

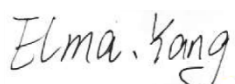
RF Test Report

For

Applicant Name: Shenzhen Feyree Technology Co.,Ltd
Address: 2 buildings A seat The second floor 201, Hisense industrial park in, Saxo road no. 2, South bay street, Longgang District, Shenzhen
EUT Name: Portable EV Charging Station
Brand Name:  菲尔雷® feyree®
Model Number: F-MBM22-AC-1P32
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: BTF230720R00102
Test Standards: 47 CFR Part 15.247
Test Conclusion: Pass
FCC ID: 2BALN-F-MBM22
Test Date: Jun. 23, 2023 -- Jul. 03, 2023
Date of Issue: Jul. 03, 2023

Prepared By: 
elma.yang / Project Engineer
Date: 2023-07-24

Approved By: 
Ryan.CJ / EMC Manager
Date: 2023-07-24

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Test Report Number: BTF230720R00102

Revision History		
Version	Issue Date	Revisions Content
R_V0	2023-07-24	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 Feyree Technology Co.,Ltd
Address:	2 buildings A seat The second floor 201, Hisense industrial park in,Saxo road no. 2,South bay street, Longgang District, Shenzhen

2.2 Manufacturer Information

Company Name:	Shenzhen Feyree Technology Co.,Ltd
Address:	2 buildings A seat The second floor 201, Hisense industrial park in,Saxo road no. 2,South bay street, Longgang District, Shenzhen

2.3 Factory Information

Company Name:	Shenzhen Feyree Technology Co.,Ltd
Address:	2 buildings A seat The second floor 201, Hisense industrial park in,Saxo road no. 2,South bay street, Longgang District, Shenzhen

2.4 General Description of Equipment under Test (EUT)

EUT Name:	Portable EV Charging Station
Sample SN:	230720-01
Test Model Number:	F-MBM22-AC-1P32
Series Model Number:	F-OBM21-AC-1P16, F-OBM21-AC-1P32, F-GBM21-AC-1P16, F-GBM21-AC-1P32, F-MBM21-AC-1P16, F-MBM21-AC-1P32, F-OBM22-AC-1P16, F-OBM22-AC-1P32, F-OBM22-AC-3P16, F-OBM22-AC-3P32, F-GBM22-AC-1P16, F-GBM22-AC-1P32, F-GBM22-AC-3P16, F-GBM22-AC-3P32, F-MBM22-AC-1P16, F-MBM22-AC-1P32, F-MBM22-AC-1P40, F-OBM23-AC-1P16, F-OBM23-AC-1P32, F-OBM23-AC-3P16, F-OBM23-AC-3P32, F-GBM23-AC-1P16, F-GBM23-AC-1P32, F-GBM23-AC-3P16, F-GBM23-AC-3P32, F-MBM23-AC-1P16, F-MBM23-AC-1P32, F-MBM23-AC-1P40

2.5 Technical Information

Power Supply:	AC120V 50/60Hz
Power Adaptor:	/
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz;
Number of Channels:	802.11b/g/n(HT20): 11 Channels;
Modulation Type:	802.11b: DSSS(CCK, DQPSK, DBPSK); 802.11g: OFDM(BPSK, QPSK, 16QAM, 64QAM); 802.11n(HT20): OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna Type:	PCB antenna
Antenna Gain#:	0dBi
Hardware Version:	V1.0
Software Version:	V1.0

Note:

#: The antenna gain provided by the applicant, and the laboratory will not be responsible for the accumulated calculation results which covers the information provided by the applicant.

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

Measurement	Value
Occupied Channel Bandwidth	69 KHz
RF output power, conducted	0.87 dB
Power Spectral Density, conducted	0.69 dB
Unwanted Emissions, conducted	0.94 dB
All emissions, radiated(<1GHz)	4.12 dB
All emissions, radiated(>1GHz)	4.16 dB
Temperature	0.82 °C
Humidity	4.1 %

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
6dB 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	R & S	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	R & S	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	R & S	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	R & S	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	R & S	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	2022-03-26	2023-03-25
Preamplifier	Schwarzbeck	BBV9744	00246	2022-11-24	2023-11-23
RE Cable	REBES Talent	UF1-SMAMAM-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-SMAMAM-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	R & S	ESCI7	101032	2022-11-24	2023-11-23
SIGNAL ANALYZER	R & S	FSQ40	100010	2022-11-24	2023-11-23

POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Broadband Preamplifier	Schwarzbeck	BBV9718D	00008	2022-03-26	2023-03-25
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	2022-03-26	2023-03-25
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	R & S	ESCI7	101032	2022-11-24	2023-11-23
SIGNAL ANALYZER	R & S	FSQ40	100010	2022-11-24	2023-11-23
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Broadband Preamplifier	Schwarzbeck	BBV9718D	00008	2022-03-26	2023-03-25
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	2022-03-26	2023-03-25
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	SKET	PCI-GPIB	/	/	/

CONTROLLER					
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	R & S	FSQ40	100010	2022-11-24	2023-11-23
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Broadband Preamplifier	Schwarzbeck	BBV9718D	00008	2022-03-26	2023-03-25
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

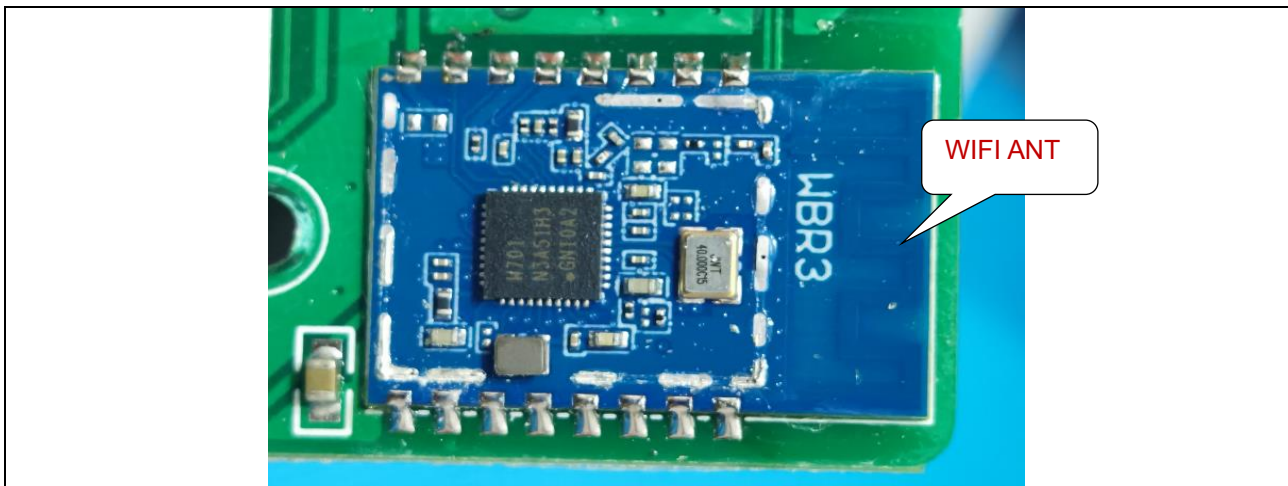
No.	Test Modes	Description
TM1	802.11b mode	Keep the EUT in continuously transmitting mode with 802.11b modulation.
TM2	802.11g mode	Keep the EUT in continuously transmitting mode with 802.11g modulation.
TM3	802.11n(HT20) mode	Keep the EUT in continuously transmitting mode with 802.11n(HT20) modulation.

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)

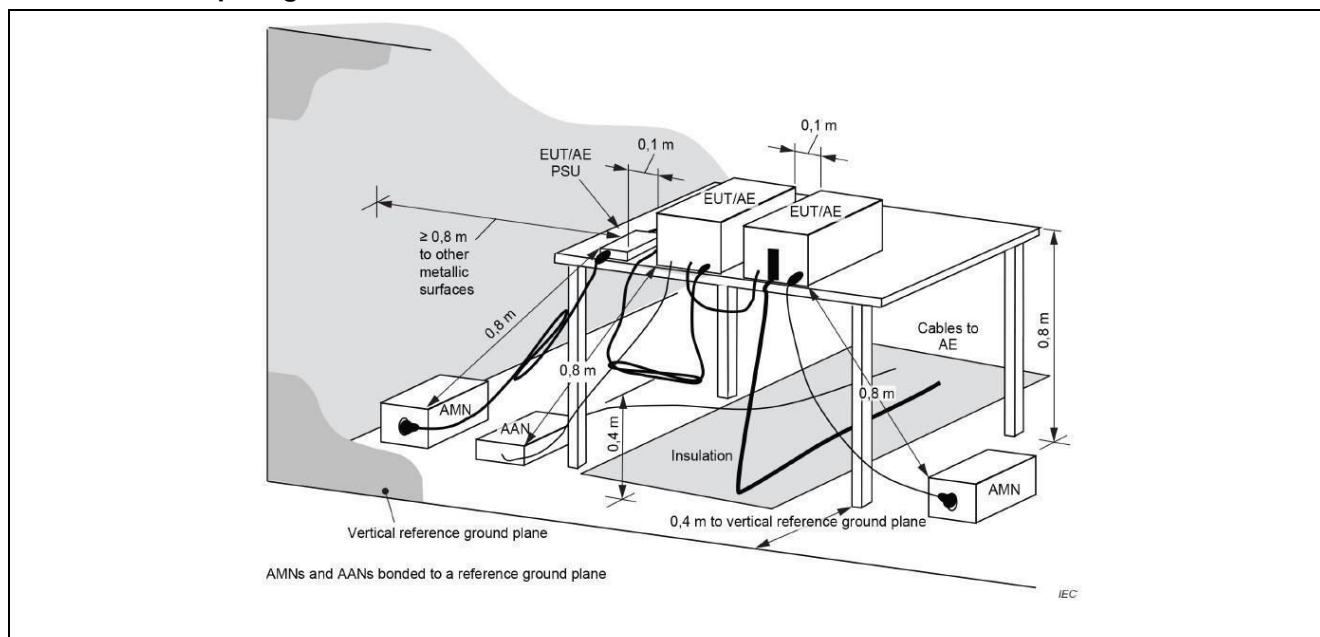
6.1 Conducted Emission at AC power line

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:

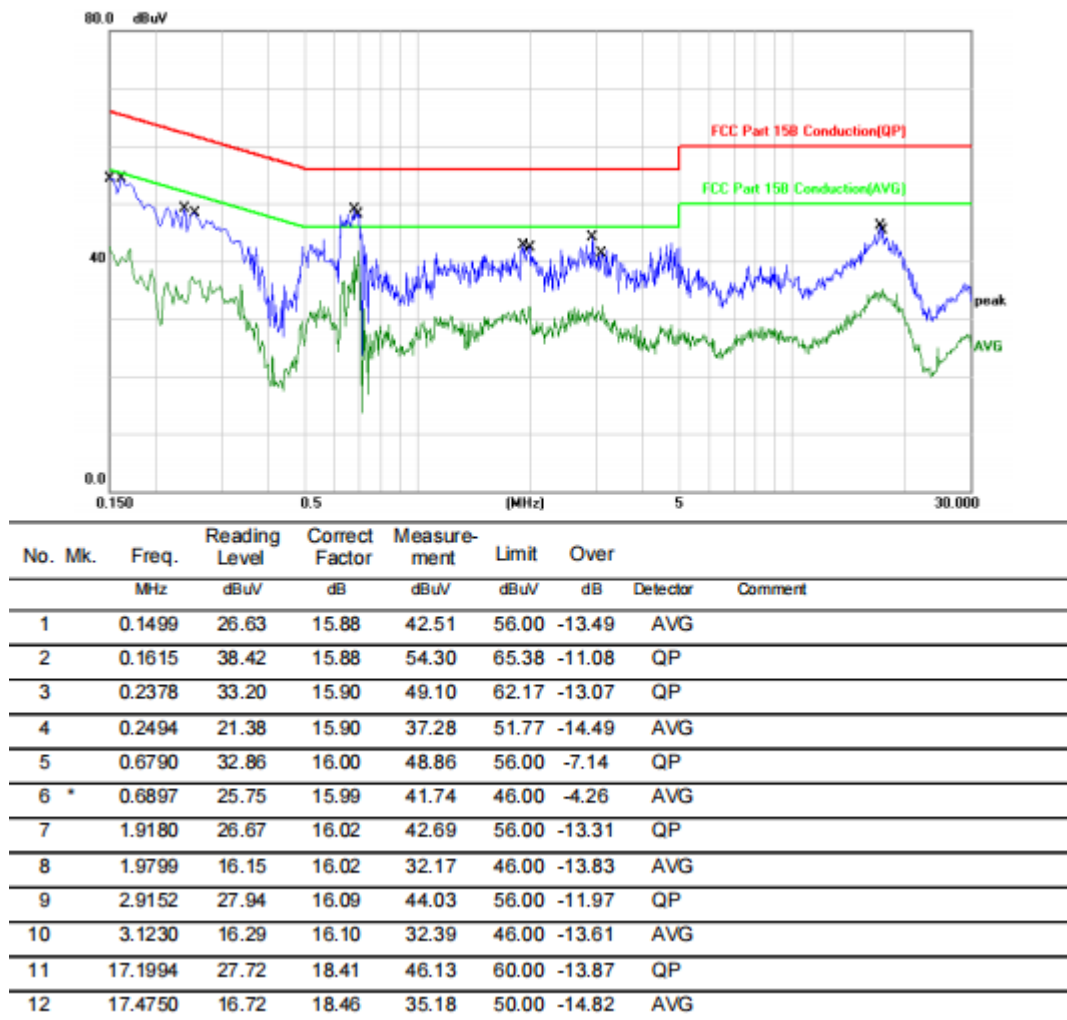
Operating Environment:	
Temperature:	24.8 °C
Humidity:	52.5 %
Atmospheric Pressure:	1010 mbar

6.1.2 Test Setup Diagram:



6.1.3 Test Data:

TM1 / Line: Line / Band: 2.4G / BW: 20 / CH: M



TM1 / Line: Neutral / Band: 2.4G / BW: 20 / CH: M



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.1539	38.45	15.88	54.33	65.78	-11.45	QP	
2	0.1539	25.12	15.88	41.00	55.78	-14.78	AVG	
3	0.2416	20.76	15.90	36.66	52.04	-15.38	AVG	
4	0.2575	32.30	15.90	48.20	61.51	-13.31	QP	
5 *	0.6578	31.60	16.01	47.61	56.00	-8.39	QP	
6	0.6646	21.53	16.00	37.53	46.00	-8.47	AVG	
7	2.5670	12.55	16.07	28.62	46.00	-17.38	AVG	
8	2.6499	24.19	16.07	40.26	56.00	-15.74	QP	
9	4.6467	9.06	16.25	25.31	46.00	-20.69	AVG	
10	4.9519	23.51	16.29	39.80	56.00	-16.20	QP	
11	17.4750	19.20	18.46	37.66	50.00	-12.34	AVG	
12	17.8491	29.38	18.52	47.90	60.00	-12.10	QP	

Notes:

- 1.An initial pre-scan was performed on the line and neutral lines with peak detector.
- 2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3.Mesurement Level = Reading level + Correct Factor

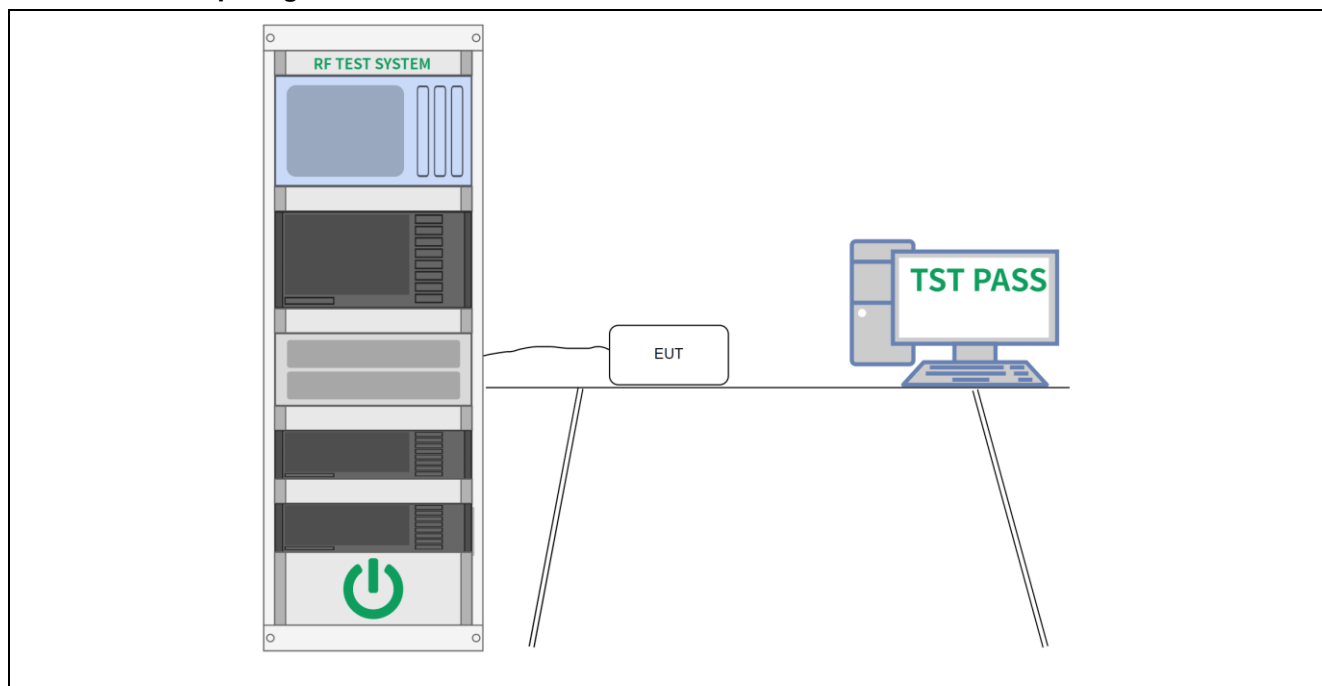
6.2 6dB Bandwidth

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:	23.6 °C
Humidity:	52.9 %
Atmospheric Pressure:	1010 mbar

6.2.2 Test Setup Diagram:



6.2.3 Test Data:

Please Refer to Appendix for Details.

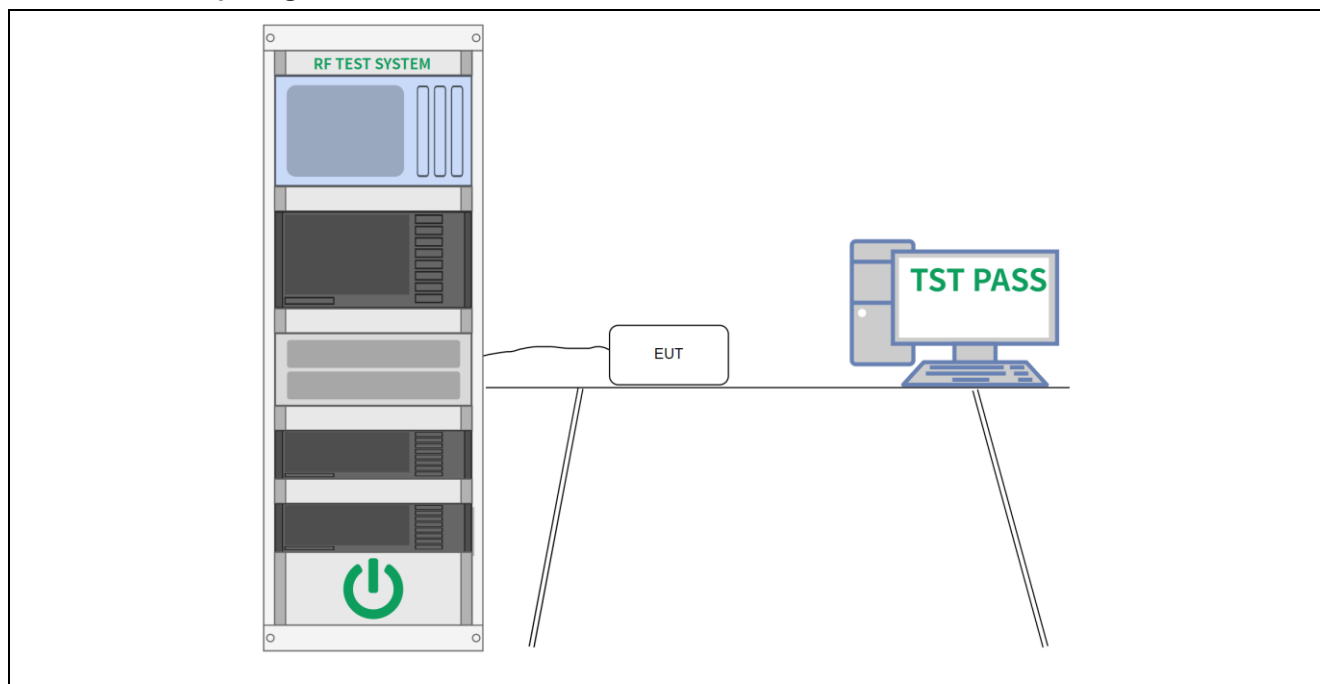
6.3 Maximum Conducted Output Power

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 EUT was directly connected to the Power meter

6.3.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23.6 °C
Humidity:	52.9 %
Atmospheric Pressure:	1010 mbar

6.3.2 Test Setup Diagram:



6.3.3 Test Data:

Please Refer to Appendix for Details.

