



RF Test Report

For

Applicant Name: Shenzhen Youwen Electronic Commerce Co., LTD
Address: Room401, Building11, ShaxiaIndustrial Zone, Minzhi Community,
Minzhi Street, Longhua District, Shenzhen, China
EUT Name: Alarm Clock Speaker
Brand Name: XKX ,YOFANQI ,XUANZI
Model Number: LLR088
Series Model Number: Refer to section 2

Issued By

Company Name: BTF Testing Lab (Shenzhen) Co., Ltd.
Address: F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park,
Tantou Community, Songgang Street, Bao'an District, Shenzhen,
China

Report Number: BTF230320R00901
Test Standards: 47 CFR Part 15.247
FCC ID: 2A5TY-LLR088
Test Conclusion: Pass
Test Date: 2023-03-20 to 2023-04-12
Date of Issue: 2023-04-13

Prepared By:

Gavin Cui

Date:

Gavin Cui / Project Engineer
2023-04-13

Approved By:

Ryan.CJ

Ryan.CJ / EMC Manager
2023-04-13

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Revision History		
Version	Issue Date	Revisions Content
R_V0	2023-04-13	Original
<i>Note: Once the revision has been made, then previous versions reports are invalid.</i>		

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1 Introduction

1.1 Identification of Testing Laboratory

Company Name:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Phone Number:	+86-0755-23146130
Fax Number:	+86-0755-23146130

1.2 Identification of the Responsible Testing Location

Company Name:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Phone Number:	+86-0755-23146130
Fax Number:	+86-0755-23146130
FCC Registration Number:	518915
Designation Number:	CN1330

1.3 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 BTF 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) The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

2 Product Information

2.1 Application Information

Company Name:	Shenzhen Youwen Electronic Commerce Co., LTD
Address:	Room401, Building11, ShaxiaIndustrial Zone, Minzhi Community, Minzhi Street, Longhua District, Shenzhen, China

2.2 Manufacturer Information

Company Name:	GELINSTAR TECHNOLOGY CO., LIMITED
Address:	Fanhua building No 6 Yangxia 1st road Shajing Street Bao an District Shenzhen, Guangdong, China

2.3 Factory Information

Company Name:	Shenzhen Maiwan Yanchuang Technology Co., Ltd
Address:	Building 6~7 Zone A, Bao an Internet Industry Base, Xixiang Street, Bao an District, Shenzhen

2.4 General Description of Equipment under Test (EUT)

EUT Name:	Alarm Clock Speaker
Test Model Number:	LLR088
Series Model Number:	LLR088B,LLR088W
Description of Model name differentiation:	Except for the color, the rest is exactly the same.LLR088B is black and LLR088W is white

2.5 Technical Information

Power Supply:	DC 5V
Rated Current:	1A
Operation Frequency:	2402MHz to 2480MHz
Number of Channels:	40
Modulation Type:	GFSK
Antenna Type:	PCB Antenna
Antenna Gain:	0dBi

3 Summary of Test Results

3.1 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

3.2 Uncertainty of Test

Item	Measurement Uncertainty
Conducted Emission (150 kHz-30 MHz)	$\pm 2.64\text{dB}$
The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.	

3.3 Summary of Test Result

Item	Standard	Requirement	Result
Antenna requirement	47 CFR Part 15.247	Part 15.203	Pass
Conducted Emission at AC power line	47 CFR Part 15.247	47 CFR 15.207(a)	Pass
Occupied Bandwidth	47 CFR Part 15.247	47 CFR 15.247(a)(2)	Pass
Maximum Conducted Output Power	47 CFR Part 15.247	47 CFR 15.247(b)(3)	Pass
Power Spectral Density	47 CFR Part 15.247	47 CFR 15.247(e)	Pass
Emissions in non-restricted frequency bands	47 CFR Part 15.247	47 CFR 15.247(d)	Pass
Band edge emissions (Radiated)	47 CFR Part 15.247	47 CFR 15.247(d)	Pass
Emissions in restricted frequency bands (below 1GHz)	47 CFR Part 15.247	47 CFR 15.247(d)	Pass
Emissions in restricted frequency bands (above 1GHz)	47 CFR Part 15.247	47 CFR 15.247(d)	Pass

4 Test Configuration

4.1 Test Equipment List

Conducted Emission at AC power line					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Pulse Limiter	SCHWARZBECK	VTSD 9561-F	00953	2022-11-24	2023-11-23
Coaxial Switcher	SCHWARZBECK	CX210	CX210	2022-11-24	2023-11-23
V-LISN	SCHWARZBECK	NSLK 8127	01073	2022-11-24	2023-11-23
LISN	AFJ	LS16/110VAC	16010020076	2023-02-23	2024-02-22
EMI Receiver	ROHDE&SCHWARZ	ESCI3	101422	2022-11-24	2023-11-23

Occupied Bandwidth					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RFTest software	/	V1.00	/	/	/
RF Control Unit	Techy	TR1029-1	/	2022-11-24	2023-11-23
RF Sensor Unit	Techy	TR1029-2	/	2022-11-24	2023-11-23
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2022-11-24	2023-11-23
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2022-11-24	2023-11-23
WIDEBAND RADIO COMMUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2022-11-24	2023-11-23
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2022-11-24	2023-11-23

Maximum Conducted Output Power					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RFTest software	/	V1.00	/	/	/
RF Control Unit	Techy	TR1029-1	/	2022-11-24	2023-11-23
RF Sensor Unit	Techy	TR1029-2	/	2022-11-24	2023-11-23
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2022-11-24	2023-11-23
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2022-11-24	2023-11-23
WIDEBAND RADIO COMMUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2022-11-24	2023-11-23
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2022-11-24	2023-11-23

Power Spectral Density					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RFTest software	/	V1.00	/	/	/

RF Control Unit	Techy	TR1029-1	/	2022-11-24	2023-11-23
RF Sensor Unit	Techy	TR1029-2	/	2022-11-24	2023-11-23
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2022-11-24	2023-11-23
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2022-11-24	2023-11-23
WIDEBAND RADIO COMMUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2022-11-24	2023-11-23
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2022-11-24	2023-11-23

Emissions in non-restricted frequency bands

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RFTest software	/	V1.00	/	/	/
RF Control Unit	Techy	TR1029-1	/	2022-11-24	2023-11-23
RF Sensor Unit	Techy	TR1029-2	/	2022-11-24	2023-11-23
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2022-11-24	2023-11-23
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2022-11-24	2023-11-23
WIDEBAND RADIO COMMUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2022-11-24	2023-11-23
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2022-11-24	2023-11-23

Band edge emissions (Radiated)

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Coaxial cable Multiflex 141	Schwarzbeck	N/SMA 0.5m	517386	2023-03-24	2024-03-23
Preamplifier	SCHWARZBECK	BBV9744	00246	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF1-SMAM-10m	21101566	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-10m	21101570	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF1-SMAM-1m	21101568	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-1m	21101576	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-2.5m	21101573	2022-11-24	2023-11-23
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Horn Antenna	SCHWARZBECK	BBHA9170	01157	2021-11-28	2023-11-27
EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI7	101032	2022-11-24	2023-11-23
SIGNAL ANALYZER	ROHDE&SCHWARZ	FSQ40	100010	2022-11-24	2023-11-23

POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Broadband Preamplifier	SCHWARZBECK	BBV9718D	00008	2023-03-24	2024-03-23
Horn Antenna	SCHWARZBECK	BBHA9120D	2597	2022-05-22	2024-05-21
EZ EMC	Frad	FA-03A2 RE+	/	/	/
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Log periodic antenna	SCHWARZBECK	VULB 9168	01328	2021-11-28	2023-11-27

Emissions in restricted frequency bands (below 1GHz)

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Coaxial cable Multiflex 141	Schwarzbeck	N/SMA 0.5m	517386	2023-03-24	2024-03-23
Preamplifier	SCHWARZBECK	BBV9744	00246	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF1-SMASMAM-10m	21101566	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-10m	21101570	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF1-SMASMAM-1m	21101568	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-1m	21101576	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-2.5m	21101573	2022-11-24	2023-11-23
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Horn Antenna	SCHWARZBECK	BBHA9170	01157	2021-11-28	2023-11-27
EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI7	101032	2022-11-24	2023-11-23
SIGNAL ANALYZER	ROHDE&SCHWARZ	FSQ40	100010	2022-11-24	2023-11-23
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Broadband Preamplifier	SCHWARZBECK	BBV9718D	00008	2023-03-24	2024-03-23
Horn Antenna	SCHWARZBECK	BBHA9120D	2597	2022-05-22	2024-05-21
EZ EMC	Frad	FA-03A2 RE+	/	/	/
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Log periodic antenna	SCHWARZBECK	VULB 9168	01328	2021-11-28	2023-11-27

Emissions in restricted frequency bands (above 1GHz)

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Coaxial cable Multiflex 141	Schwarzbeck	N/SMA 0.5m	517386	2023-03-24	2024-03-23
Preamplifier	SCHWARZBECK	BBV9744	00246	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF1-SMASMAM-10m	21101566	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-10m	21101570	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF1-SMASMAM-1m	21101568	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-1m	21101576	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF2-NMNM-2.5m	21101573	2022-11-24	2023-11-23

POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Horn Antenna	SCHWARZBECK	BBHA9170	01157	2021-11-28	2023-11-27
EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI7	101032	2022-11-24	2023-11-23
SIGNAL ANALYZER	ROHDE&SCHWARZ	FSQ40	100010	2022-11-24	2023-11-23
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Broadband Preamplifier	SCHWARZBECK	BBV9718D	00008	2023-03-24	2024-03-23
Horn Antenna	SCHWARZBECK	BBHA9120D	2597	2022-05-22	2024-05-21
EZ EMC	Frad	FA-03A2 RE+	/	/	/
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Log periodic antenna	SCHWARZBECK	VULB 9168	01328	2021-11-28	2023-11-27

4.2 Test Auxiliary Equipment

The EUT was tested as an independent device.

4.3 Test Modes

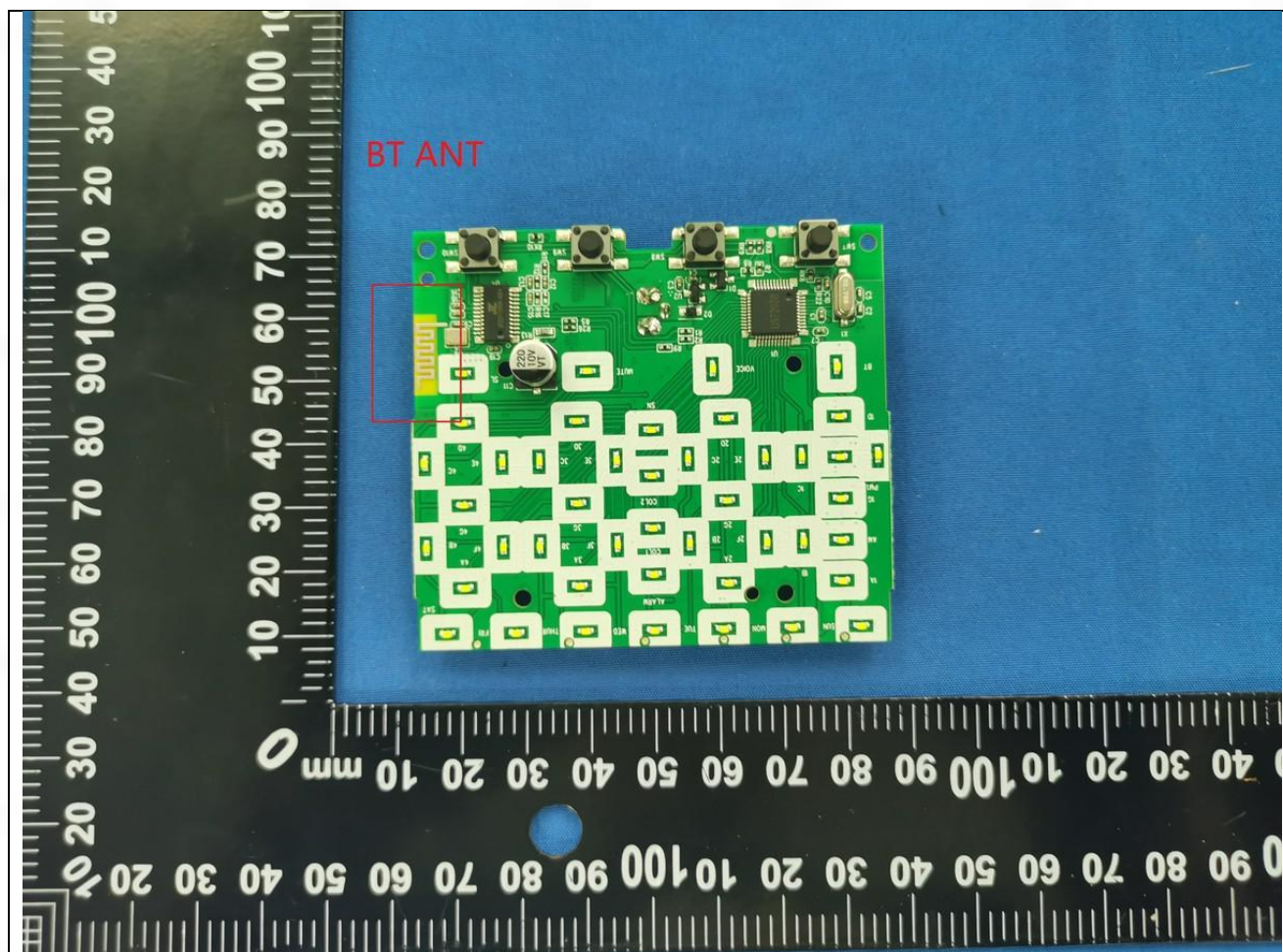
No.	Test Modes	Description
TM1	TX mode	Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

5 Evaluation Results (Evaluation)

5.1 Antenna requirement

Test Requirement:	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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5.1.1 Conclusion:



6 Radio Spectrum Matter Test Results (RF)

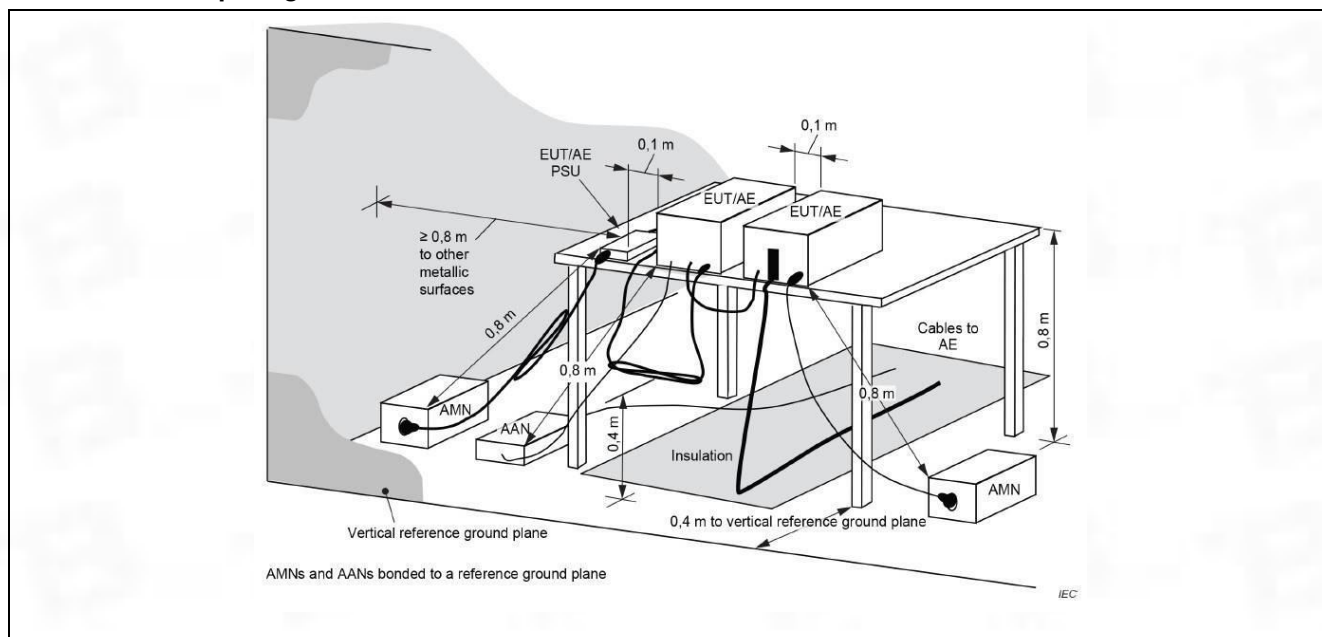
6.1 Conducted Emission at AC power line

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 Method:	Refer to ANSI C63.10-2013 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices		
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.			

6.1.1 E.U.T. Operation:

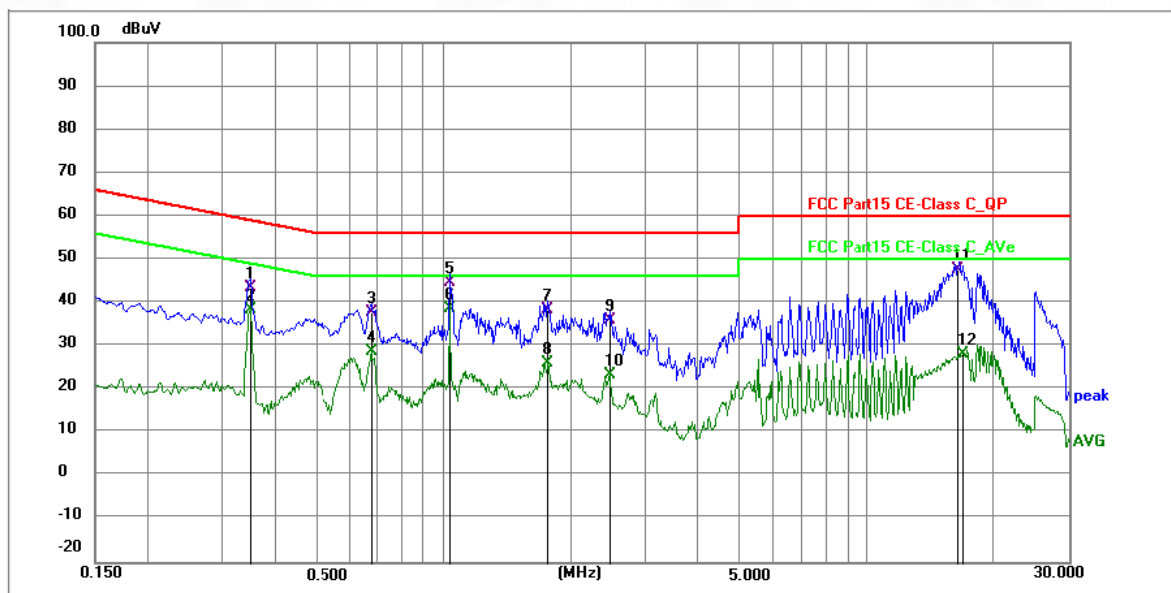
Operating Environment:	
Temperature:	24.2 °C
Humidity:	49.2 %
Atmospheric Pressure:	1010 mbar

6.1.2 Test Setup Diagram:



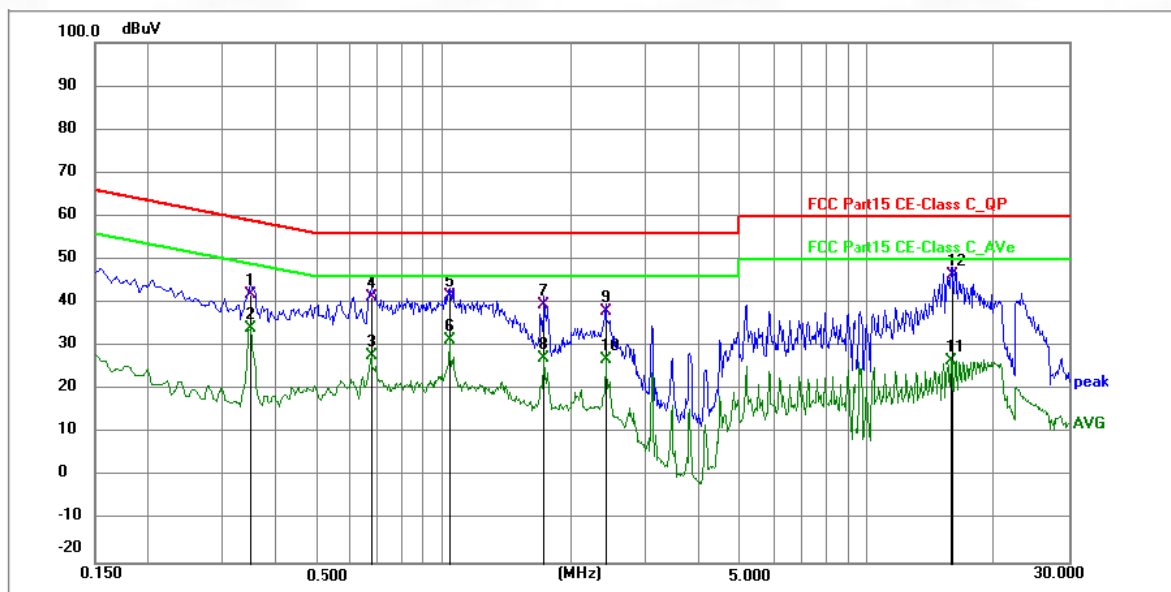
6.1.3 Test Data:

