

RF TEST REPORT

For

Zhongshan Kangnuo Electronics Co.,Ltd.

Product Name: Kitchen Scale

Test Model(s): K152H

Report Reference No. : DACE260114001RF001

FCC ID : 2BLF9-K152H

Applicant's Name : Zhongshan Kangnuo Electronics Co.,Ltd.

Address : 2F No.9-1, Dongcheng North Road Xinsheng Village, Xiaolan Town
Zhongshan, Guangdong China

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Tangtou Community, Shiyan Subdistrict, Bao'an District, Shenzhen,
Guangdong, China

Test Specification Standard : 47 CFR Part 15.247

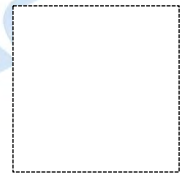
Date of Receipt : January 14, 2026

Date of Test : January 14, 2026 to January 21, 2026

Date of Issue : January 21, 2026

Result : Pass

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Apply for company information

Applicant's Name	:	Zhongshan Kangnuo Electronics Co.,Ltd.
Address	:	2F No.9-1, Dongcheng North Road Xinsheng Village, Xiaolan Town Zhongshan, Guangdong China
Product Name	:	Kitchen Scale
Test Model(s)	:	K152H
Series Model(s)	:	K1H, K1H-P, K2H, K3H, K5H, K6H, K7H, K8H, K9H, K10H, K11H, K12H, K15H, K16H, K18H, K19H, K20H, K21H, K22H, K23H, K24H, K25H, K26H, K27H, K28H, K29H, K30H, K31H, K32H, K33H, K34H, K35H, K36H, K37H, K38H, K39H, K40H, K41H, K42H, K43H, K45H, K50H, K51H, K52H, K53H, K55H, K58H, K59H, K60H, K61H, K62H, K70H, K80H, K90H, K92H, K93H, K95H, K100H, K101H, K102H, K110H, K120H, K125H, K150H, K152H, K190H, K191H, K192H, K200H, K210H, K211H, K221H, K245H, K310H, K320H, K500H, K501H, K600H, K601H, K602H, K700H, K800H, K900H, K901H, K902H, KC01, KC02, KC03, KC05, KC08, KC09, KC10, KC12, KC13, FS1H, FS2H, FS3H, FS4H, FS5H, FS6H, FS7H, FS8H, FS9H, FS10H, FS20H, FS30H, FS40H, FS50H, FS60H, FS70H, FS80H
Test Specification Standard(s)	:	47 CFR Part 15.247

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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January 21, 2026

Supervised by:

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January 21, 2026

Approved by:

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January 21, 2026

Revision History Of Report

Version	Description	REPORT No.	Issue Date
V1.0	Original	DACE260114001RF001	January 21, 2026

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1 TEST SUMMARY

1.1 Test Standards

The tests were performed according to following standards:

47 CFR Part 15.247: Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

1.2 Summary of Test Result

Item	Standard	Method	Requirement	Result
Antenna requirement	47 CFR Part 15.247	---	47 CFR 15.203	Pass
6dB Bandwidth	47 CFR Part 15.247	ANSI C63.10-2020, section 11.8 KDB 558074 D01 15.247 Meas Guidance v05r02	47 CFR 15.247(a)(2)	Pass
Maximum Conducted Output Power	47 CFR Part 15.247	ANSI C63.10-2020 section 11.9.1 KDB 558074 D01 15.247 Meas Guidance v05r02	47 CFR 15.247(b)(3)	Pass
Power Spectral Density	47 CFR Part 15.247	ANSI C63.10-2020, section 11.10 KDB 558074 D01 15.247 Meas Guidance v05r02	47 CFR 15.247(e)	Pass
Emissions in non-restricted frequency bands	47 CFR Part 15.247	ANSI C63.10-2020 section 11.11 KDB 558074 D01 15.247 Meas Guidance v05r02	47 CFR 15.247(d)	Pass
Band edge emissions (Radiated)	47 CFR Part 15.247	ANSI C63.10-2020 section 6.10 KDB 558074 D01 15.247 Meas Guidance v05r02	47 CFR 15.247(d), 15.209, 15.205	Pass
Emissions in frequency bands (below 1GHz)	47 CFR Part 15.247	ANSI C63.10-2020 section 6.6.4 KDB 558074 D01 15.247 Meas Guidance v05r02	47 CFR 15.247(d), 15.209, 15.205	Pass
Emissions in frequency bands (above 1GHz)	47 CFR Part 15.247	ANSI C63.10-2020 section 6.6.4 KDB 558074 D01 15.247 Meas Guidance v05r02	47 CFR 15.247(d), 15.209, 15.205	Pass

2 GENERAL INFORMATION

2.1 Client Information

Applicant's Name : Zhongshan Kangnuo Electronics Co.,Ltd.
Address : 2F No.9-1, Dongcheng North Road Xinsheng Village, Xiaolan Town
Zhongshan, Guangdong China

Manufacturer : Zhongshan Kangnuo Electronics Co.,Ltd.
Address : 2F No.9-1, Dongcheng North Road Xinsheng Village, Xiaolan Town
Zhongshan, Guangdong China

2.2 Description of Device (EUT)

Product Name:	Kitchen Scale
Model/Type reference:	K152H
Series Model:	K1H, K1H-P, K2H, K3H, K5H, K6H, K7H, K8H, K9H, K10H, K11H, K12H, K15H, K16H, K18H, K19H, K20H, K21H, K22H, K23H, K24H, K25H, K26H, K27H, K28H, K29H, K30H, K31H, K32H, K33H, K34H, K35H, K36H, K37H, K38H, K39H, K40H, K41H, K42H, K43H, K45H, K50H, K51H, K52H, K53H, K55H, K58H, K59H, K60H, K61H, K62H, K70H, K80H, K90H, K92H, K93H, K95H, K100H, K101H, K102H, K110H, K120H, K125H, K150H, K152H, K190H, K191H, K192H, K200H, K210H, K211H, K221H, K245H, K310H, K320H, K500H, K501H, K600H, K601H, K602H, K700H, K800H, K900H, K901H, K902H, KC01, KC02, KC03, KC05, KC08, KC09, KC10, KC12, KC13, FS1H, FS2H, FS3H, FS4H, FS5H, FS6H, FS7H, FS8H, FS9H, FS10H, FS20H, FS30H, FS40H, FS50H, FS60H, FS70H, FS80H
Model Difference:	All the model are the same circuit and RF module, only the product appearance and model name are different. Test sample model: K152H
Trade Mark:	N/A
Power Supply:	DC 4.5V by battery
Operation Frequency:	2402-2480MHz
Number of Channels:	40CH
Modulation Type:	GFSK
Antenna Type:	PCB Antenna
Antenna Gain:	-1.08dBi
Bluetooth Version:	V4.2
Hardware Version:	V1.0
Software Version:	V1.0

2.3 Description of Test Modes

No	Title	Description
TM1	TX mode	Keep the EUT in TX mode
Test Environment		Normal Voltage(DC): 4.5V

2.4 Description of Support Units

The EUT was tested as an independent device.

2.5 Equipments Used During The Test

6dB Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in non-restricted frequency bands					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RF Test Software	Tachoy Information Technology(shenzhen) Co.,Ltd.	RTS-01	V1.0.0	/	/
RF Sensor Unit	Tachoy Information Technology(shenzhen) Co.,Ltd.	TR1029-2	000001	/	/
Wideband radio communication tester	R&S	CMW500	113410	2025-04-25	2026-04-24
Vector Signal Generator	Keysight	N5181A	MY50143455	2025-12-02	2026-12-01
Signal Generator	Keysight	N5182A	MY48180415	2025-12-02	2026-12-01
Spectrum Analyzer	Keysight	N9020A	MY53420323	2025-12-02	2026-12-01

Emissions in frequency bands (below 1GHz)
Emissions in frequency bands (above 1GHz)
Band edge emissions (Radiated)

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test software	Farad	EZ -EMC	V1.1.42	/	/
Positioning Controller	MF	MF-7802	/	/	/
Amplifier(18-40G)	COM-POWER	AH-1840	10100008-1	2024-04-26	2027-04-25
Horn antenna	COM-POWER	AH-1840 (18-40G)	10100008	2024-04-26	2027-04-25
Loop antenna	ZHINAN	ZN30900C	ZN30900C	2025-04-28	2026-04-27
Cable(LF)#2	Schwarzbeck	/	/	2025-04-12	2026-04-11
Cable(LF)#1	Schwarzbeck	/	/	2025-04-17	2026-04-16
Cable(HF)#2	Schwarzbeck	AK9515E	96250	2025-04-25	2026-04-24
Cable(HF)#1	Schwarzbeck	SYV-50-3-1	/	2025-04-25	2026-04-24
Power amplifier(LF)	Schwarzbeck	BBV9743	9743-151	2025-04-29	2026-04-28
Power amplifier(HF)	Schwarzbeck	BBV9718	9718-282	2025-04-29	2026-04-28
Wideband radio communication tester	R&S	CMW500	113410	2025-04-25	2026-04-24
Spectrum Analyzer	R&S	FSP30	1321.3008K40-101729-jR	2025-04-18	2026-04-17
Test Receiver	R&S	ESCI 3	1166.5950K03-101431-Jq	2025-04-18	2026-04-17
Horn Antenna	Sunol Sciences	DRH-118	A091114	2025-04-21	2026-04-20
Broadband Antenna	Sunol Sciences	JB6 Antenna	A090414	2024-09-28	2026-09-27

2.6 Statement Of The Measurement Uncertainty

Test Item	Measurement Uncertainty
Occupied Bandwidth	±3.63%
RF conducted power	±0.733dB
RF power density	±0.234%
Conducted Spurious emissions	±1.98dB
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.