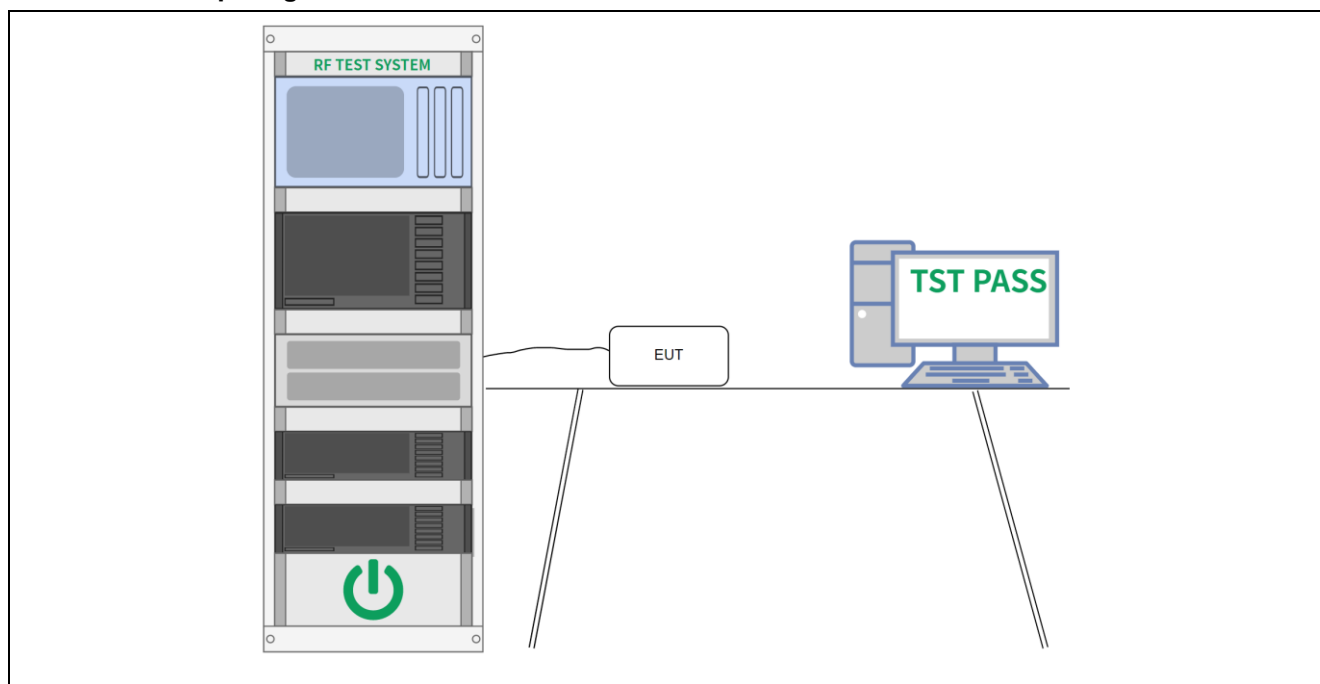
6.4 Power Spectral Density

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:	23.6 °C
Humidity:	52.9 %
Atmospheric Pressure:	1010 mbar

6.4.2 Test Setup Diagram:



6.4.3 Test Data:

Please Refer to Appendix for Details.

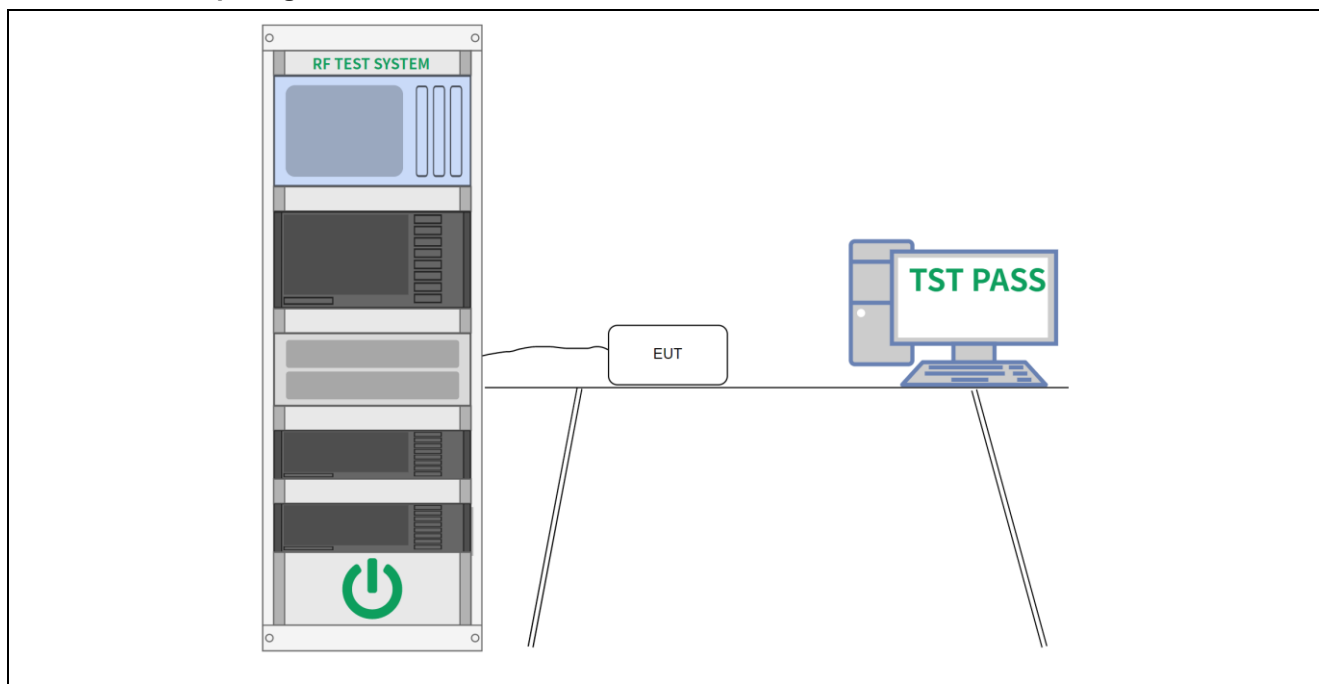
6.5 Emissions in non-restricted frequency bands

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:	23.6 °C
Humidity:	52.9 %
Atmospheric Pressure:	1010 mbar

6.5.2 Test Setup Diagram:



6.5.3 Test Data:

Please Refer to Appendix for Details.

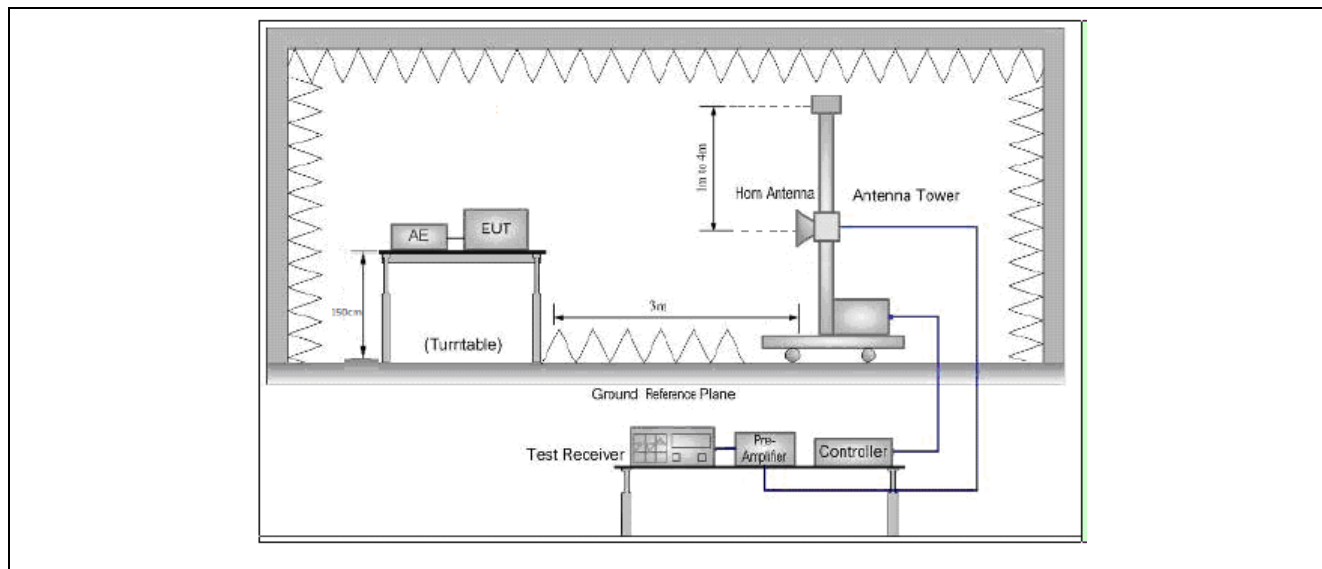
6.6 Band edge emissions (Radiated)

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:	25.8 °C
Humidity:	51.2 %
Atmospheric Pressure:	1010 mbar

6.6.2 Test Setup Diagram:



6.6.3 Test Data:

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.00	69.35	-30.59	38.76	74.00	-35.24	peak	P
2	2390.00	77.30	-30.49	46.81	74.00	-27.19	peak	P
3	2400.00	79.81	-30.48	49.33	74.00	-24.67	peak	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.00	69.56	-30.59	38.97	74.00	-35.03	peak	P
2	2390.00	76.79	-30.49	46.30	74.00	-27.70	peak	P
3	2400.00	78.29	-30.48	47.81	74.00	-26.19	peak	P

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.50	74.71	-30.39	44.32	74.00	-29.68	peak	P
2	2500.00	72.92	-30.37	42.55	74.00	-31.45	peak	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.50	75.65	-30.39	45.26	74.00	-28.74	peak	P
2	2500.00	71.69	-30.37	41.32	74.00	-32.68	peak	P

TM2 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	P/F
1	2310.00	71.64	-30.59	41.05	74.00	-32.95	peak	P
2	2390.00	76.82	-30.49	46.33	74.00	-27.67	peak	P
3	2400.00	78.69	-30.48	48.21	74.00	-25.79	peak	P

TM2 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	P/F
1	2310.00	72.11	-30.59	41.52	74.00	-32.48	peak	P
2	2390.00	75.89	-30.49	45.40	74.00	-28.60	peak	P
3	2400.00	79.21	-30.48	48.73	74.00	-25.27	peak	P

TM2 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.50	74.65	-30.39	44.26	74.00	-29.74	peak	P
2	2500.00	71.21	-30.37	40.84	74.00	-33.16	peak	P

TM2 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.50	75.40	-30.39	45.01	74.00	-28.99	peak	P
2	2500.00	73.62	-30.37	43.25	74.00	-30.75	peak	P

TM3 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.00	71.78	-30.59	41.19	74.00	-32.81	peak	P
2	2390.00	76.55	-30.49	46.06	74.00	-27.94	peak	P
3	2400.00	78.51	-30.48	48.03	74.00	-25.97	peak	P

TM3 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2310.00	71.00	-30.59	40.41	74.00	-33.59	peak	P
2	2390.00	77.69	-30.49	47.20	74.00	-26.80	peak	P
3	2400.00	79.18	-30.48	48.70	74.00	-25.30	peak	P

TM3 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.50	75.31	-30.39	44.92	74.00	-29.08	peak	P
2	2500.00	71.18	-30.37	40.81	74.00	-33.19	peak	P

TM3 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.50	75.05	-30.39	44.66	74.00	-29.34	peak	P
2	2500.00	73.14	-30.37	42.77	74.00	-31.23	peak	P

Remark:

1. Emission Level = Meter Reading + Factor, Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

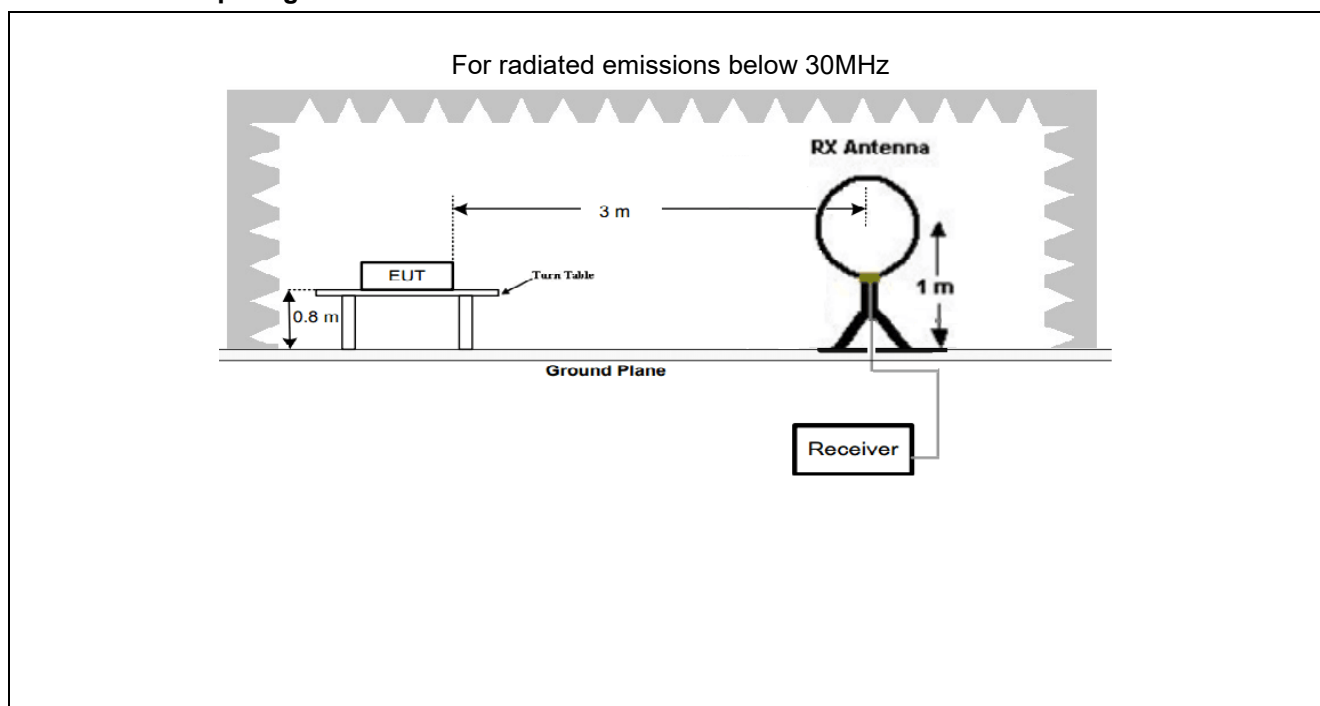
6.7 Emissions in restricted frequency bands (below 1GHz)

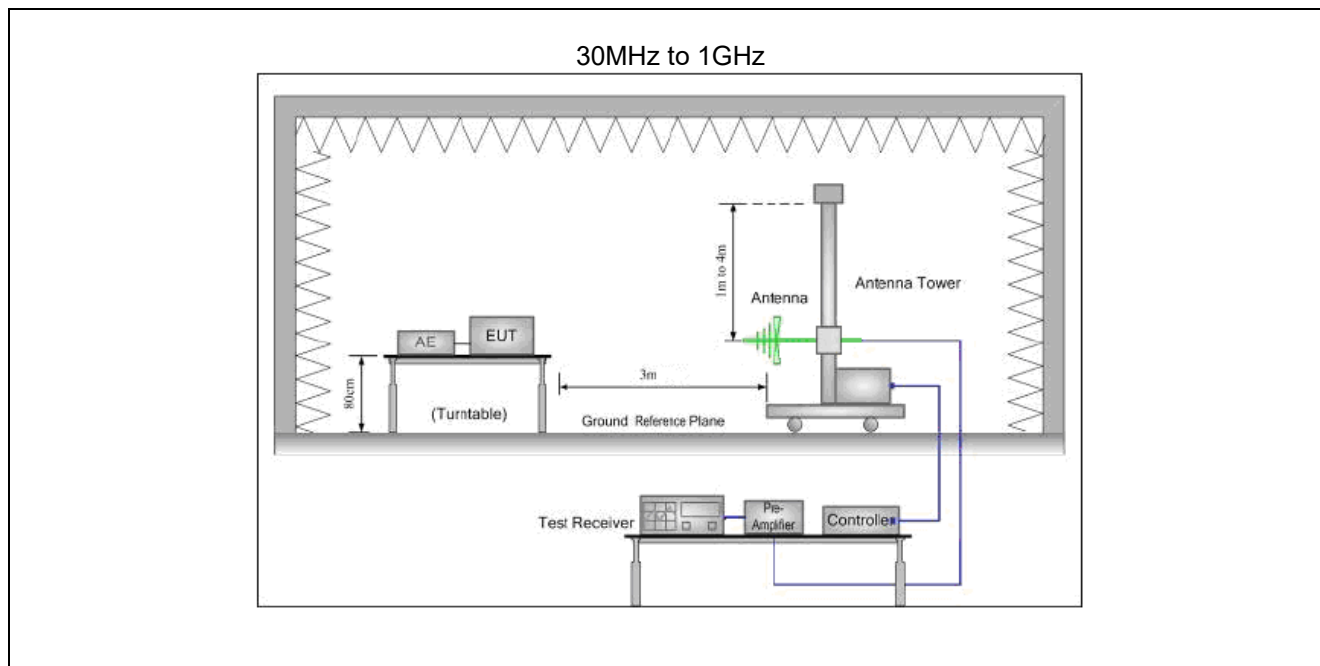
Test Requirement:	In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`		
Test Method:	Radiated emissions tests		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	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:	25.8 °C
Humidity:	51.2 %
Atmospheric Pressure:	1010 mbar

6.7.2 Test Setup Diagram:





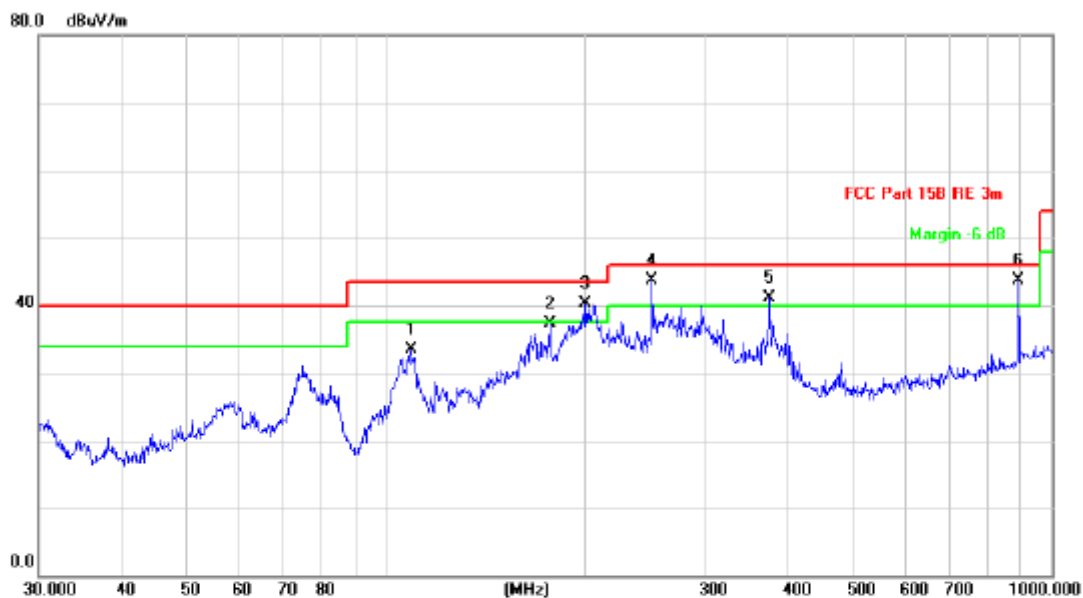
6.7.3 Test Data:

Between 9KHz – 30MHz

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

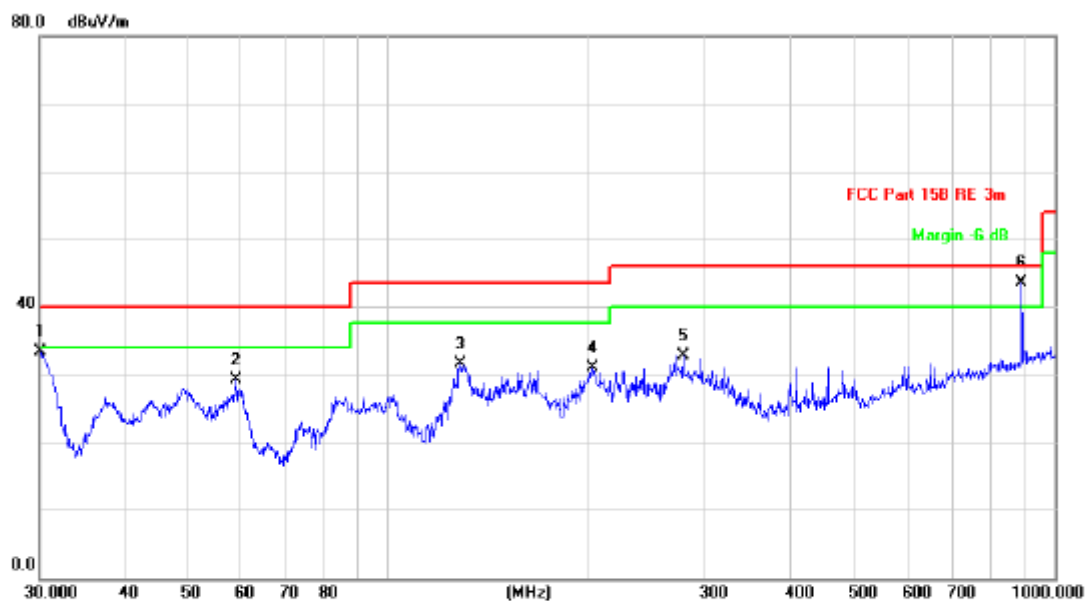
Between 30MHz – 1000MHz.

Note: All the mode have been tested, and only the worst case of 802.11n mode are in the report
TM1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: L



No. Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	
	MHz	Level	Factor	ment			Height	Degree	
		dBuV	dB	dBuV/m	dB/m	dB	Detector	cm	degree
1	109.0286	44.98	-11.48	33.50	43.50	-10.00	QP	100	343
2	176.8878	48.79	-11.58	37.21	43.50	-6.29	QP	100	288
3	199.9856	51.22	-10.94	40.28	43.50	-3.22	QP	100	218
4	250.3012	54.51	-10.75	43.76	46.00	-2.24	QP	100	275
5	375.9385	48.67	-7.57	41.10	46.00	-4.90	QP	100	114
6	890.7278	35.65	8.05	43.70	46.00	-2.30	QP	100	37

TM1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: L



No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
	MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	cm	degree
1	30.1054	35.32	-2.03	33.29	40.00	-6.71	QP	100	253
2	59.2325	45.54	-16.50	29.04	40.00	-10.96	QP	100	271
3	128.5630	41.61	-10.19	31.42	43.50	-12.08	QP	100	91
4	203.5228	41.60	-10.78	30.82	43.50	-12.68	QP	100	93
5	278.0668	41.44	-8.70	32.74	46.00	-13.26	QP	100	246
6	* 890.7278	35.34	8.43	43.77	46.00	-2.23	QP	100	39

Note:

- 1.Final Over = Receiver Read level + Factor - Limit
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.

