	ANSI C63.10-2013 section 6.6.4	47 CFR 15.249(d)	Pass
Emissions in frequency bands (below 1GHz)	ANSI C63.10-2013 section 6.5	47 CFR 15.249(a) 47 CFR 15.249(d) 47 CFR 15.249(e)	Pass
Emissions in frequency bands (above 1GHz)	ANSI C63.10-2013 section 6.6	47 CFR 15.249(a) 47 CFR 15.249(d) 47 CFR 15.249(e)	Pass

Note: 1.N/A -this device(EUT) is not applicable to this testing item
2. RF-conducted test results including cable loss.

2 GENERAL INFORMATION

2.1 Client Information

Applicant's Name : Guangzhou Pinzhong Electronic Technology Co.,Ltd.
Address : Room 611-612, Greenland Center of Financial City, No. 662, Huangpu Avenue Middle Road, Tianhe District, Guangzhou City

Manufacturer : Guangzhou Pinzhong Electronic Technology Co.,Ltd.
Address : Room 611-612, Greenland Center of Financial City, No. 662, Huangpu Avenue Middle Road, Tianhe District, Guangzhou City

2.2 Description of Device (EUT)*

Product Name:	BEITONG KunPeng 40 Intelligent Gaming Controller
Model/Type reference:	BTP-KP40
Trade Mark:	BEITONG
Product Description:	BEITONG KunPeng 40 Intelligent Gaming Controller
Power Supply:	DC3.7V from internal-battery
Operation Frequency:	2404-2478MHz
Number of Channels:	38
Modulation Type:	GFSK
Antenna Type:	PCB Antenna
Antenna Gain:	1.6dBi
Hardware Version:	BTP-KP_V6
Software Version:	V1.0.0

2.3 Description of Test Modes

No	Title	Description
TM1	2.4GTX mode	Keep the EUT works in continuously transmitting mode with GFSK modulation at lowest, middle and highest channel.

2.4 Description of Support Units

Title	Manufacturer	Model No.	Serial No.
Adapter	PHOTON	ATXC-069AC65B	Provide by lab

2.5 Equipments Used During The Test

Conducted Emission at AC power line					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Pulse Limiter	SCHWARZ BECK	VTSD 9561-F Pulse limiter 10dB	561-G071	2023-12-12	2024-12-11
50ΩCoaxial Switch	Anritsu	MP59B	M20531	/	/
Test Receiver	Rohde & Schwarz	ESPI TEST RECEIVER	1164.6607K03 -102109-MH	2024-06-12	2025-06-11
L.I.S.N	R&S	ESH3-Z5	831.5518.52	2023-12-12	2024-12-11
L.I.S.N	SCHWARZ BECK	NSLK 8126	05055	2024-06-14	2025-06-13
Pulse Limiter	CYBERTEK	EM5010A	/	2024-09-27	2025-09-26
EMI test software	EZ -EMC	EZ	V1.1.42	/	/

Occupied Bandwidth					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RF Test Software	Tachoy Information	RTS-01	V1.0.0	/	/
Power divider	MIDEWEST	PWD-2533	SMA-79	2023-05-11	2026-05-10
RF Sensor Unit	Tachoy Information	TR1029-2	000001	/	/
Signal Generator	Keysight	N5181A	MY48180415	2023-12-11	2024-12-10
Signal Generator	Keysight	N5182A	MY50143455	2023-12-12	2024-12-11
Spectrum Analyzer	Keysight	N9020A	MY53420323	2023-12-12	2024-12-11

Band edge emissions (Radiated)
Emissions in frequency bands (below 1GHz)
Emissions in frequency bands (above 1GHz)
Field strength of fundamental

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test software	Farad	EZ -EMC	V1.1.42	/	/
Positioning Controller	/	MF-7802	/	/	/
Amplifier(18-40G)	COM-POWER	AH-1840	10100008-1	2022-04-05	2025-04-04
Horn antenna	COM-POWER	AH-1840 (18-40G)	10100008	2023-04-05	2025-04-04
Loop antenna	ZHINAN	ZN30900C	ZN30900C	2024-06-14	2026-06-13
Cable(LF)#2	Schwarzbeck	/	/	2024-02-19	2025-02-18
Cable(LF)#1	Schwarzbeck	/	/	2024-02-19	2025-02-18
Cable(HF)#2	Schwarzbeck	AK9515E	96250	2024-03-20	2025-03-19
Cable(HF)#1	Schwarzbeck	SYV-50-3-1	/	2024-03-20	2025-03-19
Power amplifier(LF)	Schwarzbeck	BBV9743	9743-151	2024-06-12	2025-06-11
Power amplifier(HF)	Schwarzbeck	BBV9718	9718-282	2024-06-12	2025-06-11
Spectrum Analyzer	R&S	FSP30	1321.3008K40-101729-jR	2024-06-12	2025-06-11
Test Receiver	R&S	ESCI 3	1166.5950K03-101431-Jq	2024-06-13	2025-06-12
Horn Antenna	Sunol Sciences	DRH-118	A091114	2023-05-13	2025-05-12
Broadband Antenna	Sunol Sciences	JB6 Antenna	A090414	2024-09-28	2026-09-27

2.6 Statement Of The Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Disturbance (0.15~30MHz)	±3.41dB
Occupied Bandwidth	±3.63%
Radiated Emission (Above 1GHz)	±5.46dB
Radiated Emission (Below 1GHz)	±5.79dB
Note: (1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

2.7 Authorizations

Company Name:	Shenzhen DACE Testing Technology Co., Ltd.
Address:	102, Building H1, & 1/F., Building H, Hongfa Science & Technology Park, Tangtou Community, Shiyan Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Phone Number:	+86-13267178997
Fax Number:	86-755-29113252

Identification of the Responsible Testing Location

Company Name:	Shenzhen DACE Testing Technology Co., Ltd.
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Address:	102, Building H1, & 1/F., Building H, Hongfa Science & Technology Park, Tangtou Community, Shiyan Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Phone Number:	+86-13267178997
Fax Number:	86-755-29113252
FCC Registration Number:	0032847402
Designation Number:	CN1342
Test Firm Registration No.:	778666
A2LA Certificate Number:	6270.01

2.8 Announcement

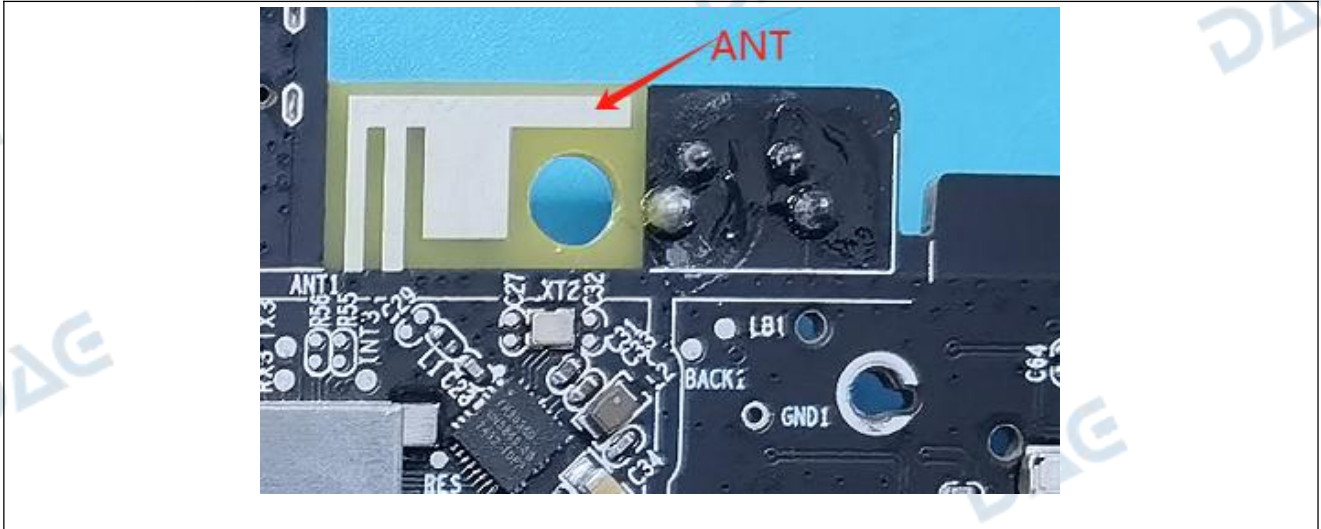
- (1) The test report reference to the report template version v0.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) This document may not be altered or revised in any way unless done so by DACE and all revisions are duly noted in the revisions section.
- (5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
- (6) We hereby declare that the laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant (information with "*" provided by applicant). the laboratory is not responsible for the accuracy of the information provided by the client. When the information provided by the customer may affect the effectiveness of the results, the responsibility lies with the customer, and the laboratory does not assume any responsibility.