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.
Test Method:	---

3.1.1 Conclusion:



4 Radio Spectrum Matter Test Results (RF)

4.1 6dB Bandwidth

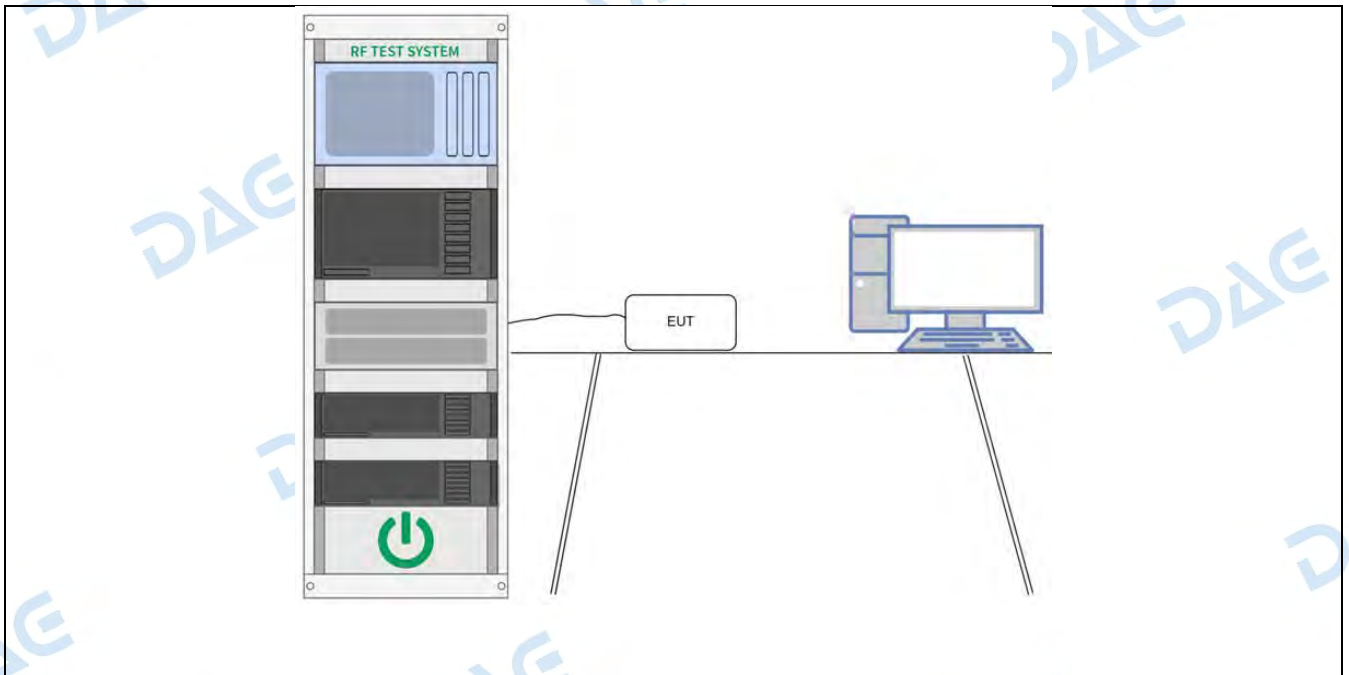
Test Requirement:	47 CFR 15.247(a)(2)
Test Limit:	Refer to 47 CFR 15.247(a)(2), Systems using digital modulation techniques may operate in the 902-928 MHz, and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.
Test Method:	ANSI C63.10-2020, section 11.8 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	11.8.1 Option 1 The steps for the first option are as follows: a) Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz. b) Set the VBW $\geq [3 \times \text{RBW}]$. c) Detector = peak. d) Trace mode = max-hold. e) Sweep = No faster than coupled (auto) time. f) Allow the trace to stabilize. g) Measure the maximum width of the emission by placing 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 “-6 dB down amplitude”. If a marker is below this “-6 dB down amplitude” value, then it shall be as close as possible to this value. 11.8.2 Option 2 The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described in 11.8.1 (i.e., RBW = 100 kHz, VBW $\geq 3 \times \text{RBW}$, and peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥ 6 dB.

4.1.1 E.U.T. Operation:

Operating Environment:					
Temperature:	22.9 °C	Humidity:	55 %	Atmospheric Pressure:	101.6 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

4.1.2 Test Setup Diagram:

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4.1.3 Test Data:

Please Refer to Appendix for Details.

4.2 Maximum Conducted Output Power

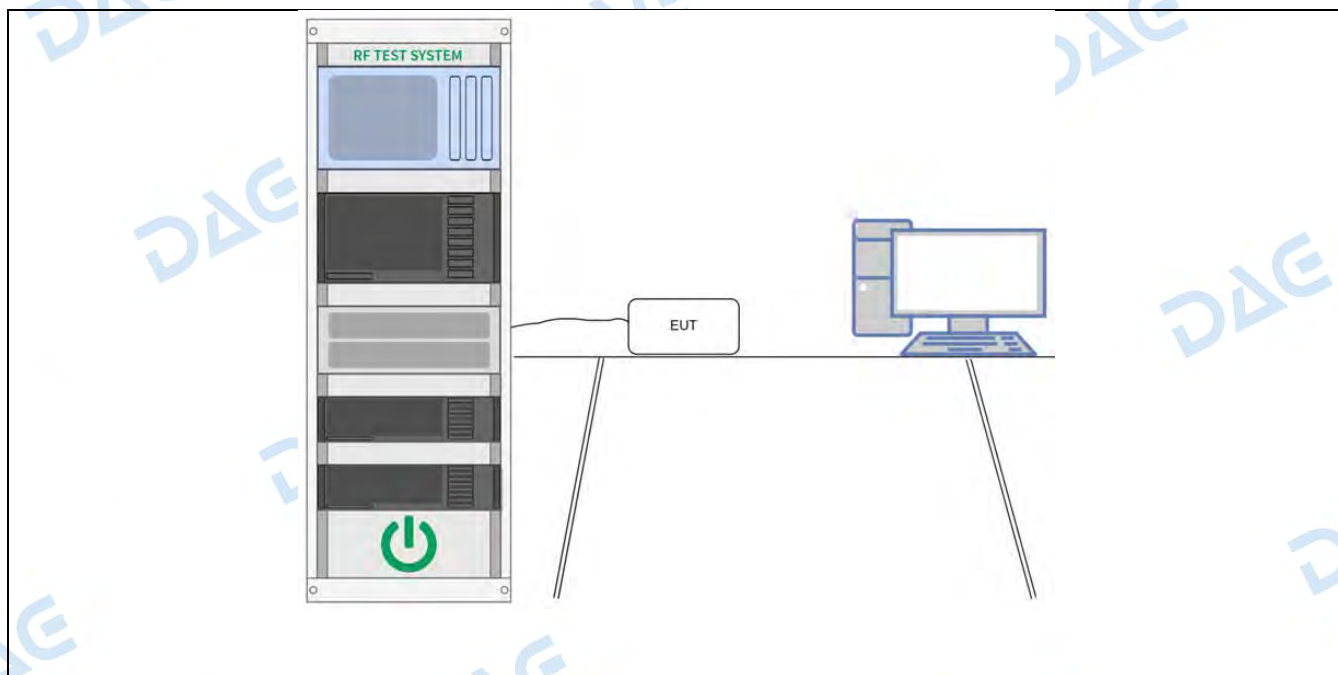
Test Requirement:	47 CFR 15.247(b)(3)
Test Limit:	Refer to 47 CFR 15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.
Test Method:	ANSI C63.10-2020 section 11.9.1 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10-2020, section 11.9.1 Maximum peak conducted output power Note: Per ANSI C63.10-2020, if there are two or more antennas, the conducted powers at Core 0, Core 1,..., Core i were first measured separately, as shown in the section above(this product only have one antenna). The measured values were then summed in linear power units then converted back to dBm. Per ANSI C63.10-2020 Section 14.4.3.2.3, the directional gain is calculated using the following formula, where GN is the gain of the nth antenna and NANT, the total number of antennas used. For correlated unequal antenna gain Directional gain = $10 \cdot \log[(10G_1/20 + 10G_2/20 + \dots + 10G_N/20)^2 / NANT]$ dBi For completely uncorrelated unequal antenna gain Directional gain = $10 \cdot \log[(10G_1/10 + 10G_2/10 + \dots + 10G_N/10) / NANT]$ dBi Sample Multiple antennas Calculation: Core 0 + Core 1 + ... Core i. = MIMO/CDD (i is the number of antennas) (#VALUE! mW + mW) = #VALUE! mW = dBm Sample e.i.r.p. Calculation: e.i.r.p. (dBm) = Conducted Power (dBm) + Ant gain (dBi)

4.2.1 E.U.T. Operation:

Operating Environment:					
Temperature:	22.9 °C	Humidity:	52 %	Atmospheric Pressure:	101.6 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

4.2.2 Test Setup Diagram:

--



4.2.3 Test Data:

Please Refer to Appendix for Details.

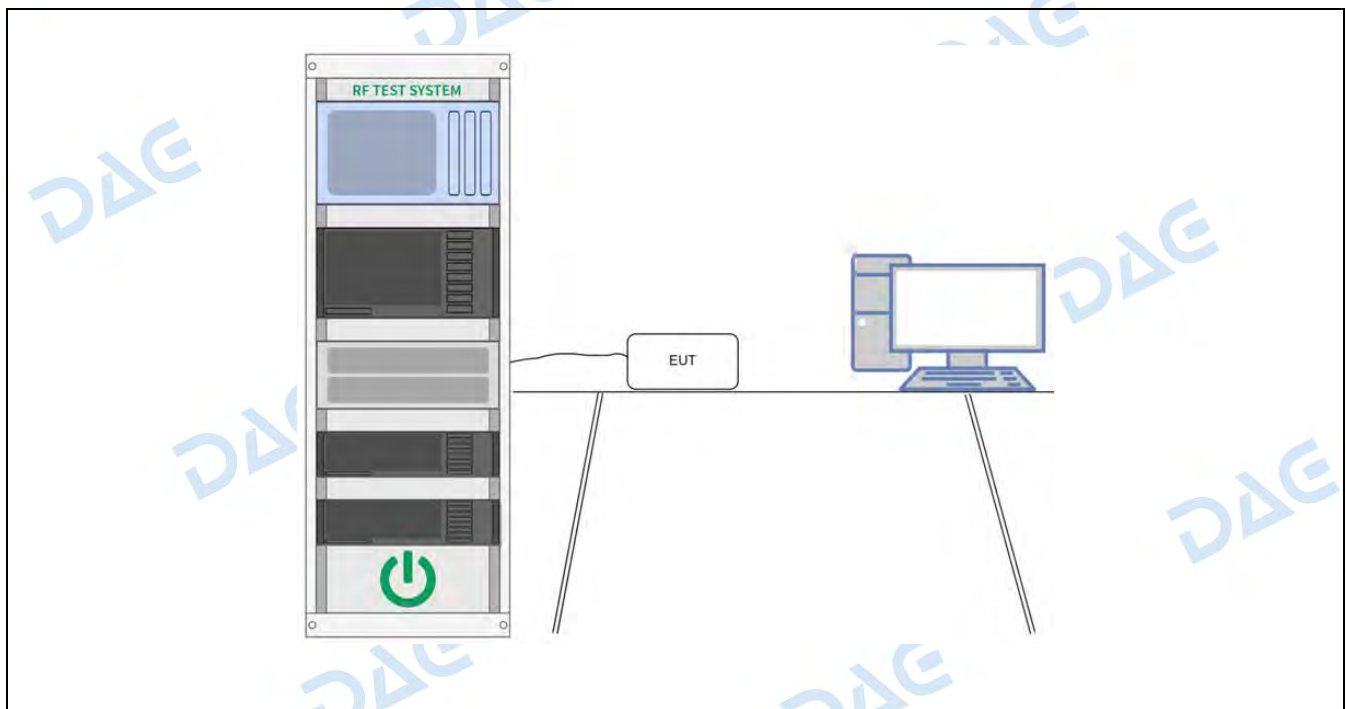
4.3 Power Spectral Density

Test Requirement:	47 CFR 15.247(e)
Test Limit:	Refer to 47 CFR 15.247(e), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.
Test Method:	ANSI C63.10-2020, section 11.10 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10-2020, section 11.10, Maximum power spectral density level in the fundamental emission

4.3.1 E.U.T. Operation:

Operating Environment:					
Temperature:	24 °C	Humidity:	50 %	Atmospheric Pressure:	101.6 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

4.3.2 Test Setup Diagram:



4.3.3 Test Data:

Please Refer to Appendix for Details.