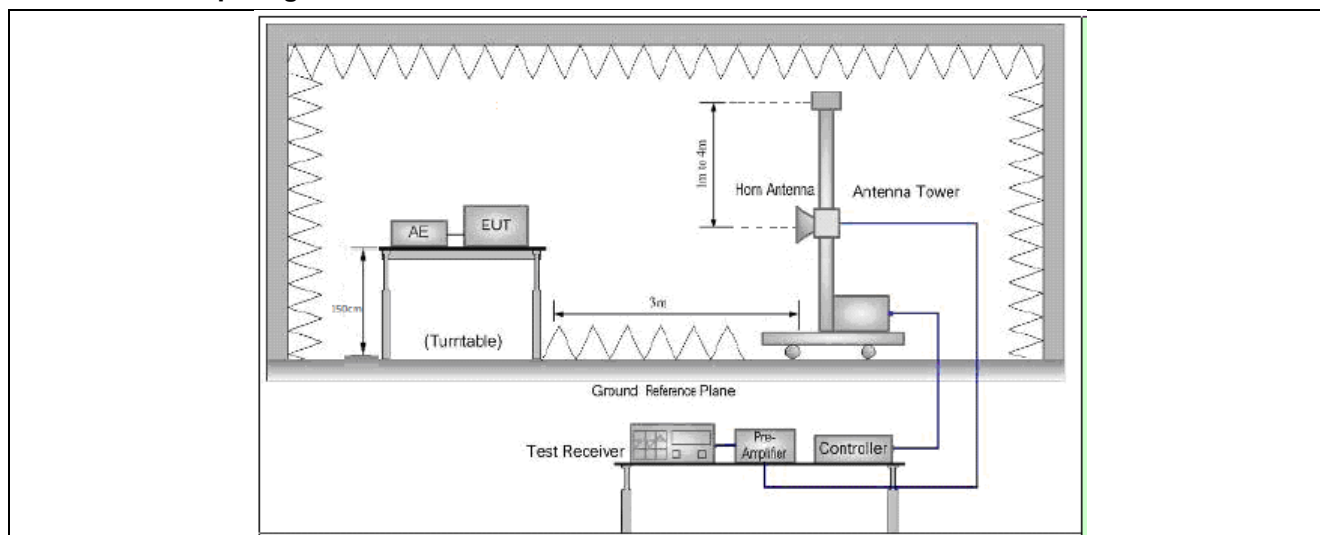
6.8 Emissions in restricted frequency bands (above 1GHz)

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:	25.8 °C
Humidity:	51.2 %
Atmospheric Pressure:	1010 mbar

6.8.2 Test Setup Diagram:



6.8.3 Test Data:

1GHz~25GHz (Record only the worst channel test results)

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2914.582	69.67	-29.66	40.01	74.00	-33.99	peak	P
2	4277.116	68.18	-28.89	39.29	74.00	-34.71	peak	P
3	6085.472	64.91	-25.33	39.58	74.00	-34.42	peak	P
4	8645.893	69.79	-25.03	44.76	74.00	-29.24	peak	P
5	11047.321	67.94	-23.40	44.54	74.00	-29.46	peak	P
6 *	14218.123	70.79	-21.13	49.66	74.00	-24.34	peak	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2973.293	66.98	-29.56	37.42	74.00	-36.58	peak	P
2	4313.118	68.82	-28.86	39.96	74.00	-34.04	peak	P
3	6353.277	67.48	-25.36	42.12	74.00	-31.88	peak	P
4	8576.204	69.09	-25.17	43.92	74.00	-30.08	peak	P
5	11286.155	70.93	-23.22	47.71	74.00	-26.29	peak	P
6 *	14955.796	72.08	-20.47	51.61	74.00	-22.39	peak	P

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: M

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	3206.272	66.11	-29.32	36.79	74.00	-37.21	peak	P
2	4334.363	69.03	-28.86	40.17	74.00	-33.83	peak	P
3	6609.903	67.29	-25.28	42.01	74.00	-31.99	peak	P
4	8262.322	71.21	-25.42	45.79	74.00	-28.21	peak	P
5	10658.390	70.42	-24.18	46.24	74.00	-27.76	peak	P
6 *	13269.094	72.90	-21.14	51.76	74.00	-22.24	peak	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: M

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2996.588	65.31	-29.51	35.80	74.00	-38.20	peak	P
2	4018.252	64.18	-28.99	35.19	74.00	-38.81	peak	P
3	5722.120	63.36	-26.23	37.13	74.00	-36.87	peak	P
4	7177.452	66.34	-24.88	41.46	74.00	-32.54	peak	P
5	8825.154	69.57	-24.66	44.91	74.00	-29.09	peak	P
6 *	12731.831	71.32	-21.49	49.83	74.00	-24.17	peak	P

TM1 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	3003.524	62.46	-29.51	32.95	74.00	-41.05	peak	P
2	3934.356	63.80	-29.01	34.79	74.00	-39.21	peak	P
3	5391.360	66.31	-27.04	39.27	74.00	-34.73	peak	P
4	6698.373	68.62	-25.20	43.42	74.00	-30.58	peak	P
5	8850.699	67.85	-24.61	43.24	74.00	-30.76	peak	P
6 *	11721.685	69.42	-22.67	46.75	74.00	-27.25	peak	P

TM1 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2987.939	62.69	-29.53	33.16	74.00	-40.84	peak	P
2	3649.527	64.22	-29.04	35.18	74.00	-38.82	peak	P
3	4802.722	68.21	-27.92	40.29	74.00	-33.71	peak	P
4	6778.224	67.66	-25.13	42.53	74.00	-31.47	peak	P
5	9787.258	70.95	-23.83	47.12	74.00	-26.88	peak	P
6 *	12731.831	70.82	-21.49	49.33	74.00	-24.67	peak	P

TM2 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	3194.247	59.99	-29.33	30.66	74.00	-43.34	peak	P
2	4246.321	61.86	-28.89	32.97	74.00	-41.03	peak	P
3	5538.248	65.53	-26.83	38.70	74.00	-35.30	peak	P
4	7198.228	66.43	-24.87	41.56	74.00	-32.44	peak	P
5	9708.370	68.29	-23.65	44.64	74.00	-29.36	peak	P
6 *	13181.175	71.00	-21.20	49.80	74.00	-24.20	peak	P

TM2 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2952.739	65.29	-29.59	35.70	74.00	-38.30	peak	P
2	3916.203	65.02	-29.01	36.01	74.00	-37.99	peak	P
3	5533.448	70.24	-26.84	43.40	74.00	-30.60	peak	P
4	7117.542	66.39	-24.89	41.50	74.00	-32.50	peak	P
5	10212.065	69.01	-24.38	44.63	74.00	-29.37	peak	P
6 *	14054.687	70.60	-21.10	49.50	74.00	-24.50	peak	P

TM2 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: M

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	3033.186	66.37	-29.48	36.89	74.00	-37.11	peak	P
2	4478.266	67.21	-28.80	38.41	74.00	-35.59	peak	P
3	6404.903	68.81	-25.37	43.44	74.00	-30.56	peak	P
4	9118.153	68.63	-24.05	44.58	74.00	-29.42	peak	P
5	11647.386	70.19	-22.80	47.39	74.00	-26.61	peak	P
6 *	13473.927	72.39	-20.99	51.40	74.00	-22.60	peak	P

TM2 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: M

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	3119.430	64.00	-29.41	34.59	74.00	-39.41	peak	P
2	4109.872	67.74	-28.95	38.79	74.00	-35.21	peak	P
3	5953.251	68.65	-25.48	43.17	74.00	-30.83	peak	P
4	7571.691	65.52	-24.89	40.63	74.00	-33.37	peak	P
5	9929.730	70.34	-24.14	46.20	74.00	-27.80	peak	P
6 *	12827.871	70.52	-21.44	49.08	74.00	-24.92	peak	P

TM2 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	3033.186	63.37	-29.48	33.89	74.00	-40.11	peak	P
2	4164.880	67.53	-28.93	38.60	74.00	-35.40	peak	P
3	5301.732	67.60	-27.12	40.48	74.00	-33.52	peak	P
4	6851.102	70.02	-25.06	44.96	74.00	-29.04	peak	P
5	9205.540	70.76	-23.85	46.91	74.00	-27.09	peak	P
6 *	13937.372	70.78	-21.07	49.71	74.00	-24.29	peak	P

TM2 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2907.851	63.48	-29.67	33.81	74.00	-40.19	peak	P
2	3857.783	66.24	-29.01	37.23	74.00	-36.77	peak	P
3	5002.496	67.82	-27.37	40.45	74.00	-33.55	peak	P
4	6912.765	68.48	-25.01	43.47	74.00	-30.53	peak	P
5	9599.547	71.36	-23.42	47.94	74.00	-26.06	peak	P
6 *	12640.163	71.00	-21.53	49.47	74.00	-24.53	peak	P

TM3 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2739.766	66.49	-29.96	36.53	74.00	-37.47	peak	P
2	3812.336	67.30	-29.02	38.28	74.00	-35.72	peak	P
3	5427.320	63.49	-27.01	36.48	74.00	-37.52	peak	P
4	7708.601	65.09	-25.10	39.99	74.00	-34.01	peak	P
5	10062.634	67.09	-24.32	42.77	74.00	-31.23	peak	P
6 *	12731.831	68.82	-21.49	47.33	74.00	-26.67	peak	P

TM3 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	3103.243	68.46	-29.42	39.04	74.00	-34.96	peak	P
2	4303.156	69.68	-28.87	40.81	74.00	-33.19	peak	P
3	5917.225	68.49	-25.59	42.90	74.00	-31.10	peak	P
4	7628.806	66.91	-24.97	41.94	74.00	-32.06	peak	P
5	10123.898	69.69	-24.34	45.35	74.00	-28.65	peak	P
6 *	12505.705	71.56	-21.61	49.95	74.00	-24.05	peak	P

TM3 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: M

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	3355.120	65.55	-29.19	36.36	74.00	-37.64	peak	P
2	4593.632	66.58	-28.52	38.06	74.00	-35.94	peak	P
3	7439.362	65.60	-24.80	40.80	74.00	-33.20	peak	P
4	10551.110	68.99	-24.41	44.58	74.00	-29.42	peak	P
5	13709.633	68.73	-21.01	47.72	74.00	-26.28	peak	P
6 *	17191.496	67.32	-17.53	49.79	74.00	-24.21	peak	P

TM3 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: M

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	3044.605	61.31	-29.47	31.84	74.00	-42.16	peak	P
2	3883.514	61.74	-29.01	32.73	74.00	-41.27	peak	P
3	5119.517	64.19	-27.27	36.92	74.00	-37.08	peak	P
4	6596.542	66.02	-25.29	40.73	74.00	-33.27	peak	P
5 *	8348.743	69.65	-25.38	44.27	74.00	-29.73	peak	P
6	10658.390	68.42	-24.18	44.24	74.00	-29.76	peak	P

TM3 / Polarization: Horizontal / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	3035.818	62.72	-29.47	33.25	74.00	-40.75	peak	P
2	3825.582	64.11	-29.02	35.09	74.00	-38.91	peak	P
3	5364.934	64.70	-27.07	37.63	74.00	-36.37	peak	P
4	7893.485	67.63	-25.37	42.26	74.00	-31.74	peak	P
5	10390.709	72.50	-24.47	48.03	74.00	-25.97	peak	P
6 *	17346.227	66.13	-16.92	49.21	74.00	-24.79	peak	P

TM3 / Polarization: Vertical / Band: 2.4G / BW: 20 / CH: H

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	3173.082	60.27	-29.36	30.91	74.00	-43.09	peak	P
2	3883.514	64.74	-29.01	35.73	74.00	-38.27	peak	P
3	5301.732	66.60	-27.12	39.48	74.00	-34.52	peak	P
4	6762.569	66.39	-25.14	41.25	74.00	-32.75	peak	P
5	9750.552	69.24	-23.74	45.50	74.00	-28.50	peak	P
6 *	13709.633	70.23	-21.01	49.22	74.00	-24.78	peak	P

Remark:

1. Emission Level = Meter Reading + Factor, Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

7 EUT Constructional Details (EUT Photos)

Please refer to the report No.:BTF230720R00101

Appendix

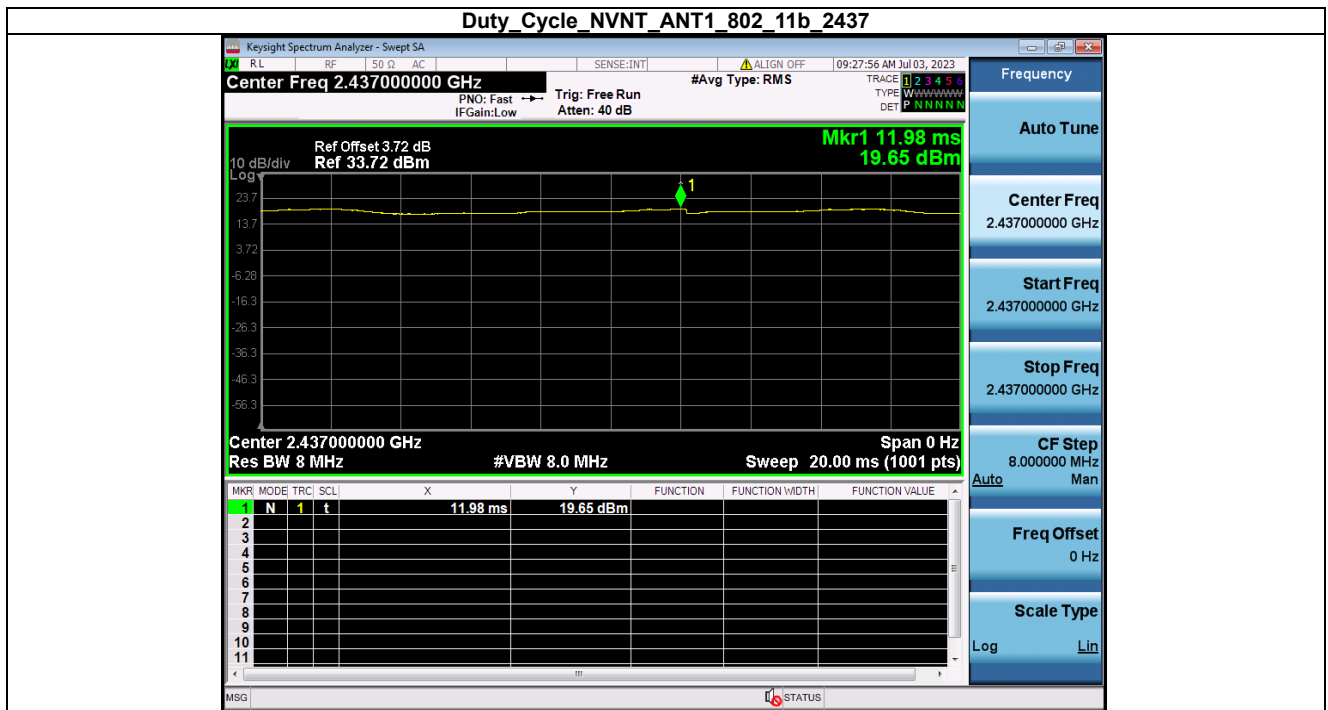
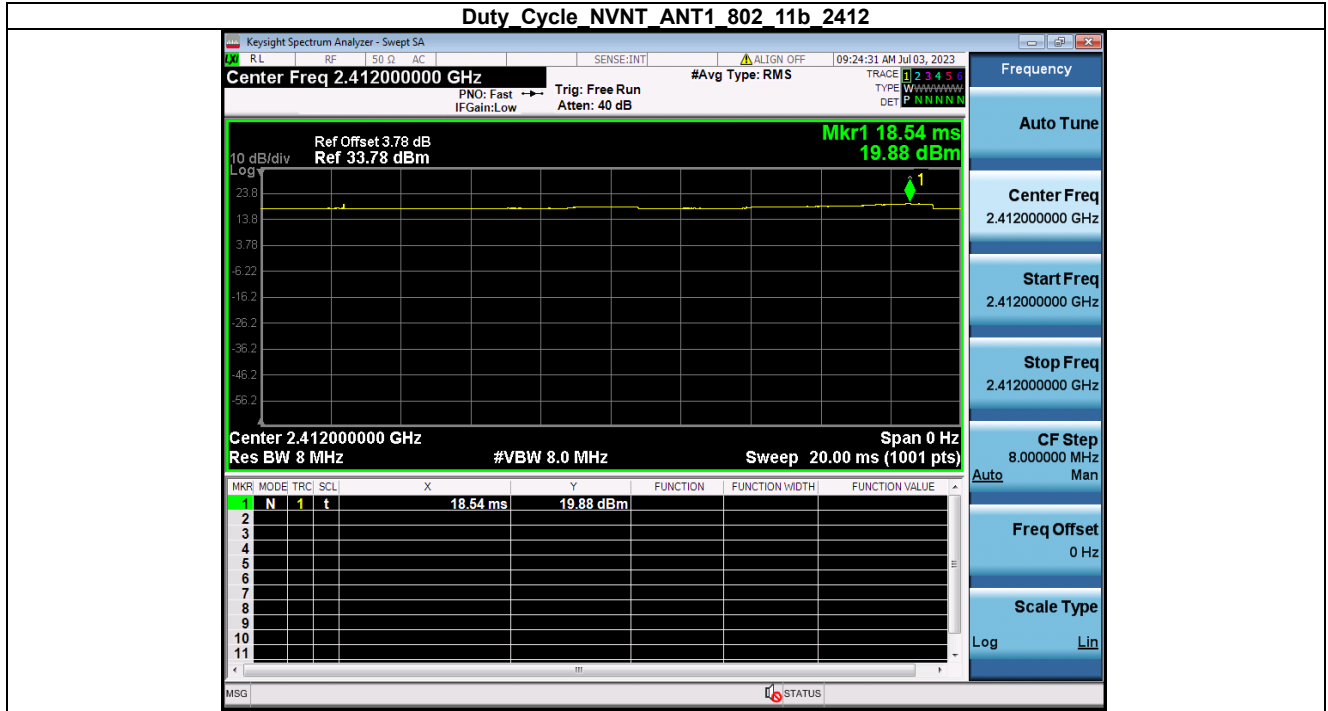
1. Duty Cycle

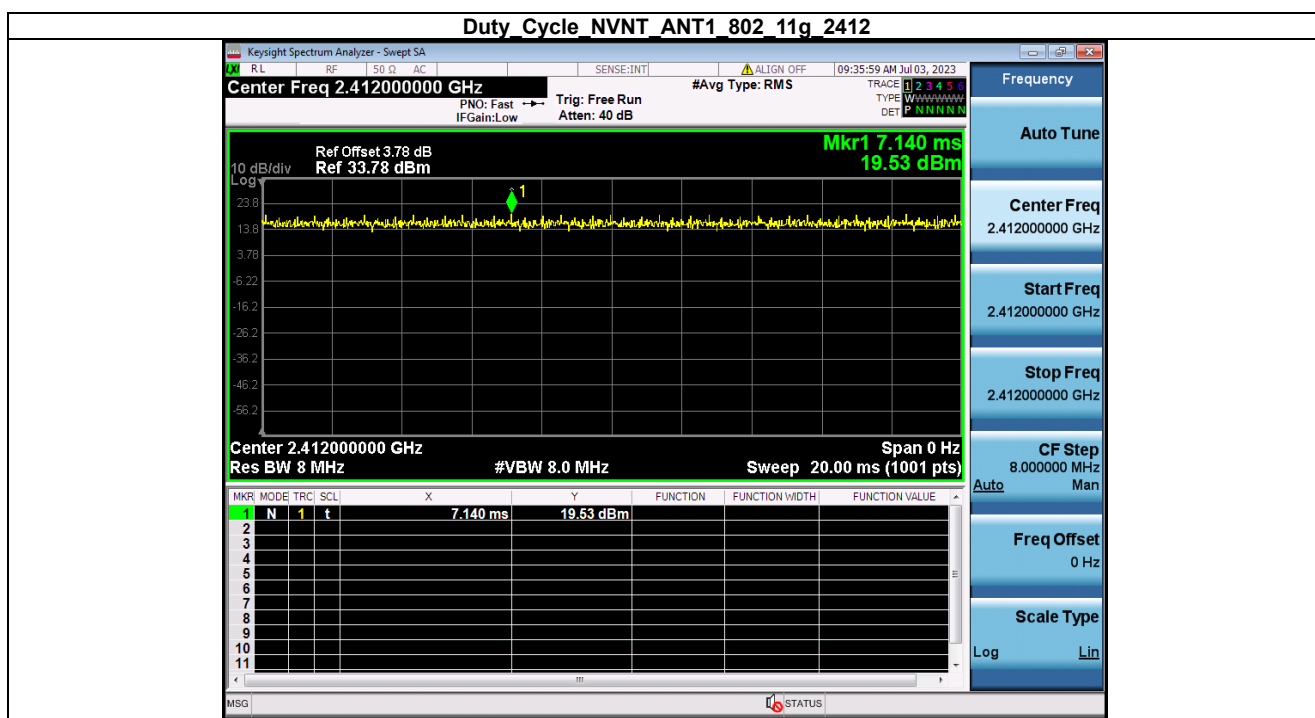
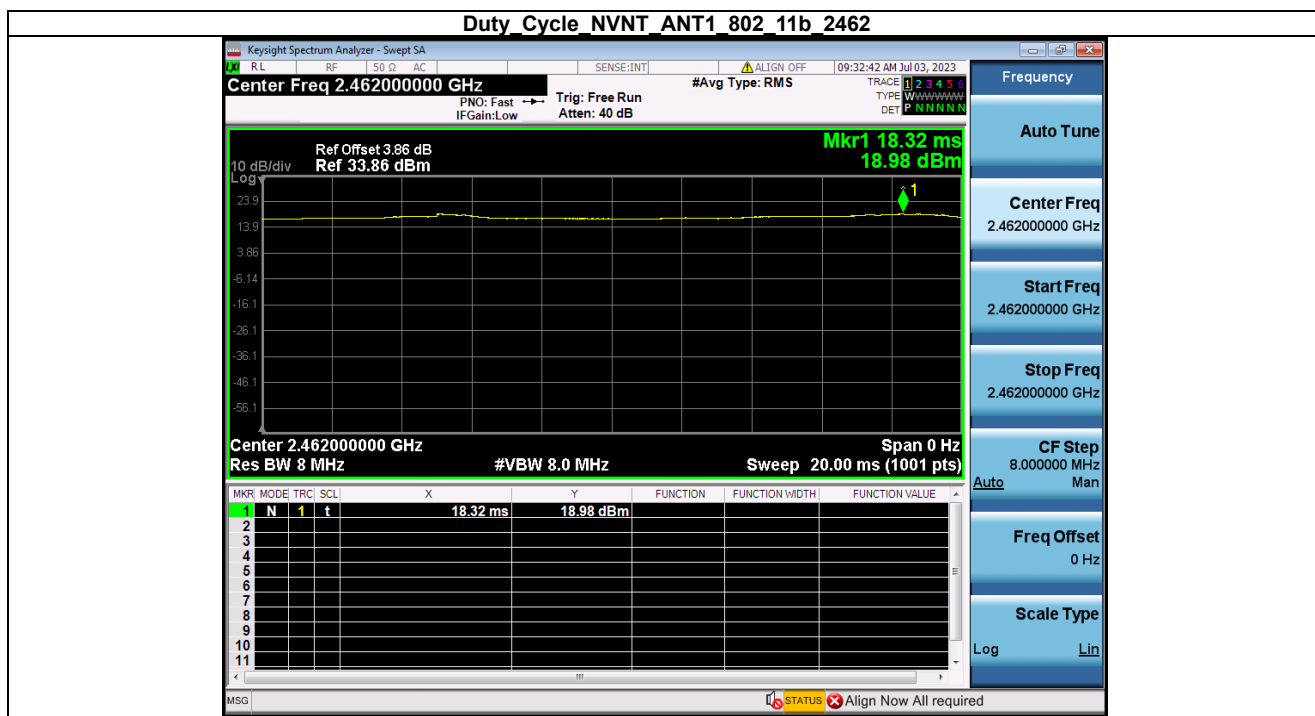
1.1 Ant1