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



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.3480	32.93	10.62	43.55	59.01	-15.46	QP	P	
2	0.3480	27.83	10.62	38.45	49.01	-10.56	AVG	P	
3	0.6764	27.16	10.72	37.88	56.00	-18.12	QP	P	
4	0.6764	18.15	10.72	28.87	46.00	-17.13	AVG	P	
5	1.0362	33.90	10.78	44.68	56.00	-11.32	QP	P	
6 *	1.0362	27.75	10.78	38.53	46.00	-7.47	AVG	P	
7	1.7610	27.65	10.71	38.36	56.00	-17.64	QP	P	
8	1.7655	15.45	10.71	26.16	46.00	-19.84	AVG	P	
9	2.4630	27.71	8.38	36.09	56.00	-19.91	QP	P	
10	2.4630	14.85	8.38	23.23	46.00	-22.77	AVG	P	
11	16.4983	36.63	10.95	47.58	60.00	-12.42	QP	P	
12	16.8990	17.15	10.96	28.11	50.00	-21.89	AVG	P	

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



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.3480	31.36	10.62	41.98	59.01	-17.03	QP	P	
2	0.3480	23.41	10.62	34.03	49.01	-14.98	AVG	P	
3	0.6764	16.99	10.72	27.71	46.00	-18.29	AVG	P	
4	0.6809	30.65	10.72	41.37	56.00	-14.63	QP	P	
5	1.0362	30.78	10.78	41.56	56.00	-14.44	QP	P	
6	1.0362	20.56	10.78	31.34	46.00	-14.66	AVG	P	
7	1.7295	28.82	10.71	39.53	56.00	-16.47	QP	P	
8	1.7295	16.65	10.71	27.36	46.00	-18.64	AVG	P	
9	2.4134	29.32	8.63	37.95	56.00	-18.05	QP	P	
10	2.4134	18.37	8.63	27.00	46.00	-19.00	AVG	P	
11	15.8820	15.88	10.86	26.74	50.00	-23.26	AVG	P	
12 *	15.8910	35.50	10.86	46.36	60.00	-13.64	QP	P	

Note: All working modes are tested, and this report represents only one set of worst modes

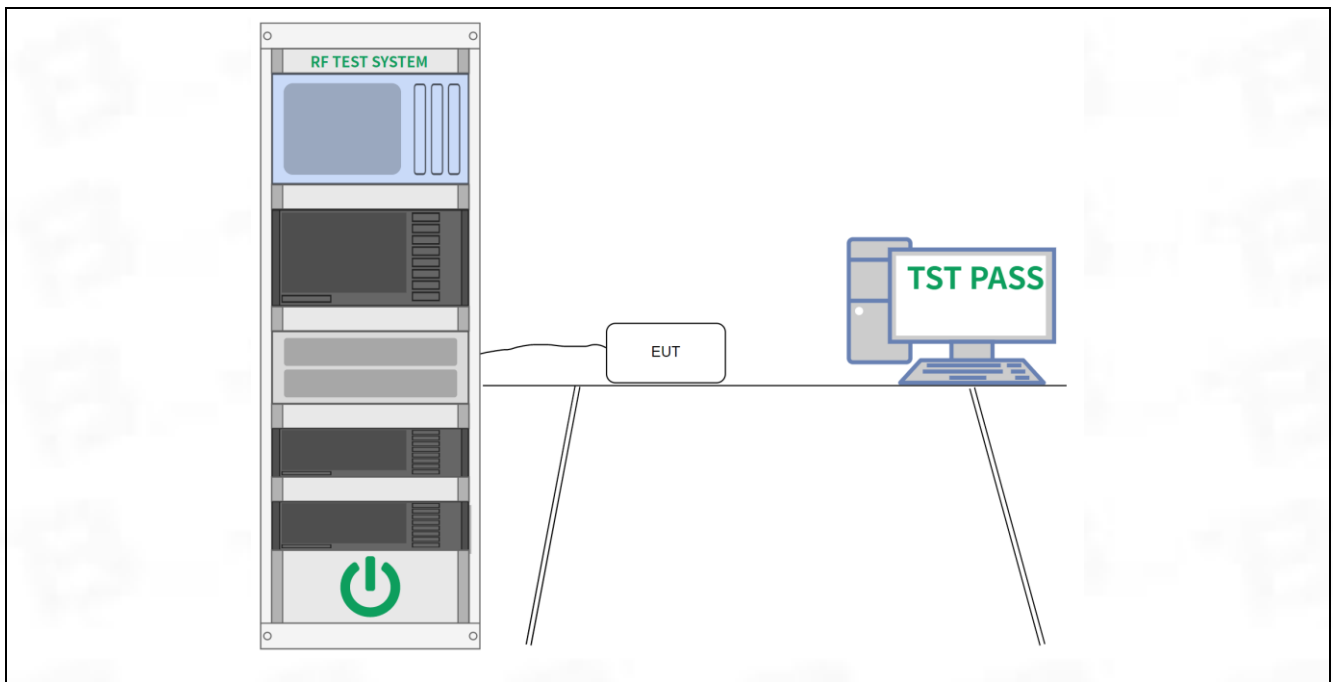
6.2 Occupied Bandwidth

Test Requirement:	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:	DTS bandwidth
Test Limit:	Section (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.
Procedure:	a) Set RBW = 100 kHz. b) Set the VBW $\geq [3 \times \text{RBW}]$. c) Detector = peak. d) Trace mode = max hold. e) Sweep = auto couple. f) Allow the trace to stabilize. g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.2.1 E.U.T. Operation:

Operating Environment:	
Temperature:	24.2 °C
Humidity:	49.2 %
Atmospheric Pressure:	1010 mbar

6.2.2 Test Setup Diagram:



6.2.3 Test Data:

Please Refer to Appendix for Details.

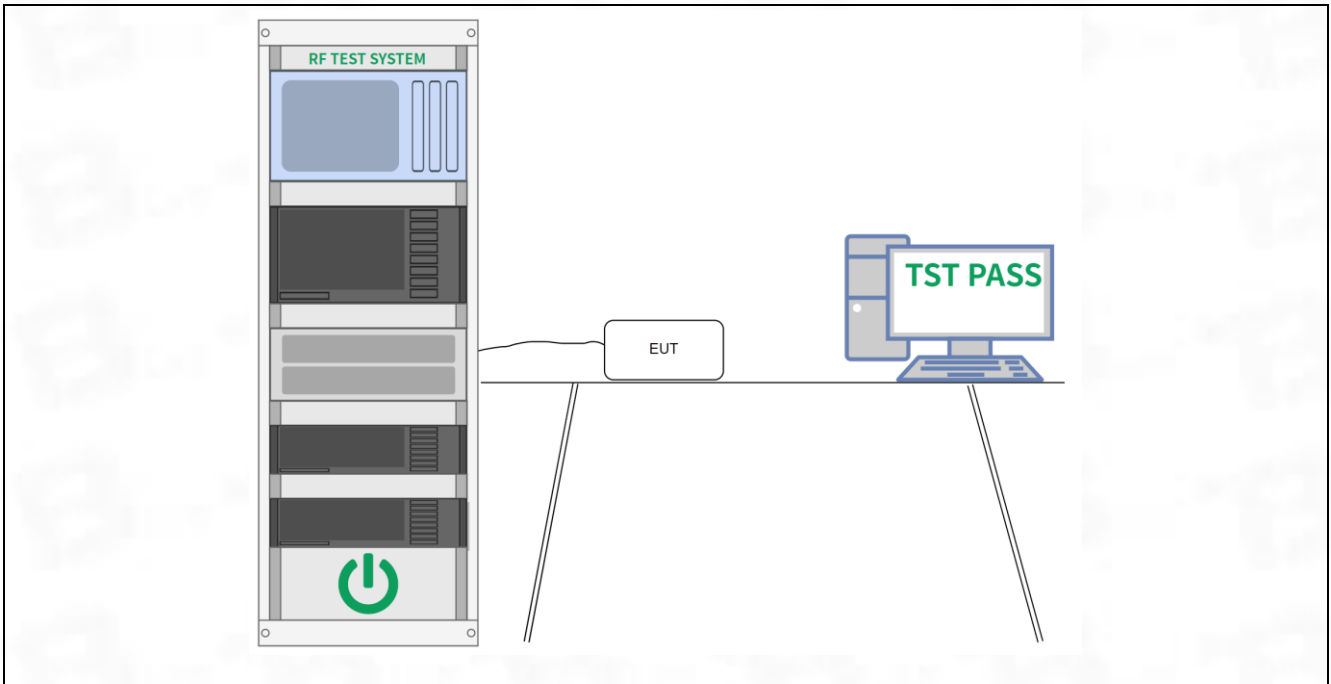
6.3 Maximum Conducted Output Power

Test Requirement:	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:	Maximum peak conducted output power
Test Limit:	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.
Procedure:	ANSI C63.10-2013, section 11.9.1 Maximum peak conducted output power

6.3.1 E.U.T. Operation:

Operating Environment:	
Temperature:	24.2 °C
Humidity:	49.2 %
Atmospheric Pressure:	1010 mbar

6.3.2 Test Setup Diagram:



6.3.3 Test Data:

Please Refer to Appendix for Details.

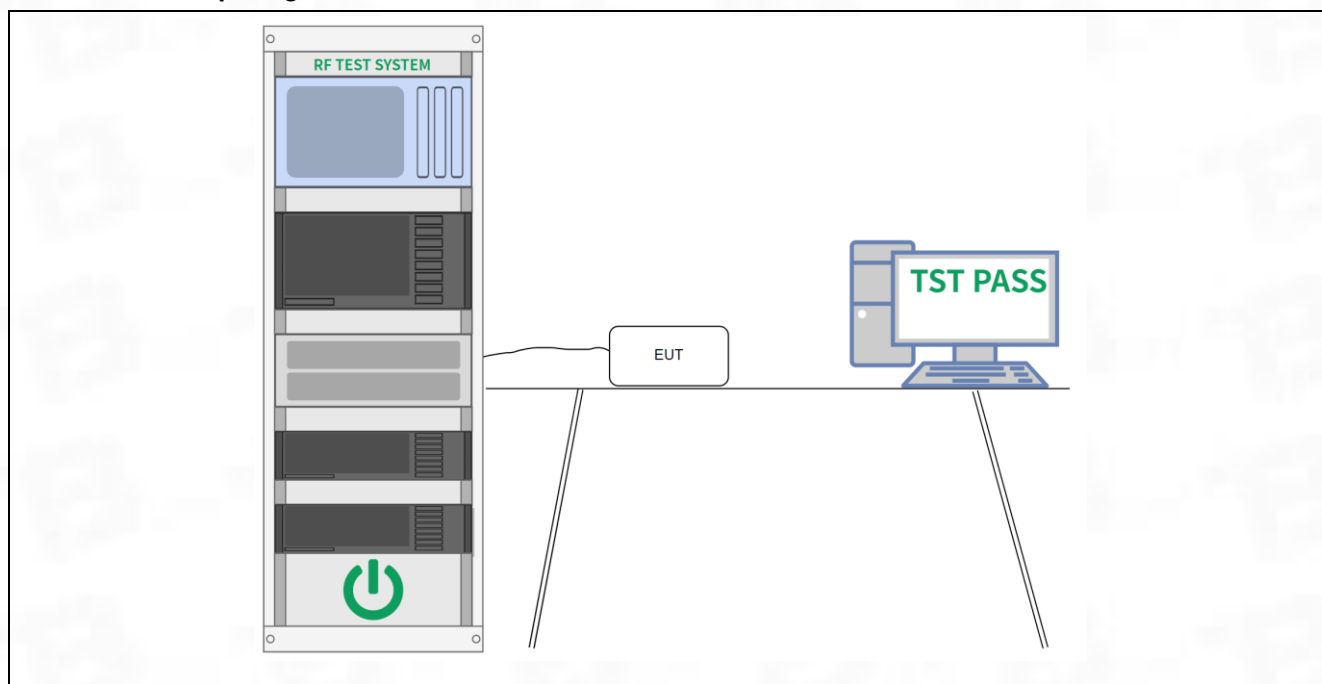
6.4 Power Spectral Density

Test Requirement:	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:	Maximum power spectral density level in the fundamental emission
Test Limit:	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.

6.4.1 E.U.T. Operation:

Operating Environment:	
Temperature:	24.2 °C
Humidity:	49.2 %
Atmospheric Pressure:	1010 mbar

6.4.2 Test Setup Diagram:



6.4.3 Test Data:

Please Refer to Appendix for Details.

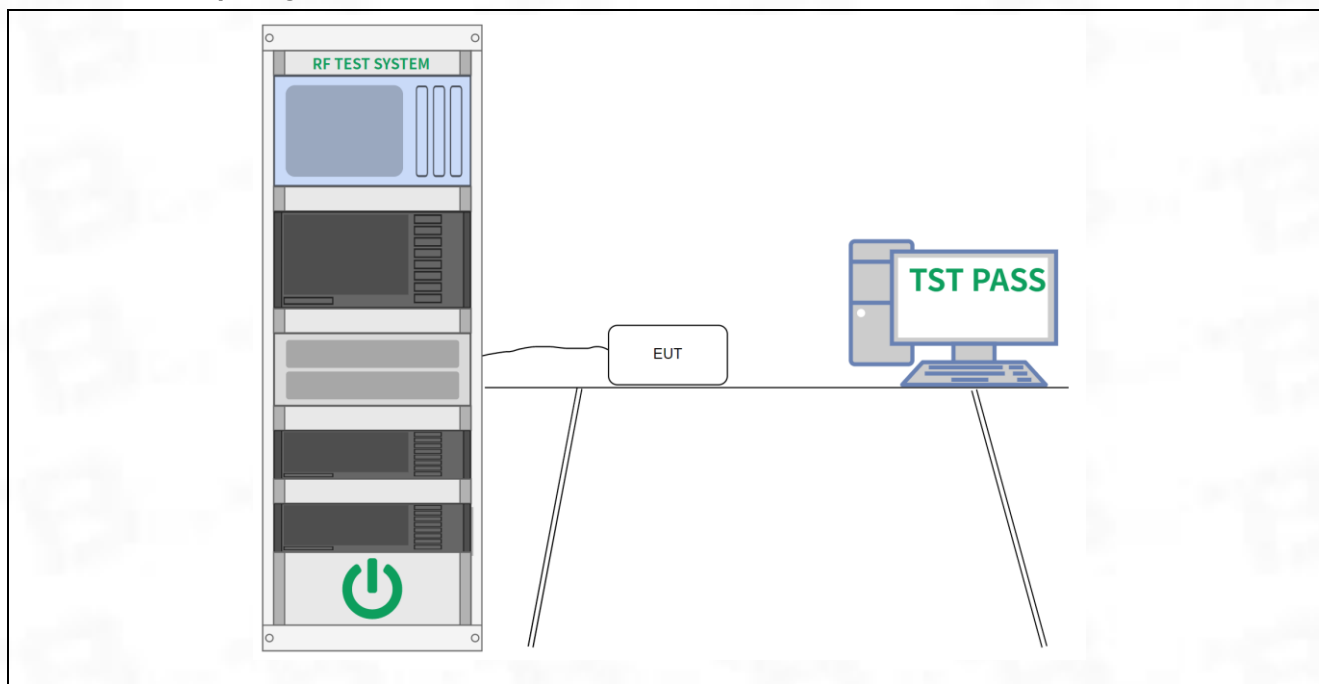
6.5 Emissions in non-restricted frequency bands

Test Requirement:	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:	Emissions in nonrestricted frequency bands
Test Limit:	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.
Procedure:	ANSI C63.10-2013 Section 11.11.1, Section 11.11.2, Section 11.11.3

6.5.1 E.U.T. Operation:

Operating Environment:	
Temperature:	24.2 °C
Humidity:	49.2 %
Atmospheric Pressure:	1010 mbar

6.5.2 Test Setup Diagram:



6.5.3 Test Data:

Please Refer to Appendix for Details.

6.6 Band edge emissions (Radiated)

Test Requirement:	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 Method:	Radiated emissions tests		
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.			
Procedure:	ANSI C63.10-2013 section 6.6.4		

6.6.1 E.U.T. Operation:

Operating Environment:	
Temperature:	24.2 °C
Humidity:	49.2 %
Atmospheric Pressure:	1010 mbar

6.6.2 Test Data:

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 1 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.000	68.36	-30.59	37.77	74.00	-36.23	peak	P
2	2390.000	68.64	-30.49	38.15	74.00	-35.85	peak	P
3 *	2400.000	79.89	-30.48	49.41	74.00	-24.59	peak	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 1 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.000	69.57	-30.59	38.98	74.00	-35.02	peak	P
2	2390.000	69.48	-30.49	38.99	74.00	-35.01	peak	P
3 *	2400.000	80.40	-30.48	49.92	74.00	-24.08	peak	P

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 1 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1 *	2483.500	73.22	-30.39	42.83	74.00	-31.17	peak	P
2	2500.000	71.36	-30.37	40.99	74.00	-33.01	peak	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 1 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1 *	2483.500	74.72	-30.39	44.33	74.00	-29.67	peak	P
2	2500.000	69.68	-30.37	39.31	74.00	-34.69	peak	P

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	P/F
1	2310.000	68.46	-30.59	37.87	74.00	-36.13	peak	P
2	2390.000	70.05	-30.49	39.56	74.00	-34.44	peak	P
3 *	2400.000	82.14	-30.48	51.66	74.00	-22.34	peak	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	P/F
1	2310.000	69.79	-30.59	39.20	74.00	-34.80	peak	P
2	2390.000	69.15	-30.49	38.66	74.00	-35.34	peak	P
3 *	2400.000	81.96	-30.48	51.48	74.00	-22.52	peak	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	P/F
1 *	2483.500	77.32	-30.39	46.93	74.00	-27.07	peak	P
2	2500.000	70.19	-30.37	39.82	74.00	-34.18	peak	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	P/F
1 *	2483.500	76.43	-30.39	46.04	74.00	-27.96	peak	P
2	2500.000	69.50	-30.37	39.13	74.00	-34.87	peak	P

6.7 Emissions in restricted frequency bands (below 1GHz)

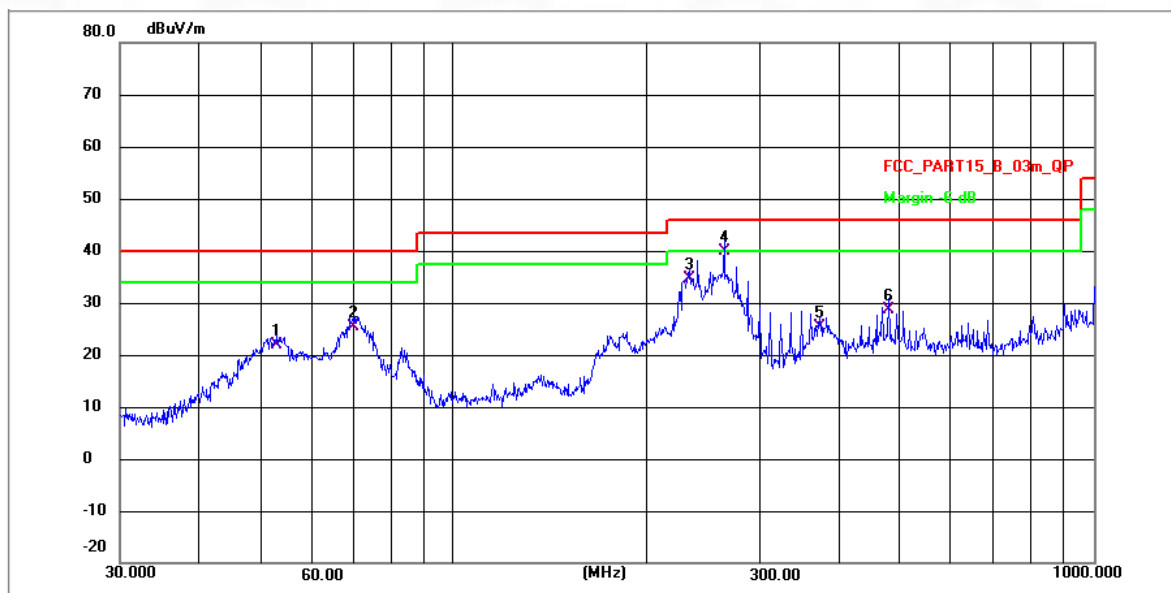
Test Requirement:	In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`		
Test Method:	Radiated emissions tests		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	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.			
Procedure:	ANSI C63.10-2013 section 6.6.4		

6.7.1 E.U.T. Operation:

Operating Environment:	
Temperature:	24.2 °C
Humidity:	49.2 %
Atmospheric Pressure:	1010 mbar