3 Evaluation Results (Evaluation)

3.1 Antenna requirement

Test Requirement:	Refer to 47 CFR 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.
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3.1.1 Conclusion:



4 Radio Spectrum Matter Test Results (RF)

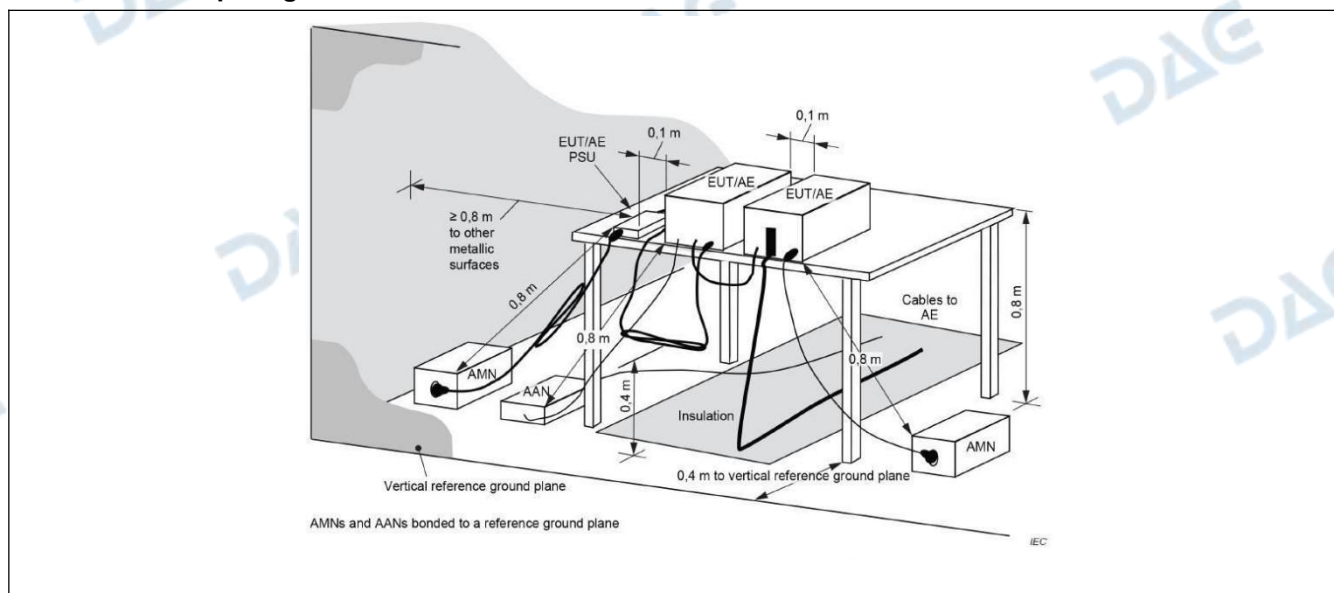
4.1 Conducted Emission at AC power line

Test Requirement:	Except as shown in paragraphs (b)and (c)of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).		
Test Limit:	Frequency of emission (MHz)	Conducted limit (dB μ V)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
	*Decreases with the logarithm of the frequency.		
Test Method:	ANSI C63.10-2013 section 6.2		
Procedure:	Refer to ANSI C63.10-2013 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices		

4.1.1 E.U.T. Operation:

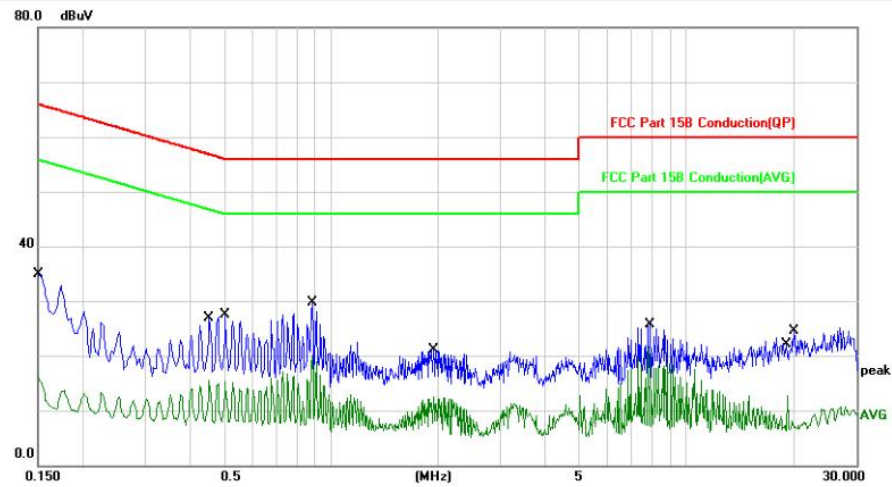
Operating Environment:					
Temperature:	23.2 °C	Humidity:	49 %	Atmospheric Pressure:	102 kPa
Pretest mode:		TM1			
Final test mode:		TM1			

4.1.2 Test Setup Diagram:



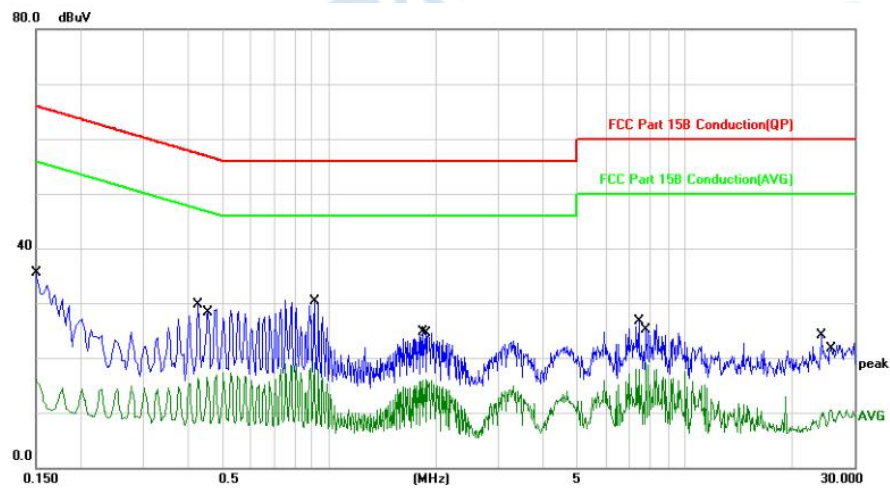
4.1.3 Test Data:

TM1 / Line: Line / Band: 2.4G / BW: 2 / CH: L



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.1500	24.68	10.13	34.81	65.99	-31.18	QP	
2	0.1500	5.95	10.13	16.08	55.99	-39.91	AVG	
3	0.4540	5.51	10.09	15.60	46.80	-31.20	AVG	
4	0.5060	17.45	10.09	27.54	56.00	-28.46	QP	
5	0.8860	19.57	10.10	29.67	56.00	-26.33	QP	
6 *	0.8860	10.04	10.10	20.14	46.00	-25.86	AVG	
7	1.9460	11.05	10.00	21.05	56.00	-34.95	QP	
8	1.9460	2.57	10.00	12.57	46.00	-33.43	AVG	
9	7.7700	11.18	10.26	21.44	50.00	-28.56	AVG	
10	7.8820	15.46	10.26	25.72	60.00	-34.28	QP	
11	19.1940	2.06	10.56	12.62	50.00	-37.38	AVG	
12	20.0380	13.89	10.57	24.46	60.00	-35.54	QP	

TM1 / Line: Neutral / Band: 2.4G / BW: 2 / CH: L



No. Mk.	Freq. MHz	Reading Level dBμV	Correct Factor dB	Measure- ment dBμV	Limit dBμV	Over dB	Detector	Comment
1	0.1500	25.40	10.13	35.53	65.99	-30.46	QP	
2	0.1500	5.97	10.13	16.10	55.99	-39.89	AVG	
3	0.4300	19.69	10.09	29.78	57.25	-27.47	QP	
4	0.4540	6.48	10.09	16.57	46.80	-30.23	AVG	
5 *	0.9100	20.29	10.10	30.39	56.00	-25.61	QP	
6	0.9100	8.92	10.10	19.02	46.00	-26.98	AVG	
7	1.8460	14.69	10.01	24.70	56.00	-31.30	QP	
8	1.8700	6.12	10.01	16.13	46.00	-29.87	AVG	
9	7.4220	16.47	10.23	26.70	60.00	-33.30	QP	
10	7.7700	8.80	10.26	19.06	50.00	-30.94	AVG	
11	24.2660	13.47	10.72	24.19	60.00	-35.81	QP	
12	25.7060	-0.25	10.79	10.54	50.00	-39.46	AVG	