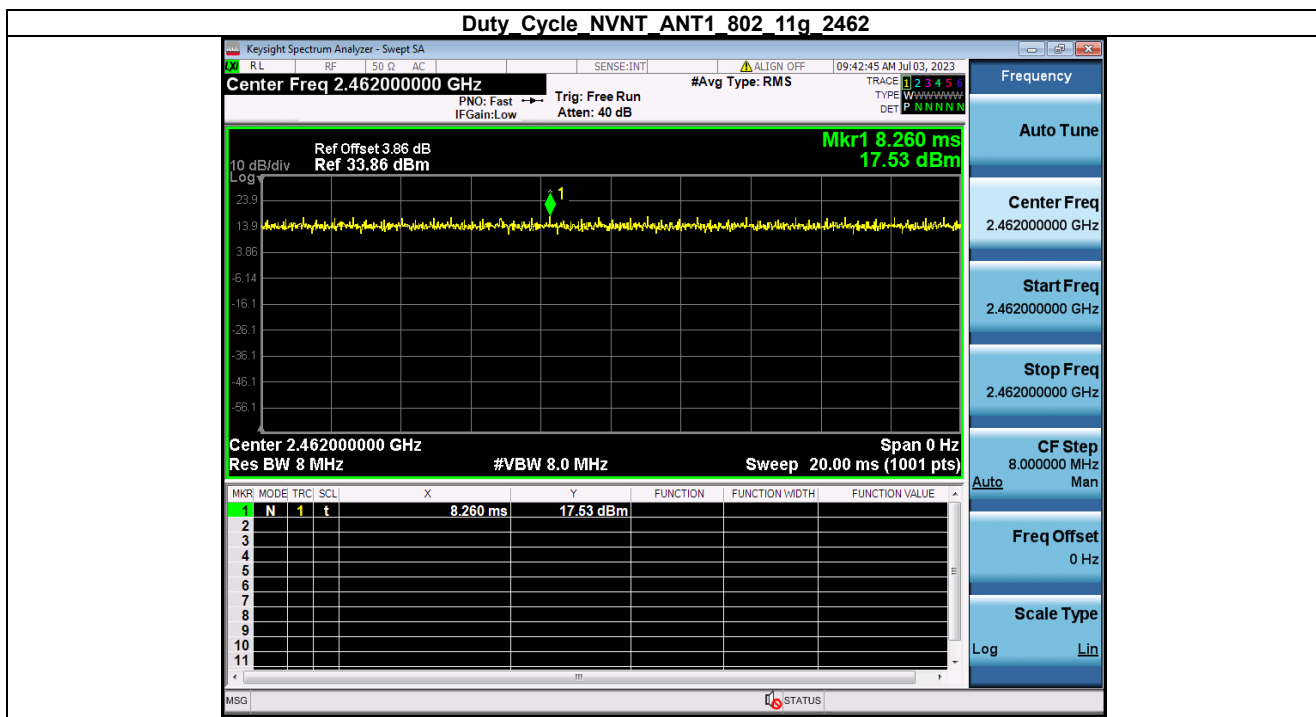
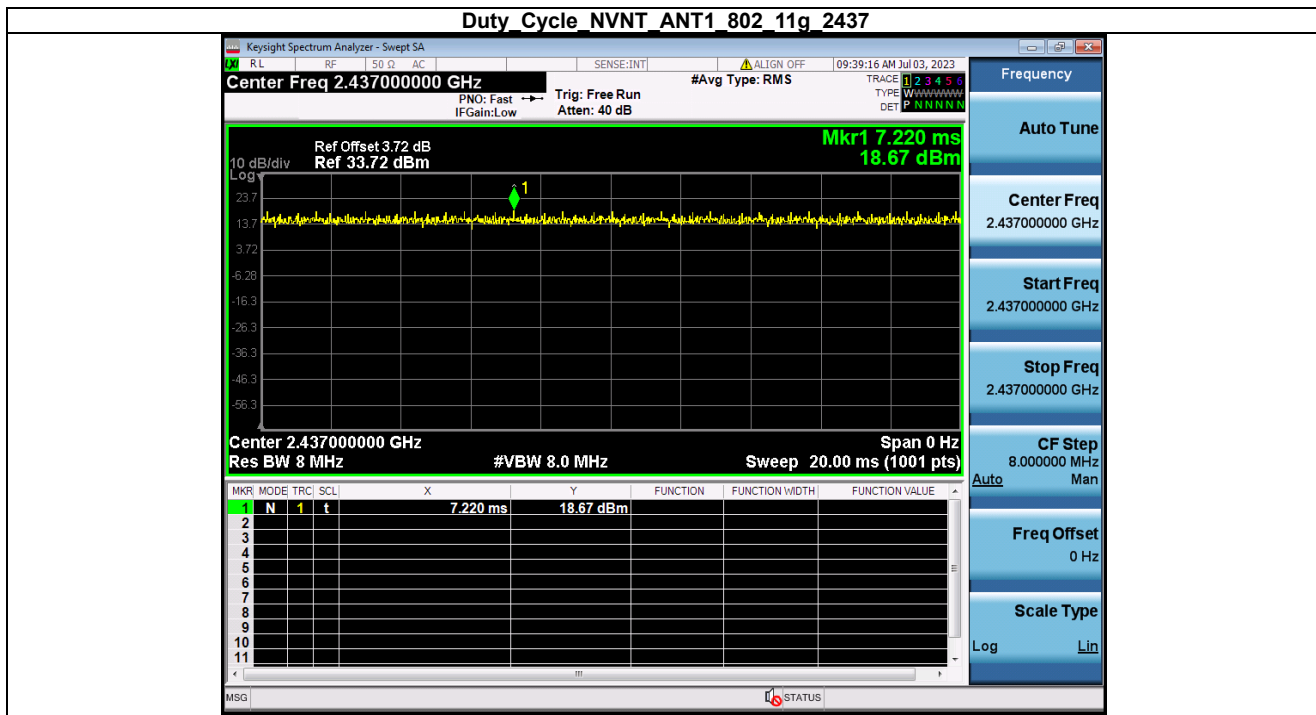
1.1.1 Test Result

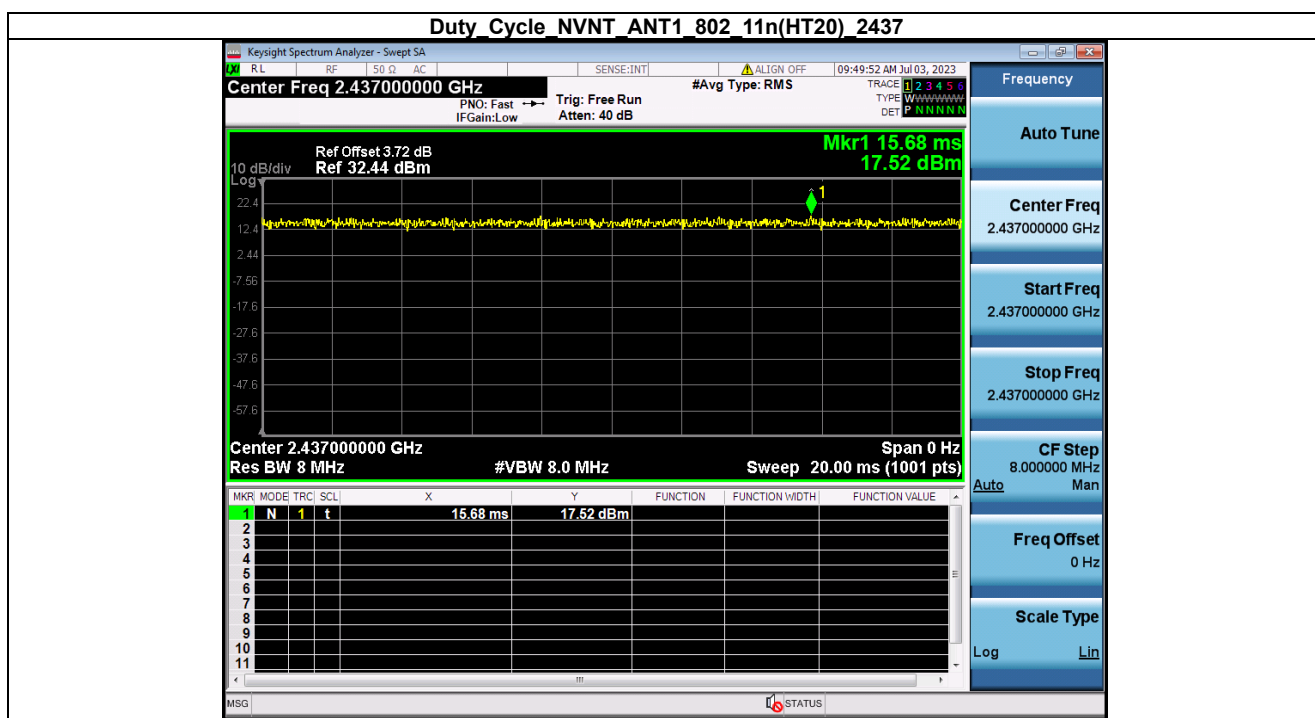
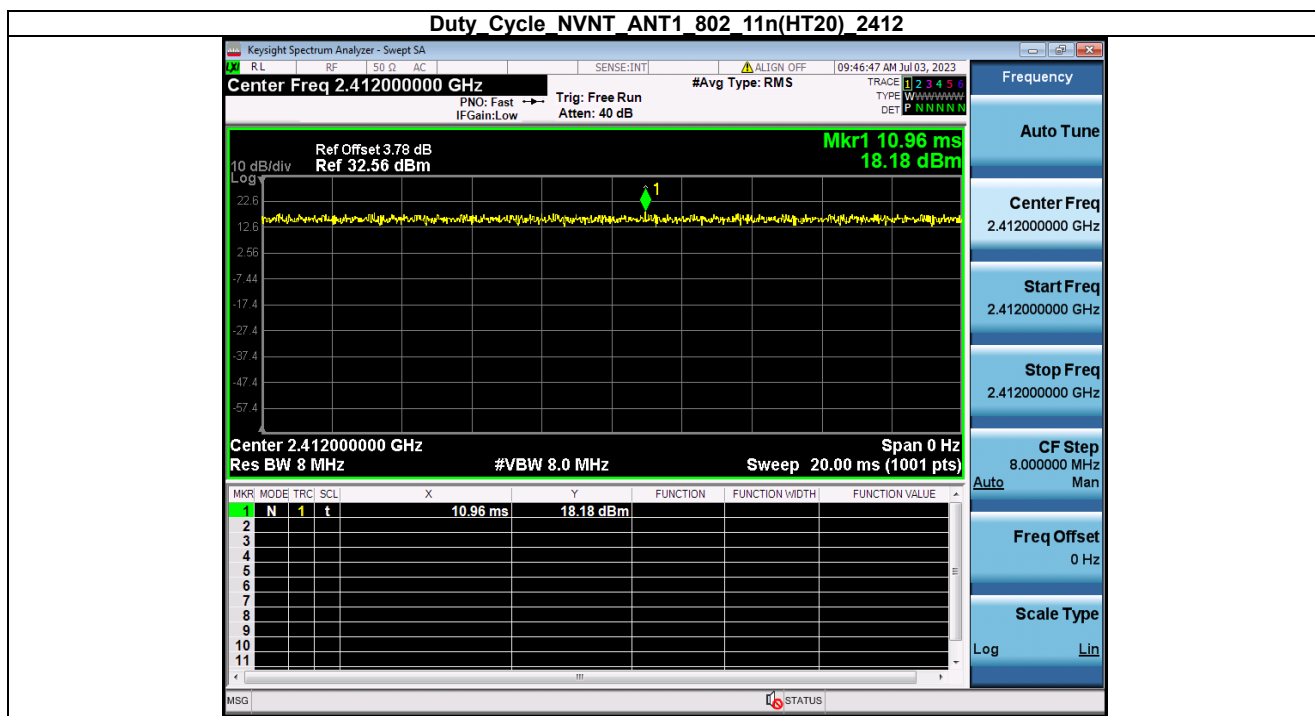
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	20.00	20.00	100	0.00	0.00
		2437	20.00	20.00	100	0.00	0.00
		2462	20.00	20.00	100	0.00	0.00
802.11g	SISO	2412	20.00	20.00	100	0.00	0.00
		2437	20.00	20.00	100	0.00	0.00
		2462	20.00	20.00	100	0.00	0.00
802.11n (HT20)	SISO	2412	20.00	20.00	100	0.00	0.00
		2437	20.00	20.00	100	0.00	0.00
		2462	20.00	20.00	100	0.00	0.00

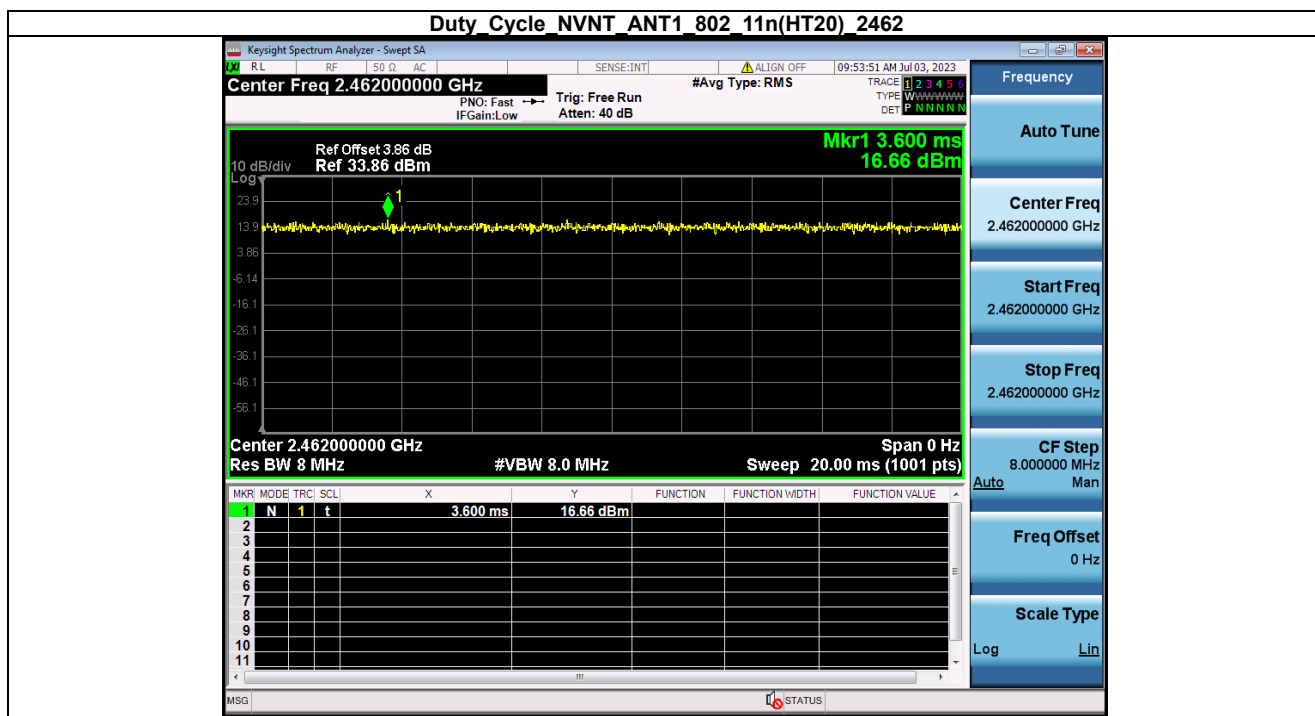
1.1.2 Test Graph











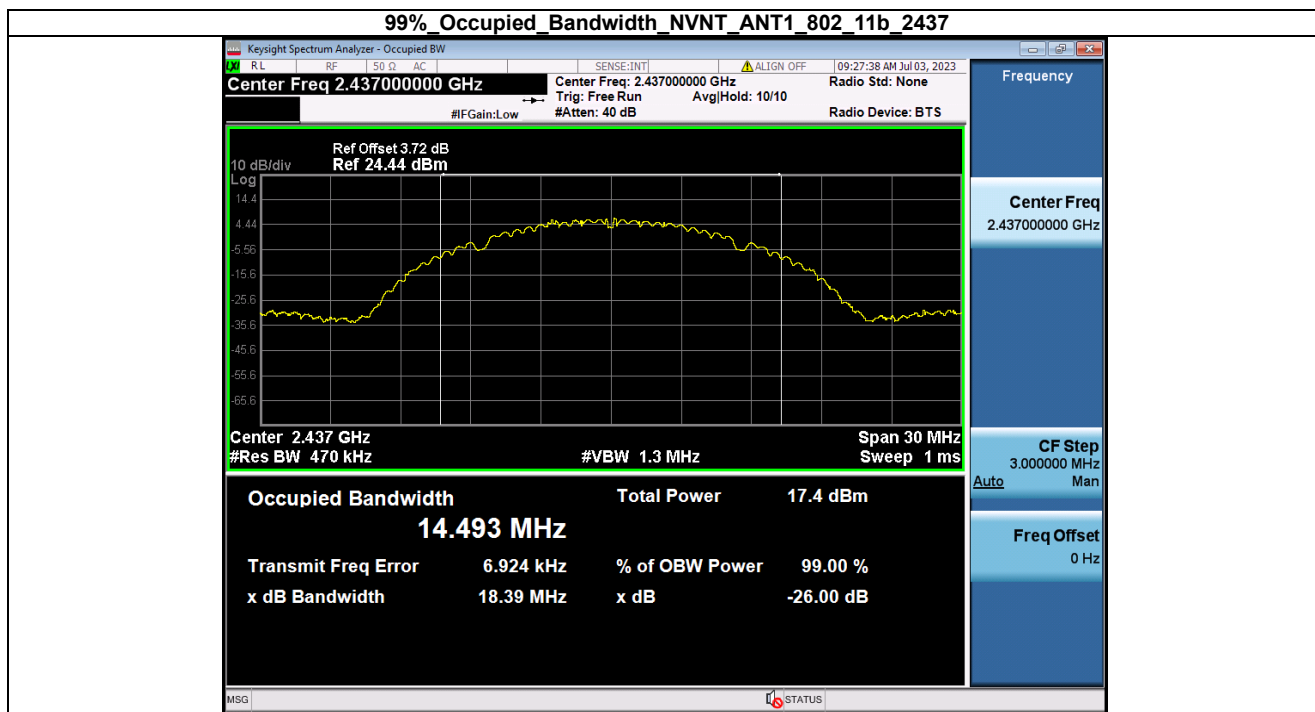
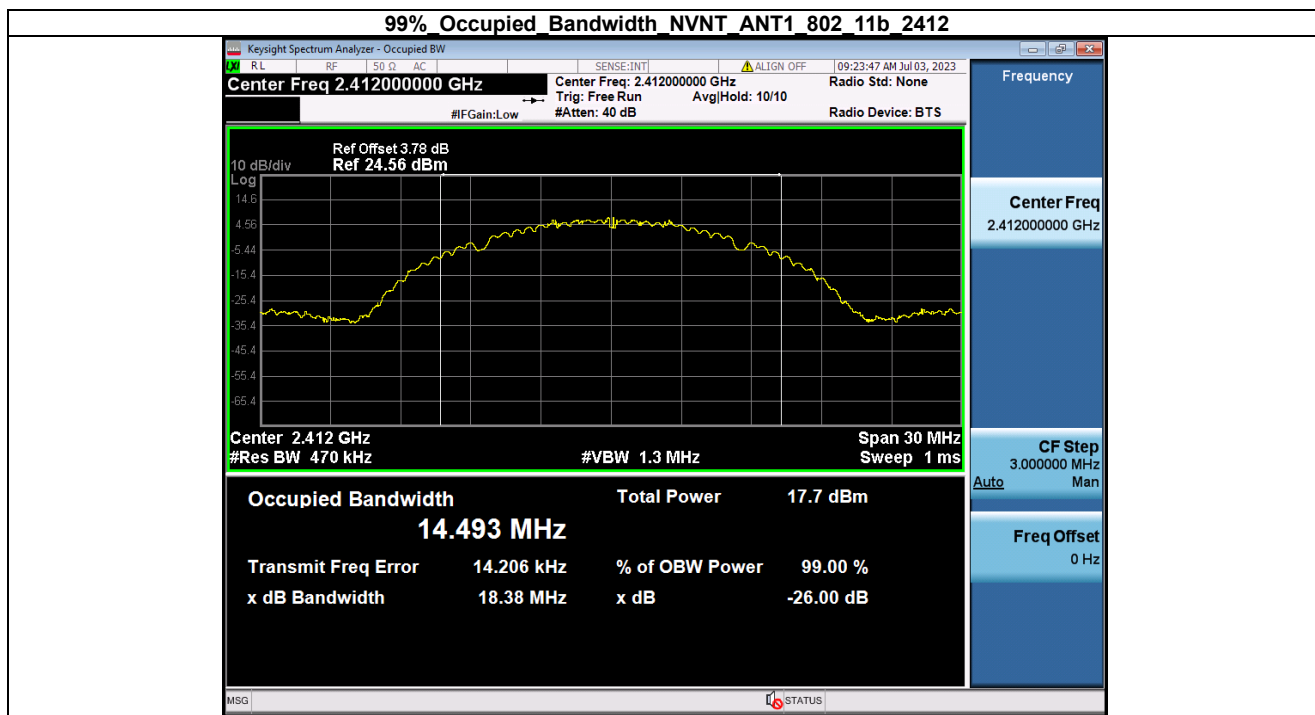
2. Bandwidth