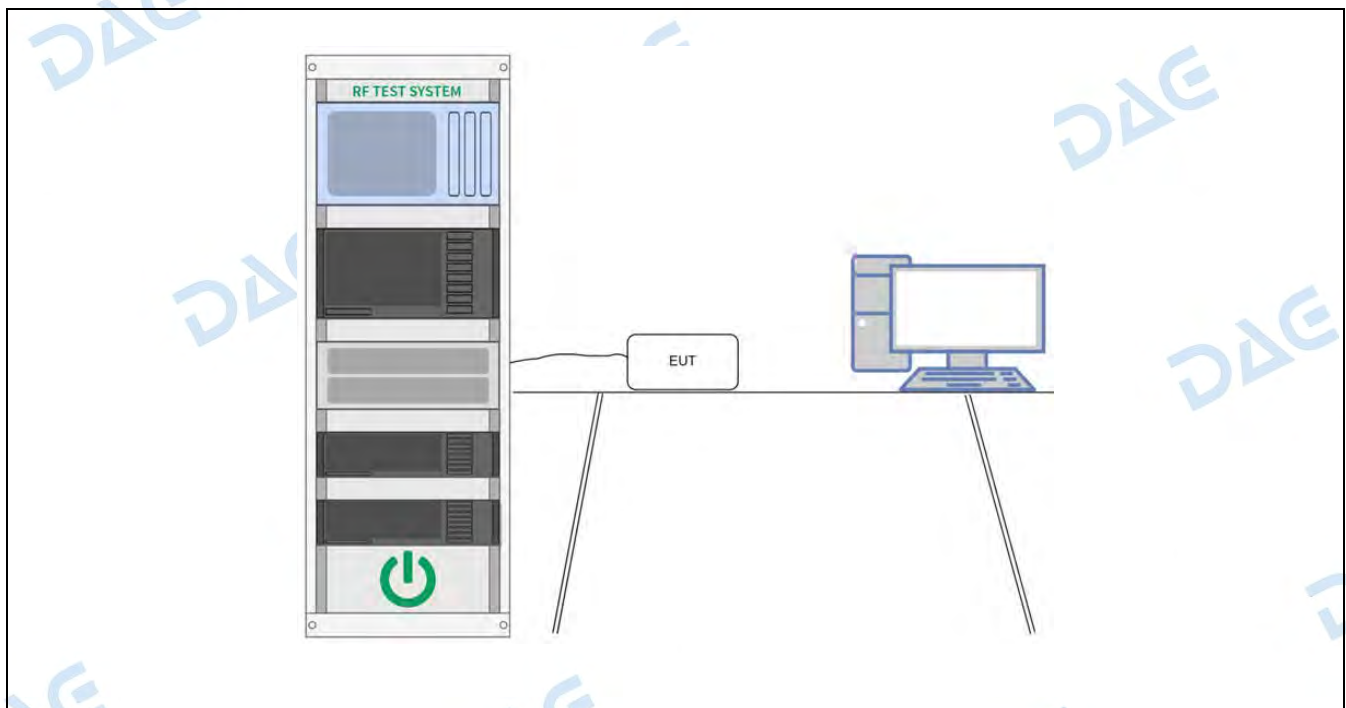
4.4 Emissions in non-restricted frequency bands

Test Requirement:	47 CFR 15.247(d)
Test Limit:	Refer to 47 CFR 15.247(d), In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required.
Test Method:	ANSI C63.10-2020 section 11.11 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10-2020 Section 11.11.1, Section 11.11.2, Section 11.11.3

4.4.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	51 %	Atmospheric Pressure:	101.6 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

4.4.2 Test Setup Diagram:



4.4.3 Test Data:

Please Refer to Appendix for Details.

4.5 Band edge emissions (Radiated)

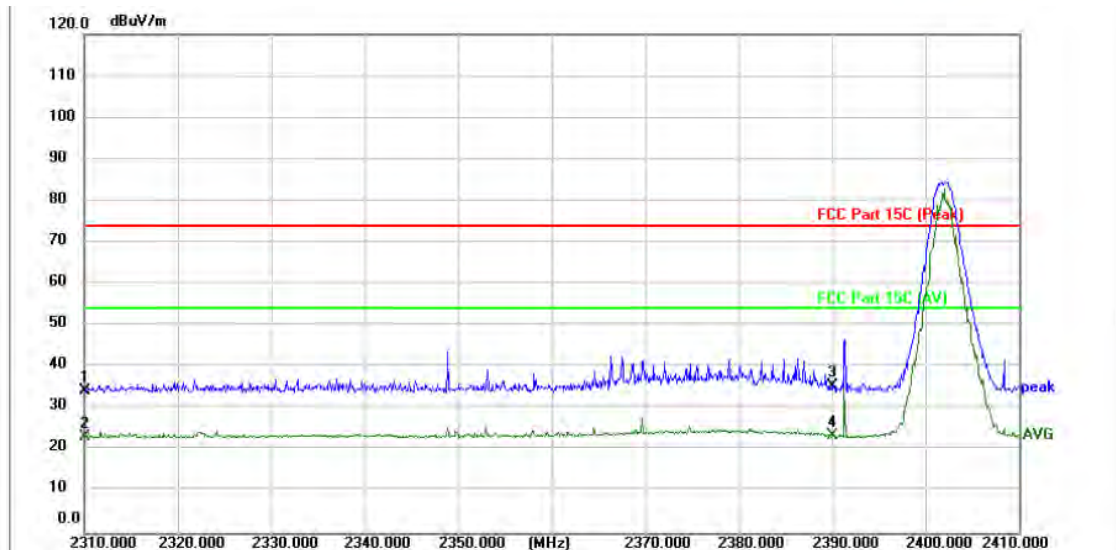
Test Requirement:	Refer to 47 CFR 15.247(d), In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement 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
** 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. In the emission table above, the tighter limit applies at the band edges. 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.			
Test Method:	ANSI C63.10-2020 section 6.10 KDB 558074 D01 15.247 Meas Guidance v05r02		
Procedure:	ANSI C63.10-2020 section 6.10.5.2		

4.5.1 E.U.T. Operation:

Operating Environment:			
Temperature:	23.2 °C	Humidity:	51 %
Atmospheric Pressure:	101.6 kPa		
Pretest mode:	TM1		
Final test mode:	TM1		

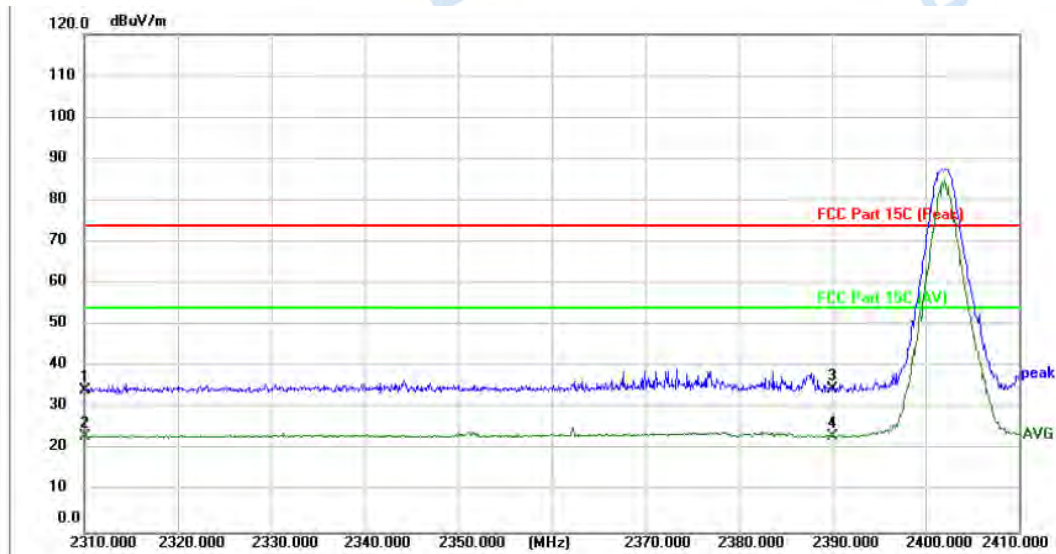
4.5.2 Test Data:

TM1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 2 / CH: L



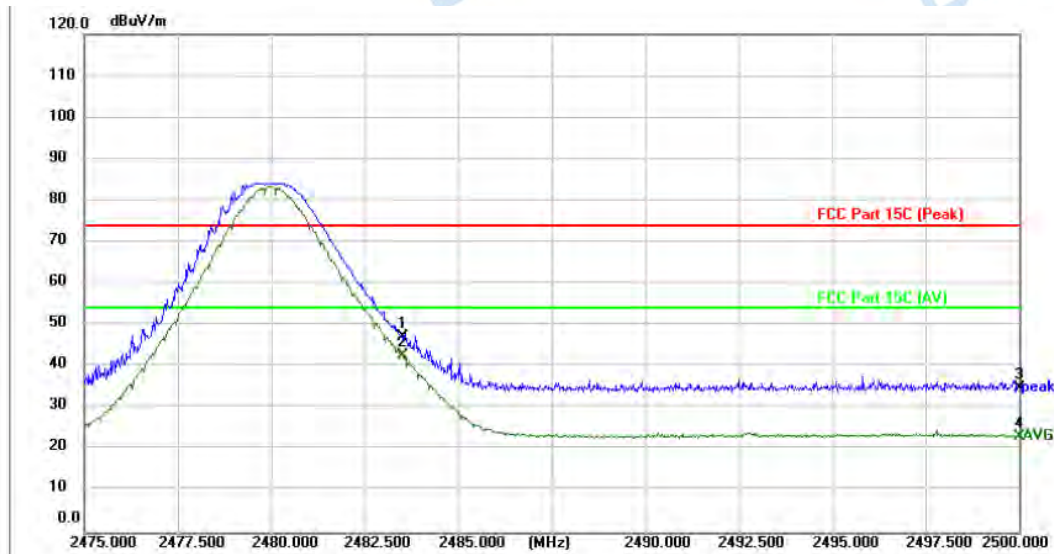
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector		P/F	Remark
1	2310.000	40.89	-6.63	34.26	74.00	-39.74	peak		P	
2	2310.000	29.80	-6.63	23.17	54.00	-30.83	AVG		P	
3	2390.000	41.98	-6.42	35.56	74.00	-38.44	peak		P	
4 *	2390.000	30.00	-6.42	23.58	54.00	-30.42	AVG		P	

TM1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 2 / CH: L



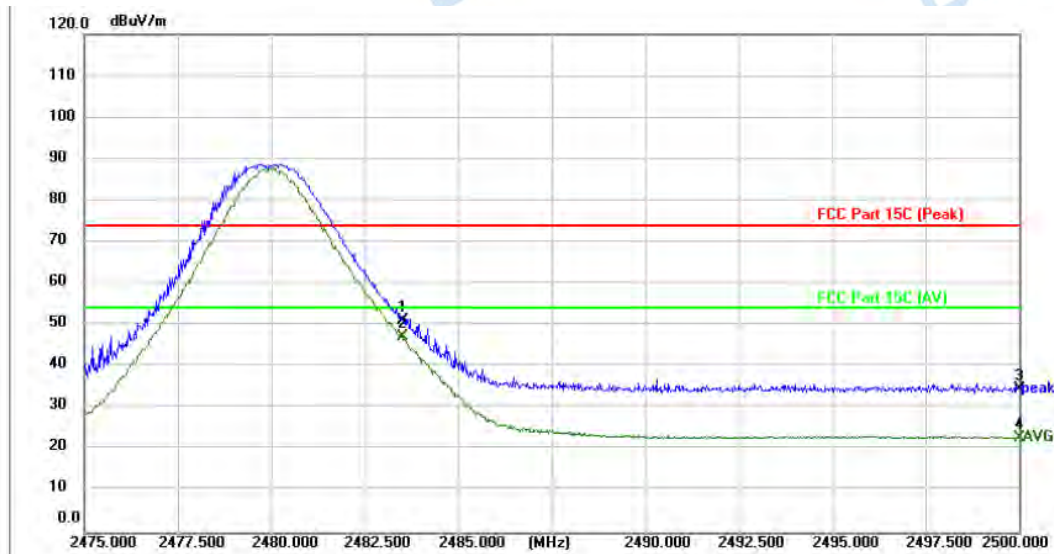
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector		P/F	Remark
1	2310.000	41.05	-6.63	34.42	74.00	-39.58	peak		P	
2 *	2310.000	30.01	-6.63	23.38	54.00	-30.62	AVG		P	
3	2390.000	41.17	-6.42	34.75	74.00	-39.25	peak		P	
4	2390.000	29.77	-6.42	23.35	54.00	-30.65	AVG		P	

TM1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 2 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	Remark
1	2483.500	53.53	-6.17	47.36	74.00	-26.64	peak			P	
2 *	2483.500	48.97	-6.17	42.80	54.00	-11.20	AVG			P	
3	2500.000	40.96	-6.13	34.83	74.00	-39.17	peak			P	
4	2500.000	29.40	-6.13	23.27	54.00	-30.73	AVG			P	

TM1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 2 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	Remark
1	2483.500	57.38	-6.17	51.21	74.00	-22.79	peak			P	
2 *	2483.500	53.30	-6.17	47.13	54.00	-6.87	AVG			P	
3	2500.000	40.76	-6.13	34.63	74.00	-39.37	peak			P	
4	2500.000	29.10	-6.13	22.97	54.00	-31.03	AVG			P	

Remark: Margin=Level - Limit, Level=Test receiver reading + correction factor

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

4.6 Emissions in frequency bands (below 1GHz)

Test Requirement:	Refer to 47 CFR 15.247(d), In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).		
Test Limit:	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
** 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. In the emission table above, the tighter limit applies at the band edges. 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.			
Test Method:	ANSI C63.10-2020 section 6.6.4 KDB 558074 D01 15.247 Meas Guidance v05r02		
Procedure:	a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. h. Test the EUT in the lowest channel, the middle channel, the Highest channel. i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. j. Repeat above procedures until all frequencies measured was complete. Remark: 1) For emission below 1GHz, through pre-scan found the worst case is the lowest		

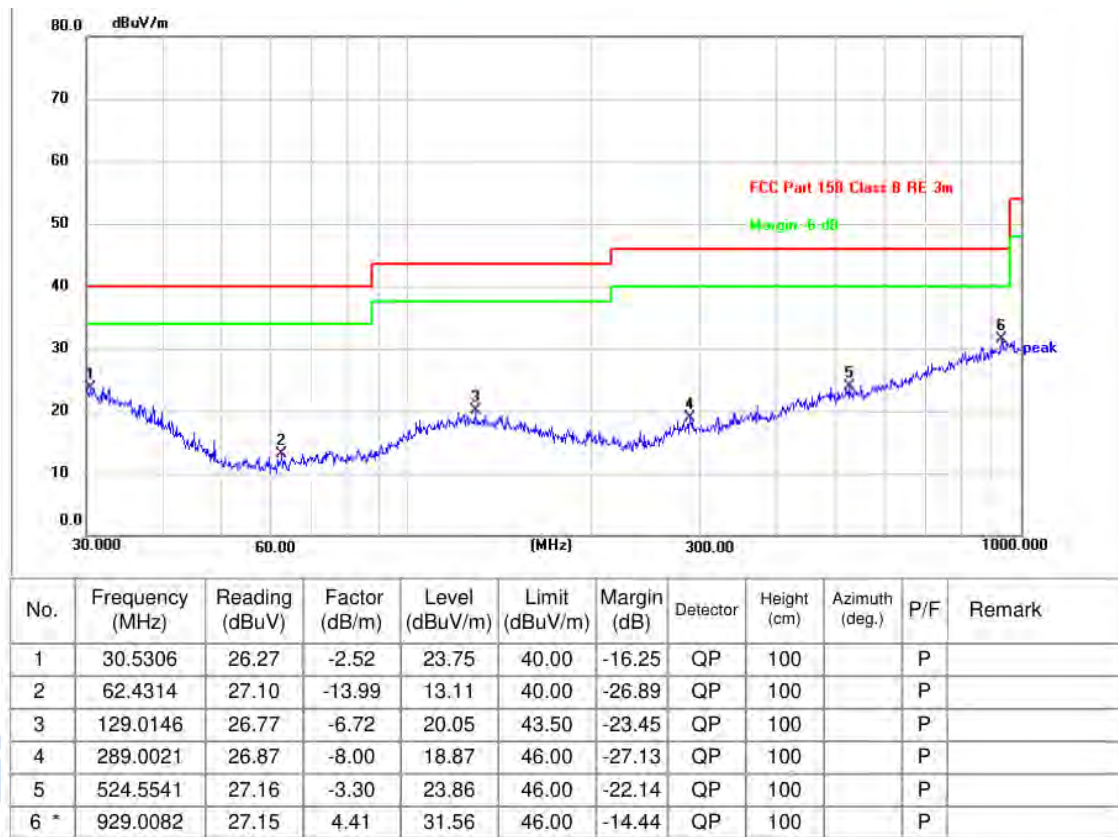
	channel. Only the worst case is recorded in the report. 2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Final Test Level = Receiver Reading + Antenna Factor + Cable Factor + Preamplifier Factor 3) Scan from 9kHz to 25GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. Fundamental frequency is blocked by filter, and only spurious emission is shown.
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4.6.1 E.U.T. Operation:

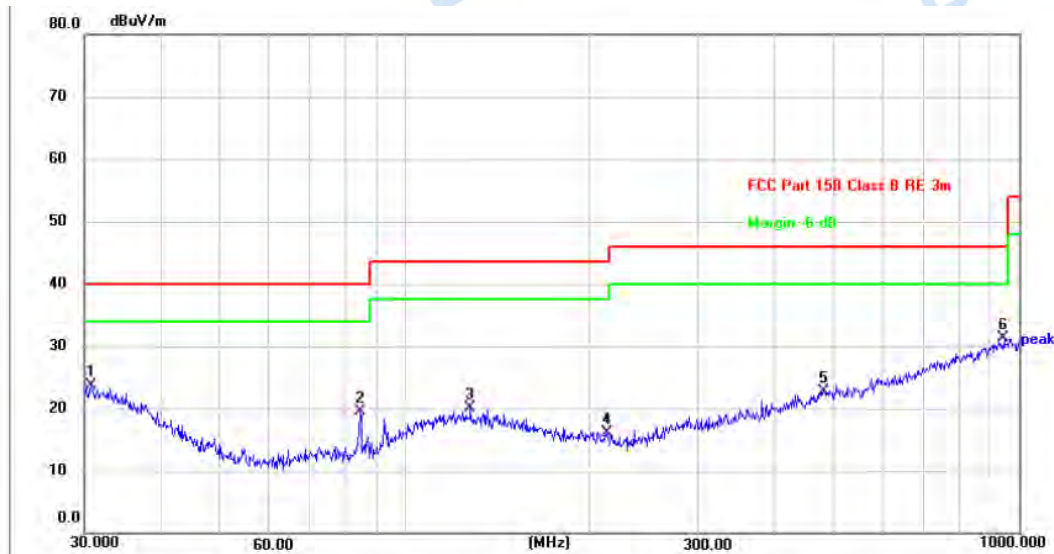
Operating Environment:					
Temperature:	23.7 °C	Humidity:	47 %	Atmospheric Pressure:	101.6 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