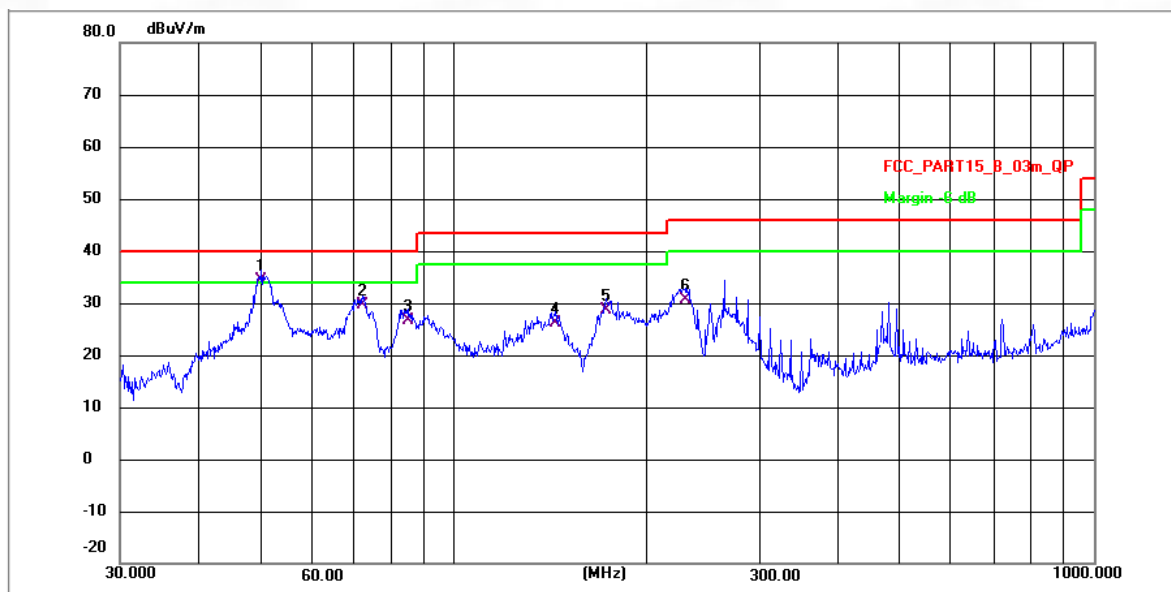
6.7.2 Test Data:

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	P/F
1	52.8526	40.17	-18.25	21.92	40.00	-18.08	QP	P
2	69.8450	43.43	-18.10	25.33	40.00	-14.67	QP	P
3	233.3487	60.62	-26.00	34.62	46.00	-11.38	QP	P
4 *	264.2820	65.56	-25.73	39.83	46.00	-6.17	QP	P
5	372.0045	50.34	-24.86	25.48	46.00	-20.52	QP	P
6	480.5276	50.16	-21.58	28.58	46.00	-17.42	QP	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	P/F
1 *	50.0566	54.82	-20.32	34.50	40.00	-5.50	QP	P
2	72.2108	49.61	-19.96	29.65	40.00	-10.35	QP	P
3	85.1486	57.22	-30.68	26.54	40.00	-13.46	QP	P
4	144.0820	53.93	-27.83	26.10	43.50	-17.40	QP	P
5	172.5987	56.17	-27.57	28.60	43.50	-14.90	QP	P
6	229.6954	56.73	-26.03	30.70	46.00	-15.30	QP	P

Note: All working modes are tested, and this report represents only one set of worst modes

6.8 Emissions in restricted frequency bands (above 1GHz)

Test Requirement:	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 Method:	Radiated emissions tests		
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.			
Procedure:	ANSI C63.10-2013 section 6.6.4		

6.8.1 E.U.T. Operation:

Operating Environment:	
Temperature:	24.2 °C
Humidity:	49.2 %
Atmospheric Pressure:	1010 mbar

6.8.2 Test Data:

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 1 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2929.786	75.21	-29.63	45.58	74.00	-28.42	peak	P
2	3156.617	75.24	-29.37	45.87	74.00	-28.13	peak	P
3	4315.612	78.24	-28.86	49.38	74.00	-24.62	peak	P
4	6704.183	76.45	-25.20	51.25	74.00	-22.75	peak	P
5	9610.652	73.74	-23.44	50.30	74.00	-23.70	peak	P
6 *	12673.087	73.57	-21.52	52.05	74.00	-21.95	peak	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 1 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1941.827	76.90	-31.02	45.88	74.00	-28.12	peak	P
2	2929.786	75.71	-29.63	46.08	74.00	-27.92	peak	P
3	4355.713	76.23	-28.85	47.38	74.00	-26.62	peak	P
4	6704.183	76.45	-25.20	51.25	74.00	-22.75	peak	P
5 *	7704.146	77.12	-25.09	52.03	74.00	-21.97	peak	P
6	17008.623	70.02	-18.25	51.77	74.00	-22.23	peak	P

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 1 / CH: M

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	3544.527	76.91	-29.05	47.86	74.00	-26.14	peak	P
2	6704.183	75.95	-25.20	50.75	74.00	-23.25	peak	P
3	9610.652	73.24	-23.44	49.80	74.00	-24.20	peak	P
4	10838.575	74.50	-23.79	50.71	74.00	-23.29	peak	P
5	13376.916	72.38	-21.05	51.33	74.00	-22.67	peak	P
6 *	15923.882	73.98	-21.57	52.41	74.00	-21.59	peak	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 1 / CH: M

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2131.230	74.31	-30.79	43.52	74.00	-30.48	peak	P
2	4172.109	79.85	-28.92	50.93	74.00	-23.07	peak	P
3	4805.499	74.49	-27.92	46.57	74.00	-27.43	peak	P
4	7704.146	75.62	-25.09	50.53	74.00	-23.47	peak	P
5 *	11124.222	74.79	-23.35	51.44	74.00	-22.56	peak	P
6	17629.279	67.62	-16.46	51.16	74.00	-22.84	peak	P

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 1 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2929.786	76.71	-29.63	47.08	74.00	-26.92	peak	P
2	3328.077	76.81	-29.21	47.60	74.00	-26.40	peak	P
3	4805.499	76.49	-27.92	48.57	74.00	-25.43	peak	P
4	6764.524	75.55	-25.14	50.41	74.00	-23.59	peak	P
5	12027.129	73.08	-22.16	50.92	74.00	-23.08	peak	P
6 *	13477.822	74.13	-20.98	53.15	74.00	-20.85	peak	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 1 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2929.786	73.21	-29.63	43.58	74.00	-30.42	peak	P
2	5371.140	71.83	-27.06	44.77	74.00	-29.23	peak	P
3	6704.183	73.45	-25.20	48.25	74.00	-25.75	peak	P
4 *	9627.333	75.28	-23.48	51.80	74.00	-22.20	peak	P
5	11460.378	74.58	-23.10	51.48	74.00	-22.52	peak	P
6	14026.279	72.89	-21.10	51.79	74.00	-22.21	peak	P

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	P/F
1	1916.734	72.84	-31.06	41.78	74.00	-32.22	peak	P
2	4996.716	72.72	-27.38	45.34	74.00	-28.66	peak	P
3	7160.875	73.17	-24.88	48.29	74.00	-25.71	peak	P
4	8837.917	72.87	-24.64	48.23	74.00	-25.77	peak	P
5	10563.316	73.72	-24.38	49.34	74.00	-24.66	peak	P
6 *	13146.931	71.16	-21.23	49.93	74.00	-24.07	peak	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	P/F
1	2929.786	75.21	-29.63	45.58	74.00	-28.42	peak	P
2	3478.556	74.12	-29.07	45.05	74.00	-28.95	peak	P
3	4805.499	74.99	-27.92	47.07	74.00	-26.93	peak	P
4	7284.038	75.19	-24.84	50.35	74.00	-23.65	peak	P
5 *	10215.017	76.51	-24.39	52.12	74.00	-21.88	peak	P
6	13435.039	70.19	-21.01	49.18	74.00	-24.82	peak	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	P/F
1	5812.131	70.76	-25.94	44.82	74.00	-29.18	peak	P
2	6831.328	73.69	-25.08	48.61	74.00	-25.39	peak	P
3	9344.944	67.48	-23.55	43.93	74.00	-30.07	peak	P
4 *	11670.975	72.37	-22.76	49.61	74.00	-24.39	peak	P
5	13785.129	69.10	-21.03	48.07	74.00	-25.93	peak	P
6	15690.871	69.50	-21.53	47.97	74.00	-26.03	peak	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	P/F
1	1050.060	76.27	-29.25	47.02	74.00	-26.98	peak	P
2	4315.612	78.24	-28.86	49.38	74.00	-24.62	peak	P
3 *	7336.863	76.48	-24.83	51.65	74.00	-22.35	peak	P
4	11108.157	73.22	-23.36	49.86	74.00	-24.14	peak	P
5	13689.835	72.47	-21.02	51.45	74.00	-22.55	peak	P
6	16258.741	68.73	-20.34	48.39	74.00	-25.61	peak	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	P/F
1	1274.066	69.99	-30.47	39.52	74.00	-34.48	peak	P
2	2920.485	73.14	-29.65	43.49	74.00	-30.51	peak	P
3	3889.131	73.51	-29.01	44.50	74.00	-29.50	peak	P
4	4606.929	73.25	-28.48	44.77	74.00	-29.23	peak	P
5	7688.574	74.83	-25.06	49.77	74.00	-24.23	peak	P
6 *	17629.279	70.12	-16.46	53.66	74.00	-20.34	peak	P

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

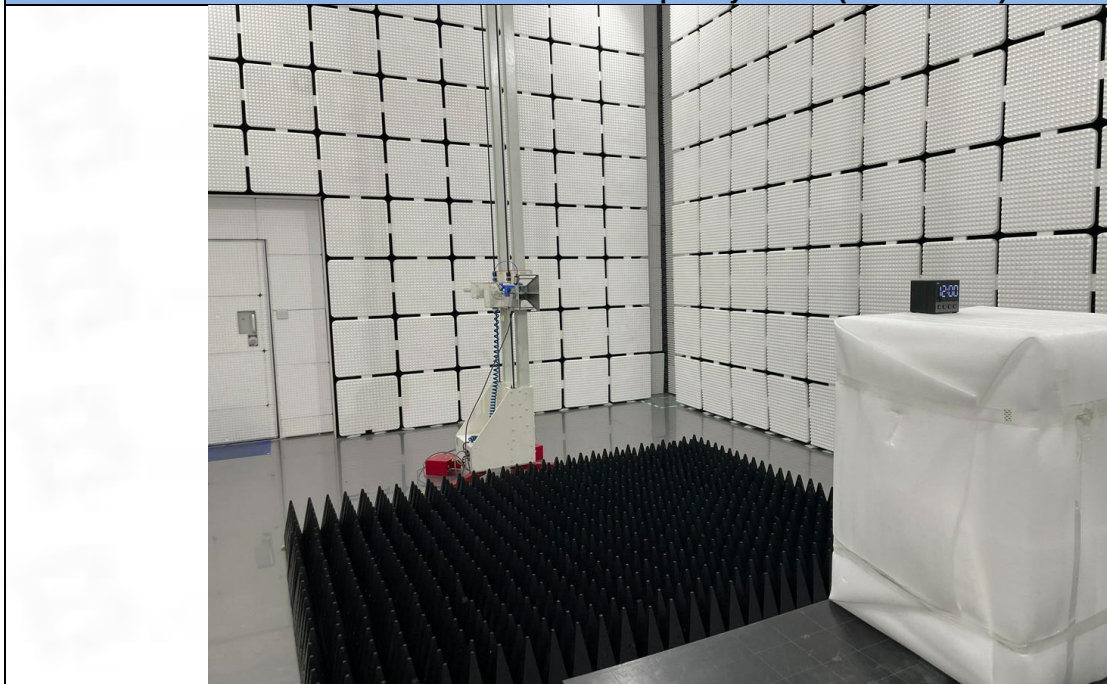
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	3278.430	71.76	-29.25	42.51	74.00	-31.49	peak	P
2	5834.011	71.43	-25.87	45.56	74.00	-28.44	peak	P
3	6704.183	74.95	-25.20	49.75	74.00	-24.25	peak	P
4	9627.333	75.78	-23.48	52.30	74.00	-21.70	peak	P
5 *	11755.614	75.49	-22.61	52.88	74.00	-21.12	peak	P
6	15016.438	73.16	-20.43	52.73	74.00	-21.27	peak	P

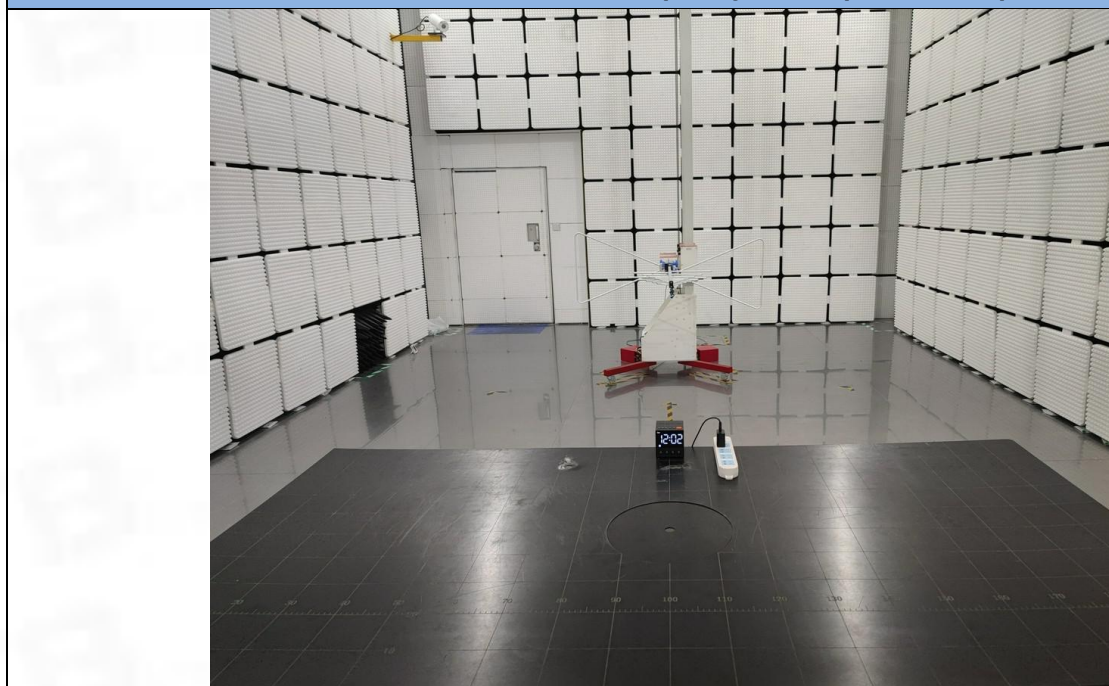
7 Test Setup Photos

Conducted Emission at AC power line

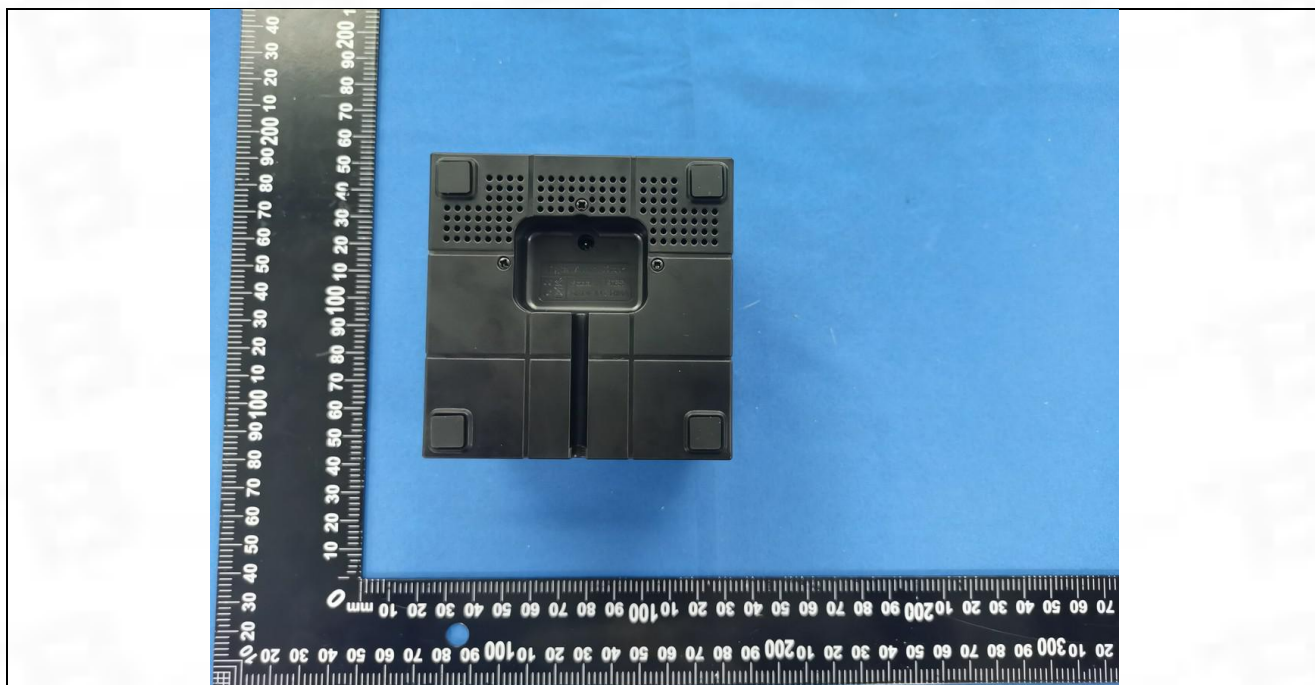


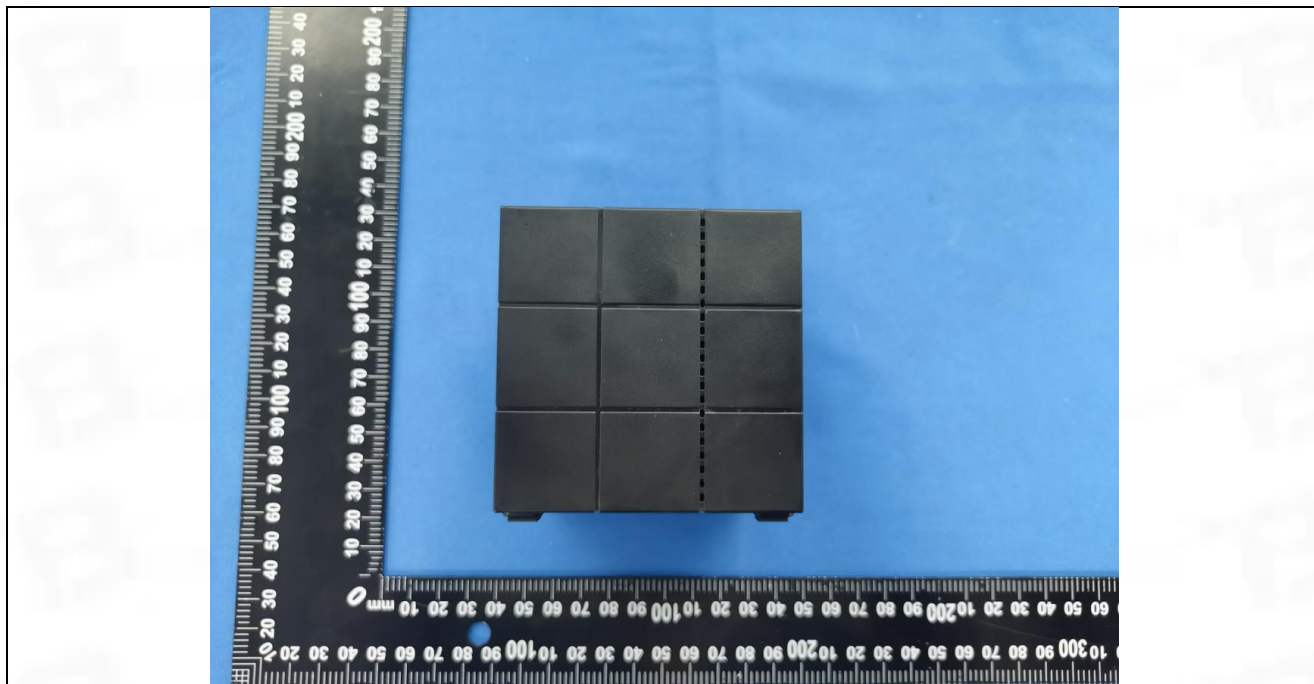
Band edge emissions (Radiated)
Emissions in restricted frequency bands (above 1GHz)