4.2 Occupied Bandwidth

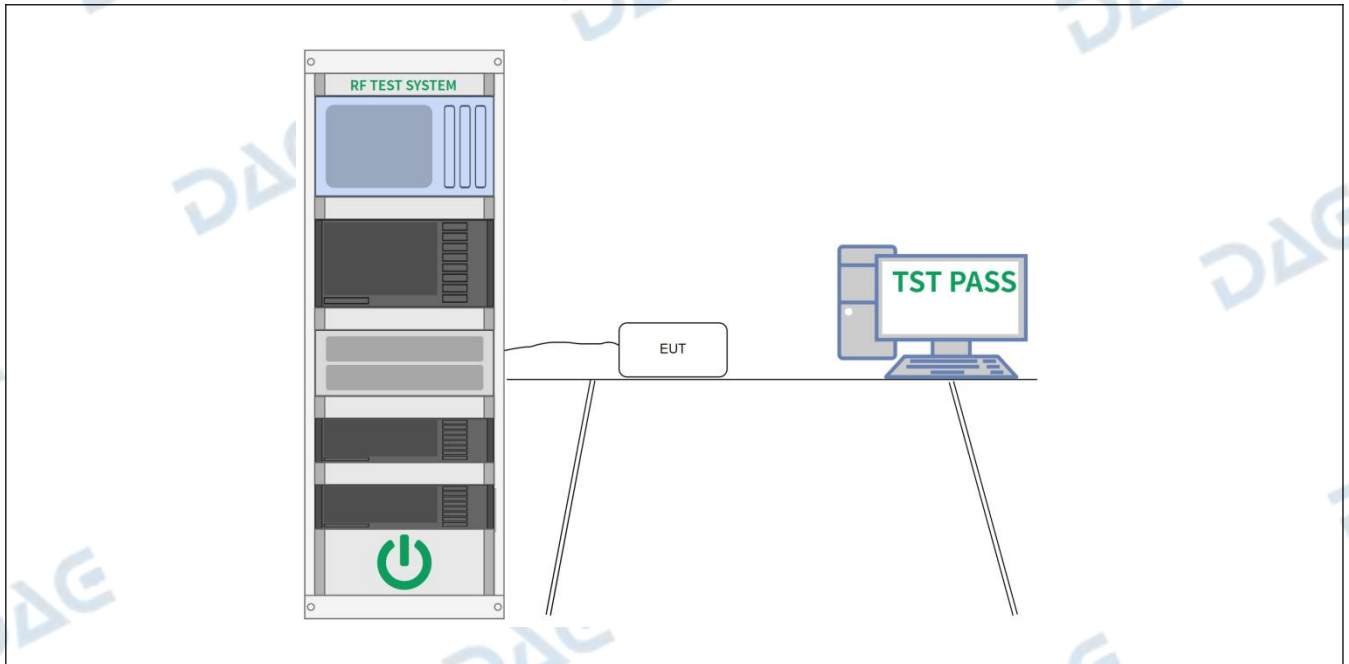
Test Requirement:	47 CFR 15.215(c)
Test Limit:	Refer to 47 CFR 15.215(c), intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.
Test Method:	ANSI C63.10-2013, section 6.9.2
Procedure:	<p>a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW.</p> <p>b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW, unless otherwise specified by the applicable requirement.</p> <p>c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than $[10 \log (OBW/RBW)]$ below the reference level. Specific guidance is given in 4.1.5.2.</p> <p>d) Steps a) through c) might require iteration to adjust within the specified tolerances.</p> <p>e) The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target “-xx dB down” requirement; that is, if the requirement calls for measuring the -20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30 dB below the reference value.</p> <p>f) Set detection mode to peak and trace mode to max hold.</p> <p>g) Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).</p> <p>h) Determine the “-xx dB down amplitude” using $[(\text{reference value}) - \text{xx}]$. Alternatively, this calculation may be made by using the marker-delta function of the instrument.</p> <p>i) If the reference value is determined by an unmodulated carrier, then turn the EUT modulation ON, and either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise, the trace from step g) shall be used for step j).</p> <p>j) Place two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “-xx dB down amplitude” determined in step h). If a marker is below this “-xx dB down amplitude” value, then it shall be as close as possible to this value. The occupied bandwidth is the frequency difference between the two markers. Alternatively, set a marker at the lowest frequency of the envelope of the spectral display, such that the marker is at or slightly below the “-xx dB down amplitude” determined in step h). Reset the marker-delta function and move the marker to the other side of the emission until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth.</p> <p>k) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).</p>

4.2.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.2 °C	Humidity:	49 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1				

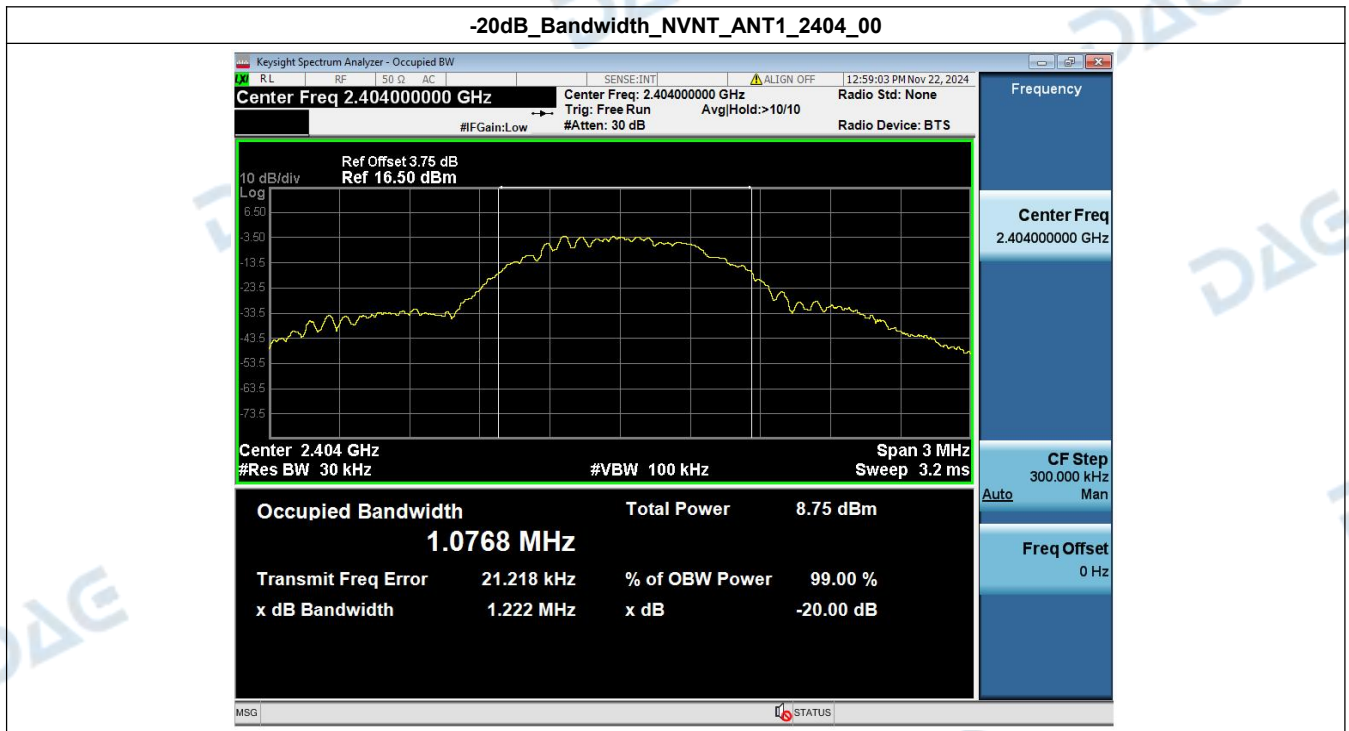
Final test mode: TM1

4.2.2 Test Setup Diagram:



4.2.3 Test Data:

Condition	Antenna	Modulation	Frequency (MHz)	-20dB BW(MHz)
NVNT	ANT1	GFSK	2404.00	1.222
NVNT	ANT1	GFSK	2440.00	1.222
NVNT	ANT1	GFSK	2478.00	1.225



-20dB_Bandwidth_NVNT_ANT1_2440_00



-20dB_Bandwidth_NVNT_ANT1_2478_00



4.3 Field strength of fundamental

Test Requirement:	Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:		
	Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
	902-928 MHz	50	500
	2400-2483.5 MHz	50	500
	5725-5875 MHz	50	500
	24.0-24.25 GHz	250	2500
	The field strength of emissions in this band shall not exceed 2500 millivolts/meter.		
Test Method:	ANSI C63.10-2013 section 6.6		
Procedure:	ANSI C63.10-2013 section 6.6		