4.6.2 Test Data:

TM1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 2 / CH: L



TM1 / Polarization: Vertical / Band: 2400-2483.5 MHz / 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	30.7455	27.87	-4.21	23.66	40.00	-16.34	QP	100		P	
2	84.4054	32.50	-12.90	19.60	40.00	-20.40	QP	100		P	
3	127.6645	27.13	-6.98	20.15	43.50	-23.35	QP	100		P	
4	213.0151	25.85	-9.70	16.15	43.50	-27.35	QP	100		P	
5	480.5276	26.09	-3.33	22.76	46.00	-23.24	QP	100		P	
6 *	945.4399	26.95	4.34	31.29	46.00	-14.71	QP	100		P	

Remark: Margin=Level - Limit, Level=Test receiver reading + correction factor

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

4.7 Emissions in frequency bands (above 1GHz)

Test Requirement:	Refer to 47 CFR 15.247(d), in addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).		
Test Limit:	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
** 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. In the emission table above, the tighter limit applies at the band edges. 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.			
Test Method:	ANSI C63.10-2020 section 6.6.4 KDB 558074 D01 15.247 Meas Guidance v05r02		
Procedure:	a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. h. Test the EUT in the lowest channel, the middle channel, the Highest channel. i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. j. Repeat above procedures until all frequencies measured was complete. Remark:		

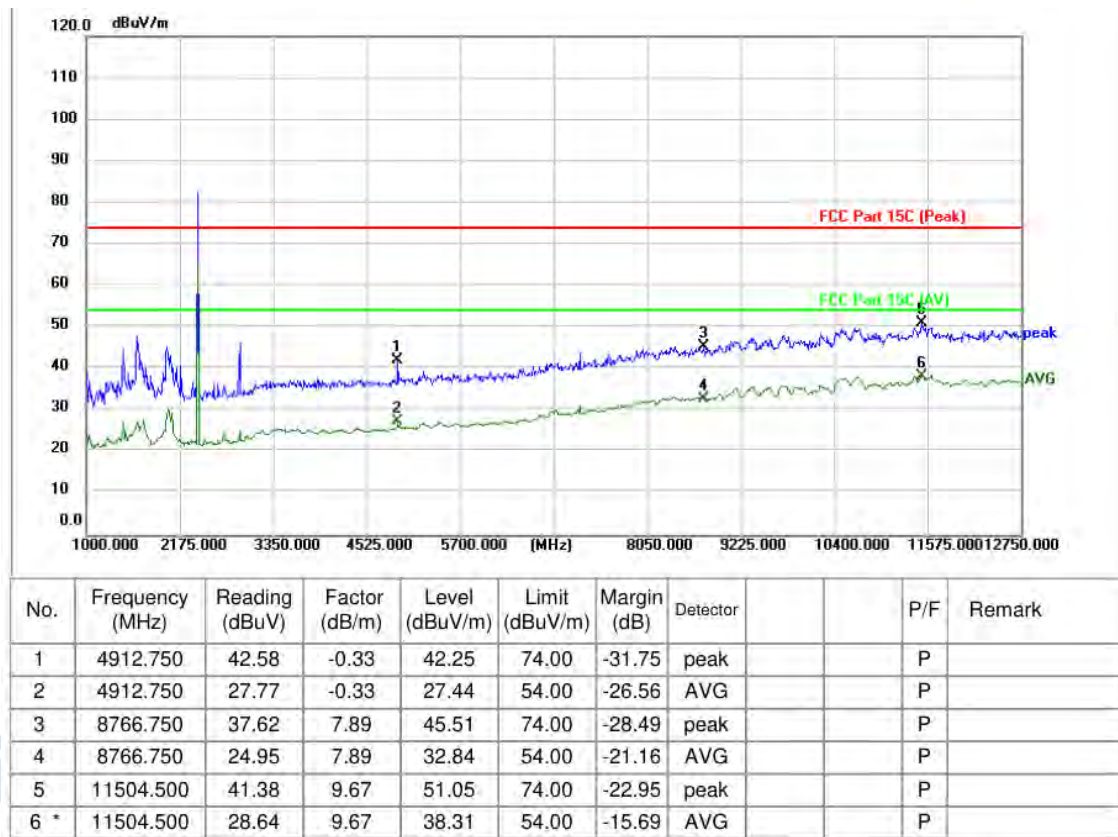
	1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report. 2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Final Test Level =Receiver Reading + Antenna Factor + Cable Factor + Preamplifier Factor 3) Scan from 9kHz to 25GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. Fundamental frequency is blocked by filter, and only spurious emission is shown.
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4.7.1 E.U.T. Operation:

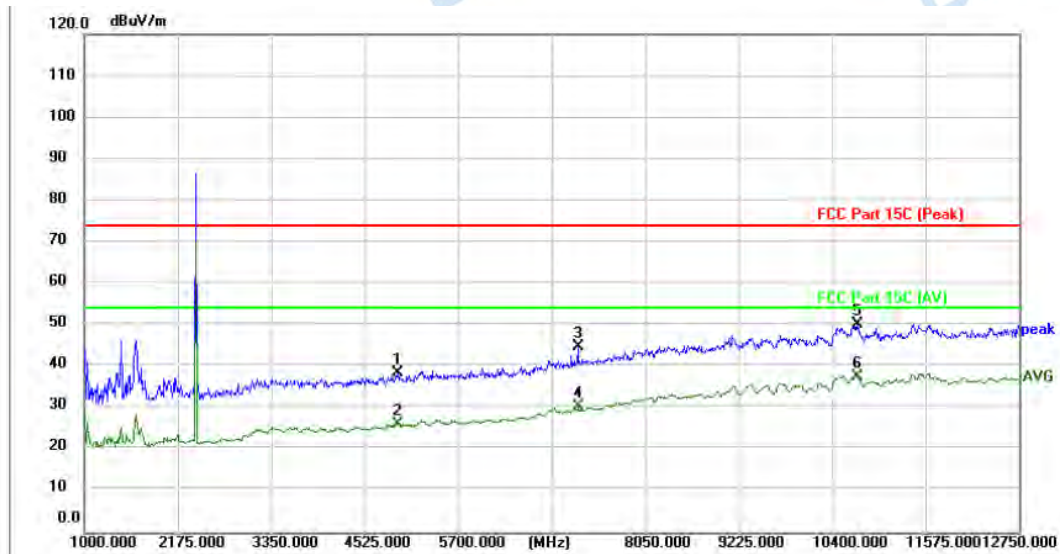
Operating Environment:					
Temperature:	23.7 °C	Humidity:	55 %	Atmospheric Pressure:	101.6 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

4.7.2 Test Data:

TM1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 2 / CH: L

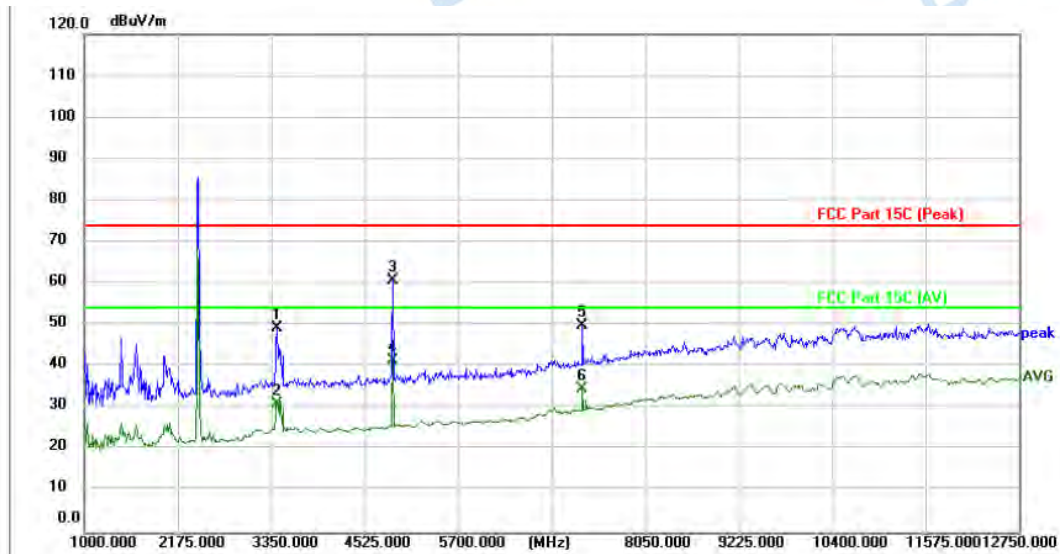


TM1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 2 / CH: L



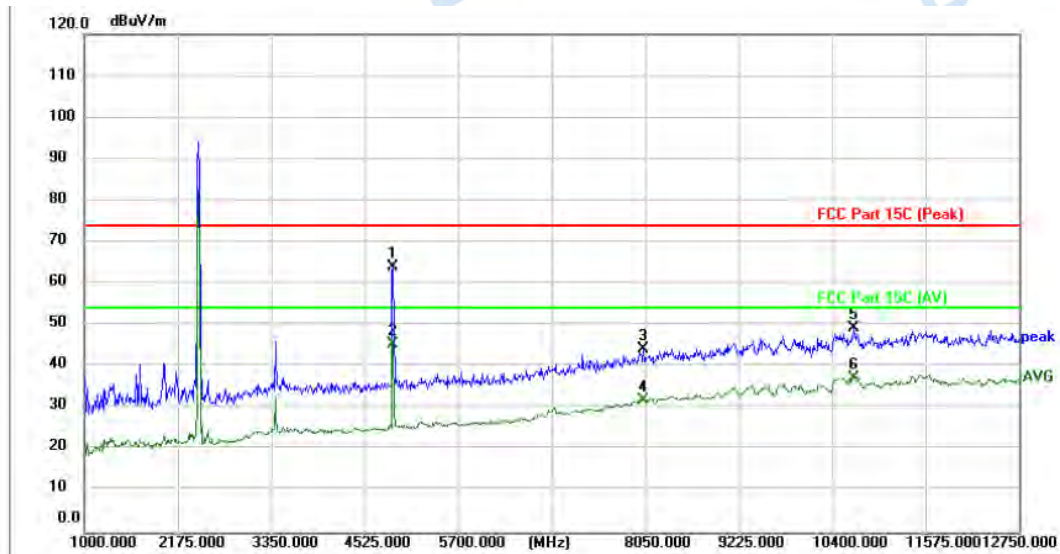
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	Remark
1	4936.250	38.88	-0.25	38.63	74.00	-35.37	peak			P	
2	4936.250	26.51	-0.25	26.26	54.00	-27.74	AVG			P	
3	7204.000	40.56	4.37	44.93	74.00	-29.07	peak			P	
4	7204.000	26.00	4.37	30.37	54.00	-23.63	AVG			P	
5	10717.250	41.03	9.17	50.20	74.00	-23.80	peak			P	
6 *	10717.250	28.54	9.17	37.71	54.00	-16.29	AVG			P	