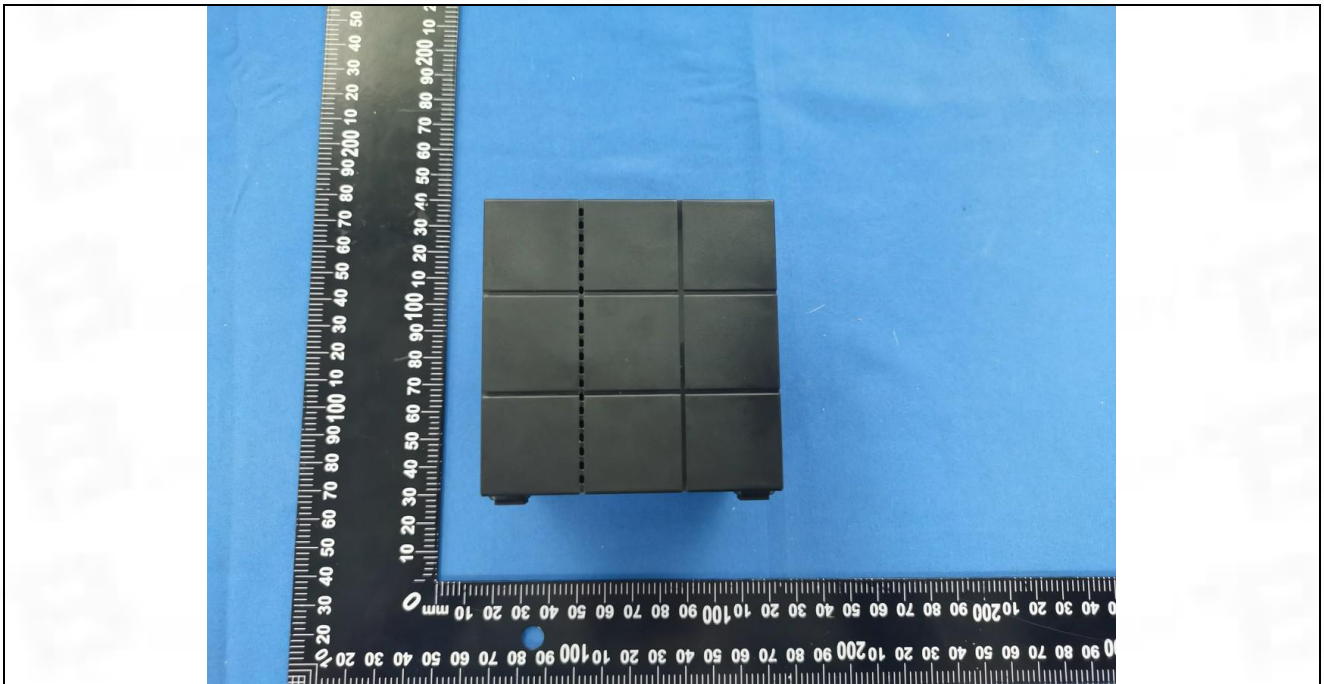


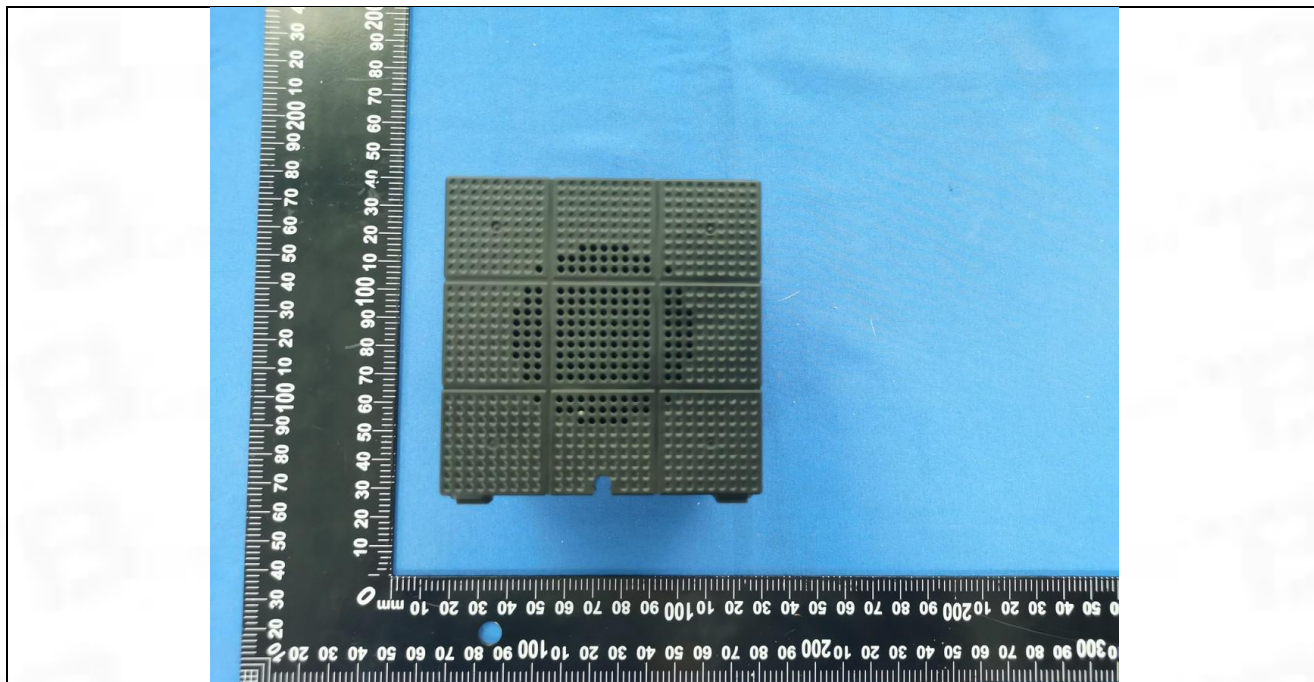
Emissions in restricted frequency bands (below 1GHz)

8 EUT Constructional Details (EUT Photos)

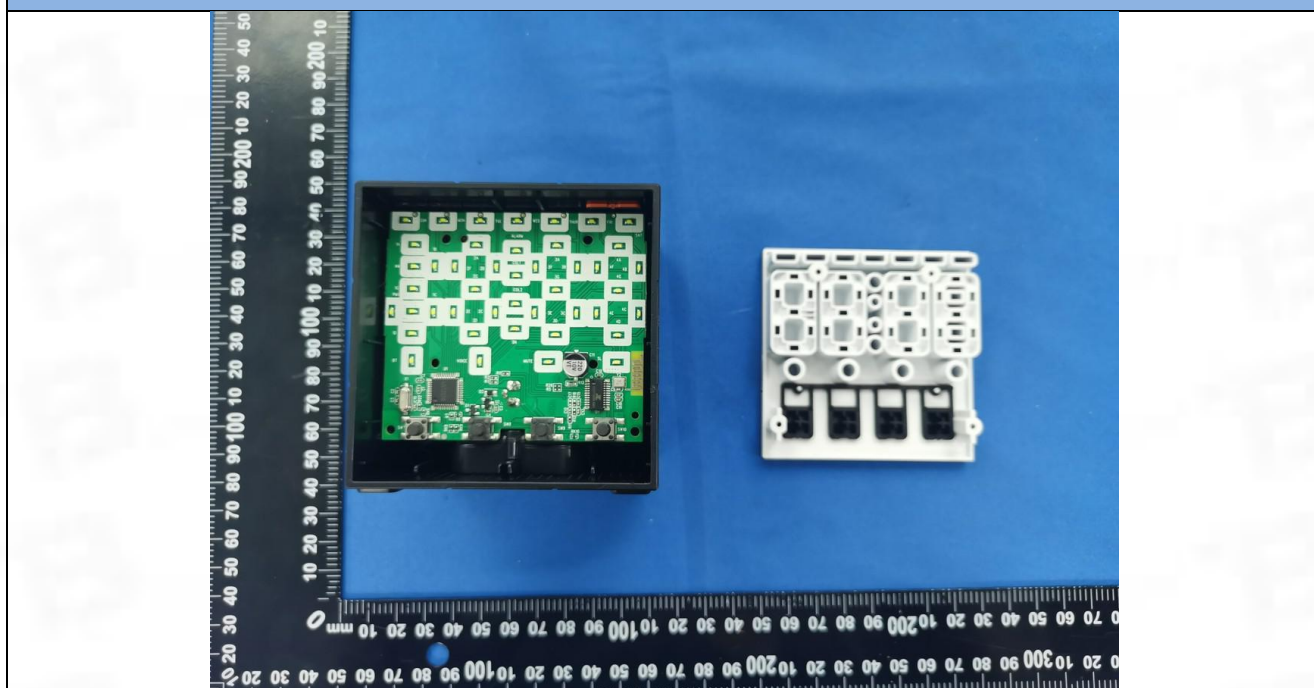


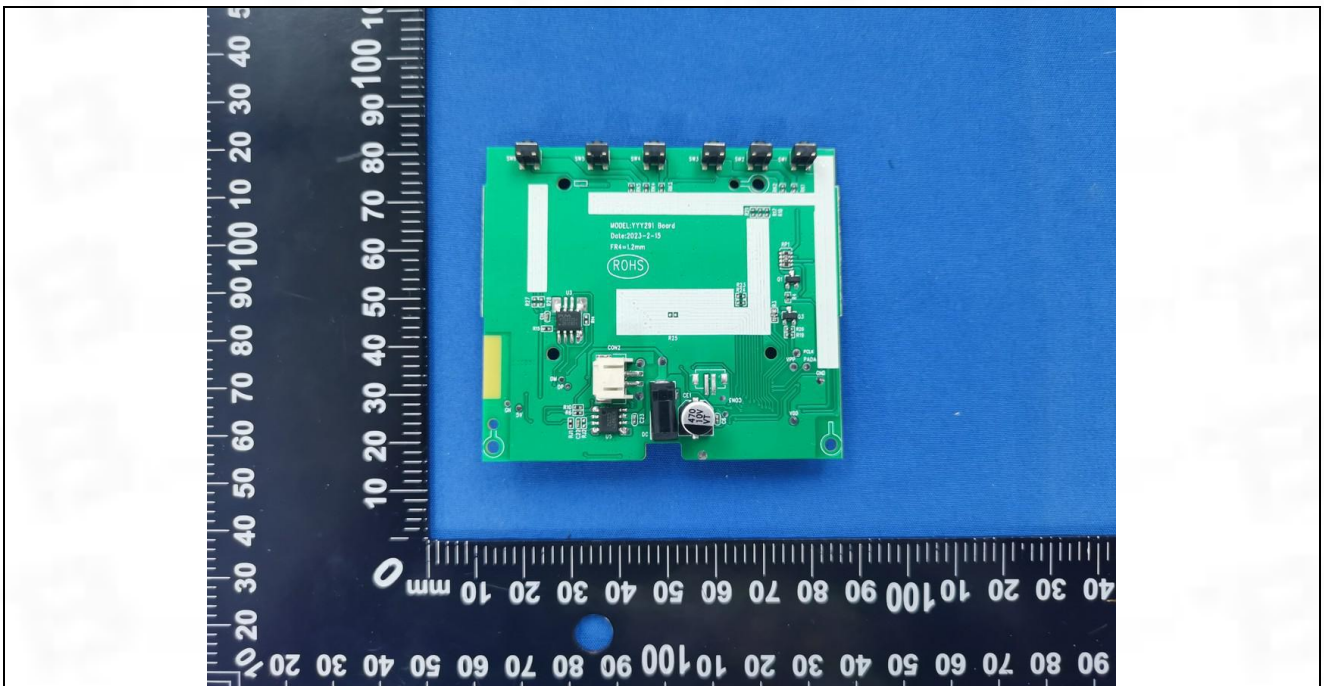
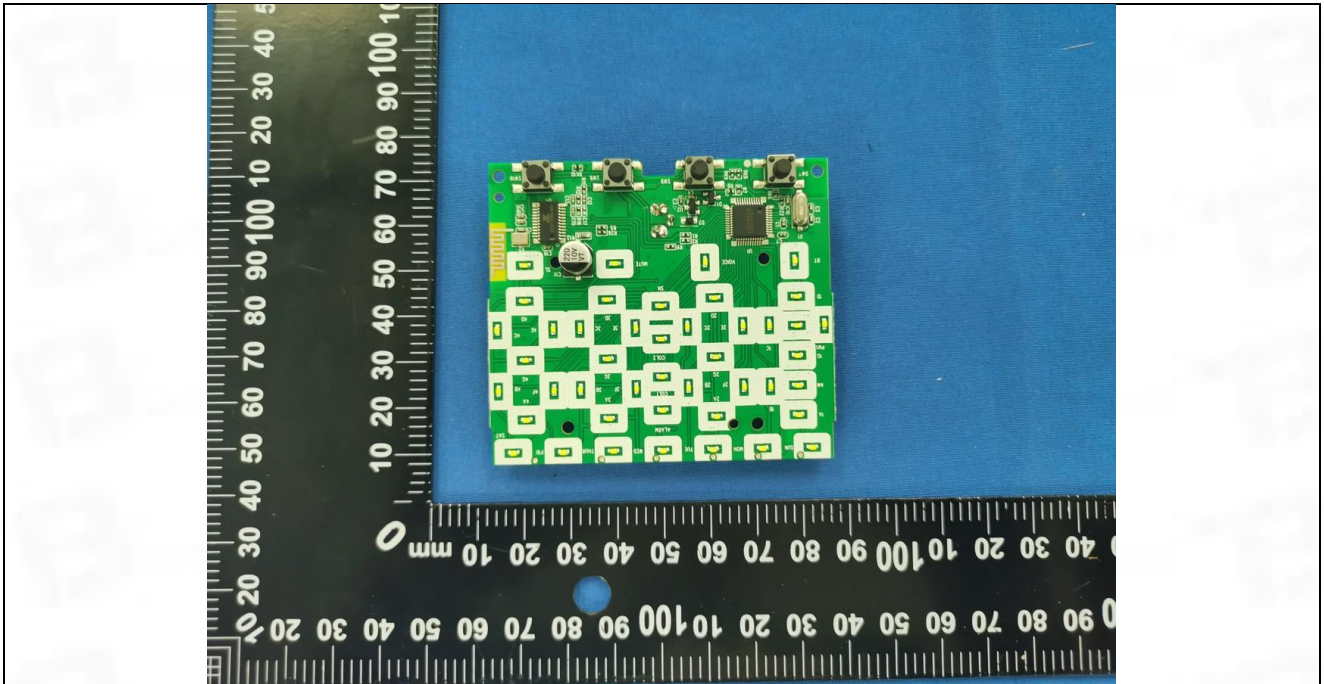


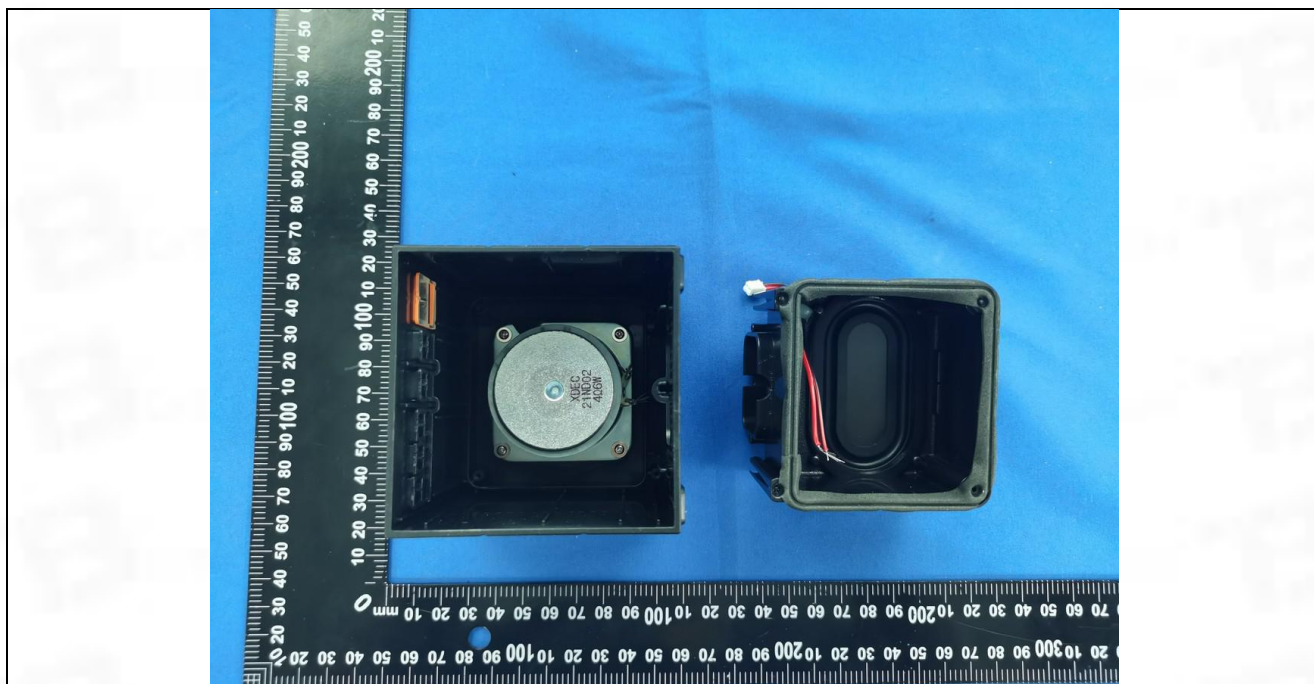




Internal







Appendix

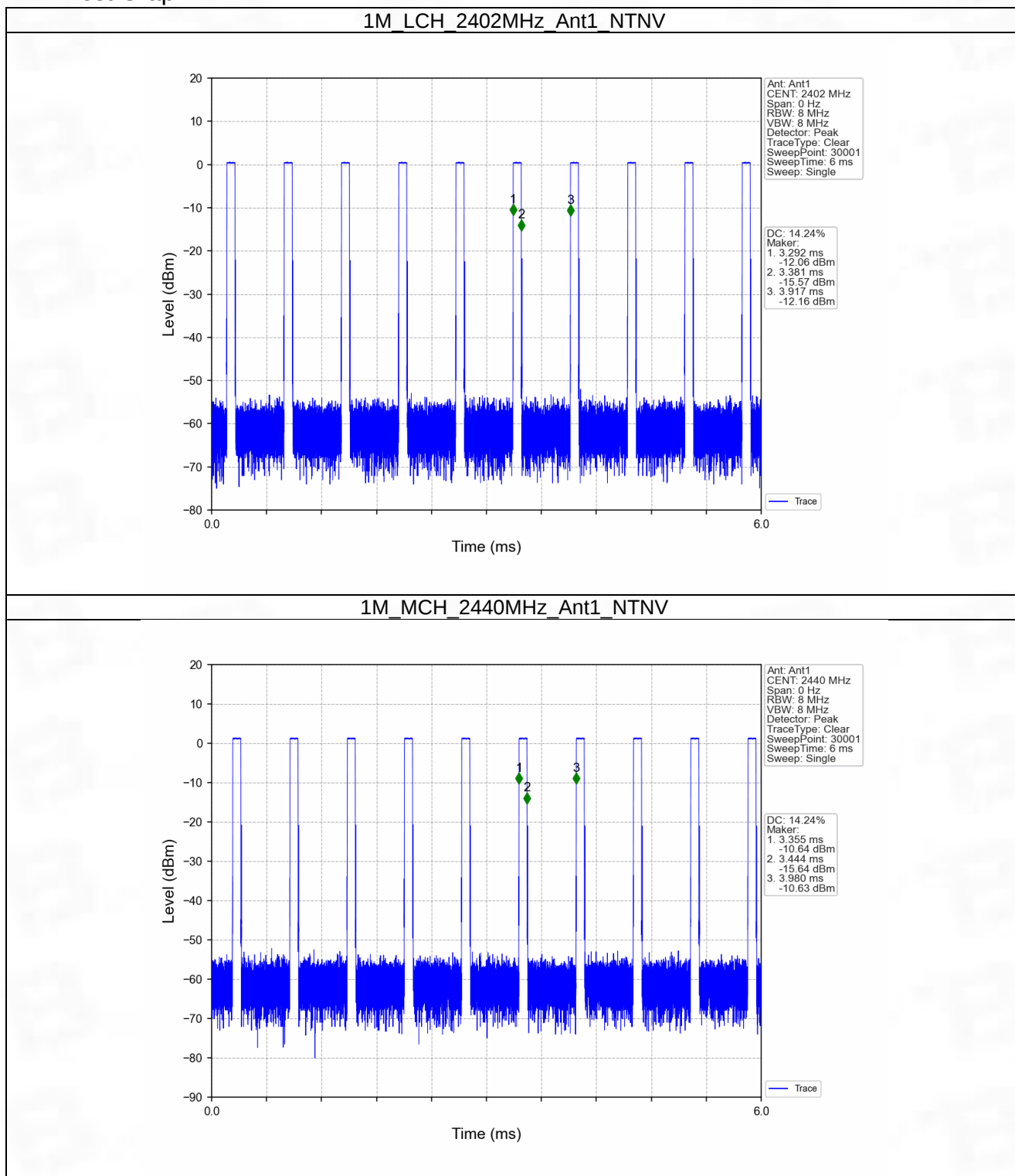
1. Duty Cycle

1.1 Ant1

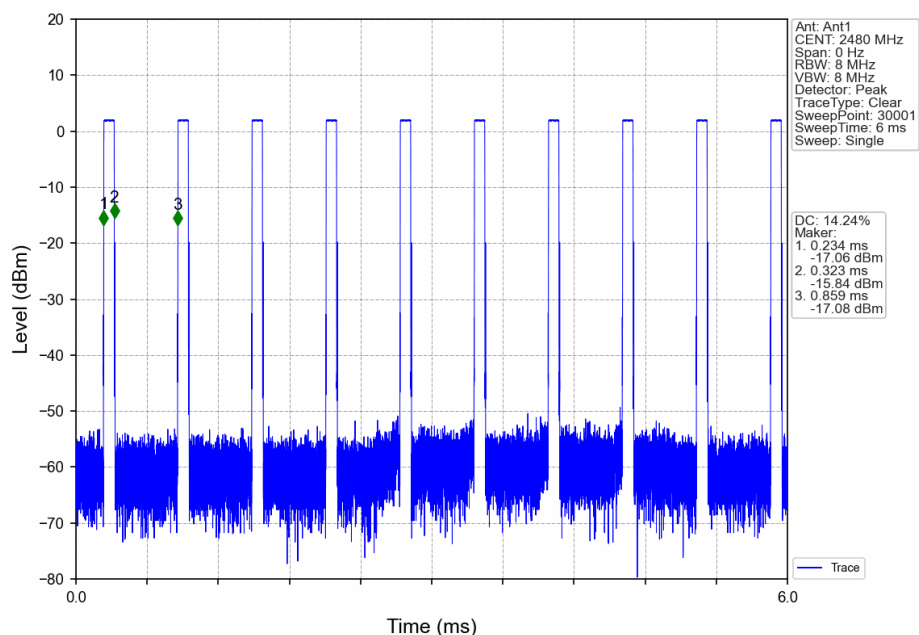
1.1.1 Test Result

Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
1M	SISO	2402	0.089	0.625	14.24	8.46	0.03
		2440	0.089	0.625	14.24	8.46	0.03
		2480	0.089	0.625	14.24	8.46	0.00
2M	SISO	2402	0.057	0.625	9.12	10.40	0.00
		2440	0.057	0.625	9.12	10.40	0.00
		2480	0.065	0.625	10.40	9.83	0.03