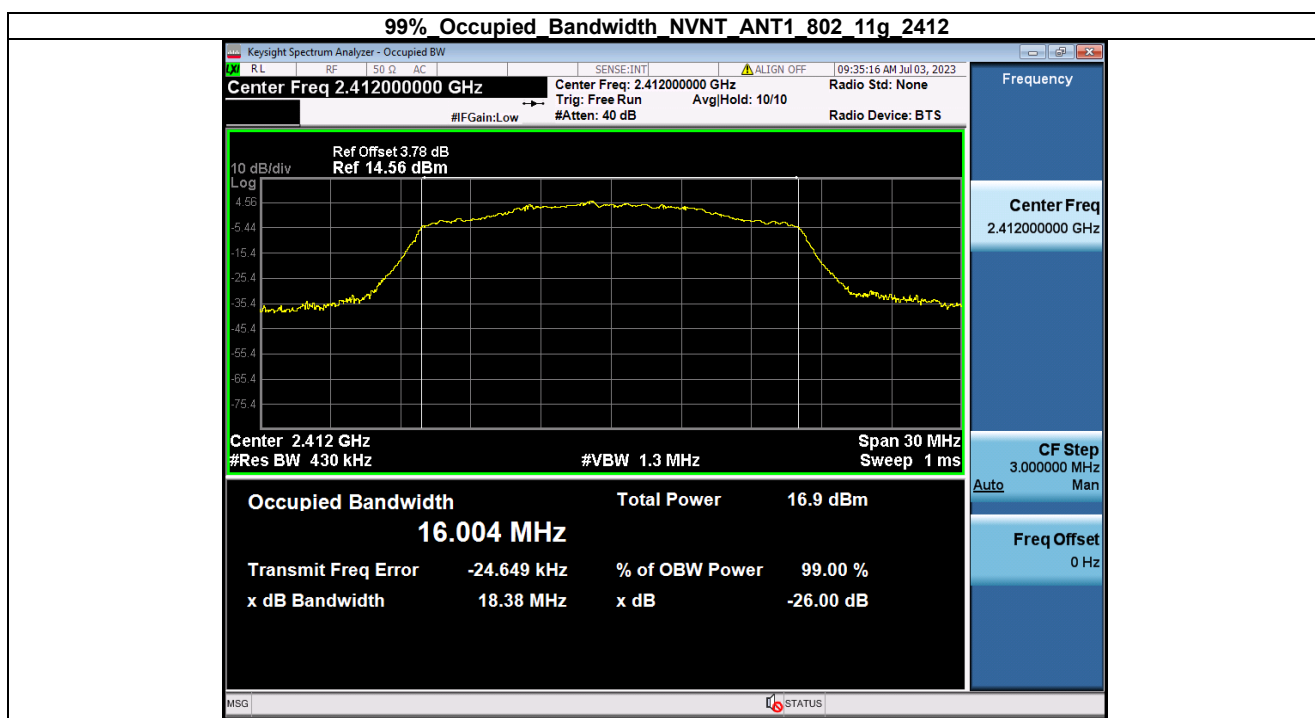
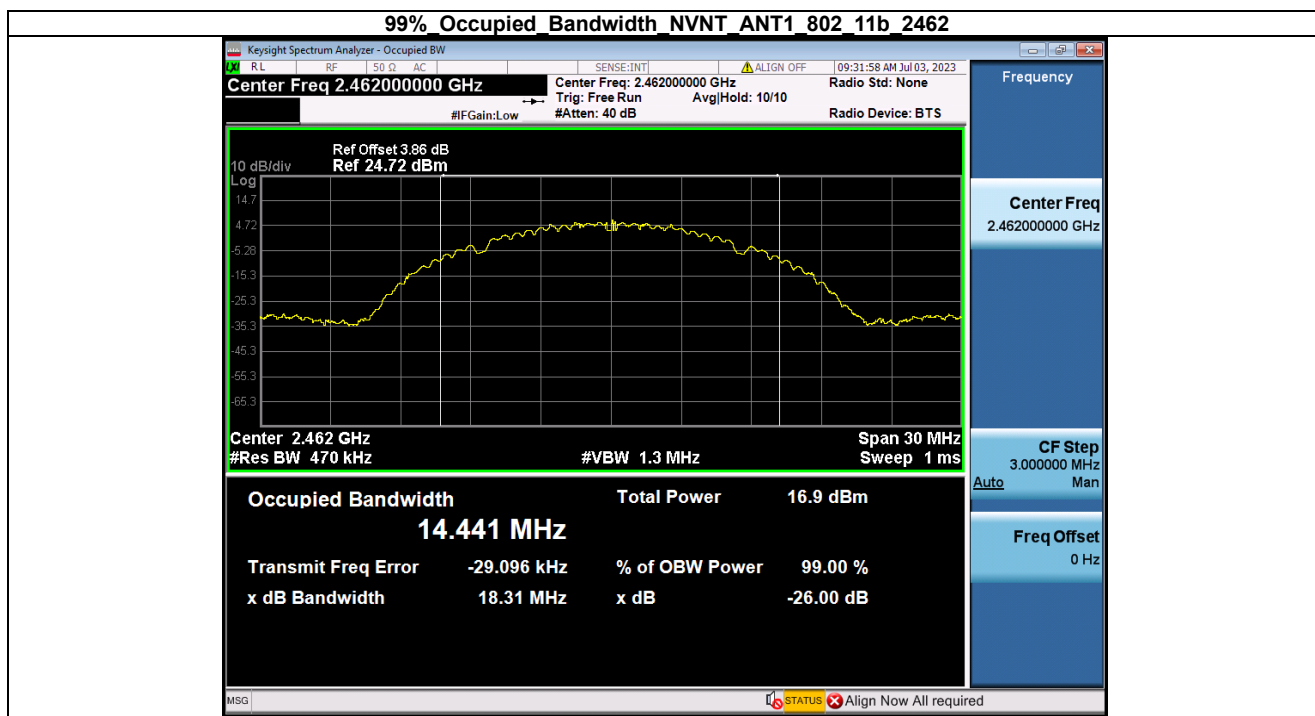
2.1 OBW

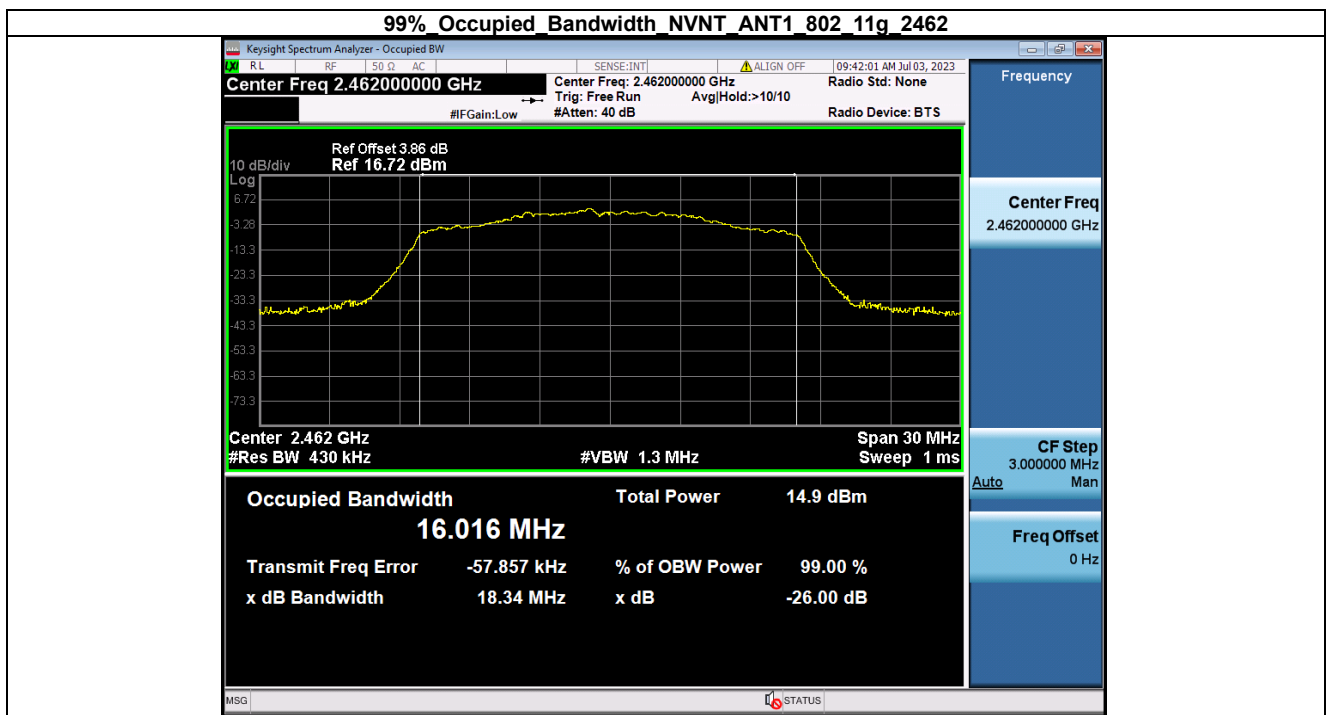
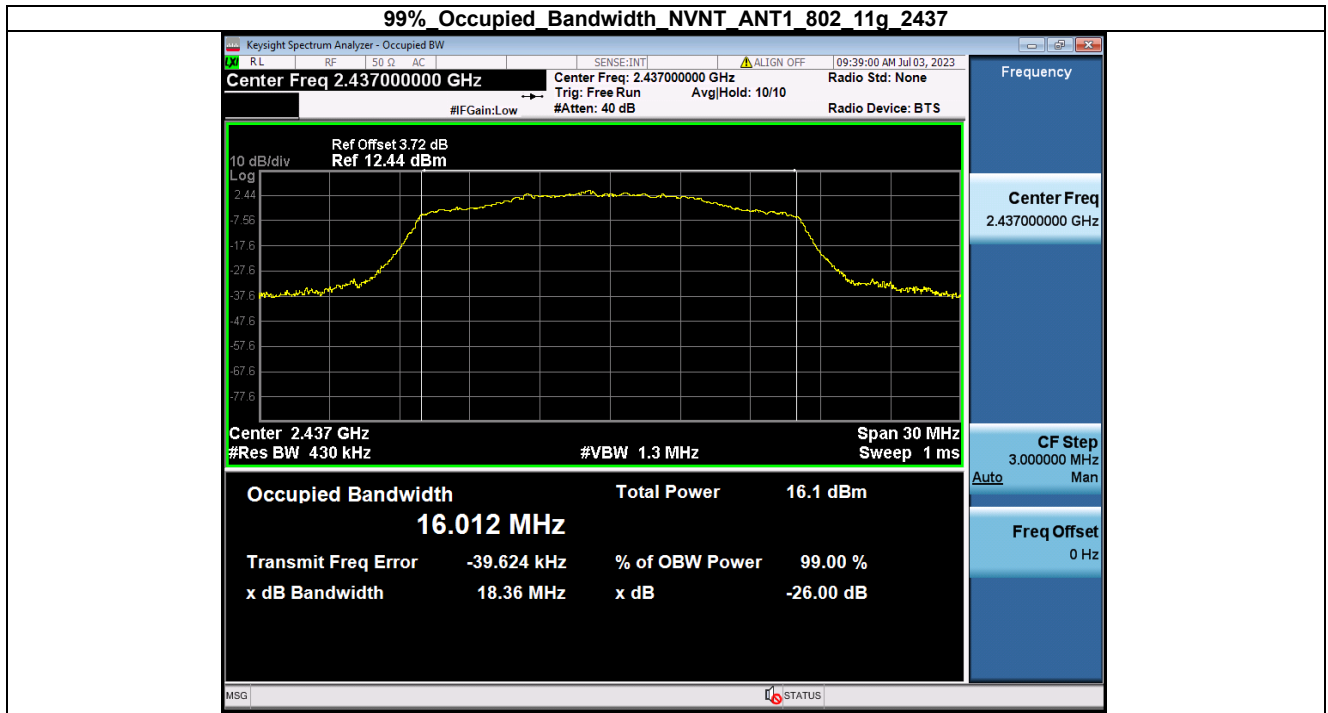
2.1.1 Test Result

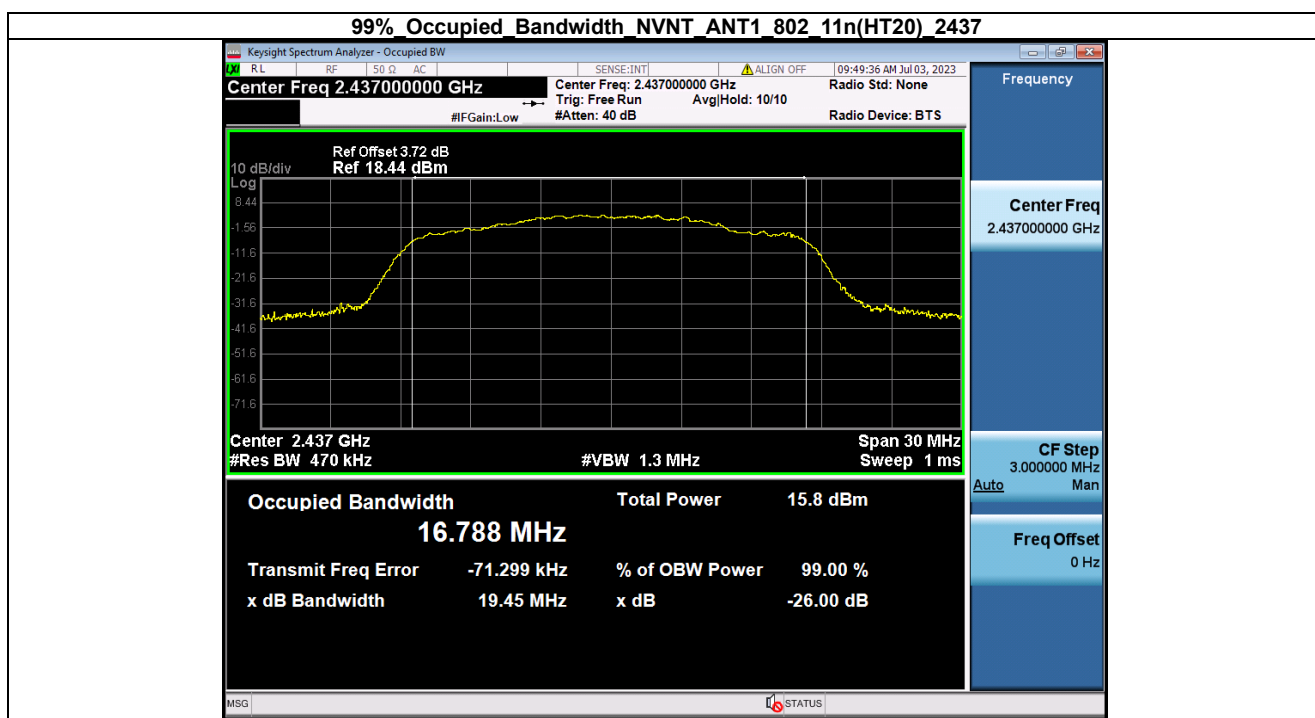
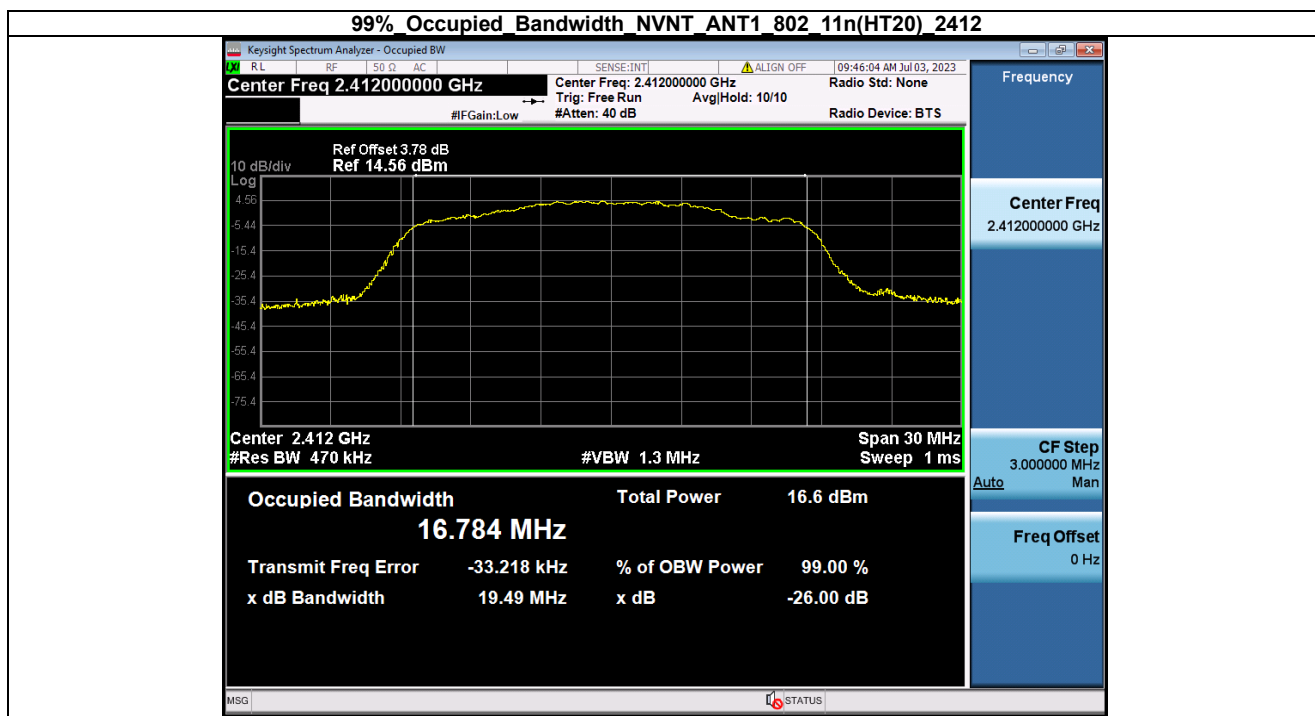
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)	Verdict
				Result	
802.11b	SISO	2412	1	14.493	Pass
		2437	1	14.493	Pass
		2462	1	14.441	Pass
802.11g	SISO	2412	1	16.004	Pass
		2437	1	16.012	Pass
		2462	1	16.016	Pass
802.11n (HT20)	SISO	2412	1	16.784	Pass
		2437	1	16.788	Pass
		2462	1	16.793	Pass