TM1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 2 / CH: M



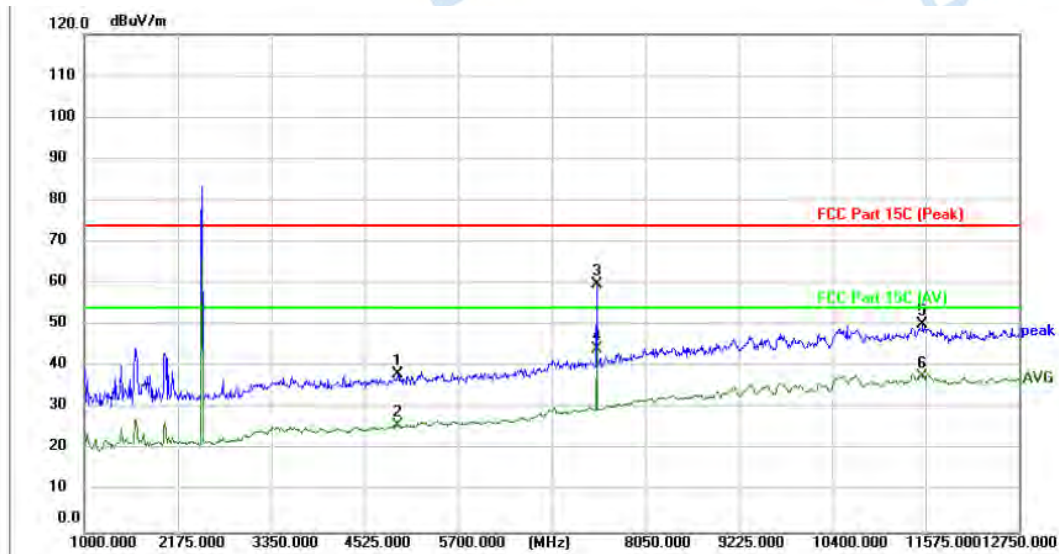
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	Remark
1	3420.500	53.15	-3.86	49.29	74.00	-24.71	peak			P	
2	3420.500	34.93	-3.86	31.07	54.00	-22.93	AVG			P	
3	4877.500	61.35	-0.45	60.90	74.00	-13.10	peak			P	
4 *	4877.500	42.00	-0.45	41.55	54.00	-12.45	AVG			P	
5	7262.750	45.54	4.47	50.01	74.00	-23.99	peak			P	
6	7262.750	30.08	4.47	34.55	54.00	-19.45	AVG			P	

TM1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 2 / CH: M



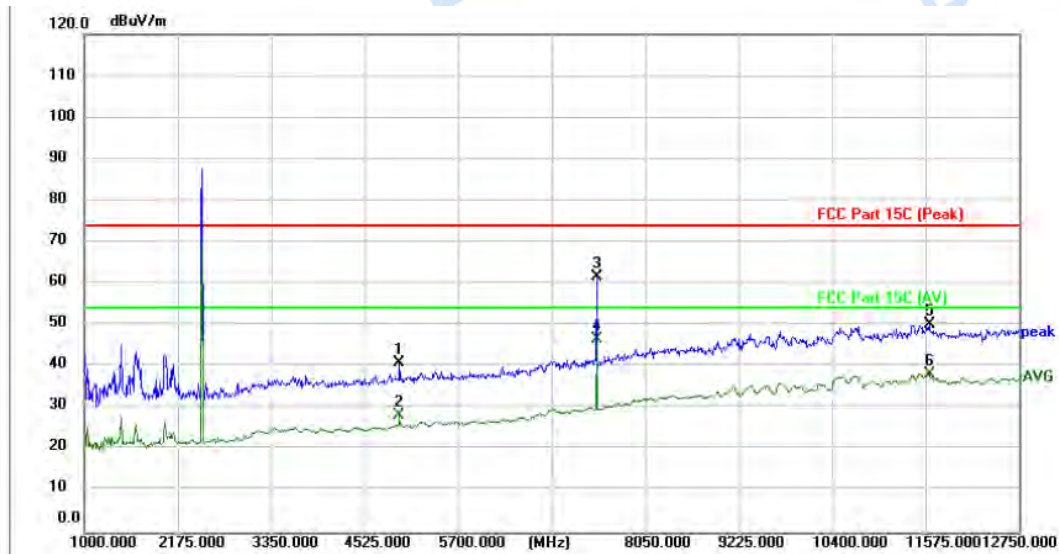
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	Remark
1	4877.500	64.47	-0.45	64.02	74.00	-9.98	peak			P	
2 *	4877.500	45.80	-0.45	45.35	54.00	-8.65	AVG			P	
3	8026.500	37.50	6.72	44.22	74.00	-29.78	peak			P	
4	8026.500	25.15	6.72	31.87	54.00	-22.13	AVG			P	
5	10670.250	40.26	9.13	49.39	74.00	-24.61	peak			P	
6	10670.250	28.14	9.13	37.27	54.00	-16.73	AVG			P	

TM1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 2 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	Remark
1	4936.250	38.46	-0.25	38.21	74.00	-35.79	peak			P	
2	4936.250	26.24	-0.25	25.99	54.00	-28.01	AVG			P	
3	7439.000	55.21	4.78	59.99	74.00	-14.01	peak			P	
4 *	7439.000	39.54	4.78	44.32	54.00	-9.68	AVG			P	
5	11539.750	40.68	9.70	50.38	74.00	-23.62	peak			P	
6	11539.750	27.99	9.70	37.69	54.00	-16.31	AVG			P	

TM1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 2 / CH: H



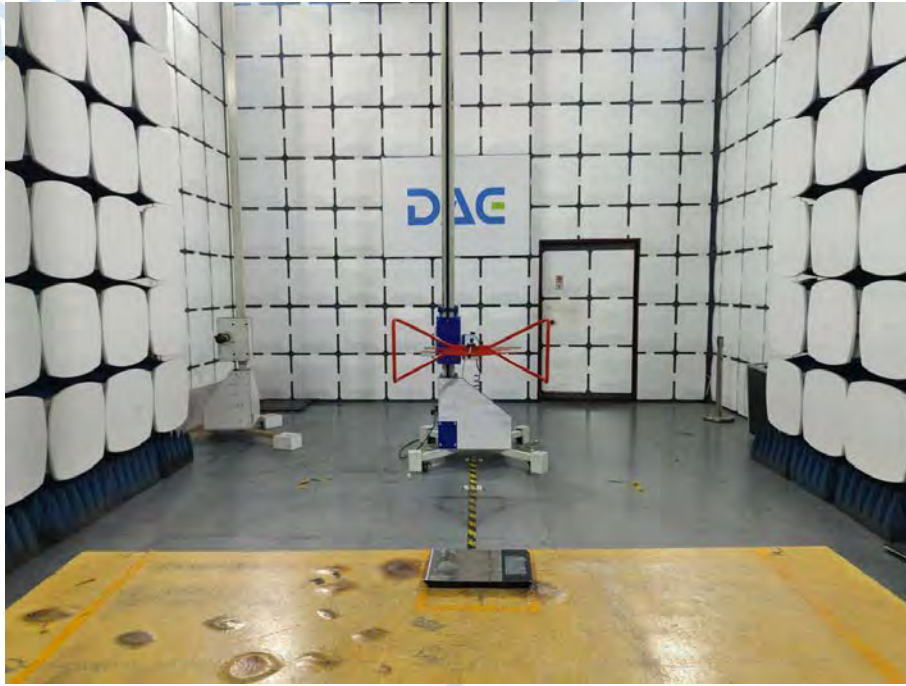
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			P/F	Remark
1	4959.750	41.26	-0.17	41.09	74.00	-32.91	peak			P	
2	4959.750	28.40	-0.17	28.23	54.00	-25.77	AVG			P	
3	7439.000	56.74	4.78	61.52	74.00	-12.48	peak			P	
4 *	7439.000	41.99	4.78	46.77	54.00	-7.23	AVG			P	
5	11622.000	40.49	9.75	50.24	74.00	-23.76	peak			P	
6	11622.000	28.55	9.75	38.30	54.00	-15.70	AVG			P	

Remark: Margin=Level - Limit, Level=Test receiver reading + correction factor

The 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)



**Band edge emissions (Radiated)
Emissions in frequency bands (above 1GHz)**



6 PHOTOS OF THE EUT

Refer to Appendix - EUT Photos for EUT External Photo and Internal Photo.