4.3.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.2 °C	Humidity:	49 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

4.3.2 Test Data:

Frequency	Emission Level	Limits	Margin	Detector	Polarization
(MHz)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(PK/AV)	(H/V)
2404	102.29	114	-11.71	PK	H
2404	102.98	114	-11.02	PK	V
2440	101.98	114	-12.02	PK	H
2440	102.40	114	-11.60	PK	V
2478	100.44	114	-13.56	PK	H
2478	101.11	114	-12.89	PK	V

Note: Margin = Emission Level – Limit; For fundamental frequency, RBW>20dB BW, VBW>=3XRBW

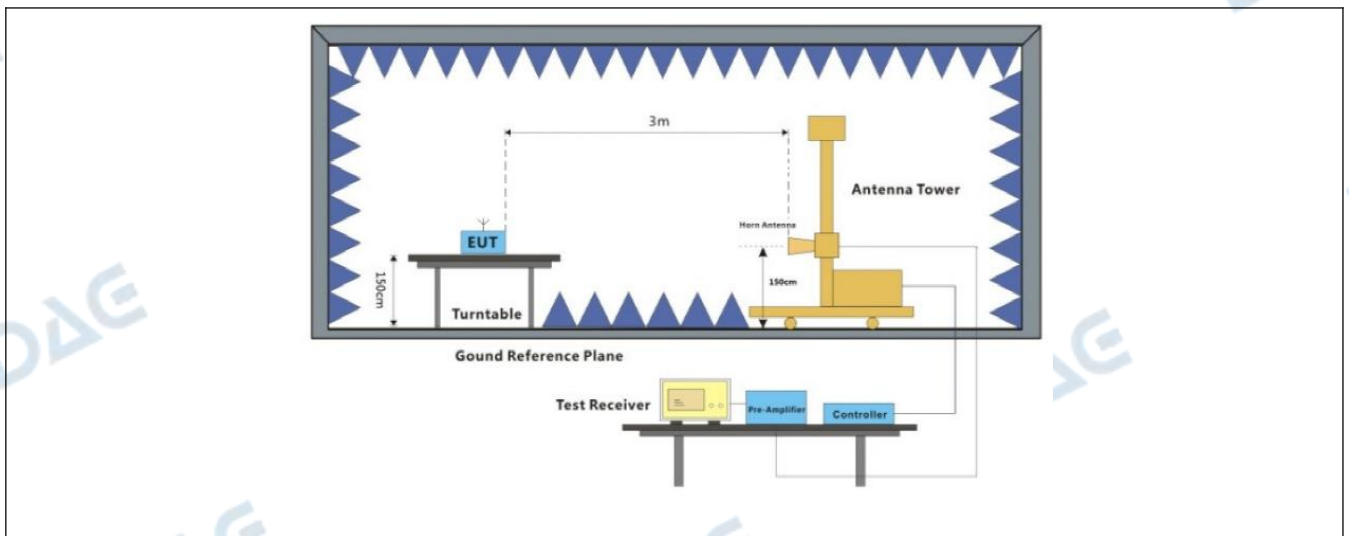
4.4 Band edge emissions (Radiated)

Test Requirement:	Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.		
Test Limit:	Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.		
	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
	<p>** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.</p> <p>In the emission table above, the tighter limit applies at the band edges.</p> <p>The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.</p>		
Test Method:	ANSI C63.10-2013 section 6.6.4		
Procedure:	ANSI C63.10-2013 section 6.6.4		

4.4.1 E.U.T. Operation:

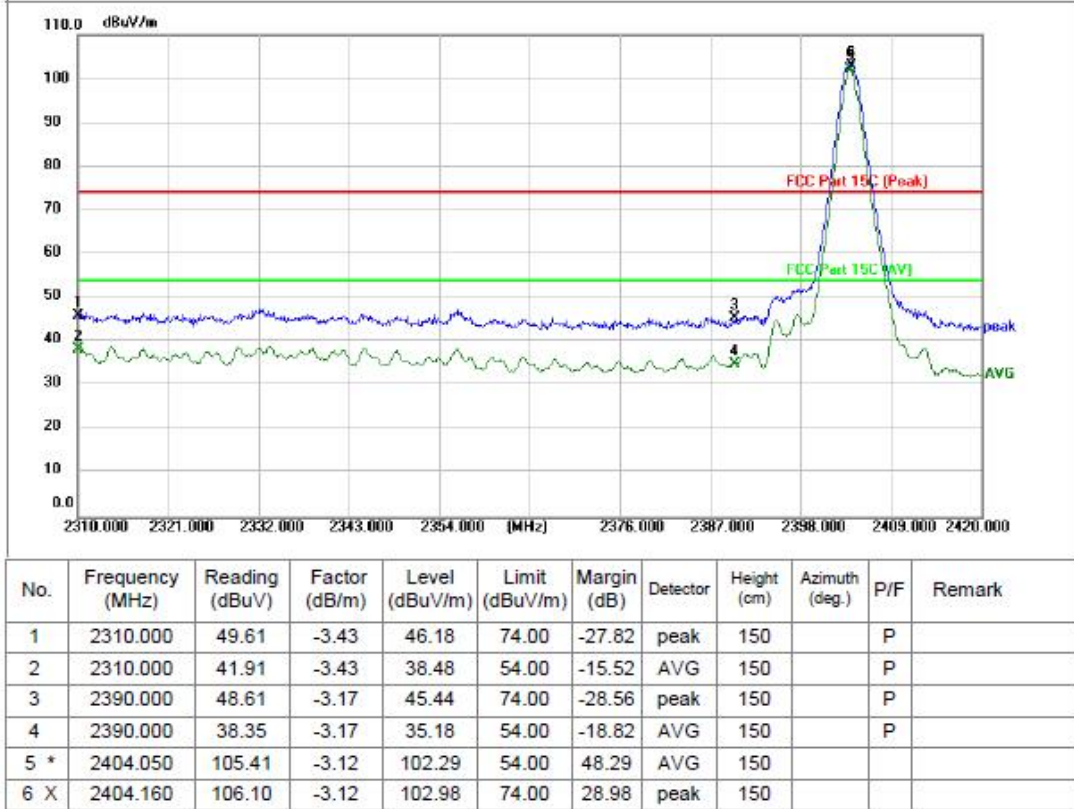
Operating Environment:				
Temperature:	23.2 °C	Humidity:	49 %	Atmospheric Pressure: 102 kPa
Pretest mode:	TM1			
Final test mode:	TM1			