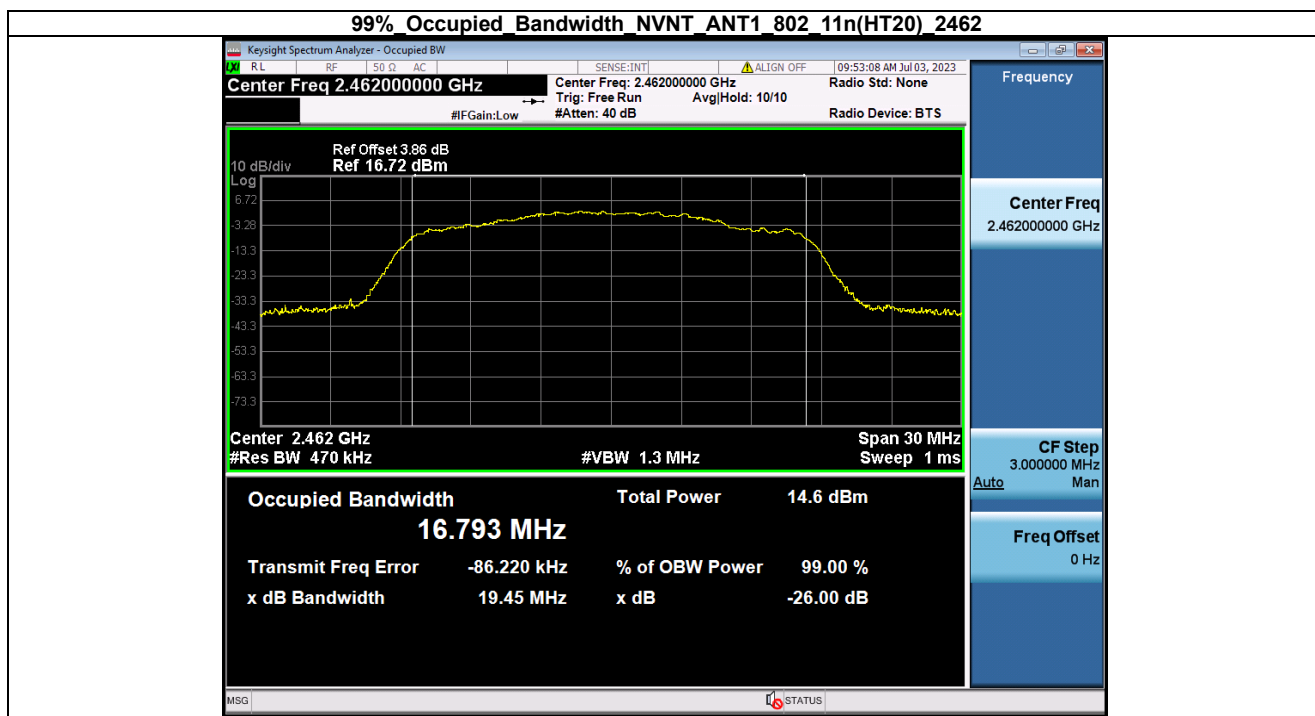
2.1.2 Test Graph









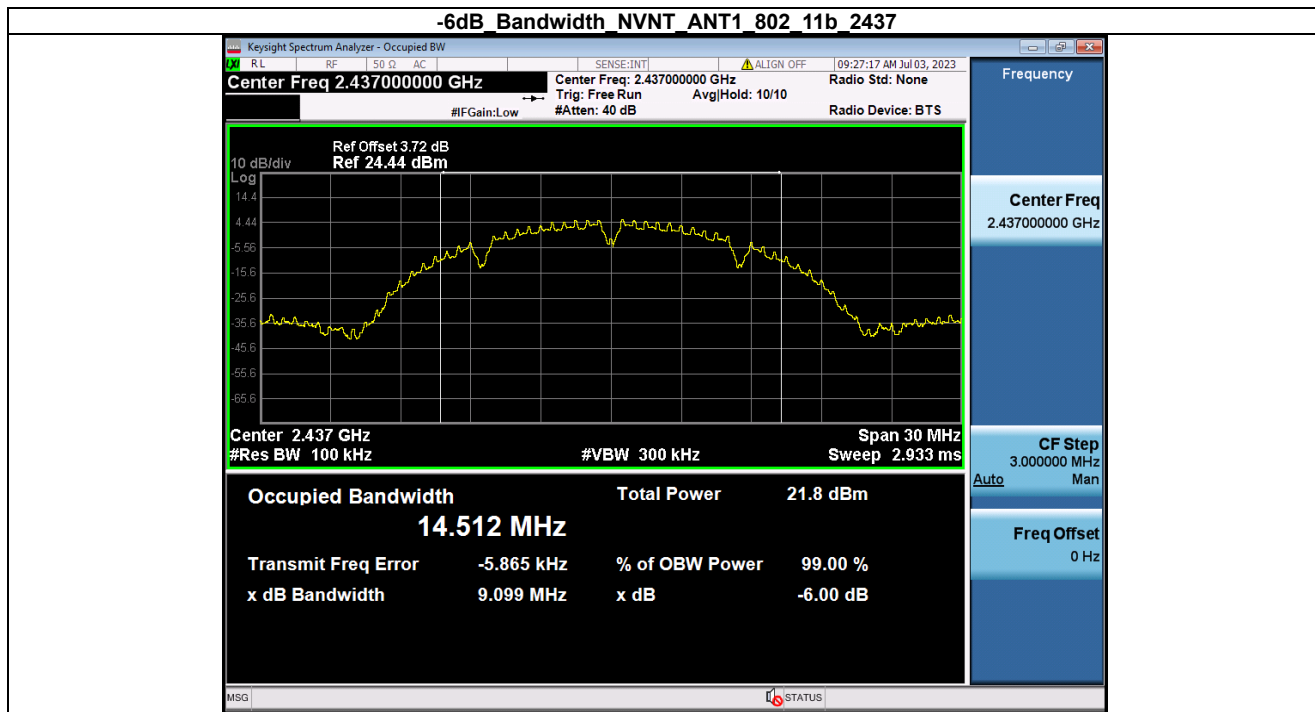
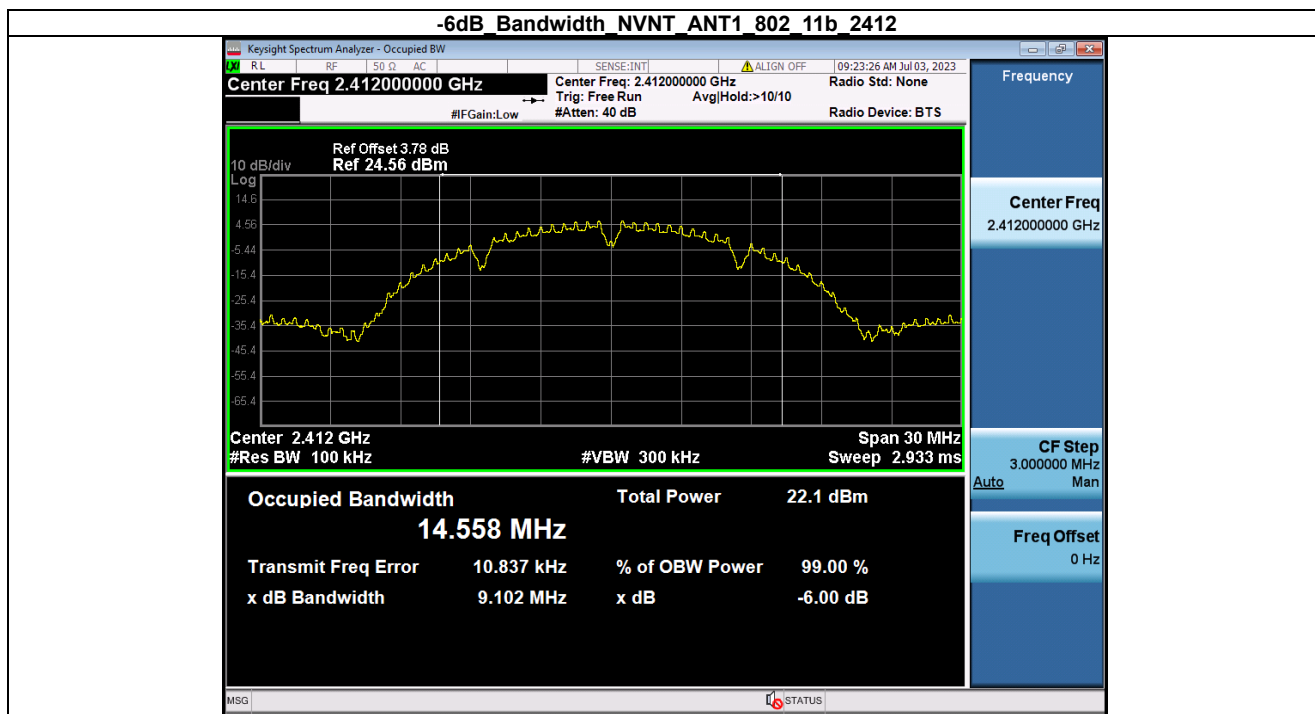


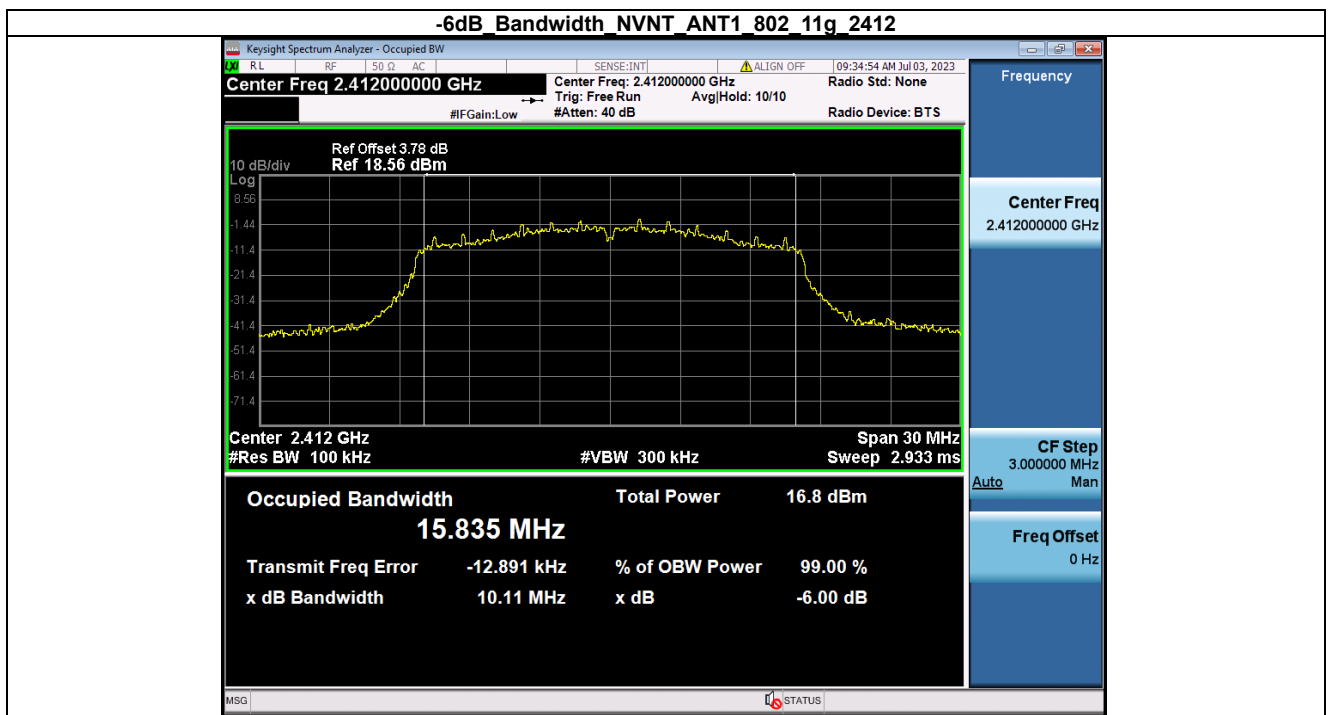
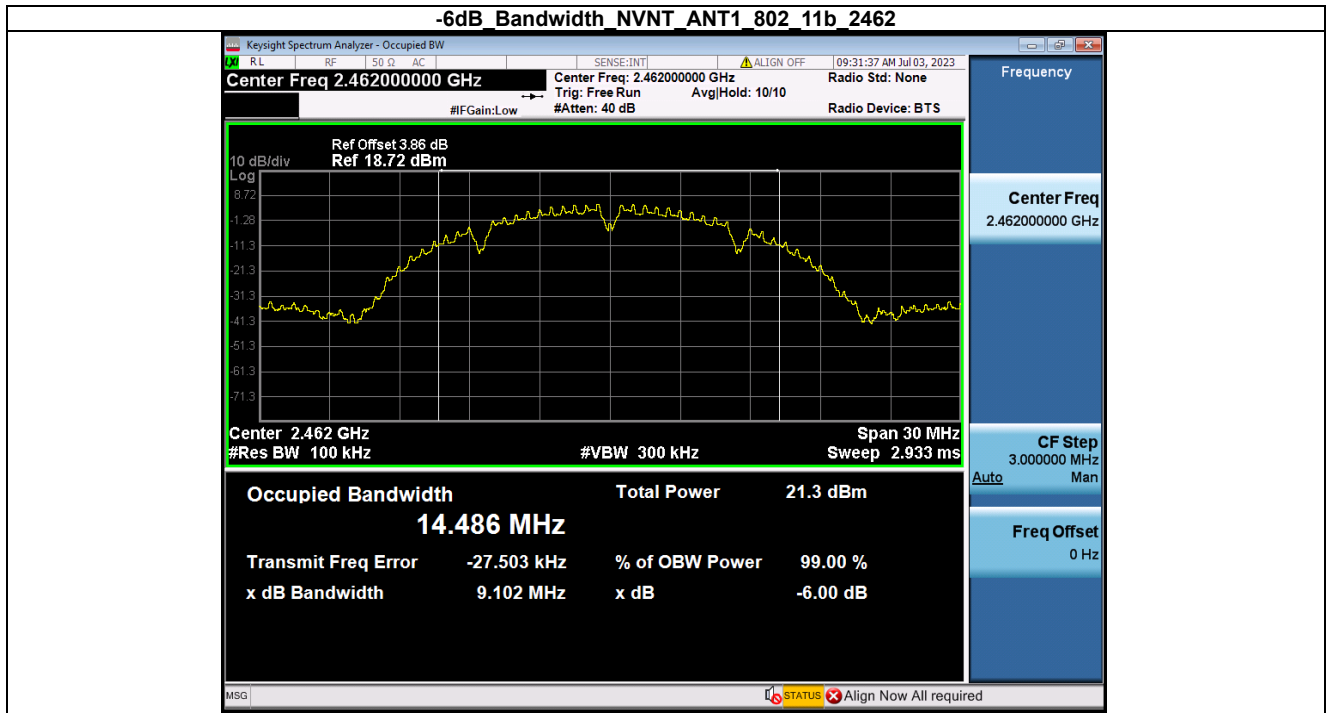
2.2 6dB BW

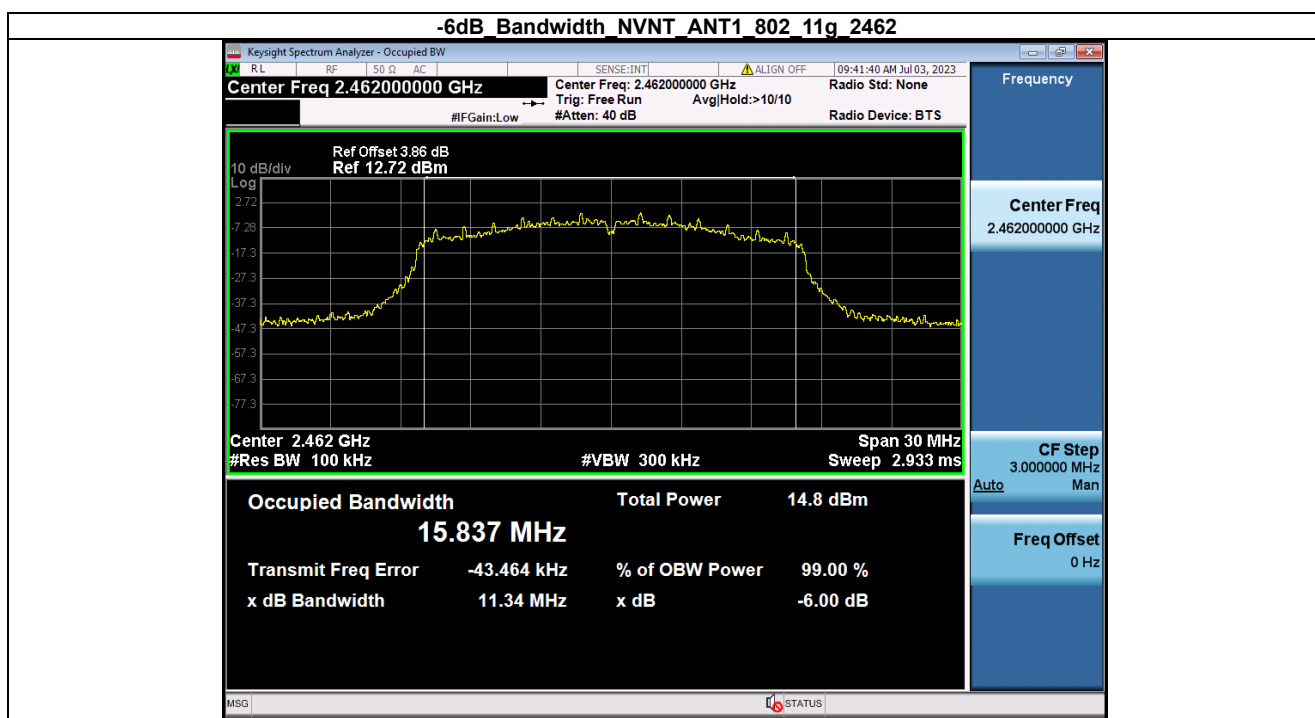
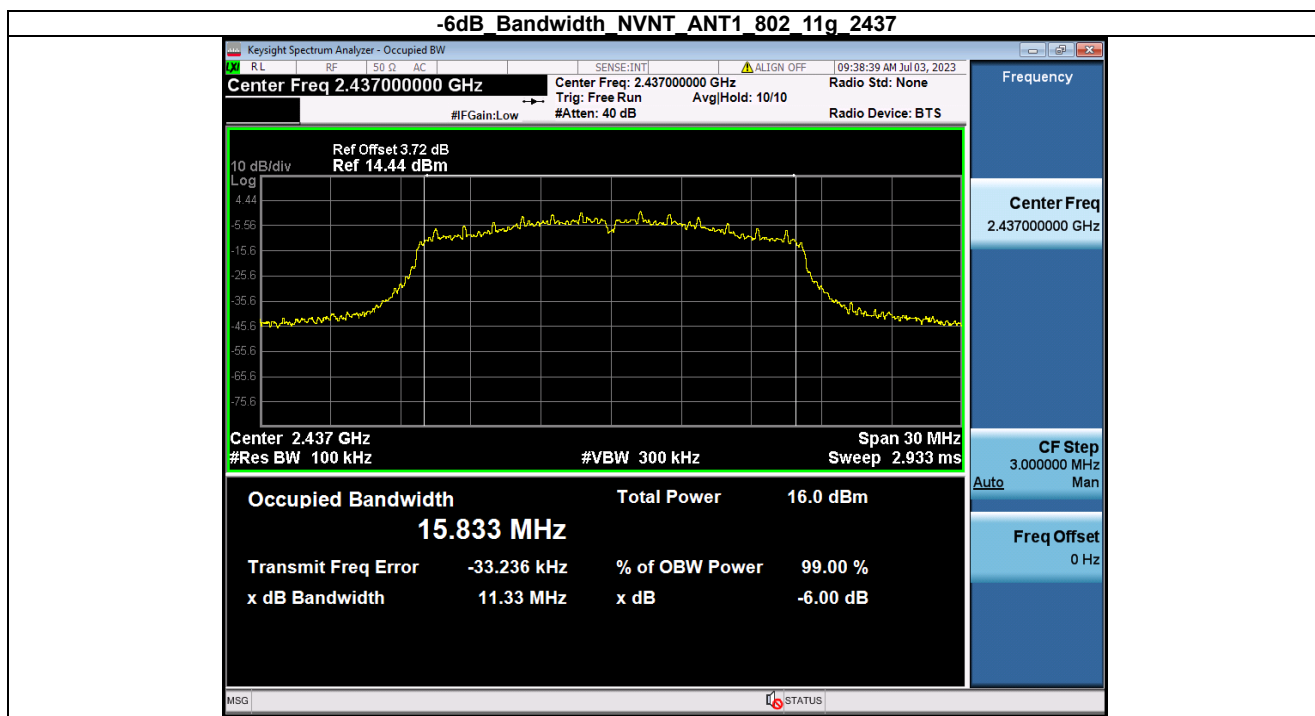
2.2.1 Test Result

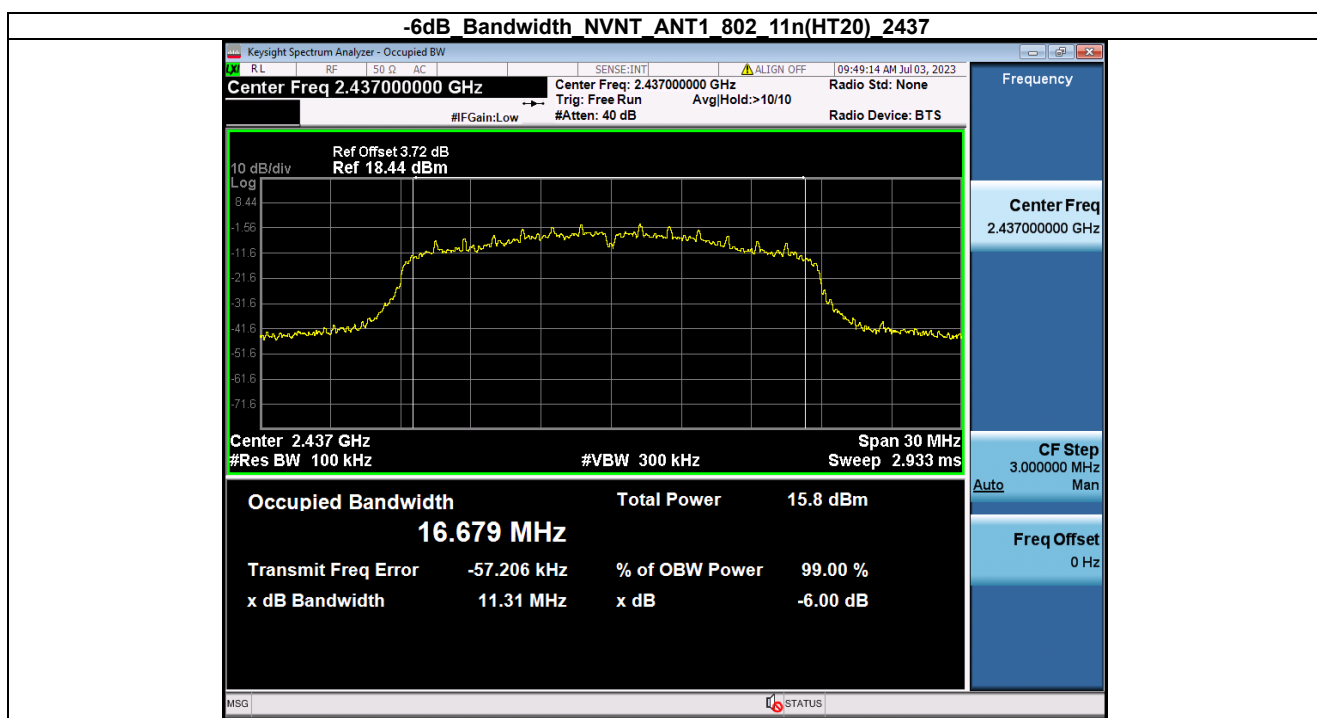
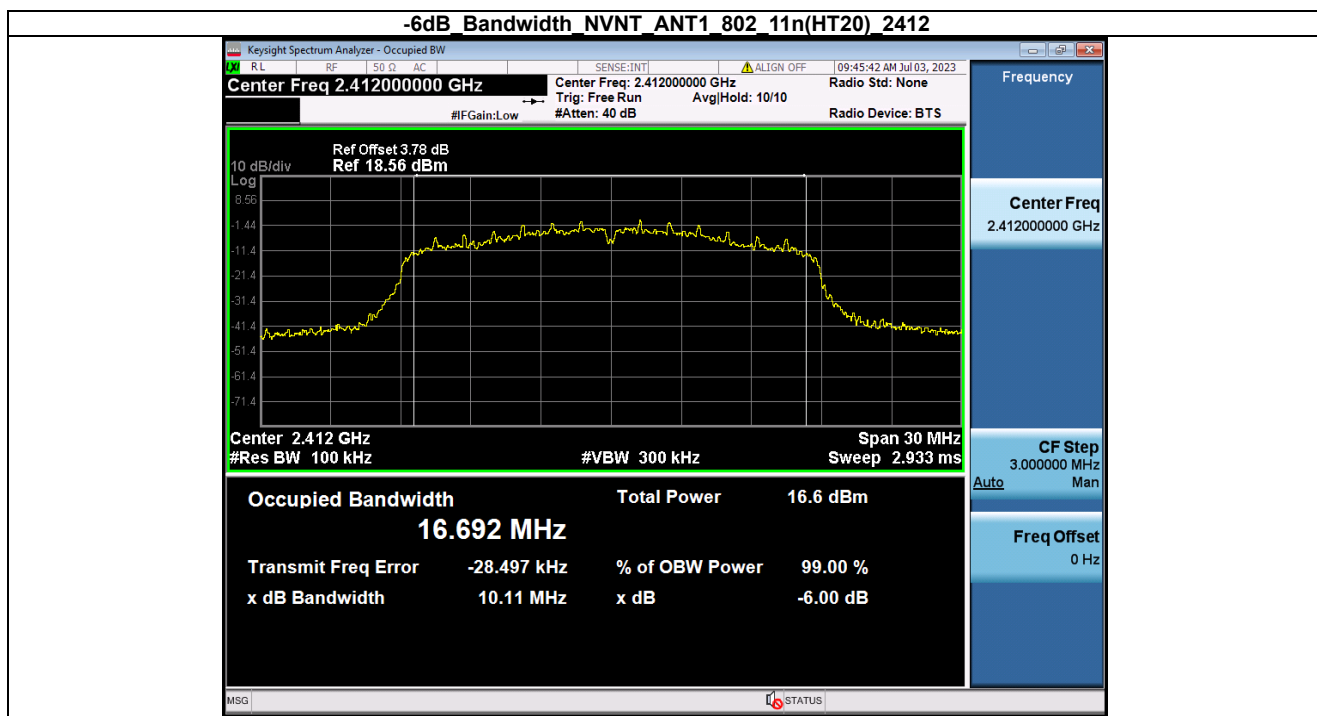
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	9.10	≥ 0.5	Pass
		2437	1	9.10	≥ 0.5	Pass
		2462	1	9.10	≥ 0.5	Pass
802.11g	SISO	2412	1	10.11	≥ 0.5	Pass
		2437	1	11.33	≥ 0.5	Pass
		2462	1	11.34	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	10.11	≥ 0.5	Pass
		2437	1	11.31	≥ 0.5	Pass
		2462	1	11.31	≥ 0.5	Pass