Appendix

1. -6dB Bandwidth

Condition	Antenna	Rate	Frequency (MHz)	-6dB BW(kHz)	limit(kHz)	Result
NVNT	ANT1	1Mbps	2402.00	881.37	500	Pass
NVNT	ANT1	1Mbps	2440.00	846.11	500	Pass
NVNT	ANT1	1Mbps	2480.00	797.13	500	Pass

-6dB Bandwidth_NVNT_ANT1_1Mbps_2402



-6dB Bandwidth_NVNT_ANT1_1Mbps_2440



-6dB_Bandwidth_NVNT_ANT1_1Mbps_2480



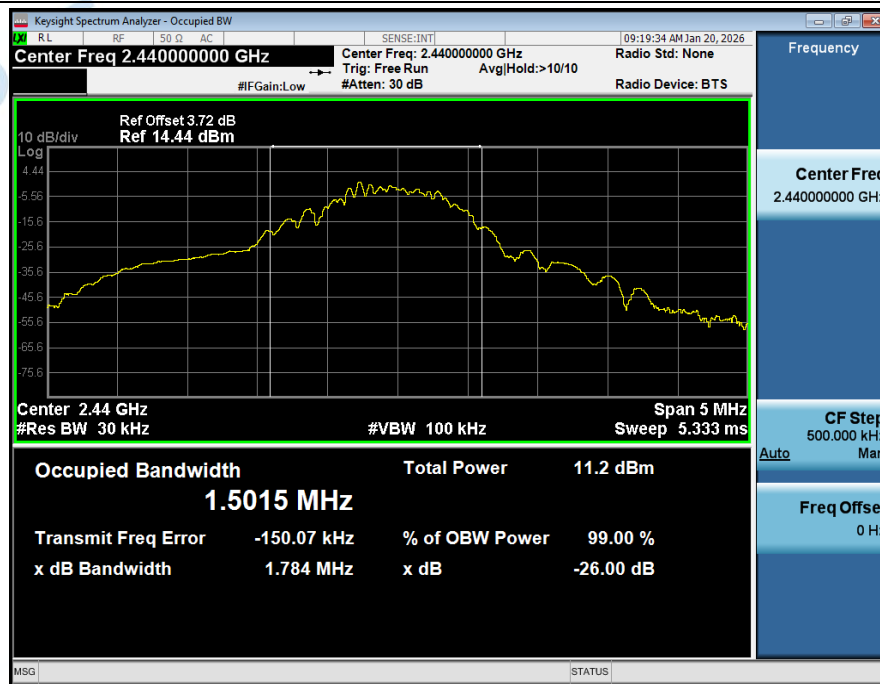
2. 99% Occupied Bandwidth

Condition	Antenna	Rate	Frequency (MHz)	99% BW (MHz)
NVNT	ANT1	1Mbps	2402.00	1.561
NVNT	ANT1	1Mbps	2440.00	1.501
NVNT	ANT1	1Mbps	2480.00	1.423

99%_Occupied_Bandwidth_NVNT_ANT1_1Mbps_2402



99%_Occupied_Bandwidth_NVNT_ANT1_1Mbps_2440



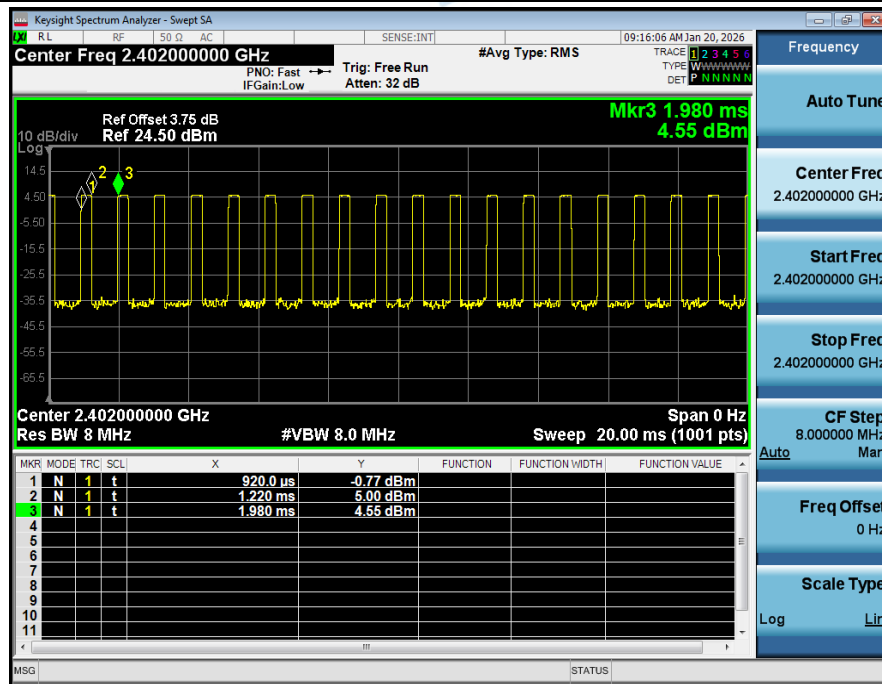
99%_Occupied_Bandwidth_NVNT_ANT1_1Mbps_2480



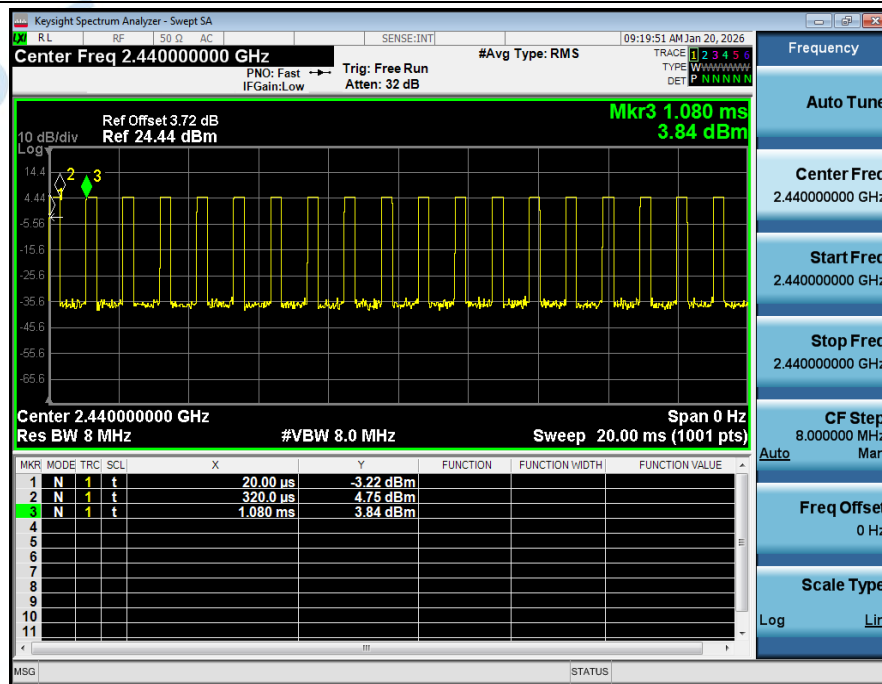
3. Duty Cycle

Condition	Antenna	Rate	Frequency (MHz)	Dutycycle(%)	Duty_factor
NVNT	ANT1	1Mbps	2402	30.19	5.20
NVNT	ANT1	1Mbps	2440.00	28.30	5.48
NVNT	ANT1	1Mbps	2480	28.30	5.48

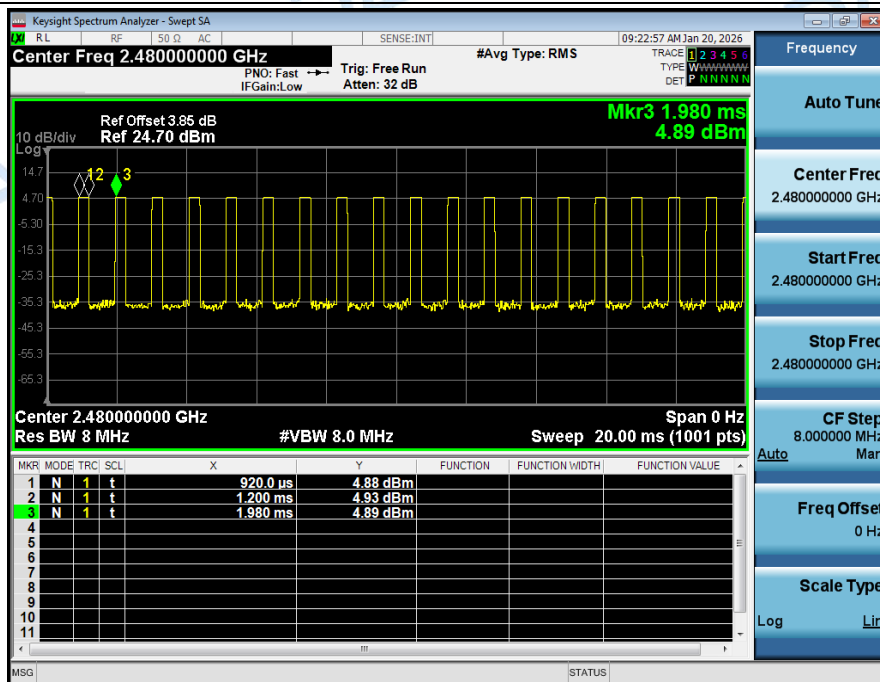
Duty_Cycle_NVNT_ANT1_1Mbps_2402



Duty_Cycle_NVNT_ANT1_1Mbps_2440



Duty_Cycle_NVNT_ANT1_1Mbps_2480



4. Peak Output Power

Condition	Antenna	Rate	Frequency (MHz)	Max. Conducted Power(dBm)	Max. Conducted Power(mW)	Limit(mW)	Result
NVNT	ANT1	1Mbps	2402	4.96	3.13	1000	Pass
NVNT	ANT1	1Mbps	2440	4.60	2.88	1000	Pass
NVNT	ANT1	1Mbps	2480	4.80	3.02	1000	Pass

Peak_Output_Power_NVNT_ANT1_1Mbps_2402



Peak_Output_Power_NVNT_ANT1_1Mbps_2440



Peak_Output_Power_NVNT_ANT1_1Mbps_2480



5. Power Spectral Density

Condition	Antenna	Rate	Frequency (MHz)	Power Spectral Density(dBm)	Limit(dBm/3kHz)	Result
NVNT	ANT1	1Mbps	2402	-10.61	8	Pass
NVNT	ANT1	1Mbps	2440	-10.87	8	Pass
NVNT	ANT1	1Mbps	2480	-10.48	8	Pass