4.4.2 Test Setup Diagram:

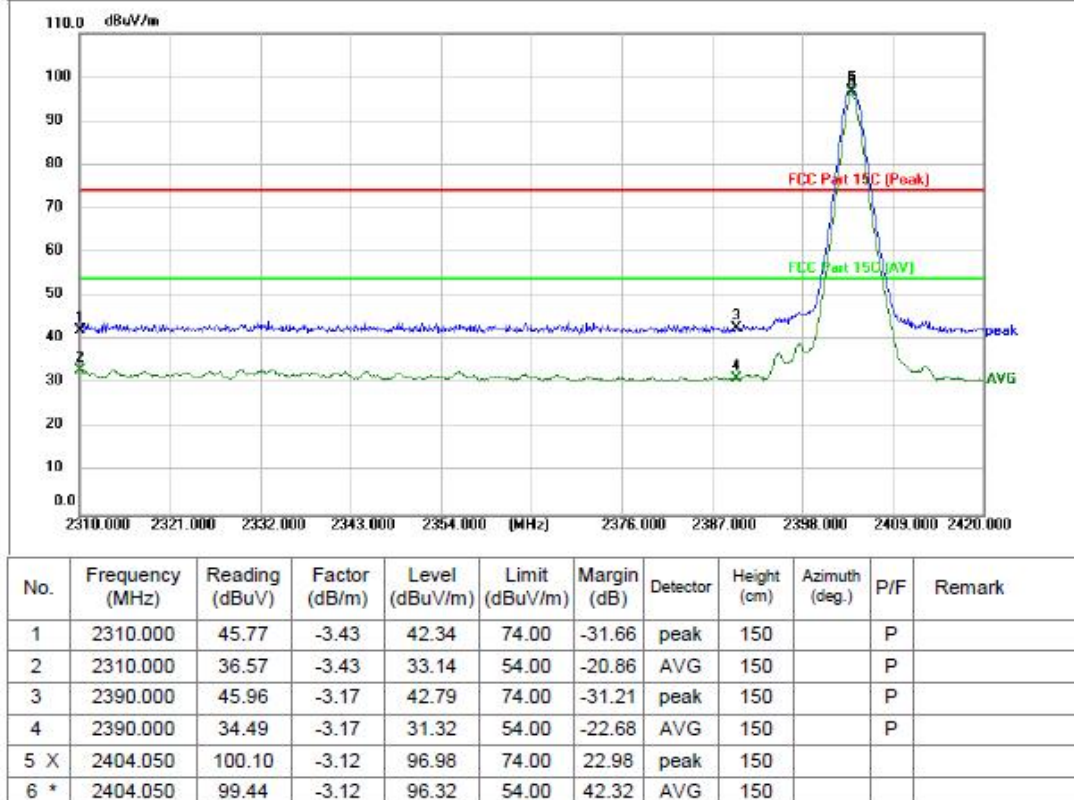


4.4.3 Test Data:

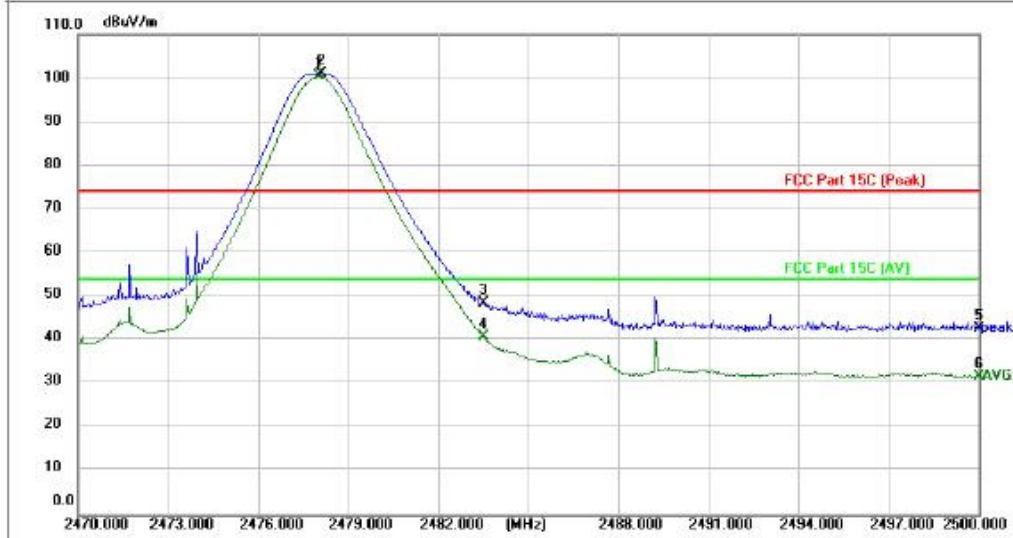
TM1 / Polarization: Horizontal / Band: 2.4G / BW: 2 / CH: L



TM1 / Polarization: Vertical / Band: 2.4G / BW: 2 / CH: L

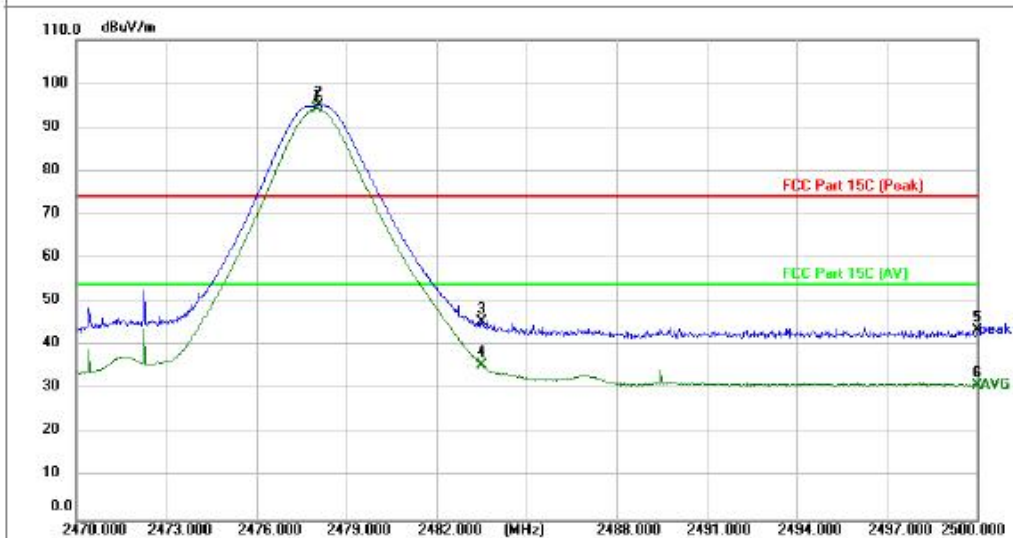


TM1 / Polarization: Horizontal / Band: 2.4G / BW: 2 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	2478.010	103.32	-2.88	100.44	54.00	46.44	AVG				
2 X	2478.100	103.99	-2.88	101.11	74.00	27.11	peak				
3	2483.500	51.28	-2.86	48.42	74.00	-25.58	peak			P	
4	2483.500	43.68	-2.86	40.82	54.00	-13.18	AVG			P	
5	2500.000	45.62	-2.81	42.81	74.00	-31.19	peak			P	
6	2500.000	34.56	-2.81	31.75	54.00	-22.25	AVG			P	

TM1 / Polarization: Vertical / Band: 2.4G / BW: 2 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	2478.010	97.07	-2.88	94.19	54.00	40.19	AVG	150			
2 X	2478.070	97.83	-2.88	94.95	74.00	20.95	peak	150			
3	2483.500	48.48	-2.86	45.62	74.00	-28.38	peak	150		P	
4	2483.500	38.44	-2.86	35.58	54.00	-18.42	AVG	150		P	
5	2500.000	46.46	-2.81	43.65	74.00	-30.35	peak	150		P	
6	2500.000	33.87	-2.81	31.06	54.00	-22.94	AVG	150		P	

4.5 Emissions in frequency bands (below 1GHz)

Test Requirement:	47 CFR 15.249(a) 47 CFR 15.249(d) 47 CFR 15.249(e)																																								
Test Limit:	<p>Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:</p> <table border="1"> <thead> <tr> <th>Fundamental frequency</th><th>Field strength of fundamental (millivolts/meter)</th><th>Field strength of harmonics (microvolts/meter)</th></tr> </thead> <tbody> <tr> <td>902-928 MHz</td><td>50</td><td>500</td></tr> <tr> <td>2400-2483.5 MHz</td><td>50</td><td>500</td></tr> <tr> <td>5725-5875 MHz</td><td>50</td><td>500</td></tr> <tr> <td>24.0-24.25 GHz</td><td>250</td><td>2500</td></tr> </tbody> </table> <p>Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.</p> <table border="1"> <thead> <tr> <th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr> </thead> <tbody> <tr> <td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr> <tr> <td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr> <tr> <td>1.705-30.0</td><td>30</td><td>30</td></tr> <tr> <td>30-88</td><td>100 **</td><td>3</td></tr> <tr> <td>88-216</td><td>150 **</td><td>3</td></tr> <tr> <td>216-960</td><td>200 **</td><td>3</td></tr> <tr> <td>Above 960</td><td>500</td><td>3</td></tr> </tbody> </table> <p>** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.</p> <p>In the emission table above, the tighter limit applies at the band edges.</p> <p>The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.</p> <p>As shown in § 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b) of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.</p>		Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)	902-928 MHz	50	500	2400-2483.5 MHz	50	500	5725-5875 MHz	50	500	24.0-24.25 GHz	250	2500	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	0.009-0.490	2400/F(kHz)	300	0.490-1.705	24000/F(kHz)	30	1.705-30.0	30	30	30-88	100 **	3	88-216	150 **	3	216-960	200 **	3	Above 960	500	3
Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)																																							
902-928 MHz	50	500																																							
2400-2483.5 MHz	50	500																																							
5725-5875 MHz	50	500																																							
24.0-24.25 GHz	250	2500																																							
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)																																							
0.009-0.490	2400/F(kHz)	300																																							
0.490-1.705	24000/F(kHz)	30																																							
1.705-30.0	30	30																																							
30-88	100 **	3																																							
88-216	150 **	3																																							
216-960	200 **	3																																							
Above 960	500	3																																							
Test Method:	ANSI C63.10-2013 section 6.5																																								
Procedure:	ANSI C63.10-2013 section 6.5																																								