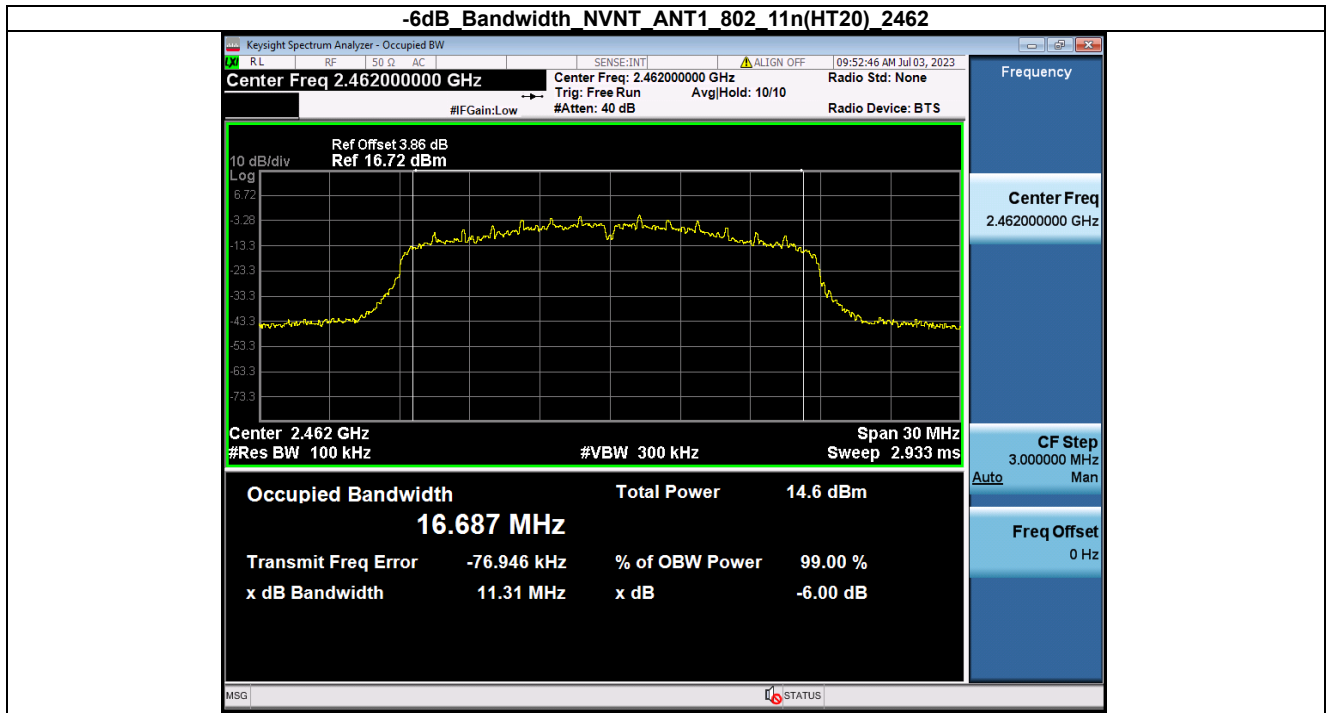
2.2.2 Test Graph











3. Maximum Conducted Output Power

3.1 Power

3.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	18.20	<=30	Pass
		2437	17.91	<=30	Pass
		2462	17.35	<=30	Pass
802.11g	SISO	2412	17.85	<=30	Pass
		2437	17.07	<=30	Pass
		2462	16.80	<=30	Pass
802.11n (HT20)	SISO	2412	16.42	<=30	Pass
		2437	16.66	<=30	Pass
		2462	15.44	<=30	Pass

Note1: Antenna Gain: Ant1: 0dBi;

4. Maximum Power Spectral Density

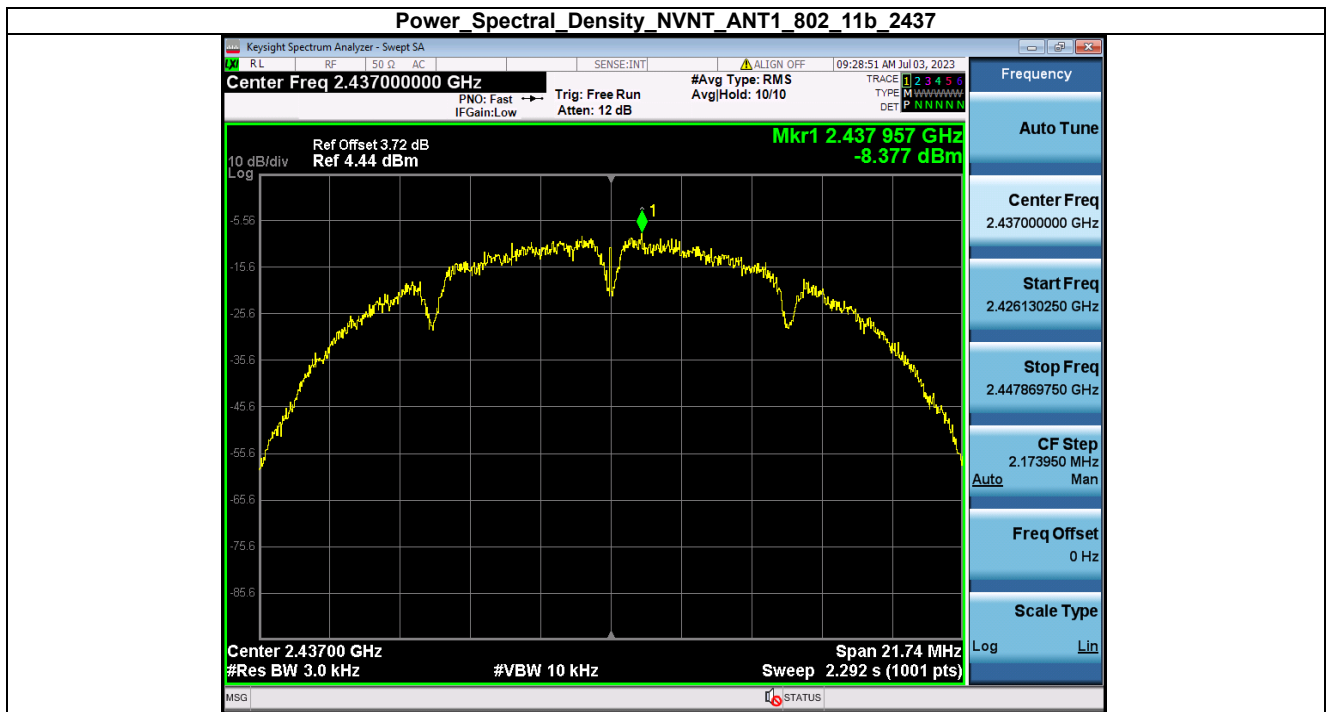
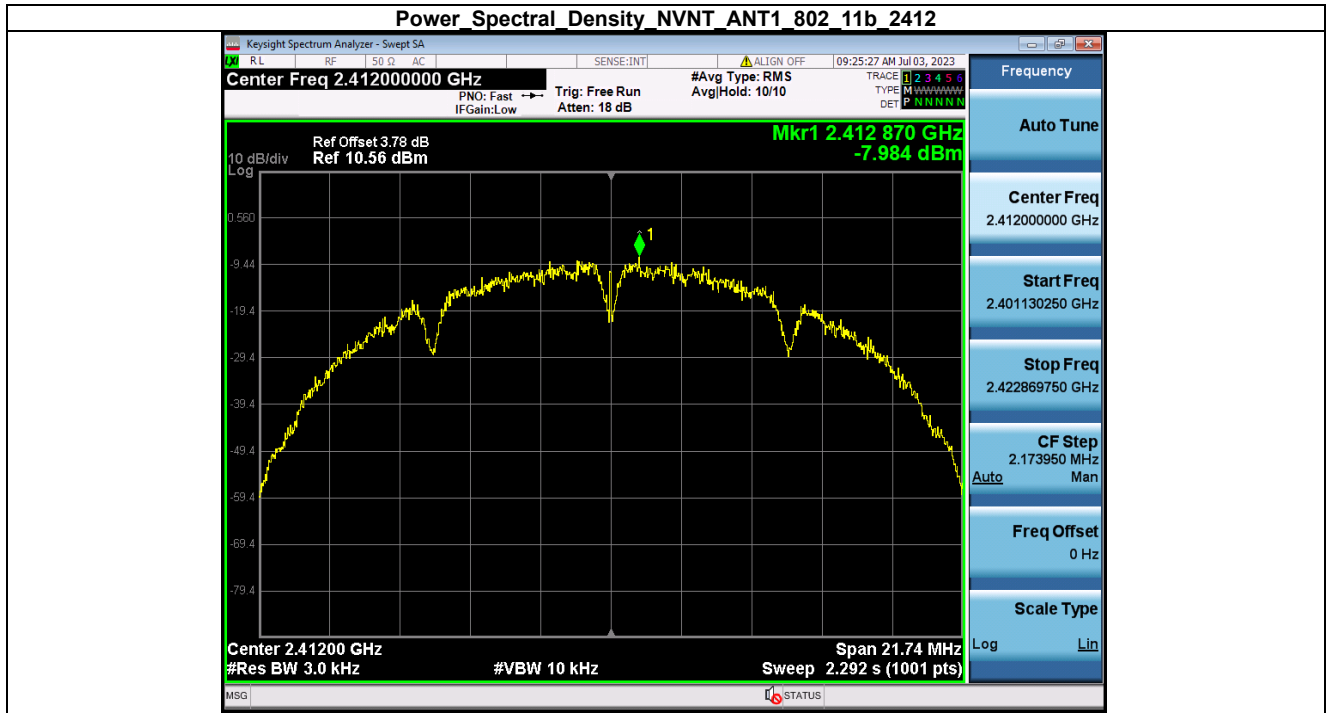
4.1 PSD

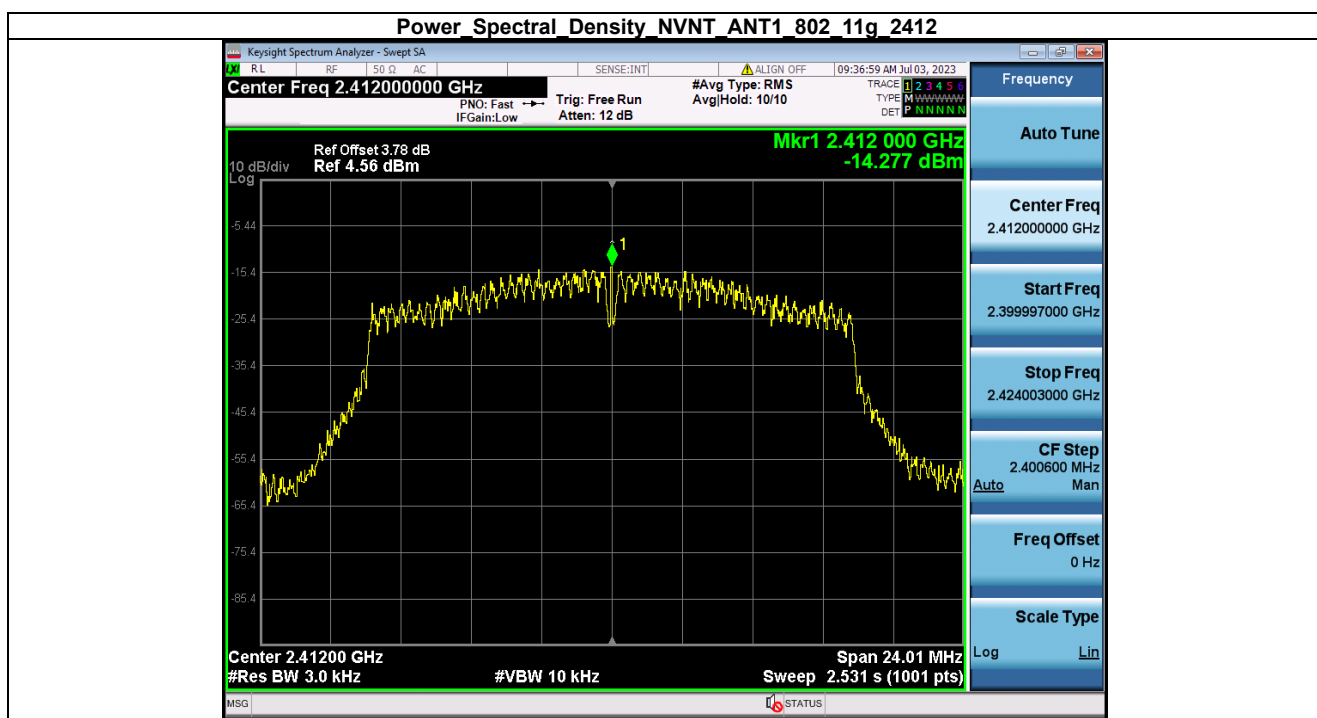
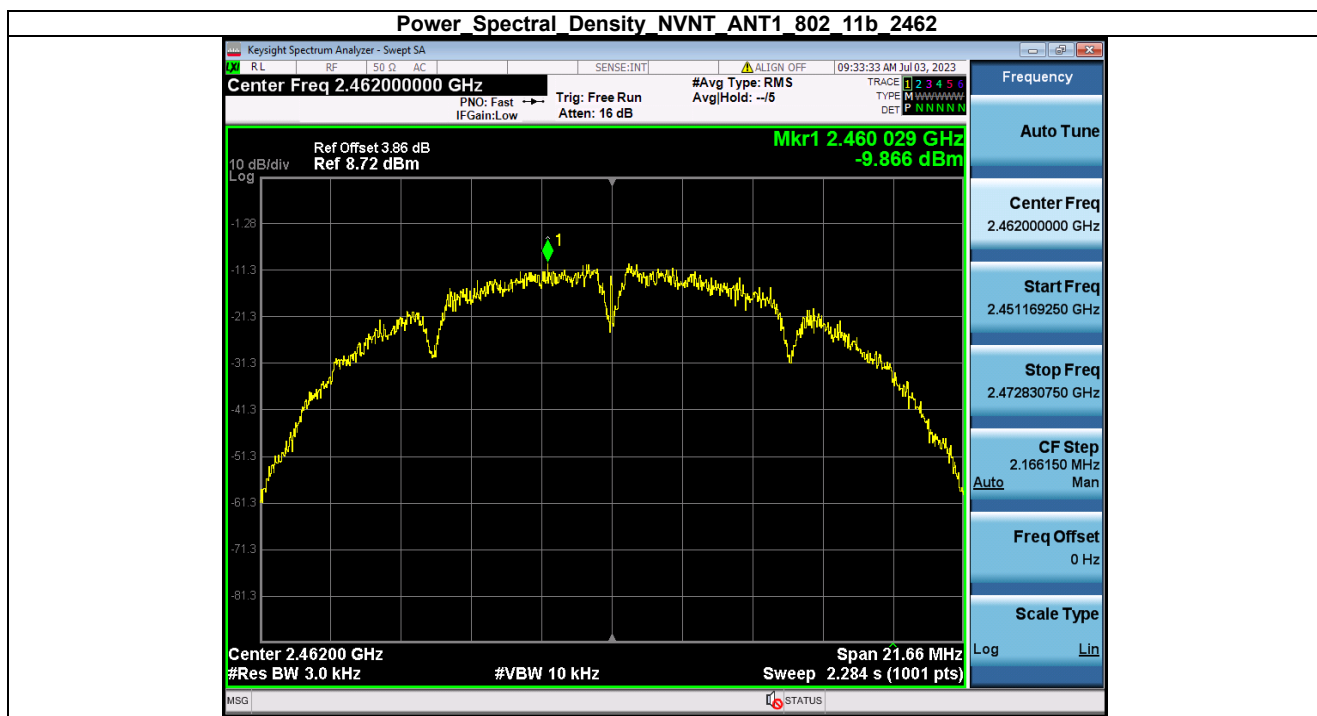
4.1.1 Test Result

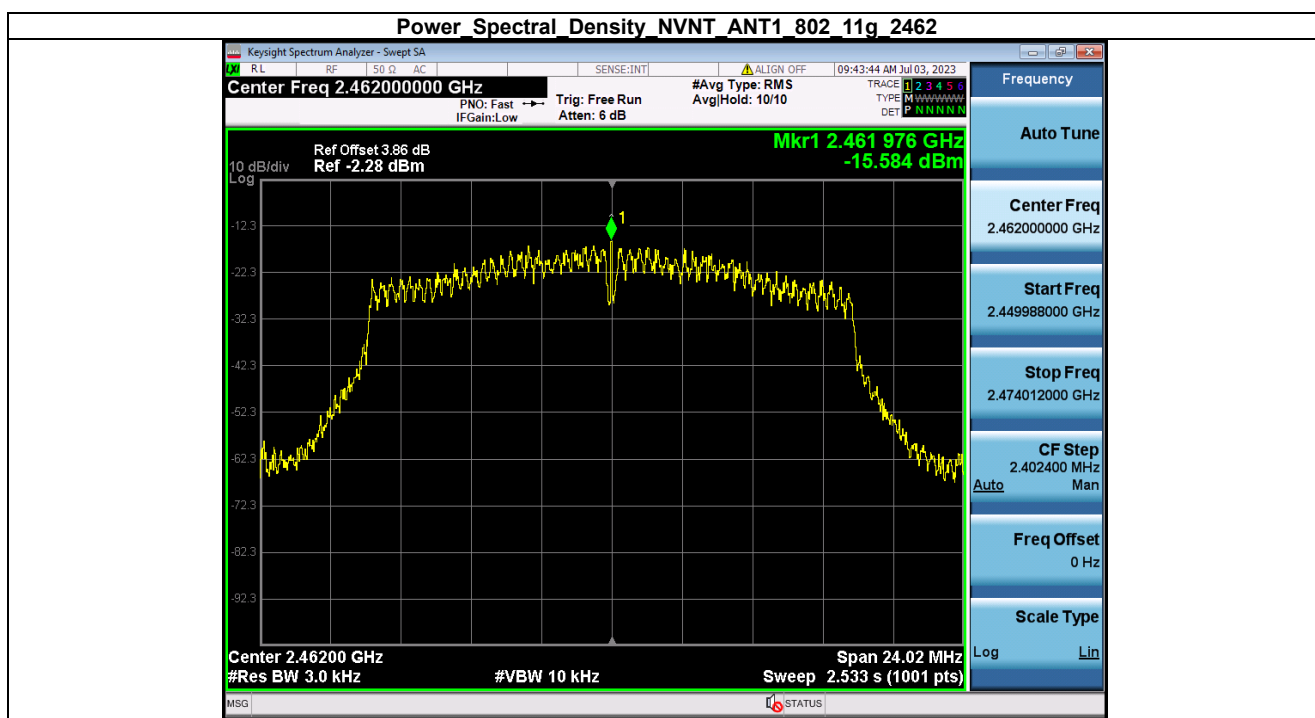
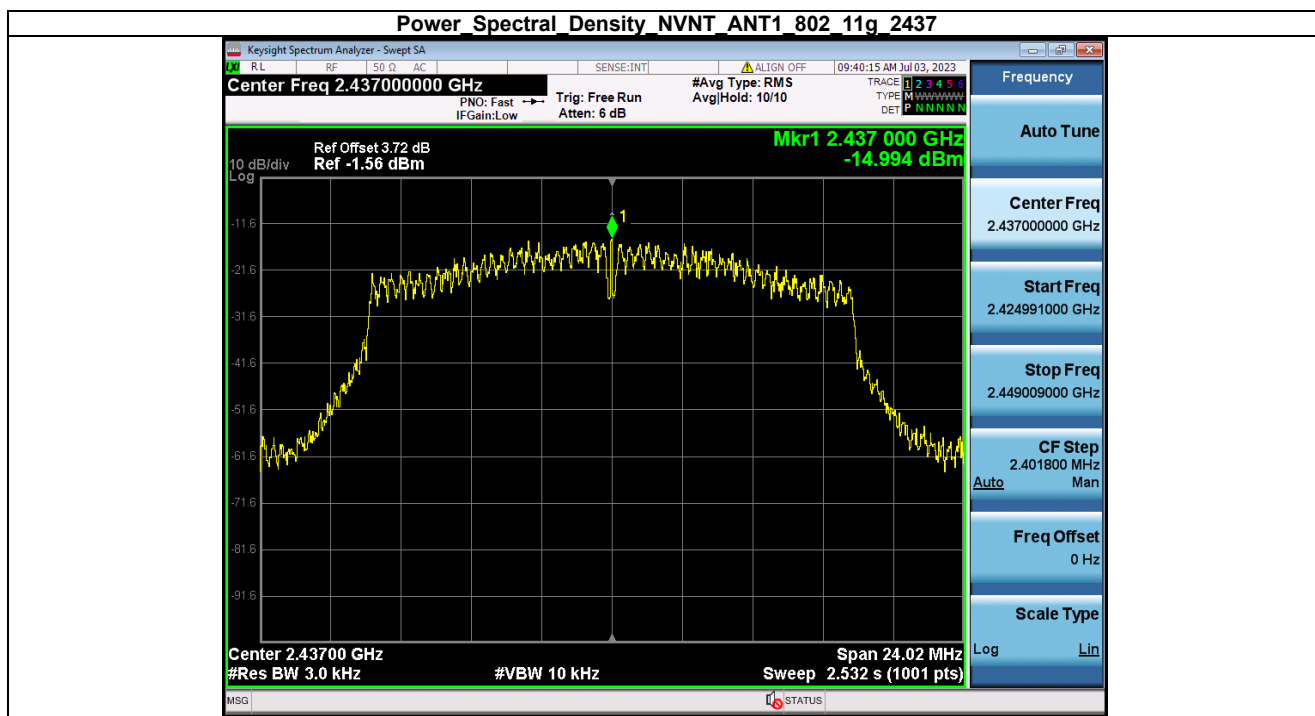
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	-7.98	<=8	Pass
		2437	-8.38	<=8	Pass
		2462	-9.87	<=8	Pass
802.11g	SISO	2412	-14.28	<=8	Pass
		2437	-14.99	<=8	Pass
		2462	-15.58	<=8	Pass
802.11n (HT20)	SISO	2412	-13.56	<=8	Pass
		2437	-14.46	<=8	Pass
		2462	-15.81	<=8	Pass