Power_Spectral_Density_NVNT_ANT1_1Mbps_2402



Power_Spectral_Density_NVNT_ANT1_1Mbps_2440



Power_Spectral_Density_NVNT_ANT1_1Mbps_2480



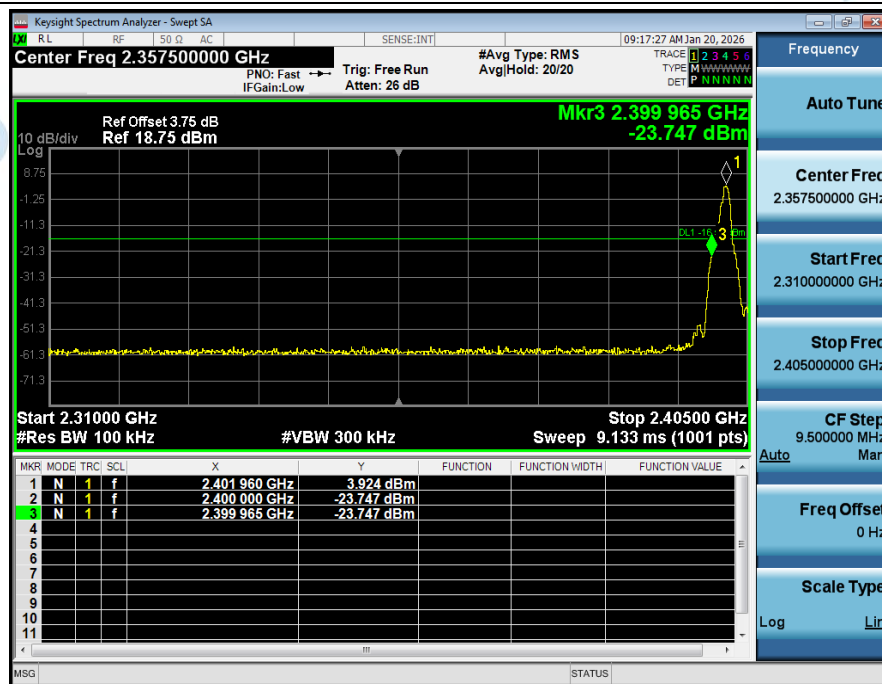
6. Bandedge

Condition	Antenna	Rate	TX Frequency (MHz)	Max. Mark Frequency (MHz)	Spurious level(dBm)	limit(dBm)	Result
NVNT	ANT1	1Mbps	2402	2399.965	-23.747	-16.530	Pass
NVNT	ANT1	1Mbps	2480	2483.550	-49.840	-16.641	Pass

1 Reference_Level_NVNT_ANT1_1Mbps_2402



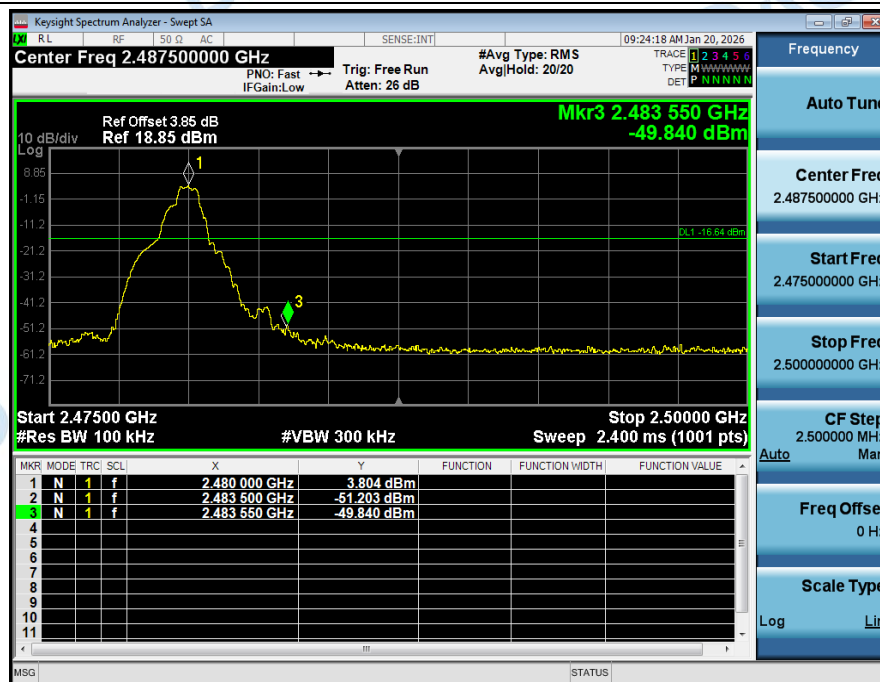
2 Bandedge_NVNT_ANT1_1Mbps_2402



1 Reference_Level_NVNT_ANT1_1Mbps_2480



2 Bandedge_NVNT_ANT1_1Mbps_2480



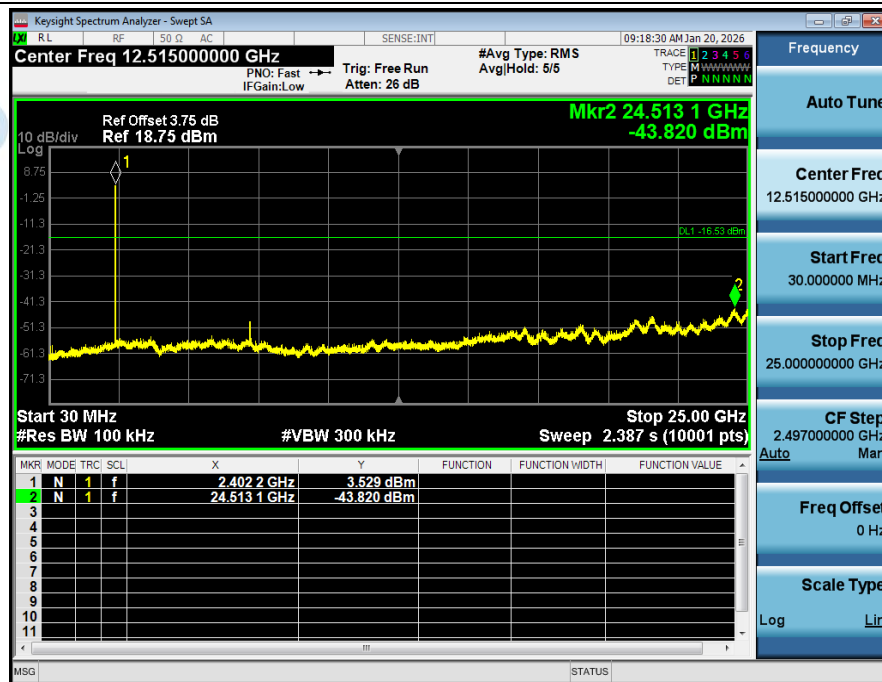
7. Spurious Emission

Condition	Antenna	Rate	TX_Frequency(MHz)	Spurious MAX.Value(dBm)	Limit	Result
NVNT	ANT1	1Mbps	2402	-43.820	-16.530	Pass
NVNT	ANT1	1Mbps	2440.00	-43.501	-16.813	Pass
NVNT	ANT1	1Mbps	2480	-44.127	-16.641	Pass

1 Reference_Level_NVNT_ANT1_1Mbps_2402



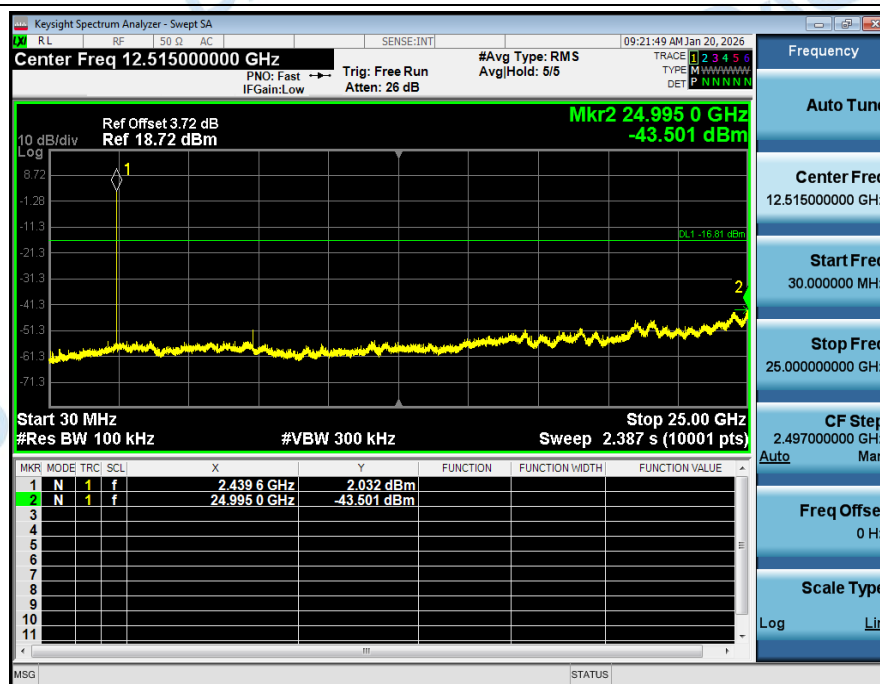
2 Spurious_Emission_NVNT_ANT1_1Mbps_2402



1 Reference_Level_NVNT_ANT1_1Mbps_2440



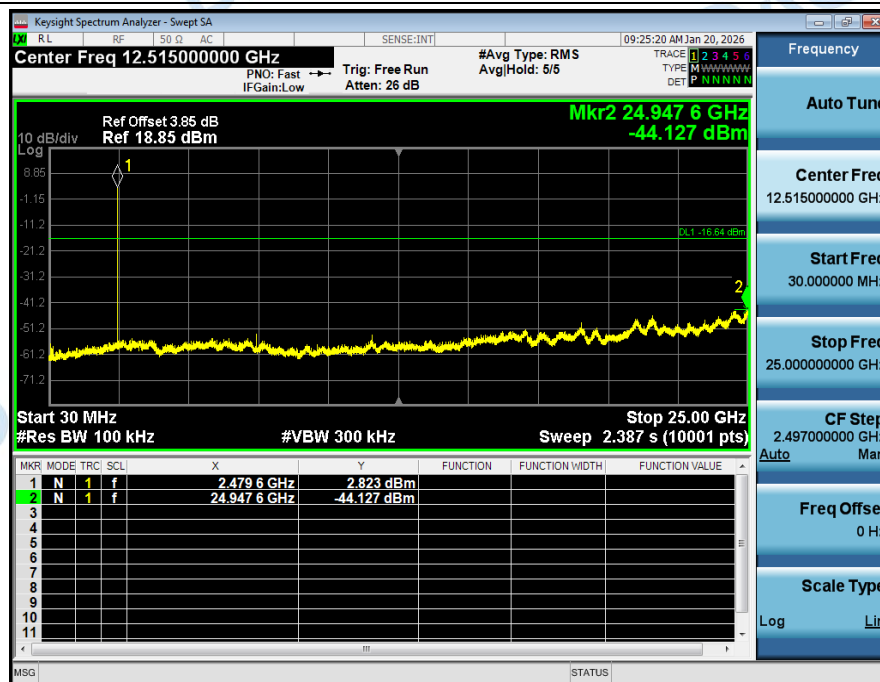
2_Spurious_Emission_NVNT_ANT1_1Mbps_2440



1_Reference_Level_NVNT_ANT1_1Mbps_2480



2 Spurious Emission NVNT_ANT1_1Mbps_2480



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