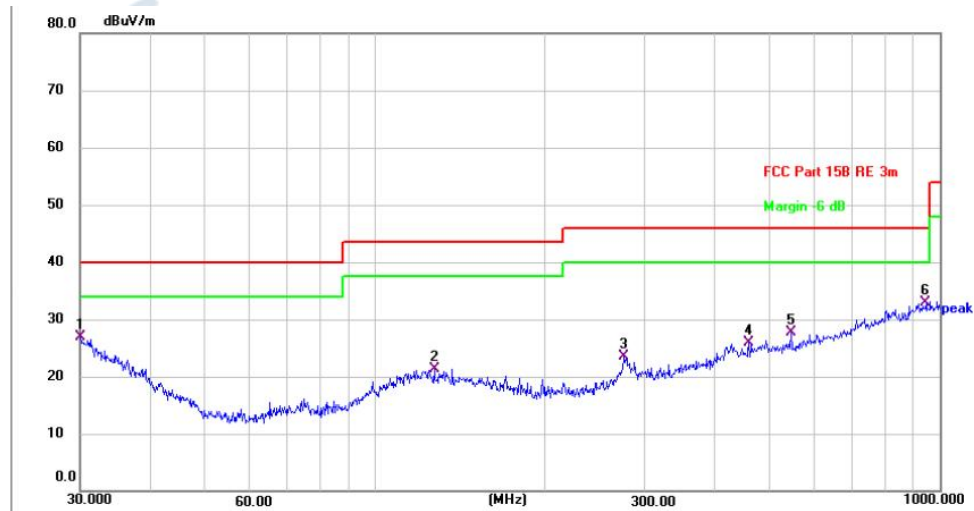
4.5.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.2 °C	Humidity:	49 %	Atmospheric Pressure:	102 kPa

Pretest mode:	TM1
Final test mode:	TM1

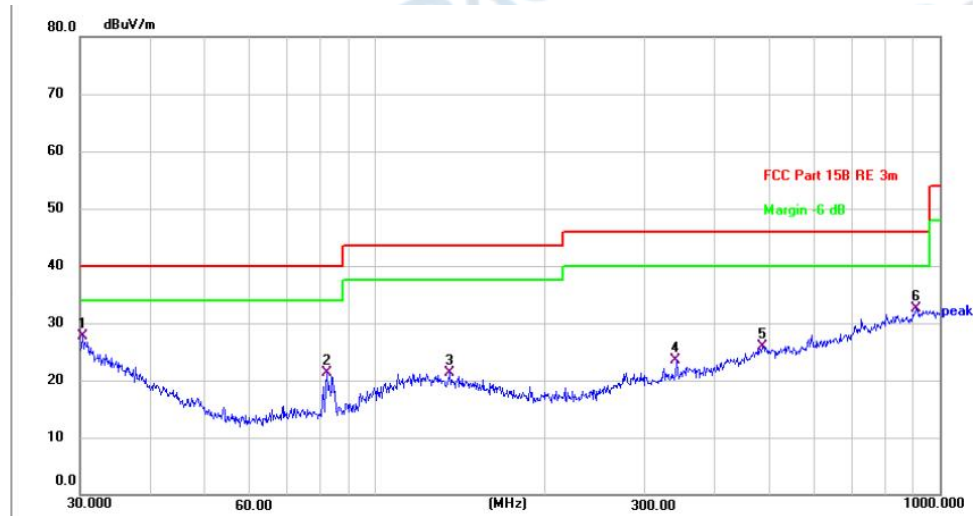
4.5.2 Test Data:

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 2 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	30.1054	26.10	0.77	26.87	40.00	-13.13	QP	100		P	
2	127.2176	26.90	-5.51	21.39	43.50	-22.11	QP	100		P	
3	276.1235	29.41	-5.82	23.59	46.00	-22.41	QP	100		P	
4	459.1144	27.90	-2.07	25.83	46.00	-20.17	QP	100		P	
5	545.1826	28.61	-0.95	27.66	46.00	-18.34	QP	100		P	
6 *	945.4399	27.21	5.69	32.90	46.00	-13.10	QP	100		P	

TM1 / Polarization: Vertical / Band: 2.4G / BW: 2 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	30.3173	27.13	0.62	27.75	40.00	-12.25	QP	100		P	
2	82.0706	32.99	-11.75	21.24	40.00	-18.76	QP	100		P	
3	135.5062	26.98	-5.77	21.21	43.50	-22.29	QP	100		P	
4	341.9786	28.34	-4.89	23.45	46.00	-22.55	QP	100		P	
5	485.6093	27.19	-1.21	25.98	46.00	-20.02	QP	100		P	
6	906.4824	27.00	5.50	32.50	46.00	-13.50	QP	100		P	

Remark: 1.Margin= Measurement Level- Limit; Measurement Level=Test receiver reading + correction factor

2.The EMC test software will only record the worst test angle and height, and only the worst case will be recorded in the test report.

4.6 Emissions in frequency bands (above 1GHz)

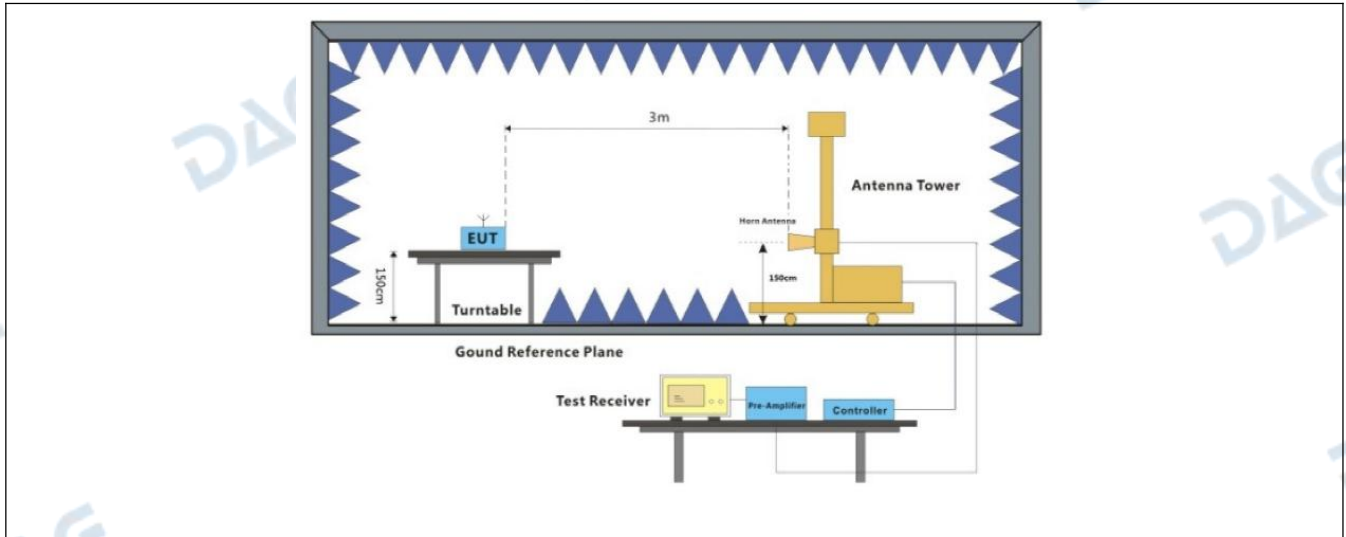
Test Requirement:	47 CFR 15.249(a) 47 CFR 15.249(d) 47 CFR 15.249(e)																																								
Test Limit:	<p>Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:</p> <table border="1"> <thead> <tr> <th>Fundamental frequency</th><th>Field strength of fundamental (millivolts/meter)</th><th>Field strength of harmonics (microvolts/meter)</th></tr> </thead> <tbody> <tr> <td>902-928 MHz</td><td>50</td><td>500</td></tr> <tr> <td>2400-2483.5 MHz</td><td>50</td><td>500</td></tr> <tr> <td>5725-5875 MHz</td><td>50</td><td>500</td></tr> <tr> <td>24.0-24.25 GHz</td><td>250</td><td>2500</td></tr> </tbody> </table> <p>Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.</p> <table border="1"> <thead> <tr> <th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr> </thead> <tbody> <tr> <td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr> <tr> <td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr> <tr> <td>1.705-30.0</td><td>30</td><td>30</td></tr> <tr> <td>30-88</td><td>100 **</td><td>3</td></tr> <tr> <td>88-216</td><td>150 **</td><td>3</td></tr> <tr> <td>216-960</td><td>200 **</td><td>3</td></tr> <tr> <td>Above 960</td><td>500</td><td>3</td></tr> </tbody> </table> <p>** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.</p> <p>In the emission table above, the tighter limit applies at the band edges.</p> <p>The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.</p> <p>As shown in § 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b) of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.</p>		Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)	902-928 MHz	50	500	2400-2483.5 MHz	50	500	5725-5875 MHz	50	500	24.0-24.25 GHz	250	2500	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	0.009-0.490	2400/F(kHz)	300	0.490-1.705	24000/F(kHz)	30	1.705-30.0	30	30	30-88	100 **	3	88-216	150 **	3	216-960	200 **	3	Above 960	500	3
Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)																																							
902-928 MHz	50	500																																							
2400-2483.5 MHz	50	500																																							
5725-5875 MHz	50	500																																							
24.0-24.25 GHz	250	2500																																							
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)																																							
0.009-0.490	2400/F(kHz)	300																																							
0.490-1.705	24000/F(kHz)	30																																							
1.705-30.0	30	30																																							
30-88	100 **	3																																							
88-216	150 **	3																																							
216-960	200 **	3																																							
Above 960	500	3																																							
Test Method:	ANSI C63.10-2013 section 6.6																																								
Procedure:	ANSI C63.10-2013 section 6.6																																								