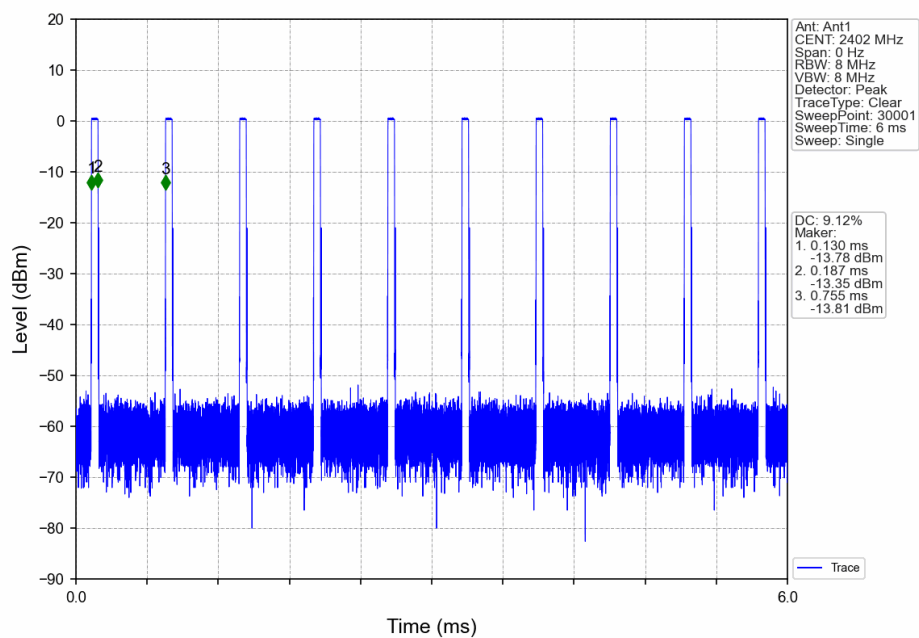
1.1.2 Test Graph



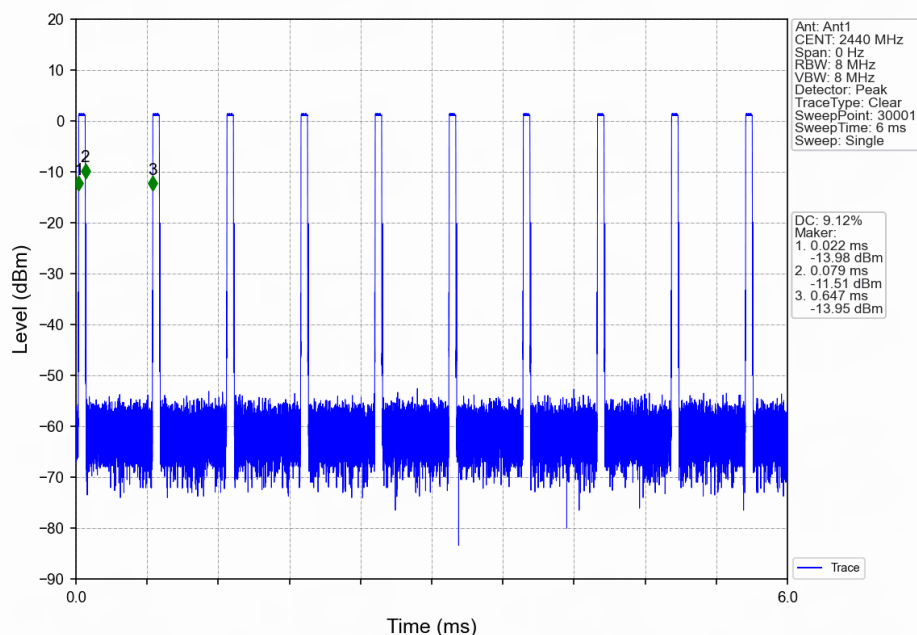
1M_HCH_2480MHz_Ant1_NTNV



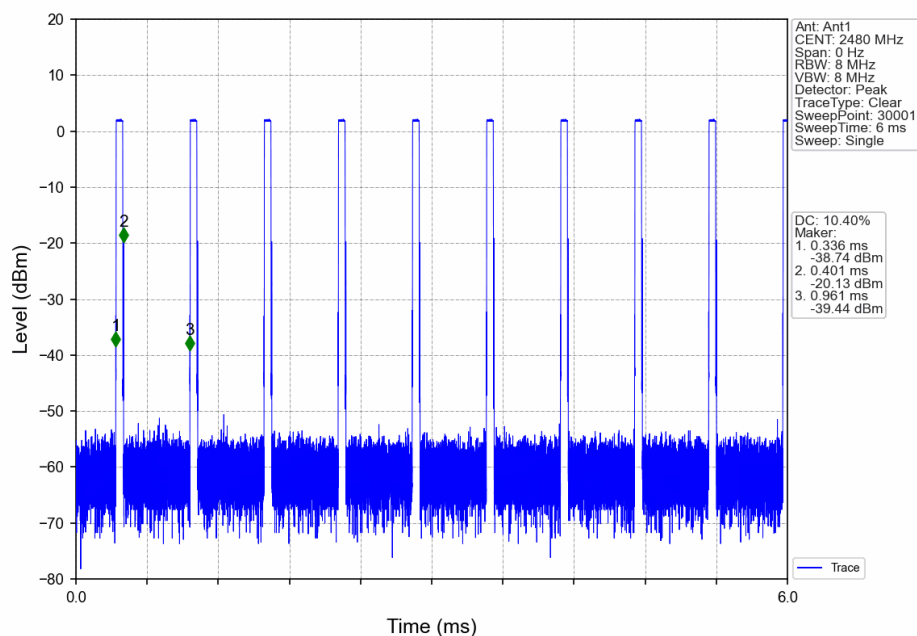
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



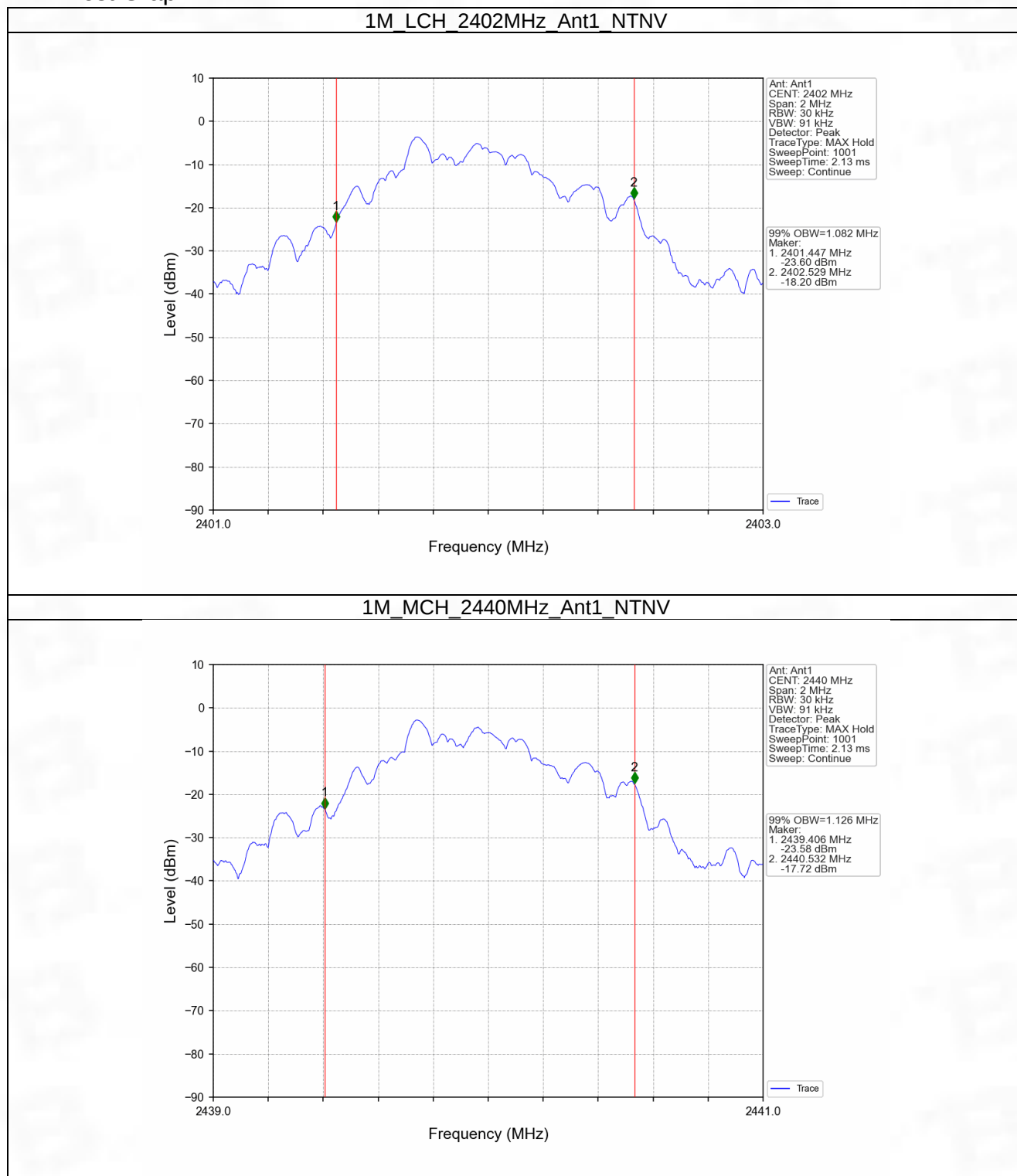
2. Bandwidth

2.1 OBW

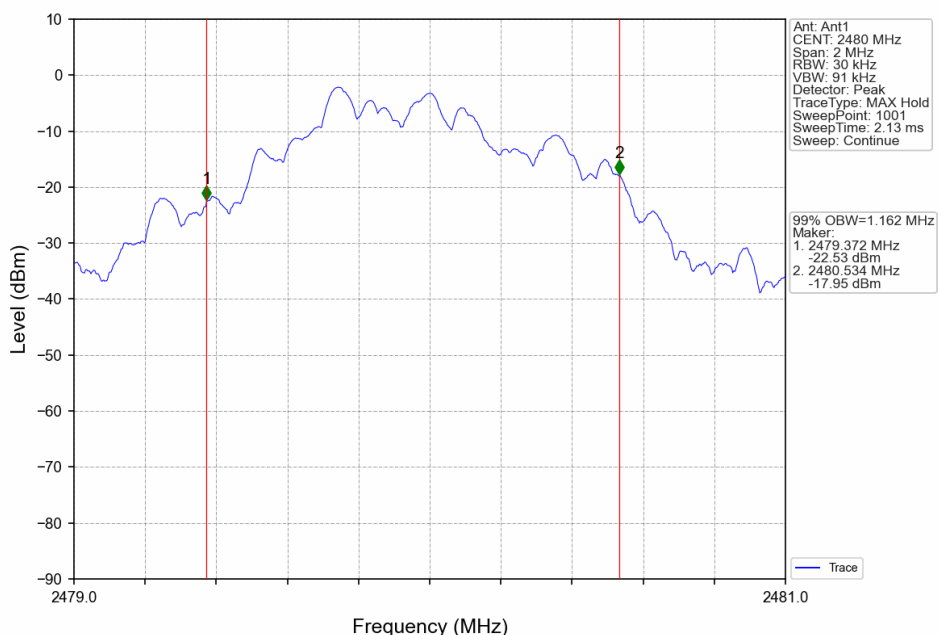
2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)	Verdict
				Result	
1M	SISO	2402	1	1.082	Pass
		2440	1	1.126	Pass
		2480	1	1.162	Pass
2M	SISO	2402	1	2.066	Pass
		2440	1	2.071	Pass
		2480	1	2.086	Pass

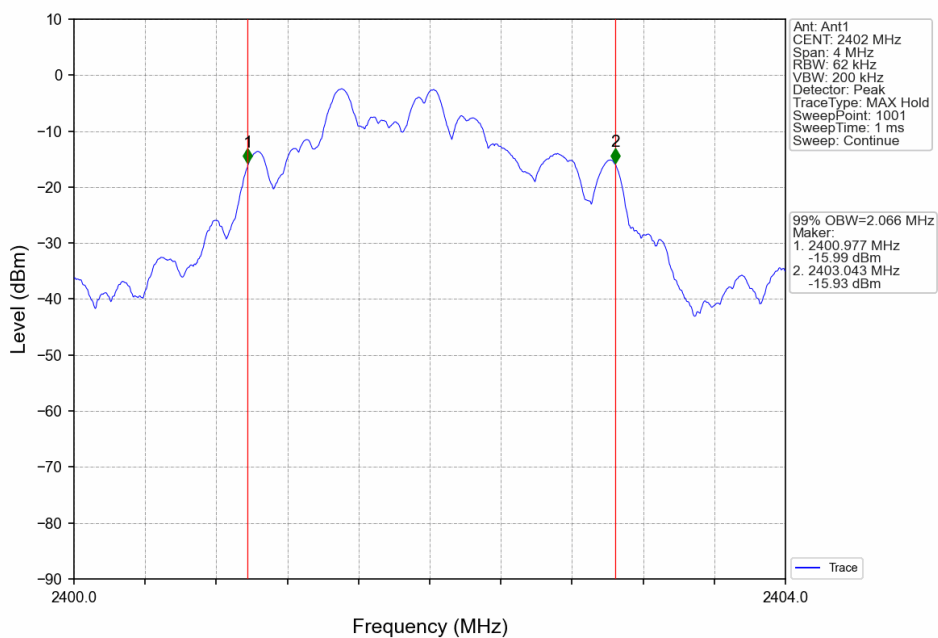
2.1.2 Test Graph



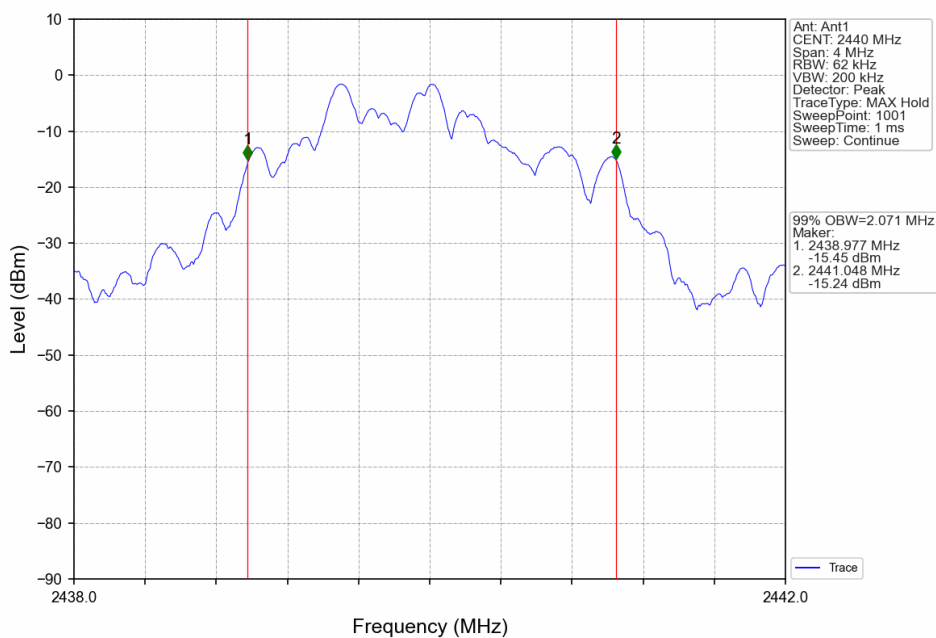
1M_HCH_2480MHz_Ant1_NTNV



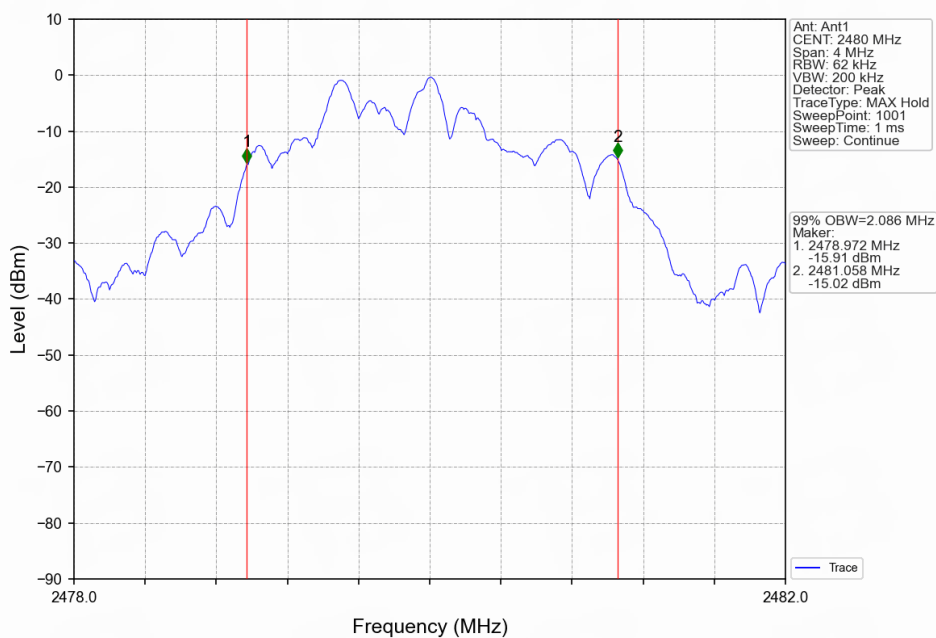
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV

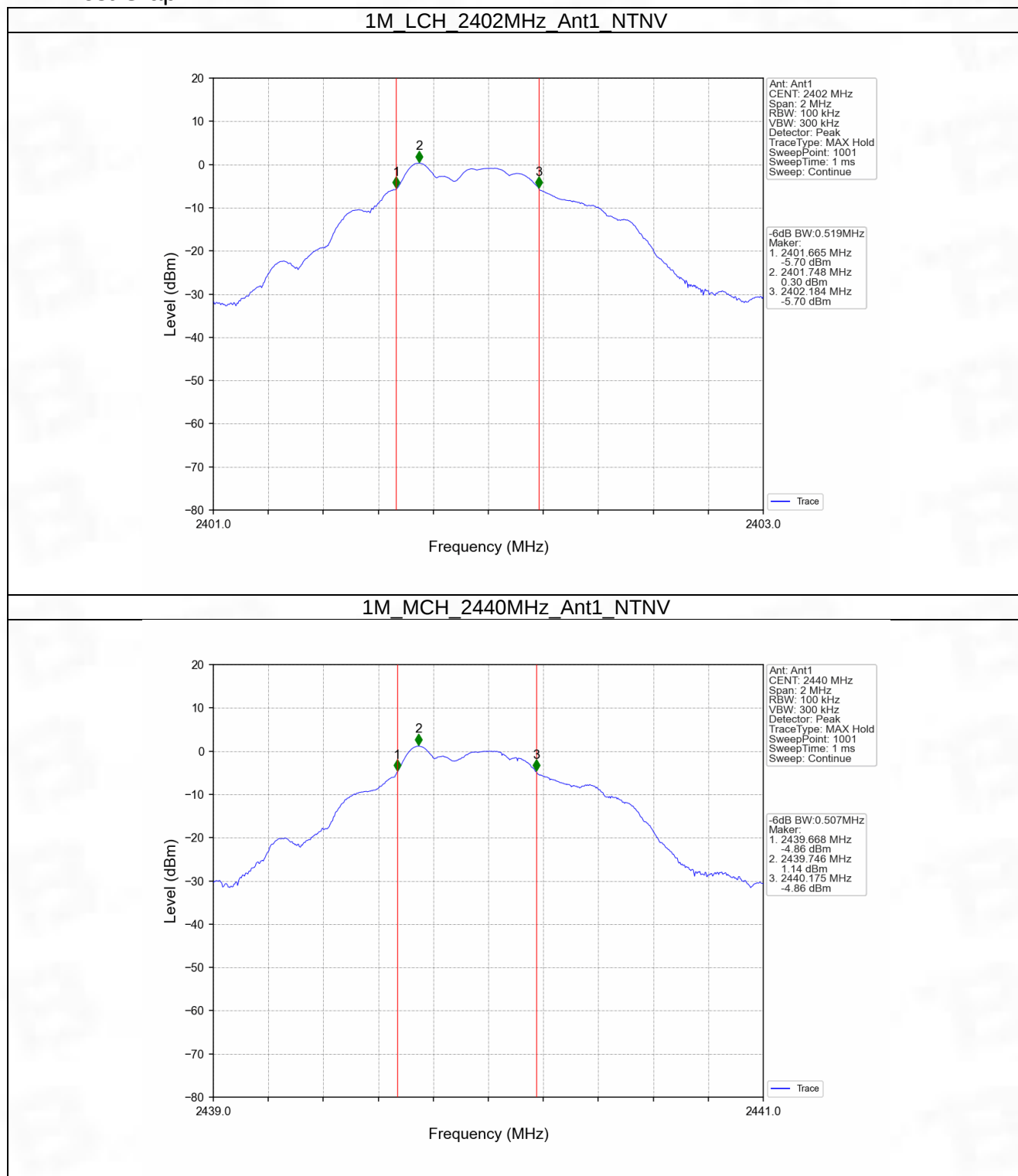


2.2 6dB BW

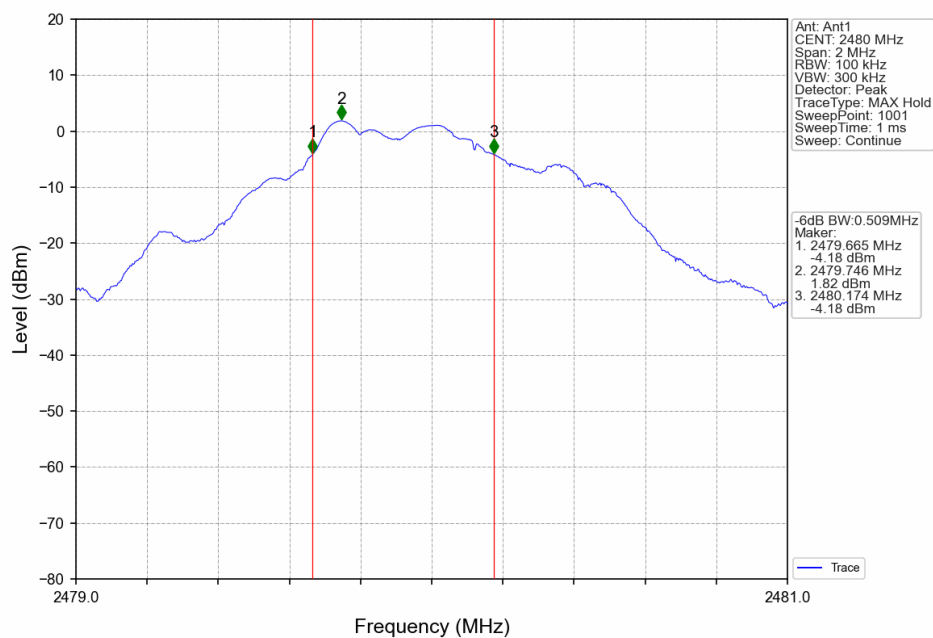
2.2.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	0.519	≥ 0.5	Pass
		2440	1	0.507	≥ 0.5	Pass
		2480	1	0.509	≥ 0.5	Pass
2M	SISO	2402	1	0.881	≥ 0.5	Pass
		2440	1	0.875	≥ 0.5	Pass
		2480	1	0.864	≥ 0.5	Pass