4.6.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.2 °C	Humidity:	49 %	Atmospheric Pressure:	102 kPa

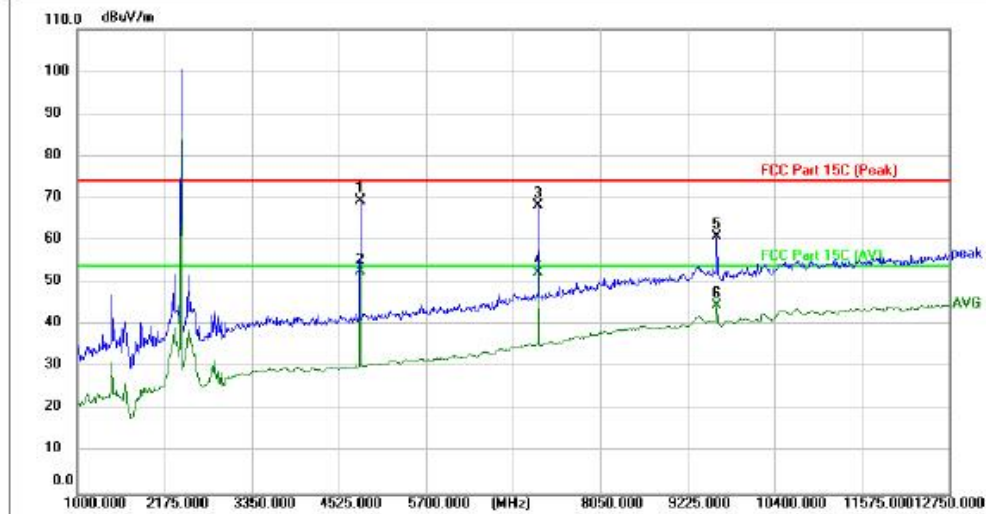
Pretest mode:	TM1
Final test mode:	TM1

4.6.2 Test Setup Diagram:



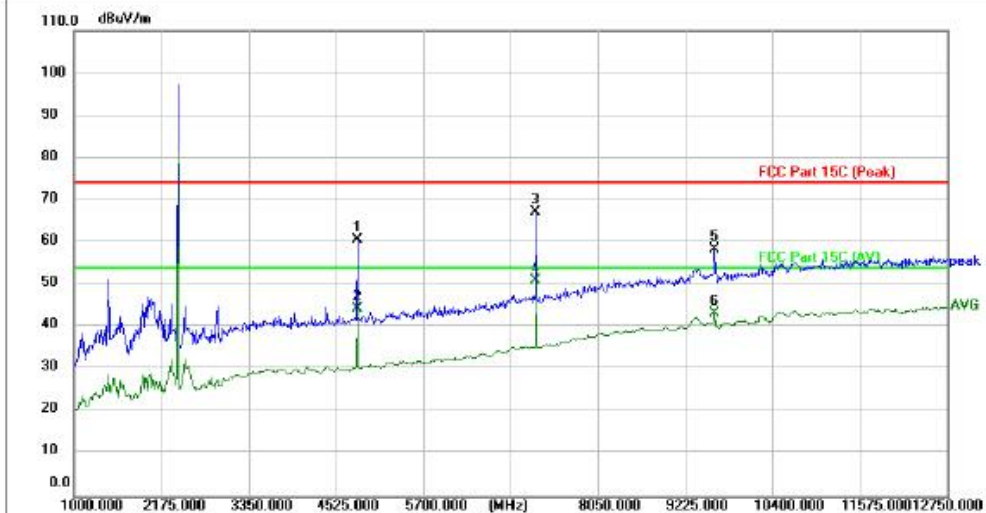
4.6.3 Test Data:

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 2 / CH: L



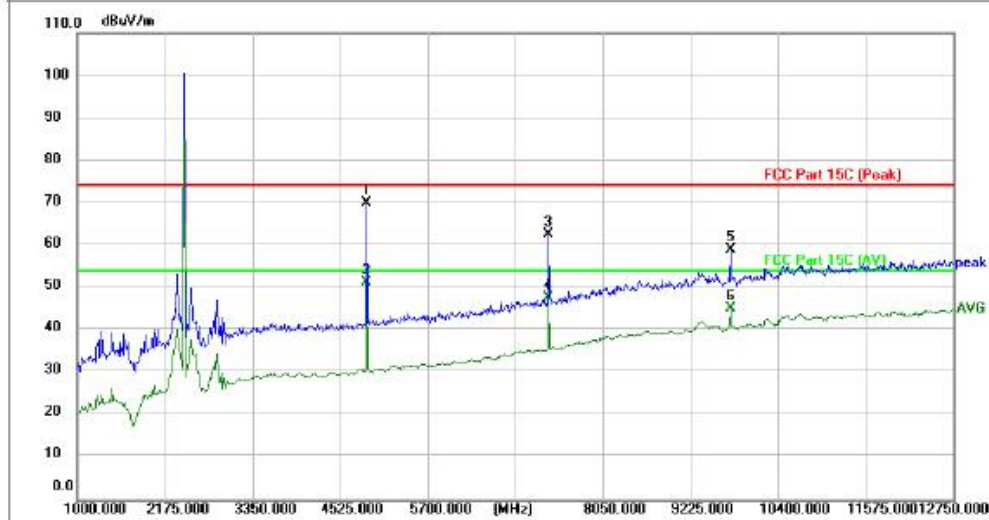
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	4807.000	65.58	3.75	69.33	74.00	-4.67	peak	150		P	
2 *	4807.000	48.80	3.75	52.55	54.00	-1.45	AVG	150		P	
3	7215.750	57.57	10.69	68.26	74.00	-5.74	peak	150		P	
4	7215.750	41.75	10.69	52.44	54.00	-1.56	AVG	150		P	
5	9624.500	45.26	15.74	61.00	74.00	-13.00	peak	150		P	
6	9624.500	28.89	15.74	44.63	54.00	-9.37	AVG	150		P	

TM1 / Polarization: Vertical / Band: 2.4G / BW: 2 / CH: L



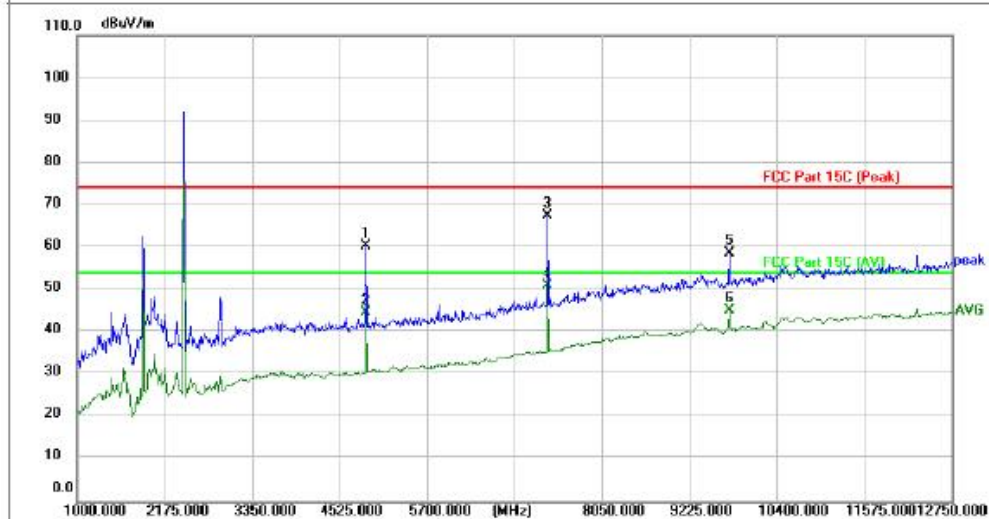
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	4807.000	56.77	3.75	60.52	74.00	-13.48	peak	150		P	
2	4807.000	40.70	3.75	44.45	54.00	-9.55	AVG	150		P	
3	7215.750	56.50	10.69	67.19	74.00	-6.81	peak	150		P	
4 *	7215.750	40.43	10.69	51.12	54.00	-2.88	AVG	150		P	
5	9624.500	42.58	15.74	58.32	74.00	-15.68	peak	150		P	
6	9624.500	27.60	15.74	43.34	54.00	-10.66	AVG	150		P	