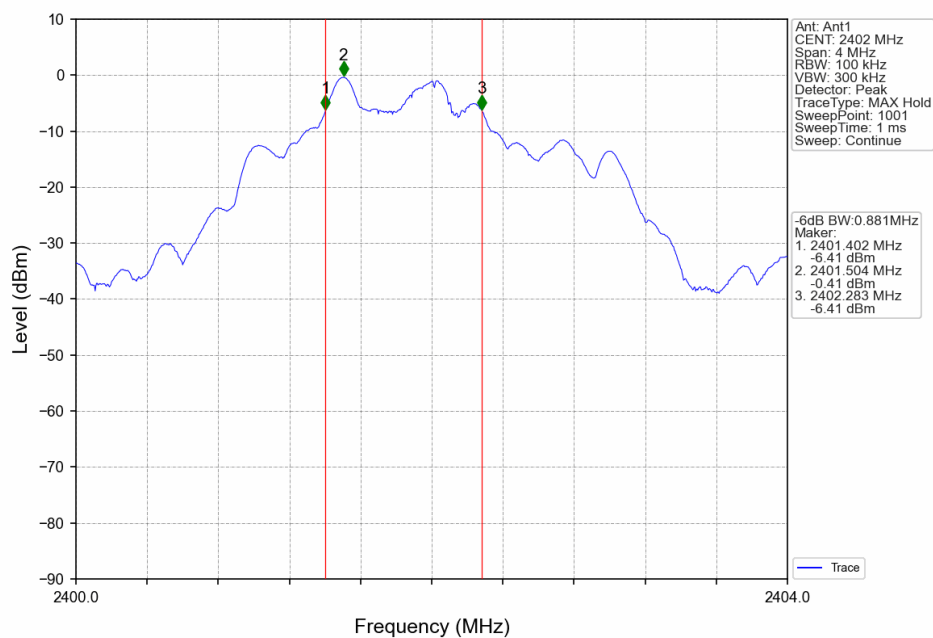
2.2.2 Test Graph



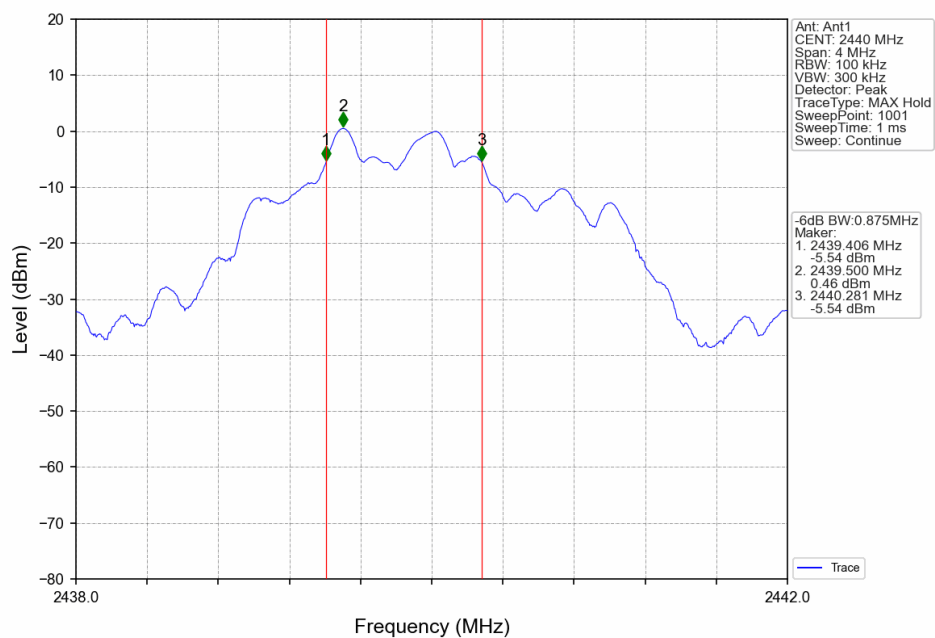
1M_HCH_2480MHz_Ant1_NTNV



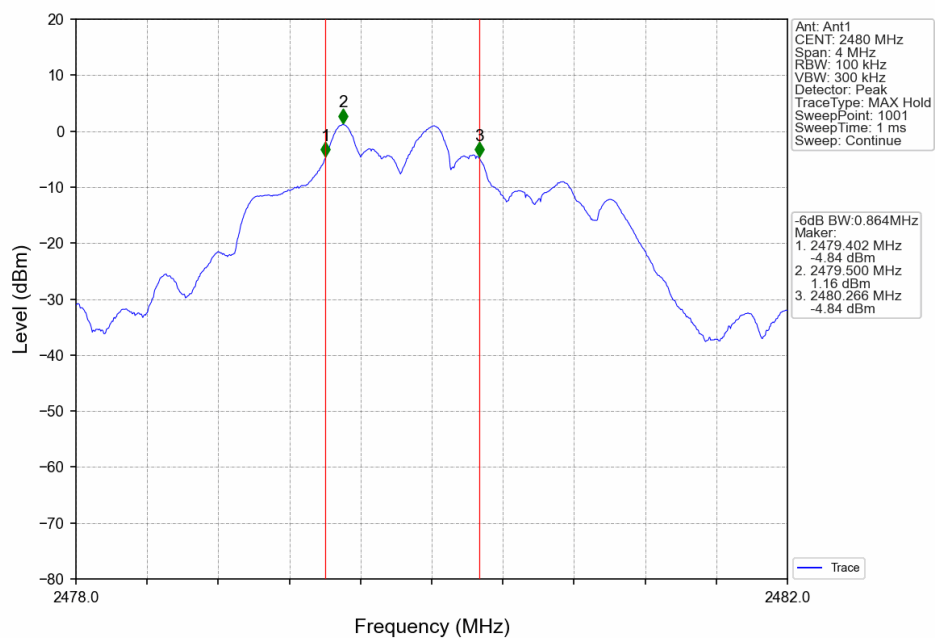
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



3. Maximum Conducted Output Power

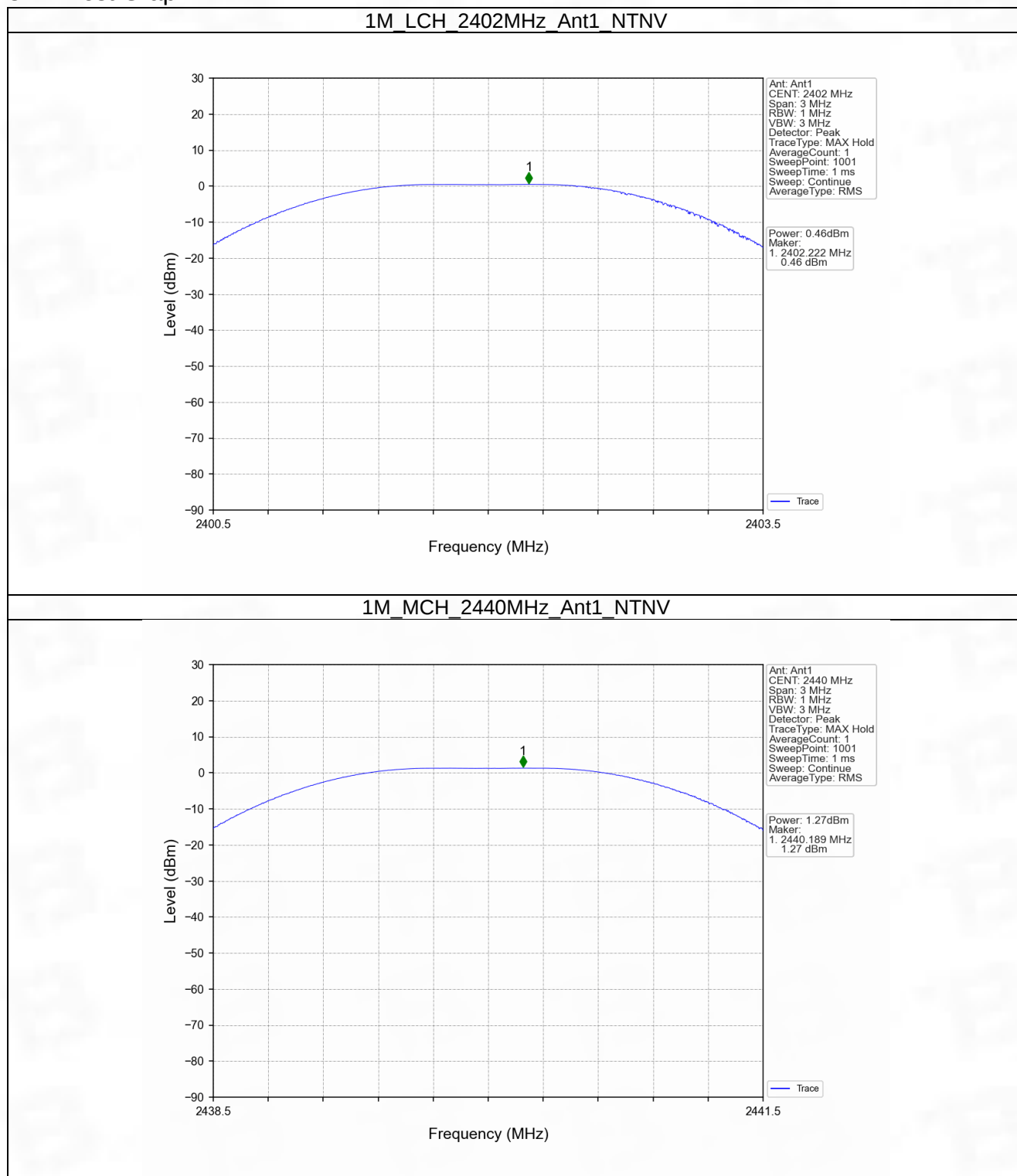
3.1 Power

3.1.1 Test Result

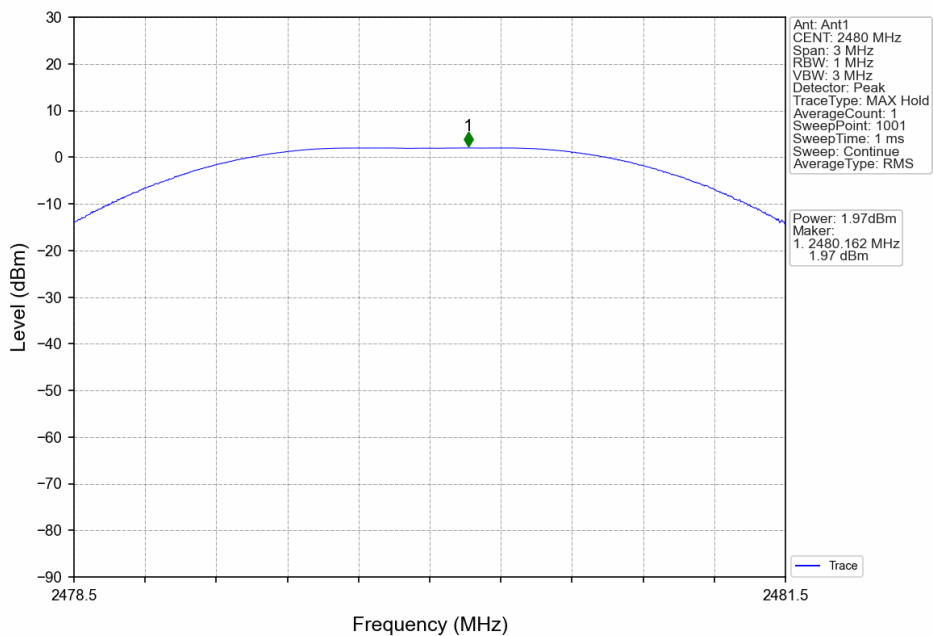
Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
1M	SISO	2402	0.46	<=30	Pass
		2440	1.27	<=30	Pass
		2480	1.97	<=30	Pass
2M	SISO	2402	0.42	<=30	Pass
		2440	1.25	<=30	Pass
		2480	1.90	<=30	Pass

Note1: Antenna Gain: Ant1: 0.00dBi;

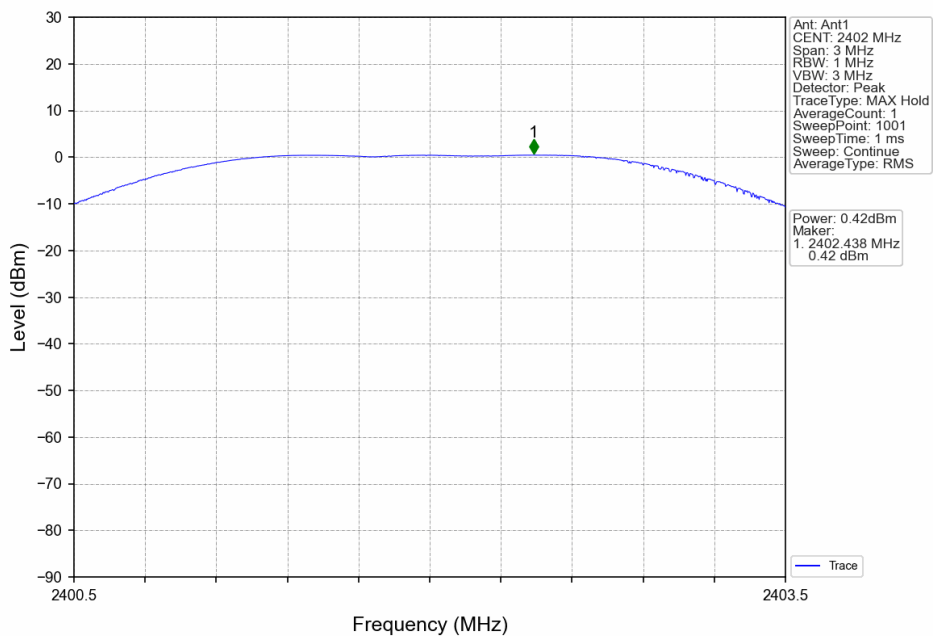
3.1.2 Test Graph



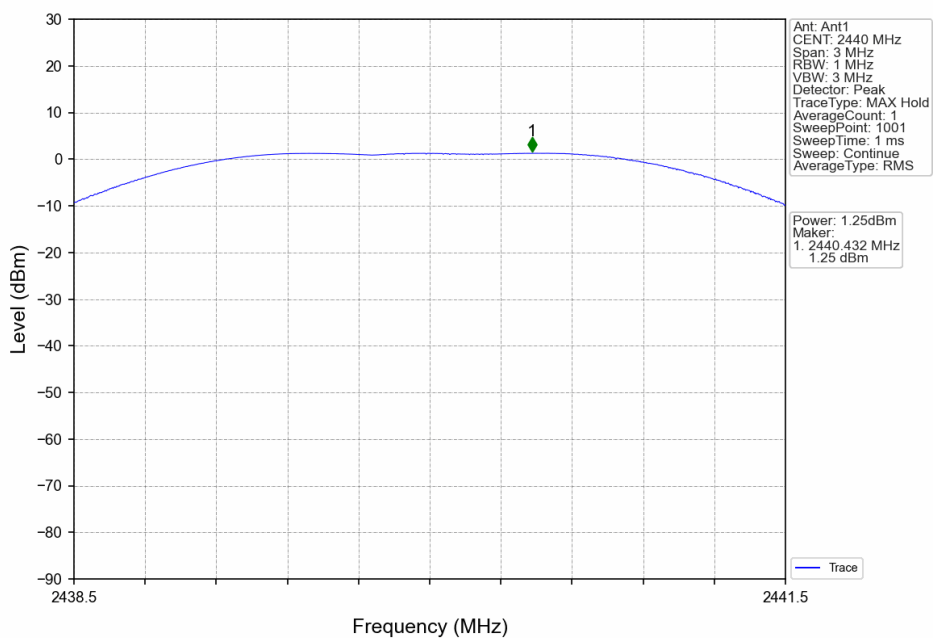
1M_HCH_2480MHz_Ant1_NTNV



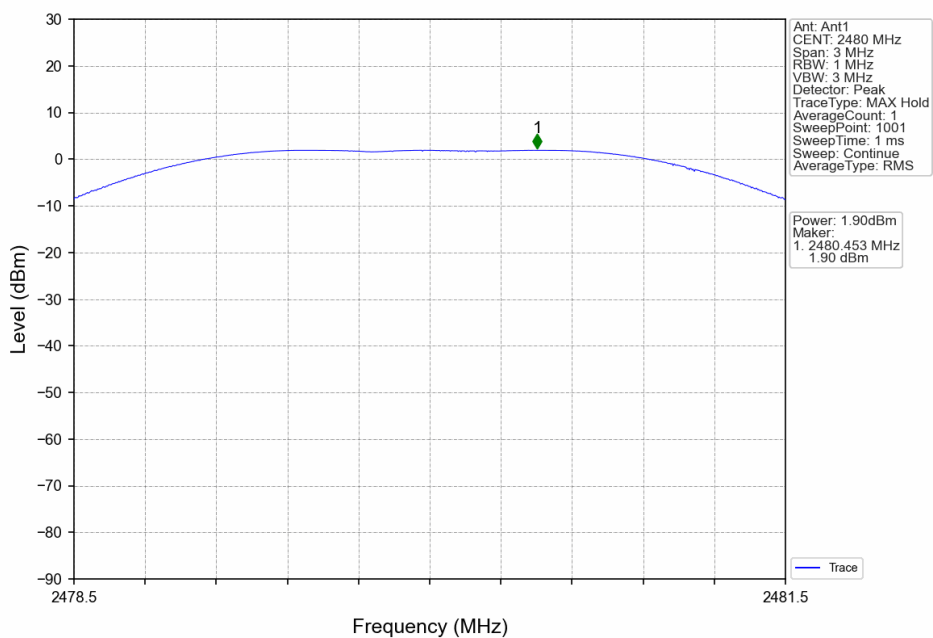
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



4. Maximum Power Spectral Density

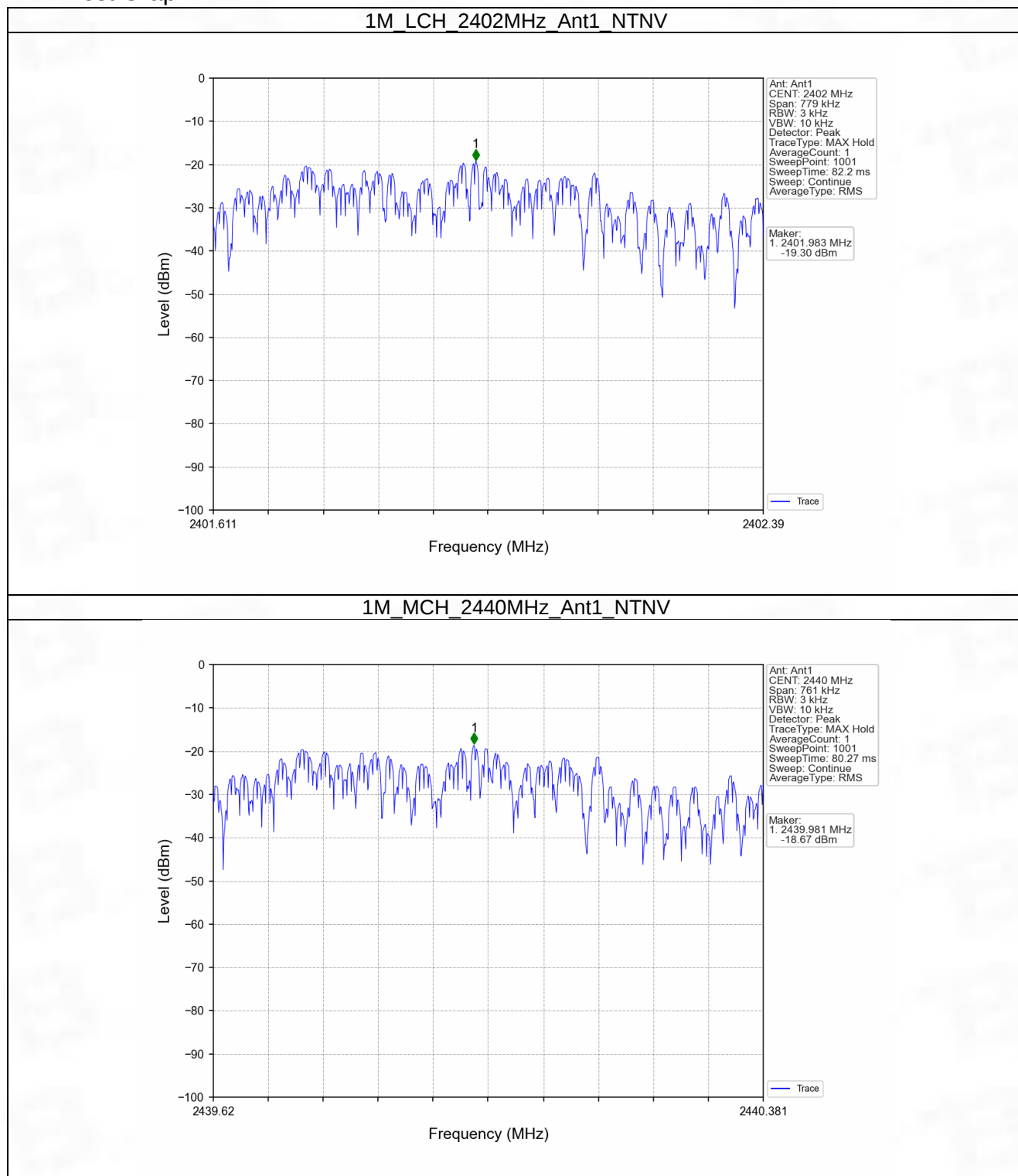
4.1 PSD

4.1.1 Test Result

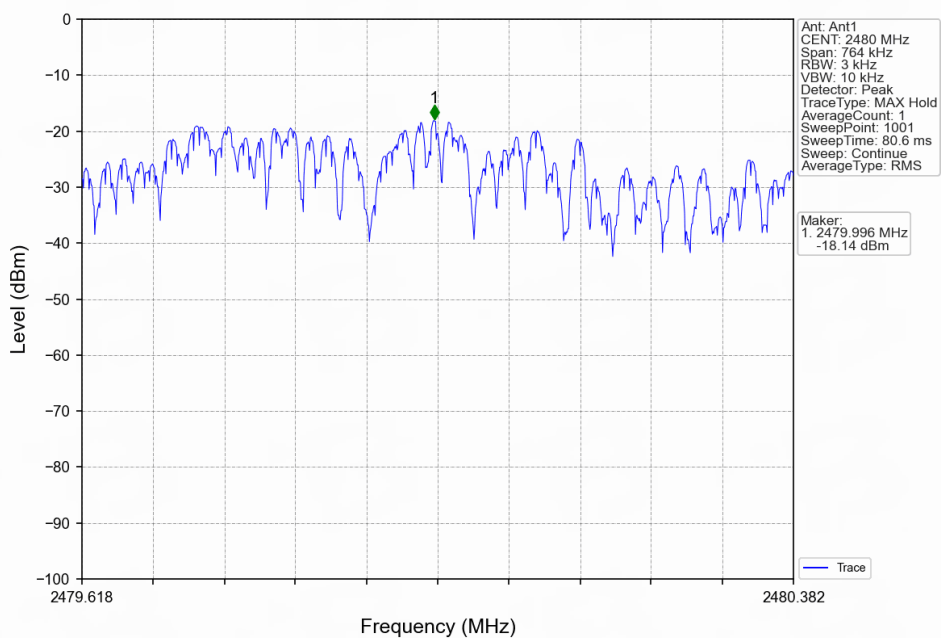
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
1M	SISO	2402	-19.30	≤ 8	Pass
		2440	-18.67	≤ 8	Pass
		2480	-18.14	≤ 8	Pass
2M	SISO	2402	-22.00	≤ 8	Pass
		2440	-21.24	≤ 8	Pass
		2480	-20.52	≤ 8	Pass

Note1: Antenna Gain: Ant1: 0.00dBi;

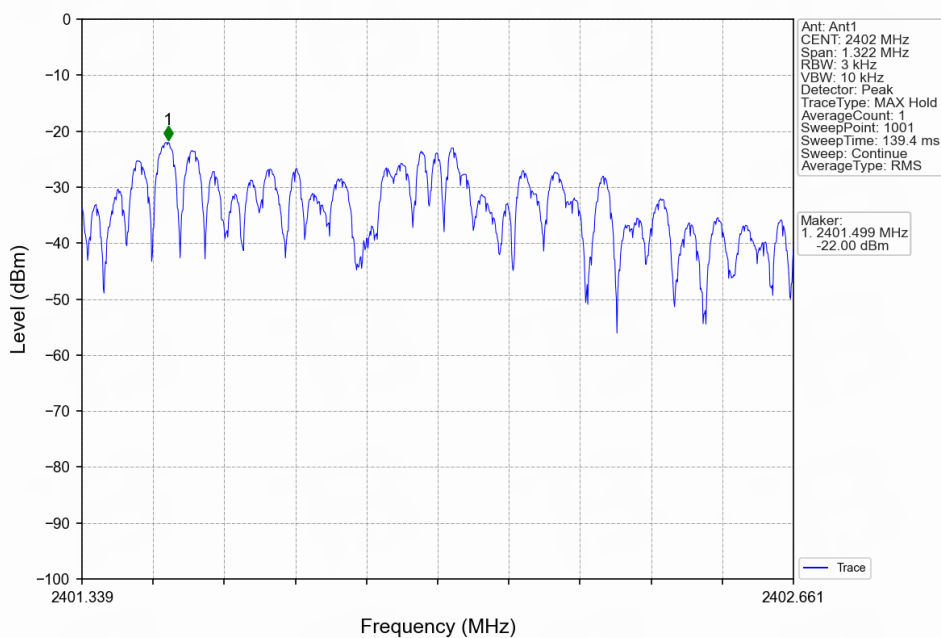
4.1.2 Test Graph



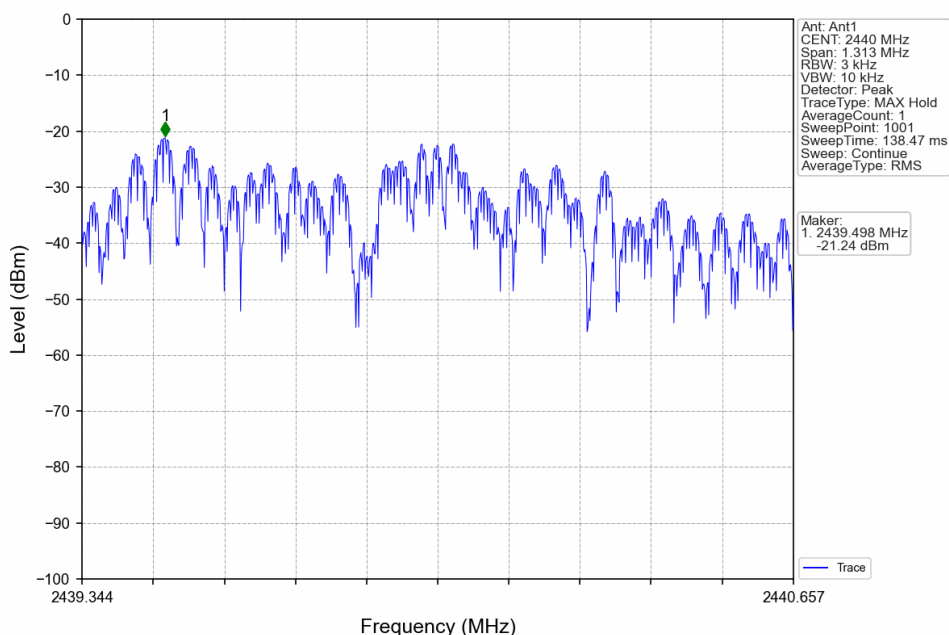
1M_HCH_2480MHz_Ant1_NTNV



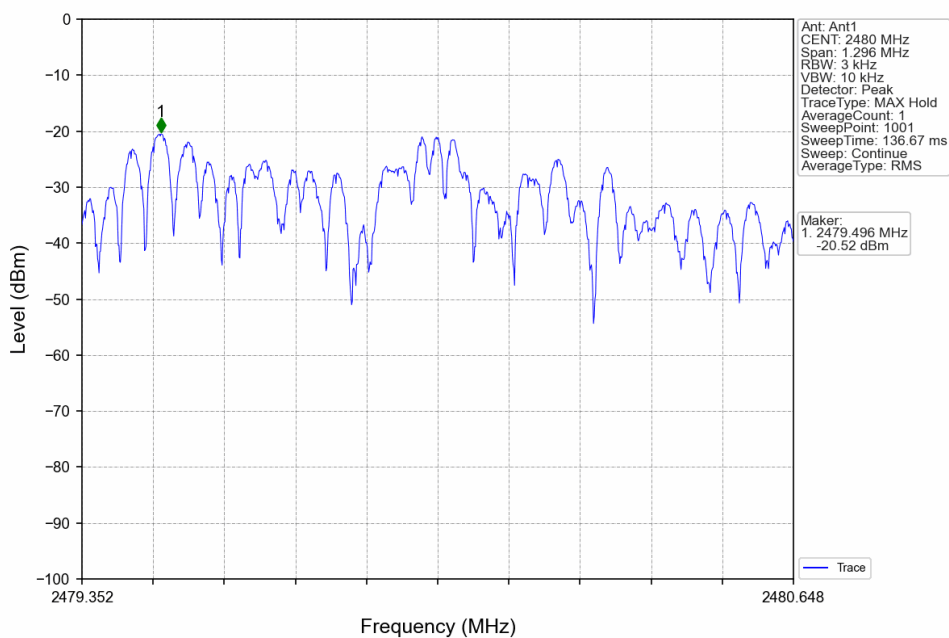
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



5. Unwanted Emissions In Non-restricted Frequency Bands

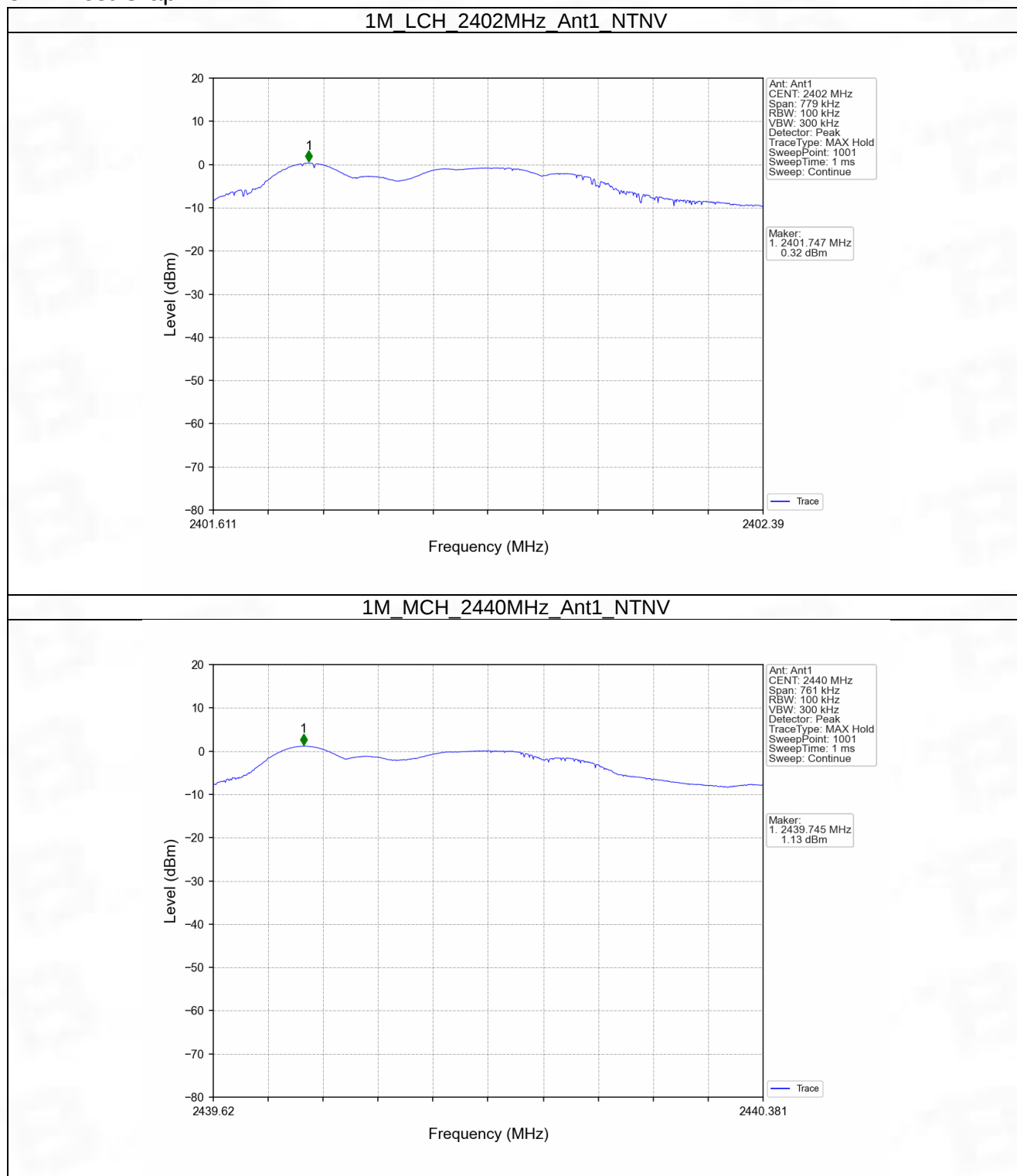
5.1 Ref

5.1.1 Test Result

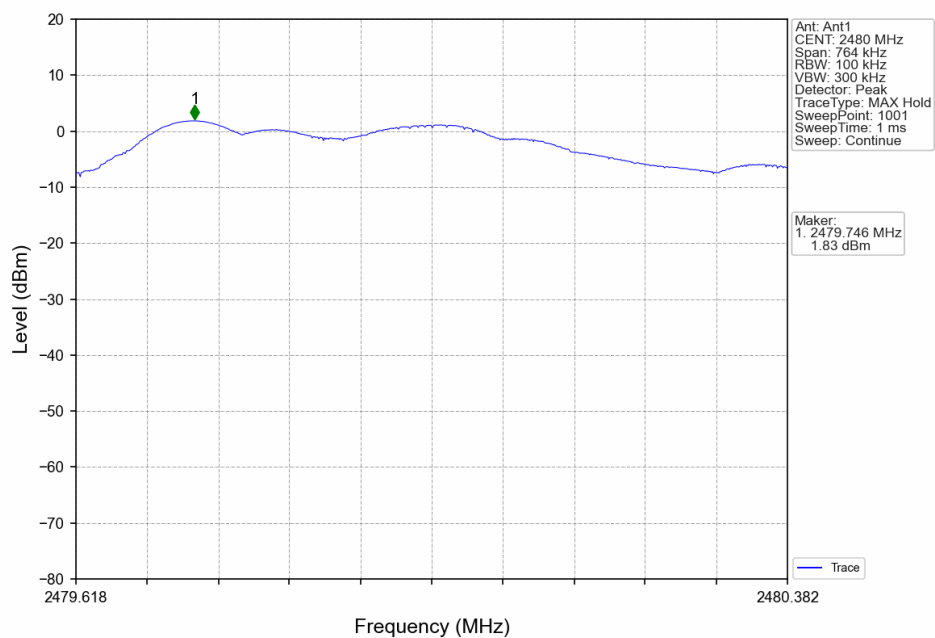
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M	SISO	2402	1	0.32
		2440	1	1.13
		2480	1	1.83
2M	SISO	2402	1	-0.42
		2440	1	0.43
		2480	1	1.12

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

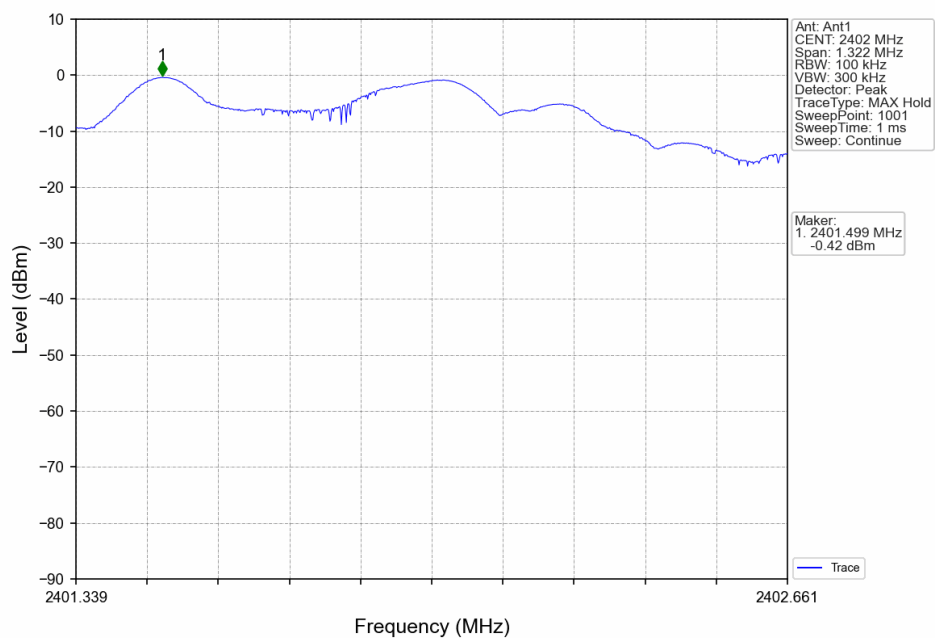
5.1.2 Test Graph



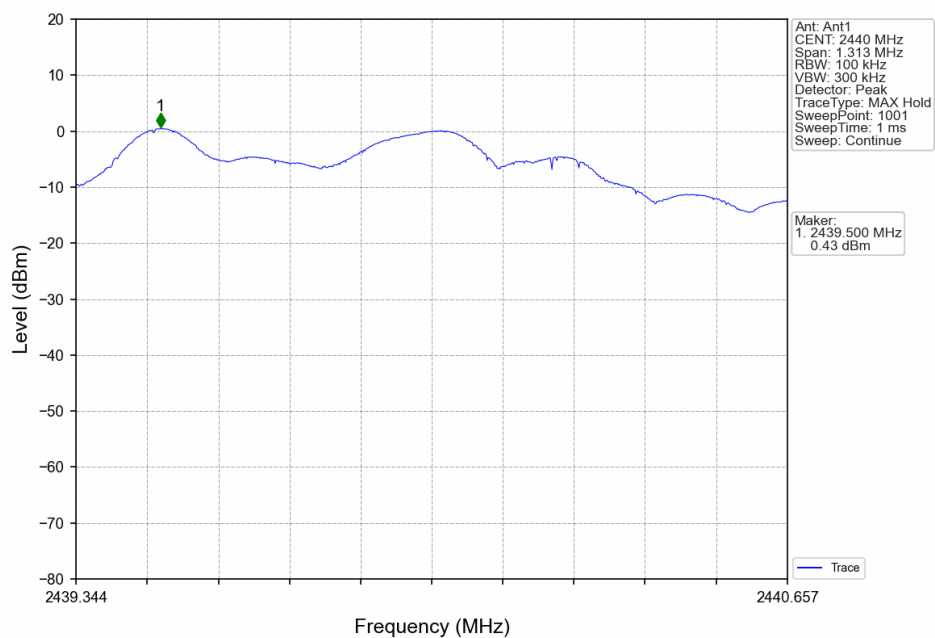
1M_HCH_2480MHz_Ant1_NTNV



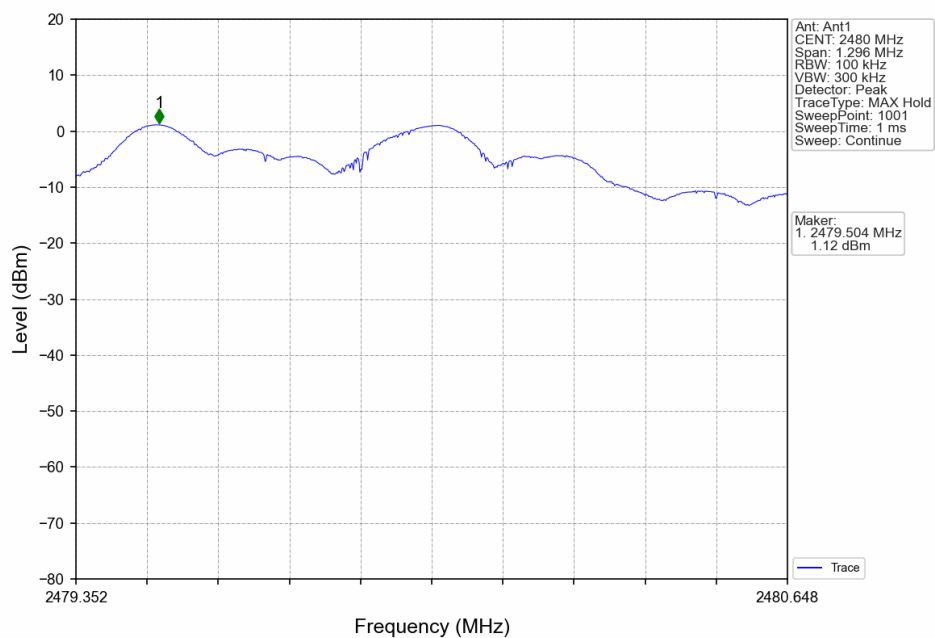
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