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 2 / CH: M



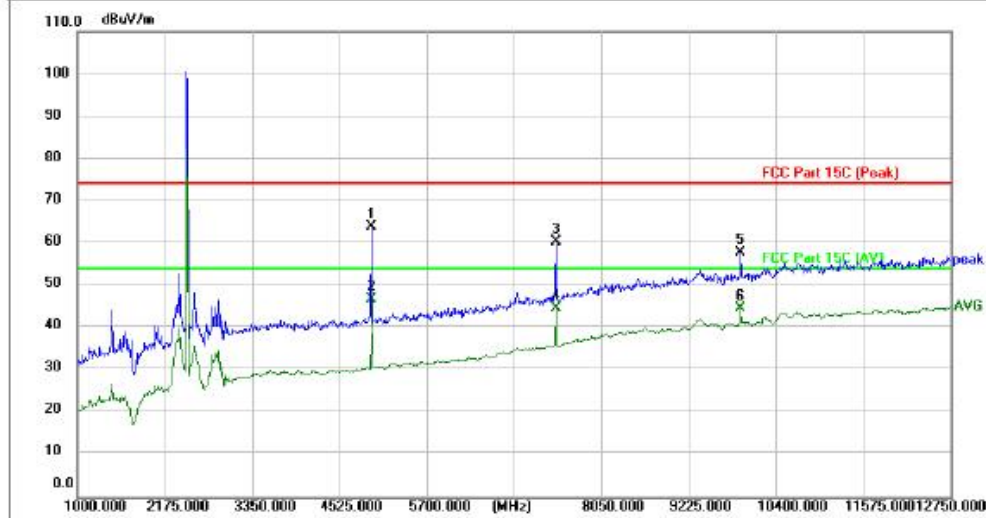
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	4877.500	66.01	4.01	70.02	74.00	-3.98	peak	150		P	
2 *	4877.500	47.15	4.01	51.16	54.00	-2.84	AVG	150		P	
3	7321.500	51.65	10.91	62.56	74.00	-11.44	peak	150		P	
4	7321.500	36.93	10.91	47.84	54.00	-6.16	AVG	150		P	
5	9765.500	43.16	15.84	59.00	74.00	-15.00	peak	150		P	
6	9765.500	29.40	15.84	45.24	54.00	-8.76	AVG	150		P	

TM1 / Polarization: Vertical / Band: 2.4G / BW: 2 / CH: M



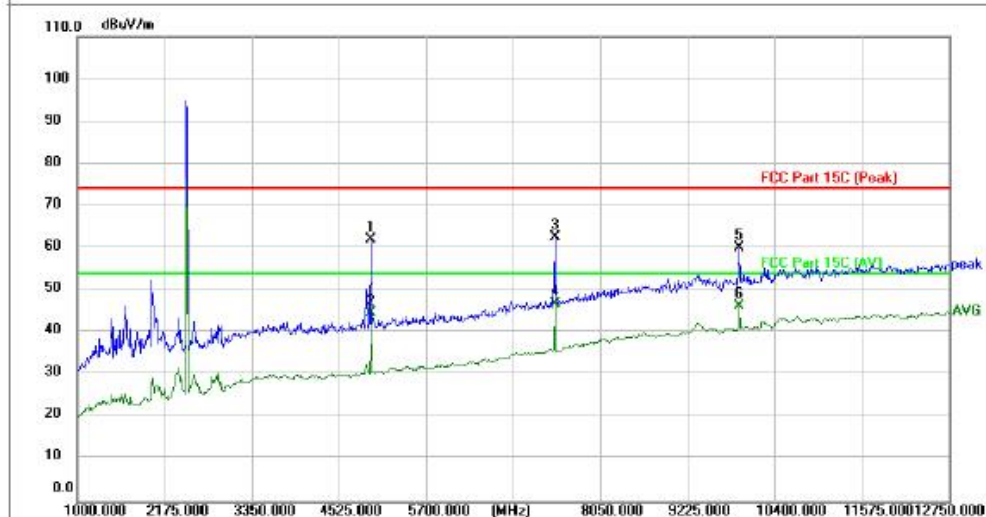
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	4877.500	56.33	4.01	60.34	74.00	-13.66	peak	150		P	
2	4877.500	40.73	4.01	44.74	54.00	-9.26	AVG	150		P	
3	7321.500	56.59	10.91	67.50	74.00	-6.50	peak	150		P	
4 *	7321.500	40.12	10.91	51.03	54.00	-2.97	AVG	150		P	
5	9765.500	42.95	15.84	58.79	74.00	-15.21	peak	150		P	
6	9765.500	29.44	15.84	45.28	54.00	-8.72	AVG	150		P	

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 2 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	4959.750	59.76	4.30	64.06	74.00	-9.94	peak	150		P	
2 *	4959.750	42.59	4.30	46.89	54.00	-7.11	AVG	150		P	
3	7439.000	49.12	11.16	60.28	74.00	-13.72	peak	150		P	
4	7439.000	33.47	11.16	44.63	54.00	-9.37	AVG	150		P	
5	9918.250	42.04	15.95	57.99	74.00	-16.01	peak	150		P	
6	9918.250	28.69	15.95	44.64	54.00	-9.36	AVG	150		P	

TM1 / Polarization: Vertical / Band: 2.4G / BW: 2 / CH: H



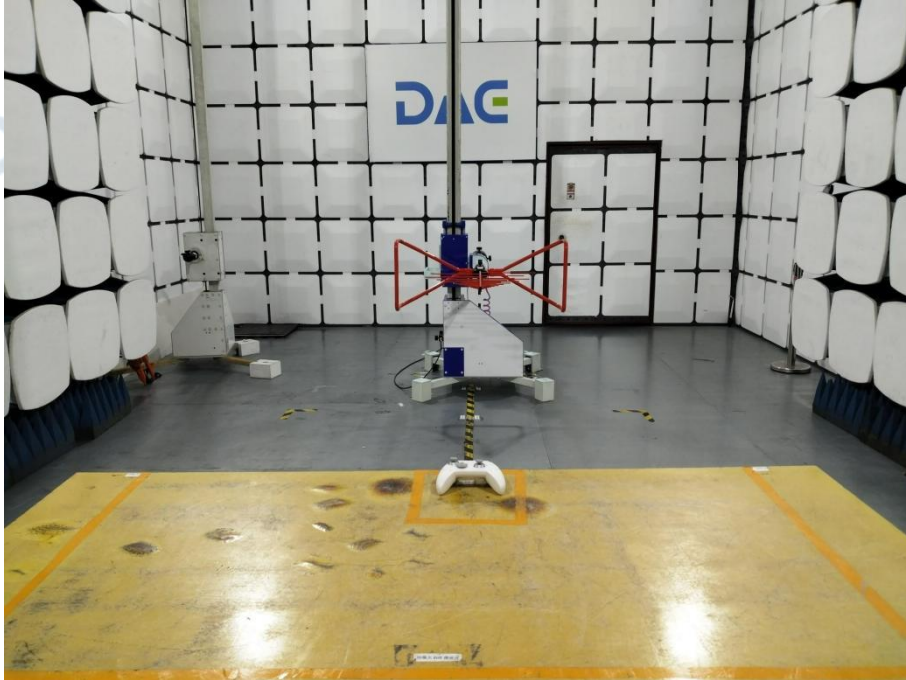
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	4959.750	57.83	4.30	62.13	74.00	-11.87	peak	150		P	
2	4959.750	40.26	4.30	44.56	54.00	-9.44	AVG	150		P	
3	7439.000	51.33	11.16	62.49	74.00	-11.51	peak	150		P	
4 *	7439.000	35.65	11.16	46.81	54.00	-7.19	AVG	150		P	
5	9918.250	44.17	15.95	60.12	74.00	-13.88	peak	150		P	
6	9918.250	30.51	15.95	46.46	54.00	-7.54	AVG	150		P	

Remark: 1.Margin= Mesurement Level- Limit; Measurement Level=Test receiver reading + correction factor

2.The EMC test software will only record the worst test angle and height, and only the worst case will be recorded in the test report.

5 TEST SETUP PHOTOS

Emissions in frequency bands (below 1GHz)



Emissions in frequency bands (above 1GHz)



Conducted Emission at AC power line**6 PHOTOS OF THE EUT**

Please Refer to report DACE241113002RL001 for Details.

***** End of Report *****