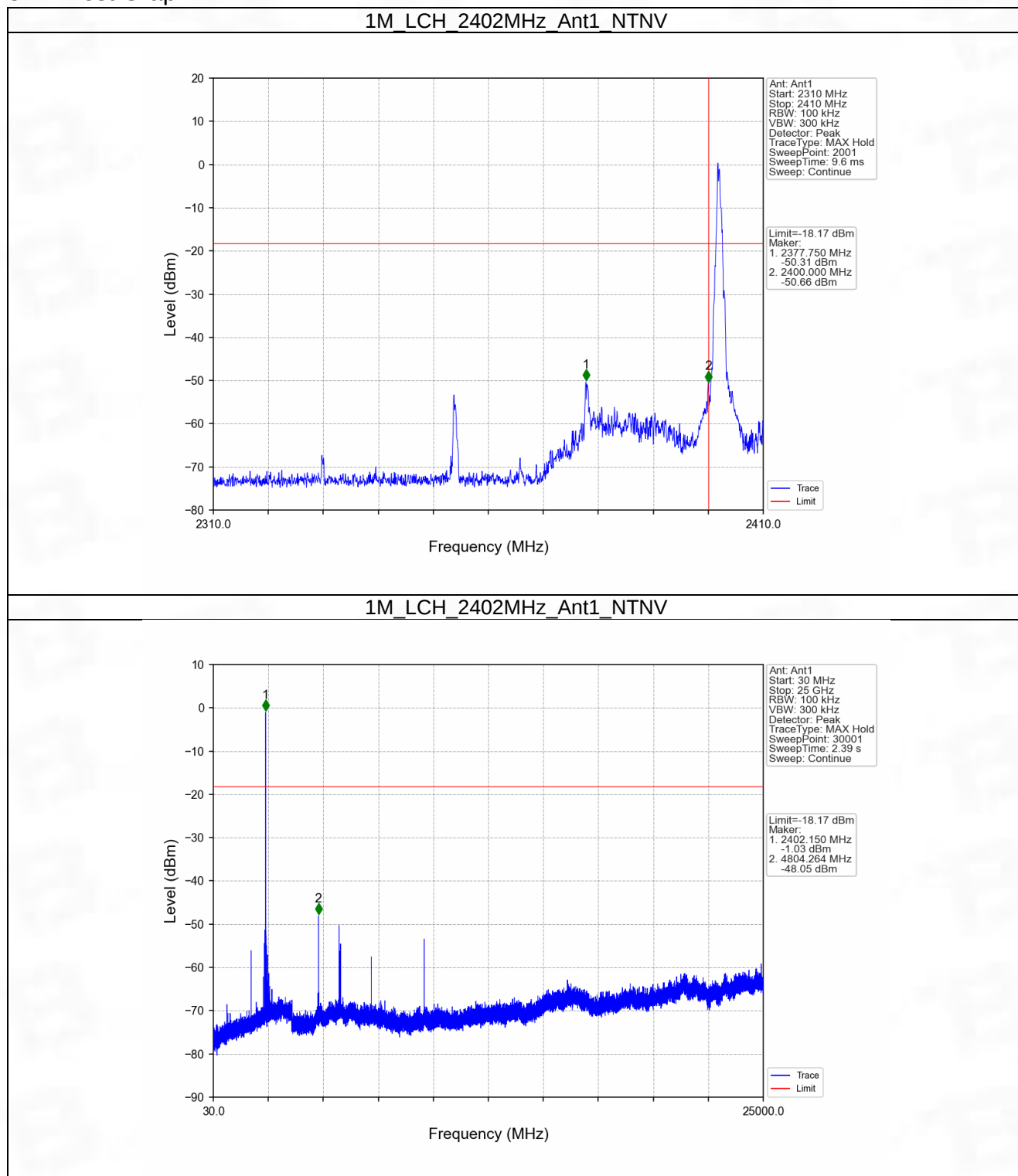
5.2 CSE

5.2.1 Test Result

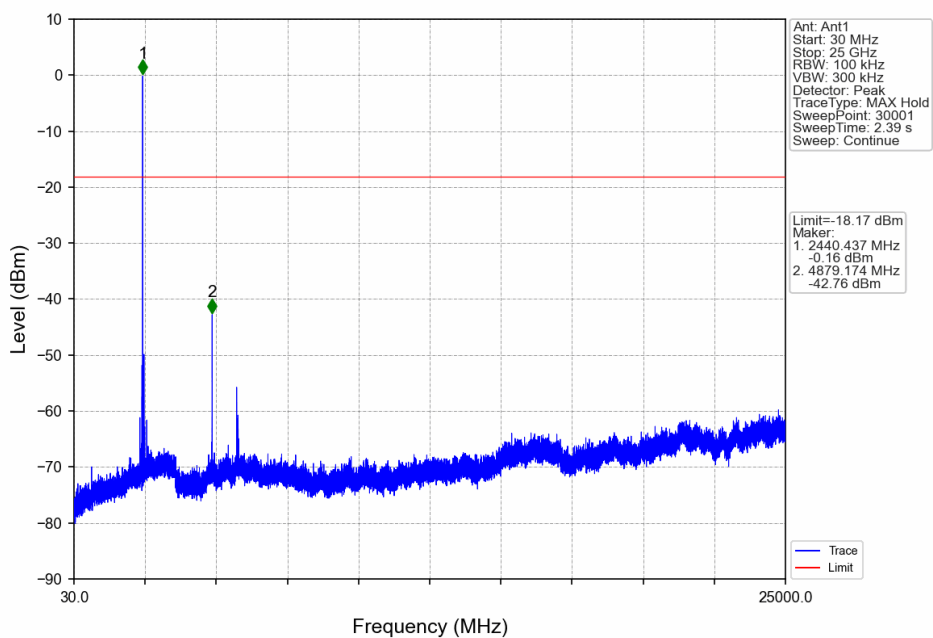
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	1.83	-18.17	Pass
		2440	1	1.83	-18.17	Pass
		2480	1	1.83	-18.17	Pass
2M	SISO	2402	1	1.12	-18.88	Pass
		2440	1	1.12	-18.88	Pass
		2480	1	1.12	-18.88	Pass

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

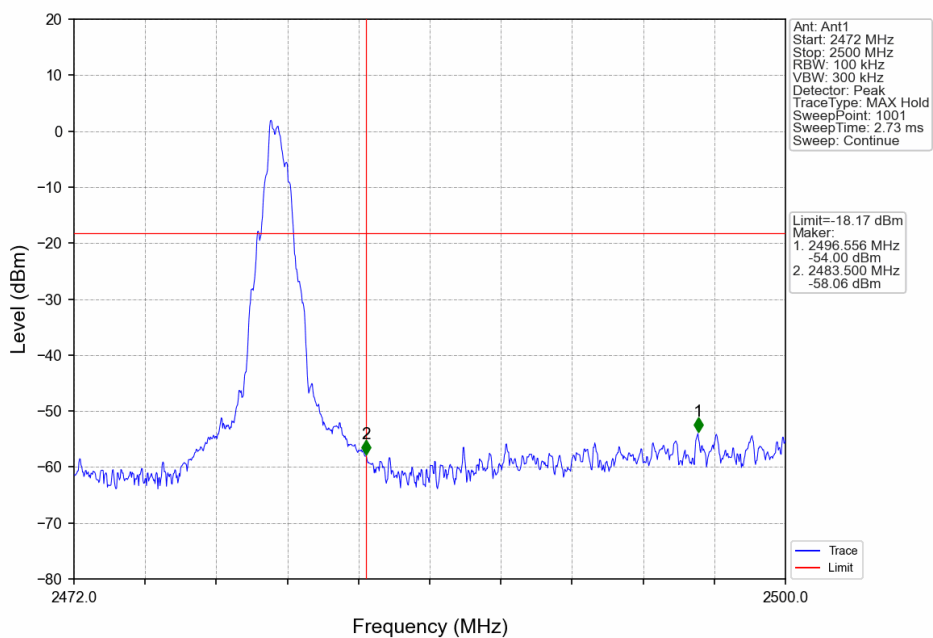
5.2.2 Test Graph



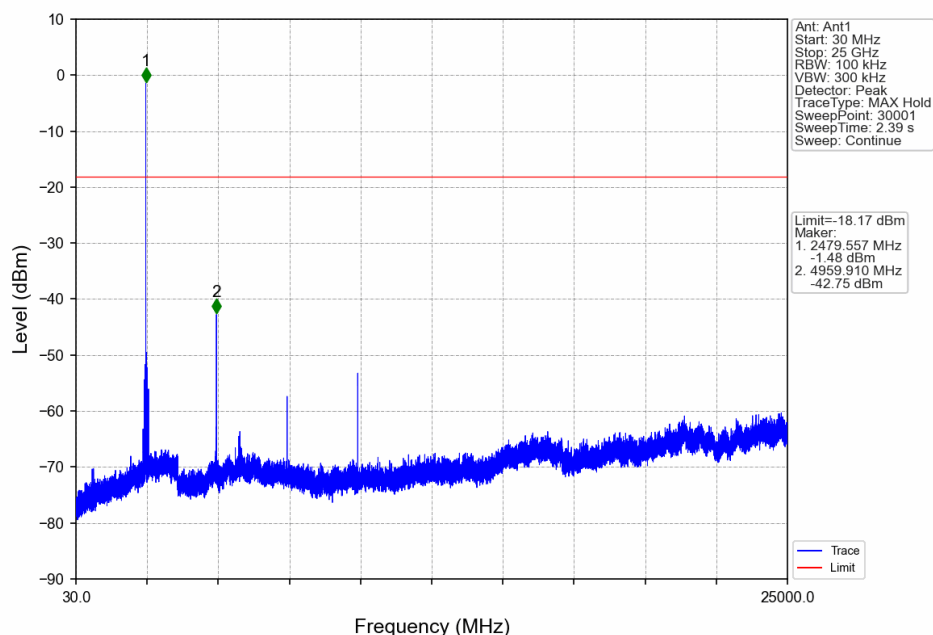
1M_MCH_2440MHz_Ant1_NTNV



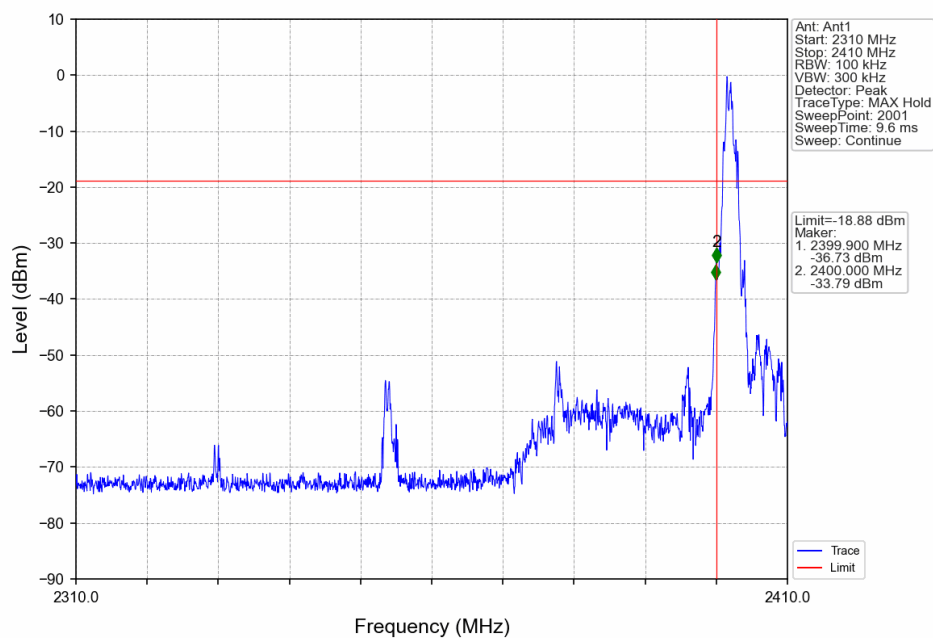
1M_HCH_2480MHz_Ant1_NTNV



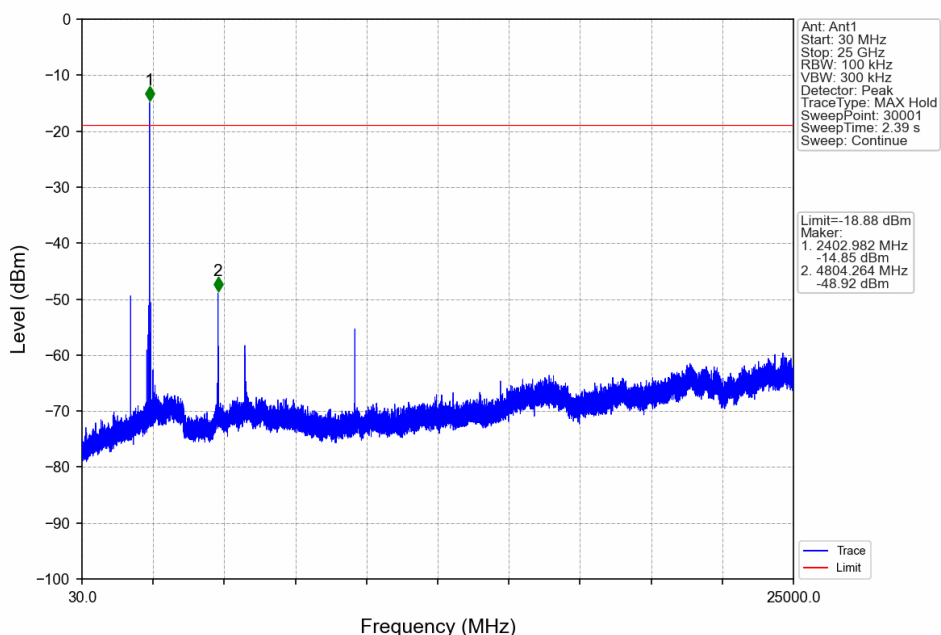
1M_HCH_2480MHz_Ant1_NTNV



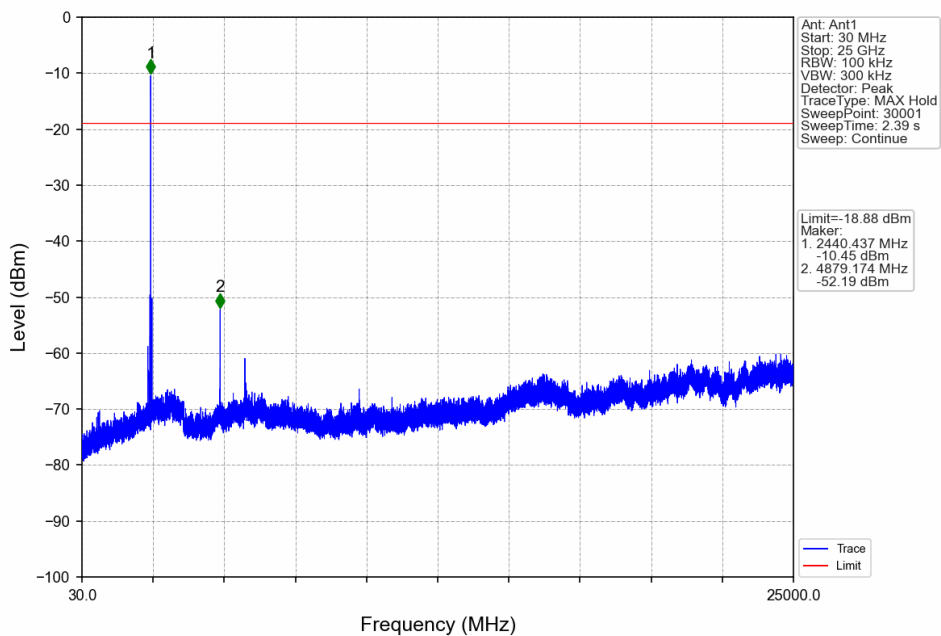
2M_LCH_2402MHz_Ant1_NTNV



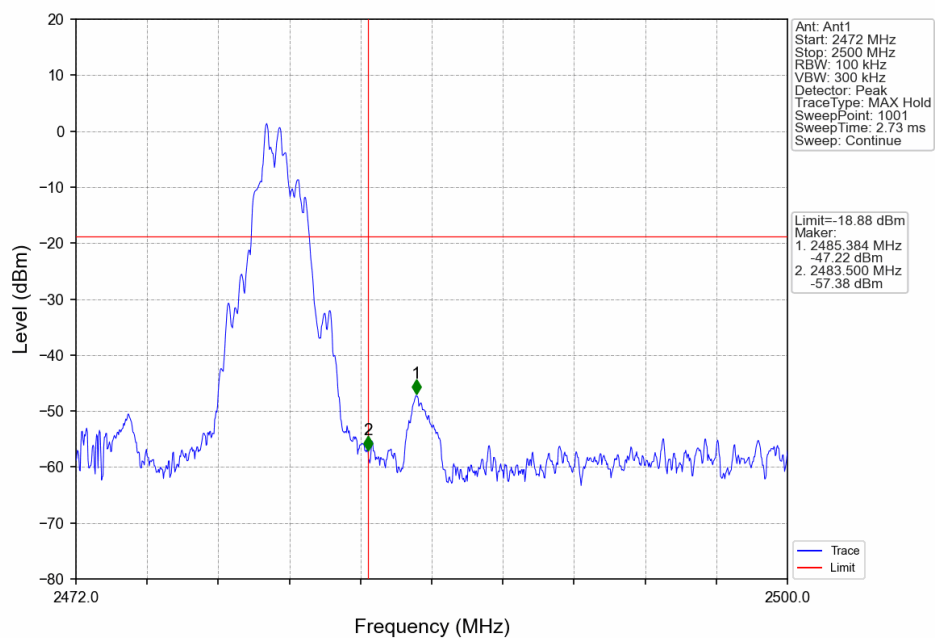
2M_LCH_2402MHz_Ant1_NTNV



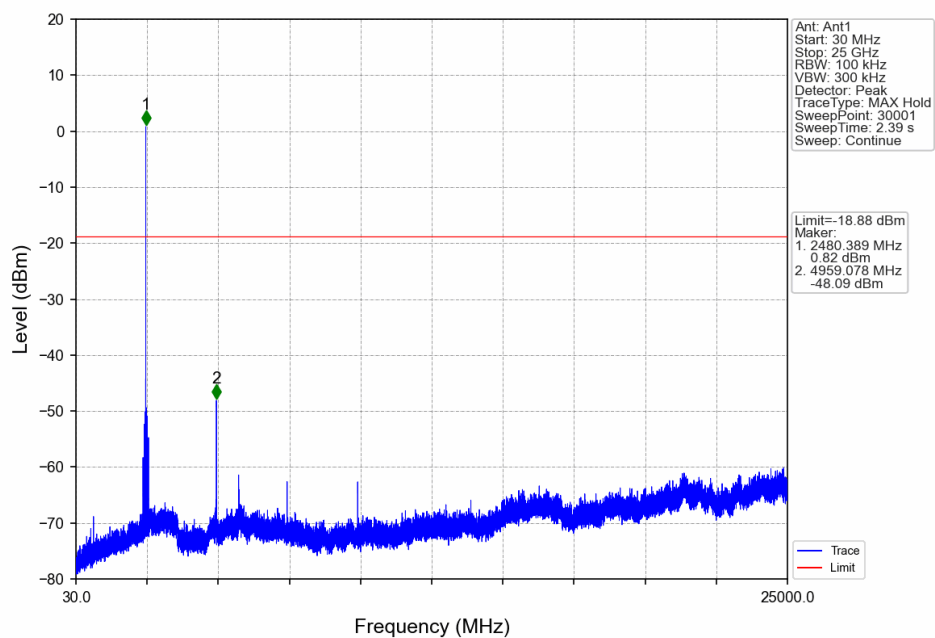
2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



6. Form731

6.1 Form731

6.1.1 Test Result

Lower Freq (MHz)	High Freq (MHz)	MAX Power (W)	MAX Power (dBm)
2402	2480	0.0016	1.97



Test Report Number: BTF230320R00901



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-- END OF REPORT --