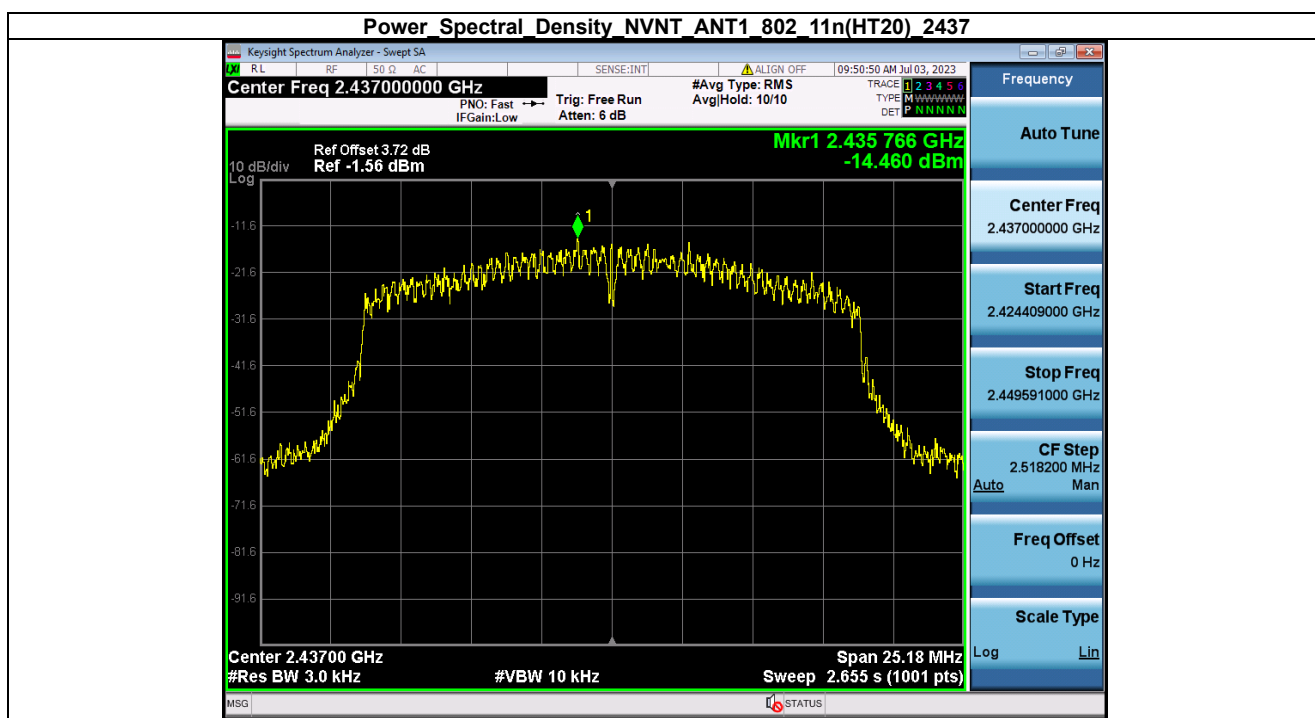
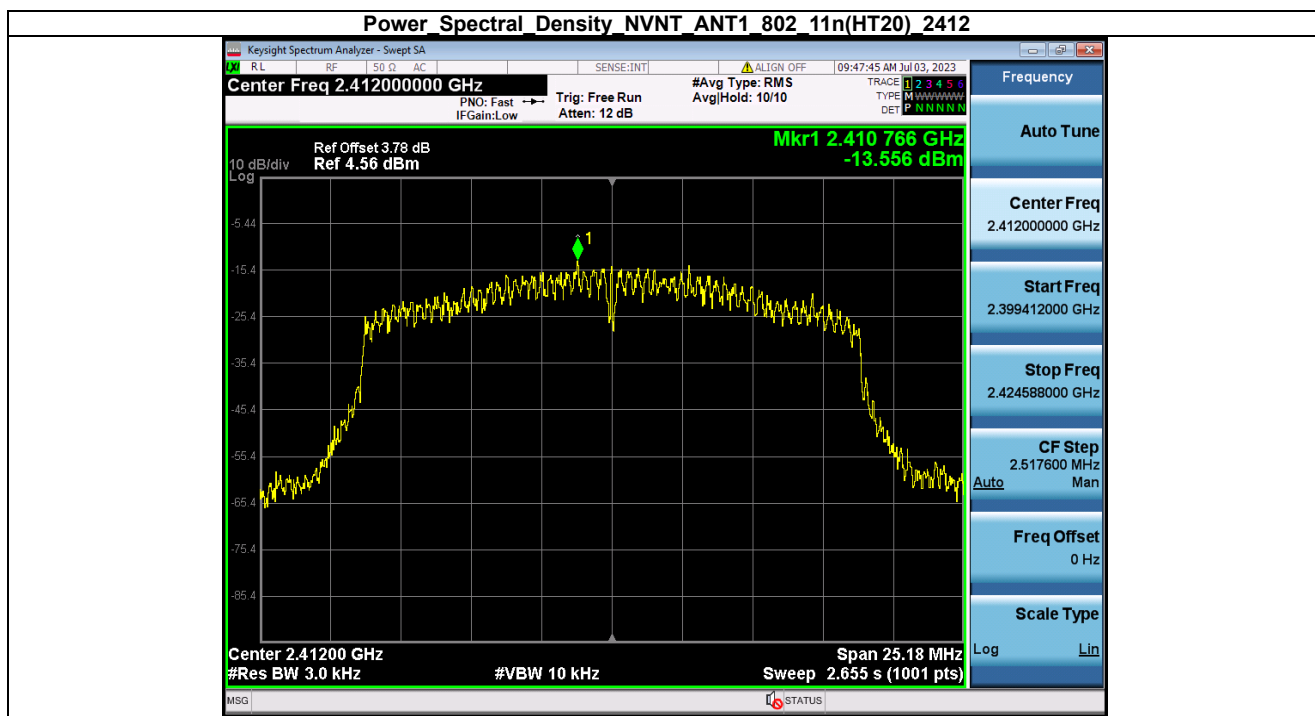
Note1: Antenna Gain: Ant1: 0dBi;

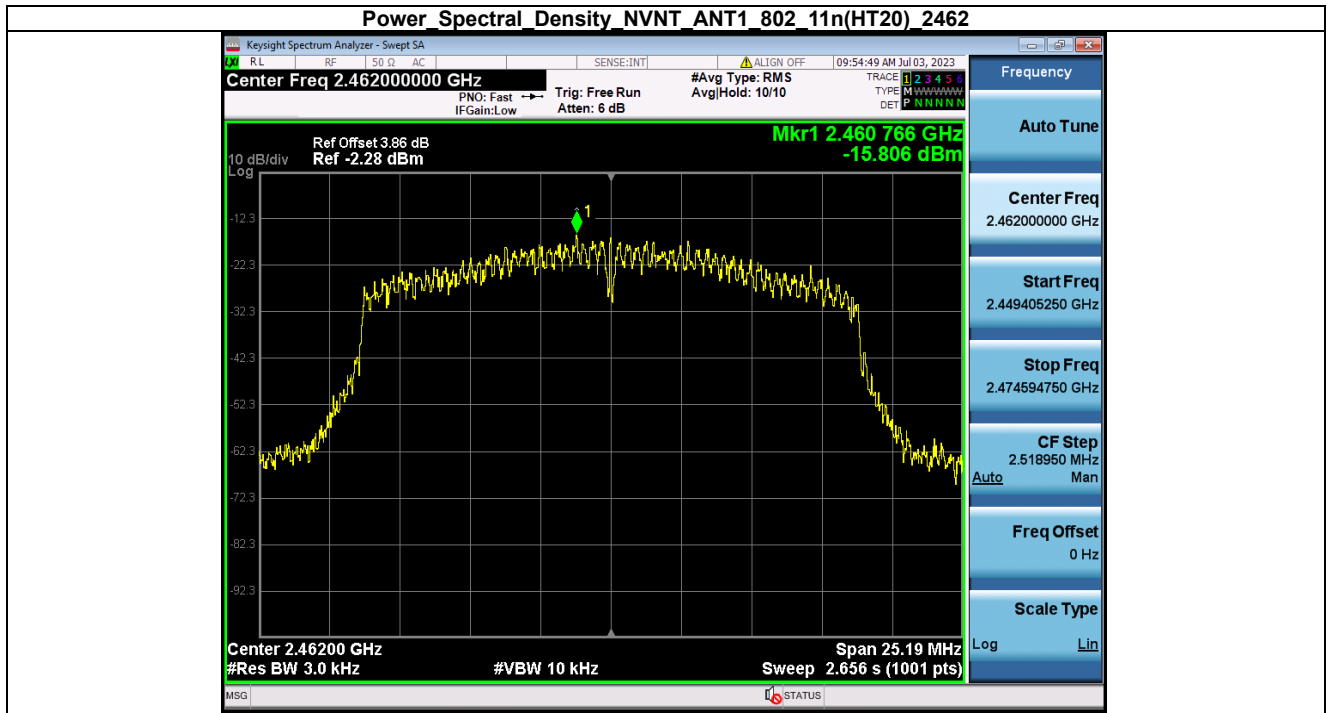
4.1.2 Test Graph









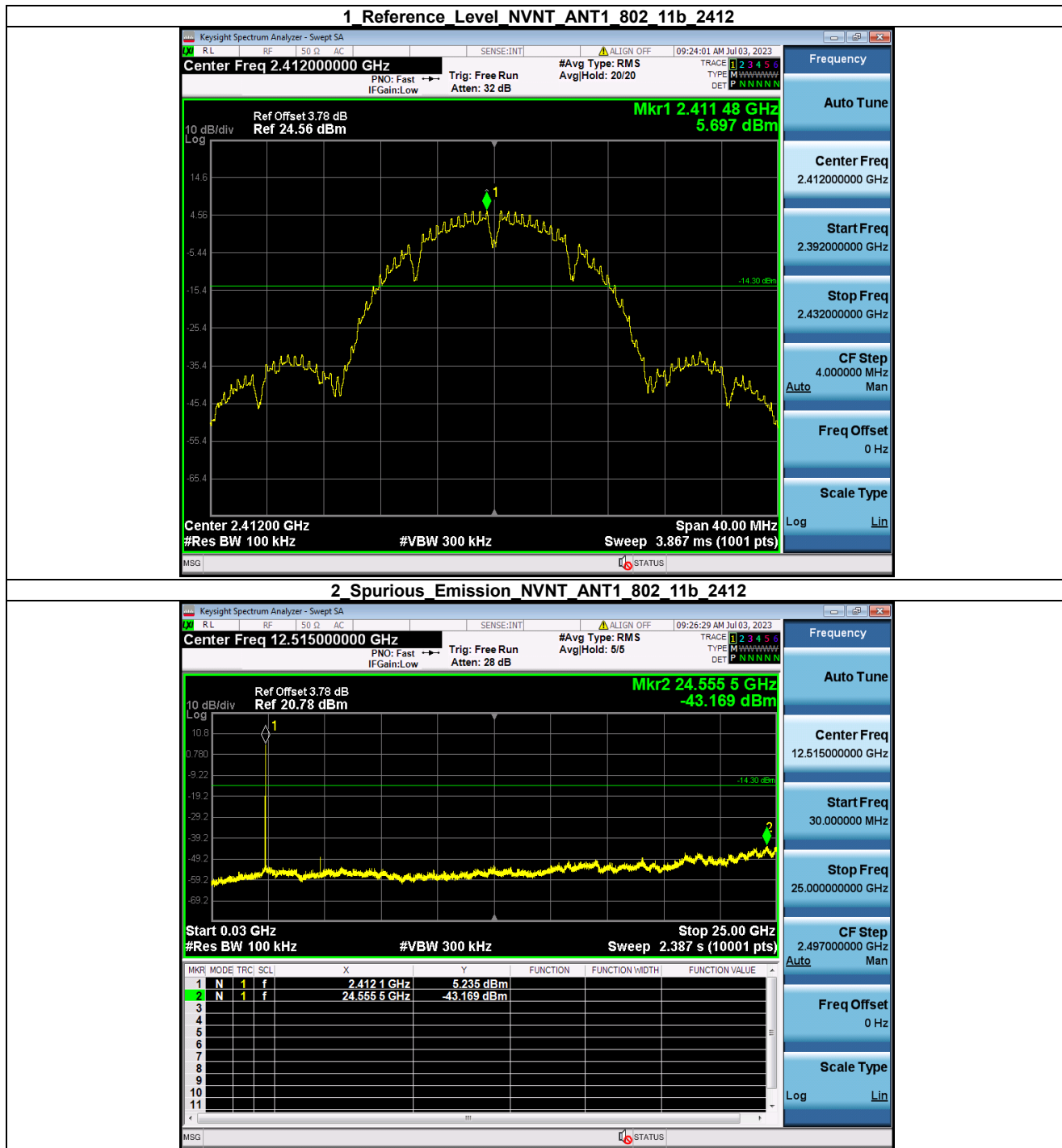


5. Unwanted Emissions and Bandedge

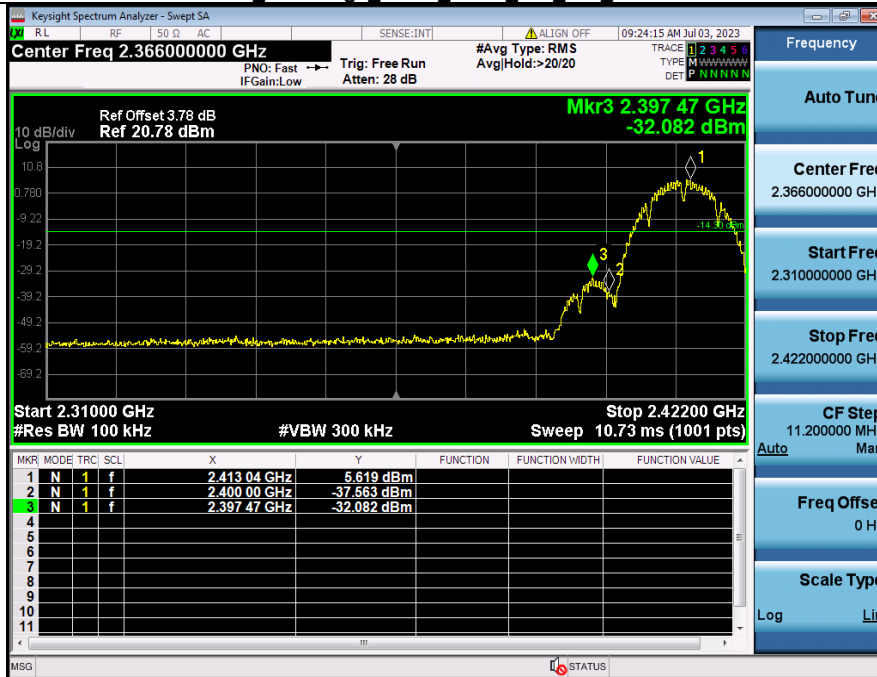
5.1 Test Result

Condition	Antenna	Modulation	TX_Frequency (MHz)	Max. Mark frequency(MHz)	Spurious level(dBm)	limit(dBm)	Result
NVNT	ANT1	802.11b	2412.00	24555.534	-43.169	-14.303	Pass
NVNT	ANT1	802.11b	2437.00	24540.552	-43.699	-14.419	Pass
NVNT	ANT1	802.11b	2462.00	24997.503	-49.108	-14.851	Pass
NVNT	ANT1	802.11g	2412.00	24568.019	-53.327	-19.023	Pass
NVNT	ANT1	802.11g	2437.00	24887.635	-49.329	-19.983	Pass
NVNT	ANT1	802.11g	2462.00	24957.551	-55.258	-21.204	Pass
NVNT	ANT1	802.11n(HT20)	2412.00	24538.055	-52.408	-19.130	Pass
NVNT	ANT1	802.11n(HT20)	2437.00	24540.552	-48.887	-20.252	Pass
NVNT	ANT1	802.11n(HT20)	2462.00	2302.270	-57.900	-21.098	Pass

5.1.1 Test Graph



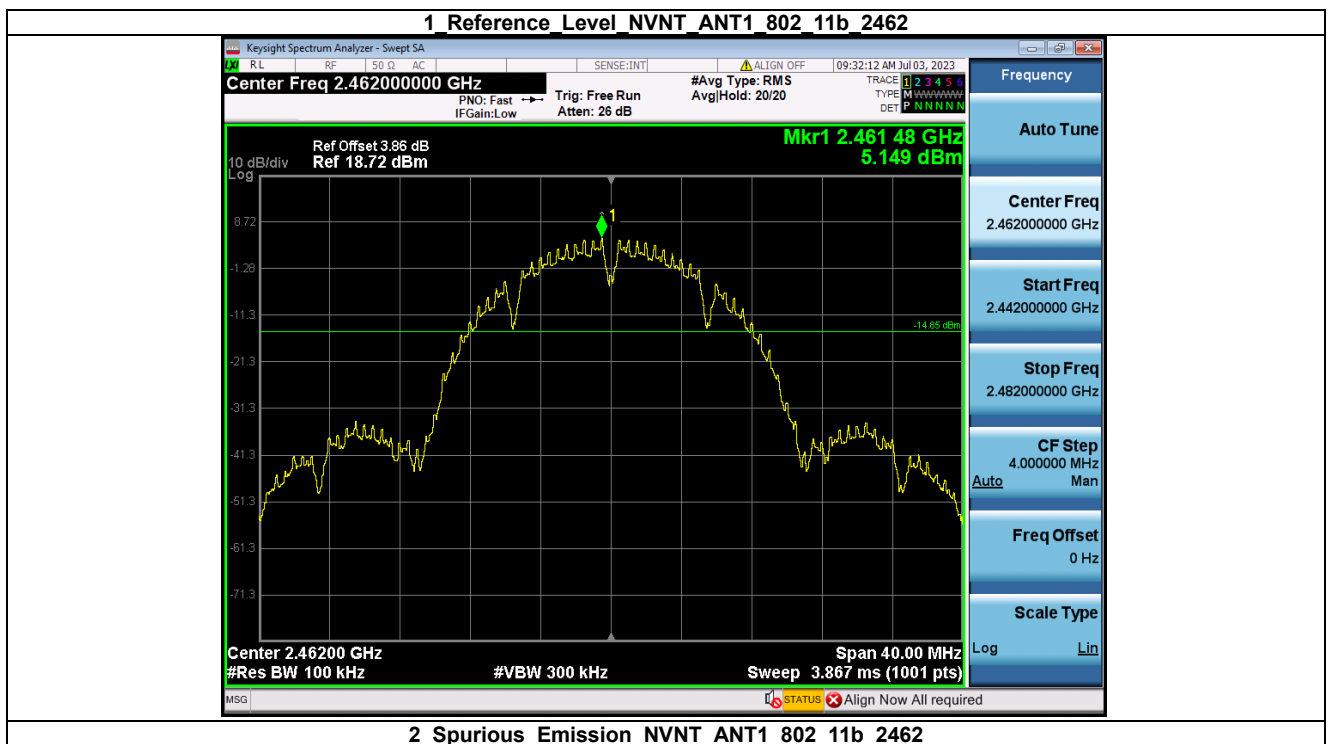
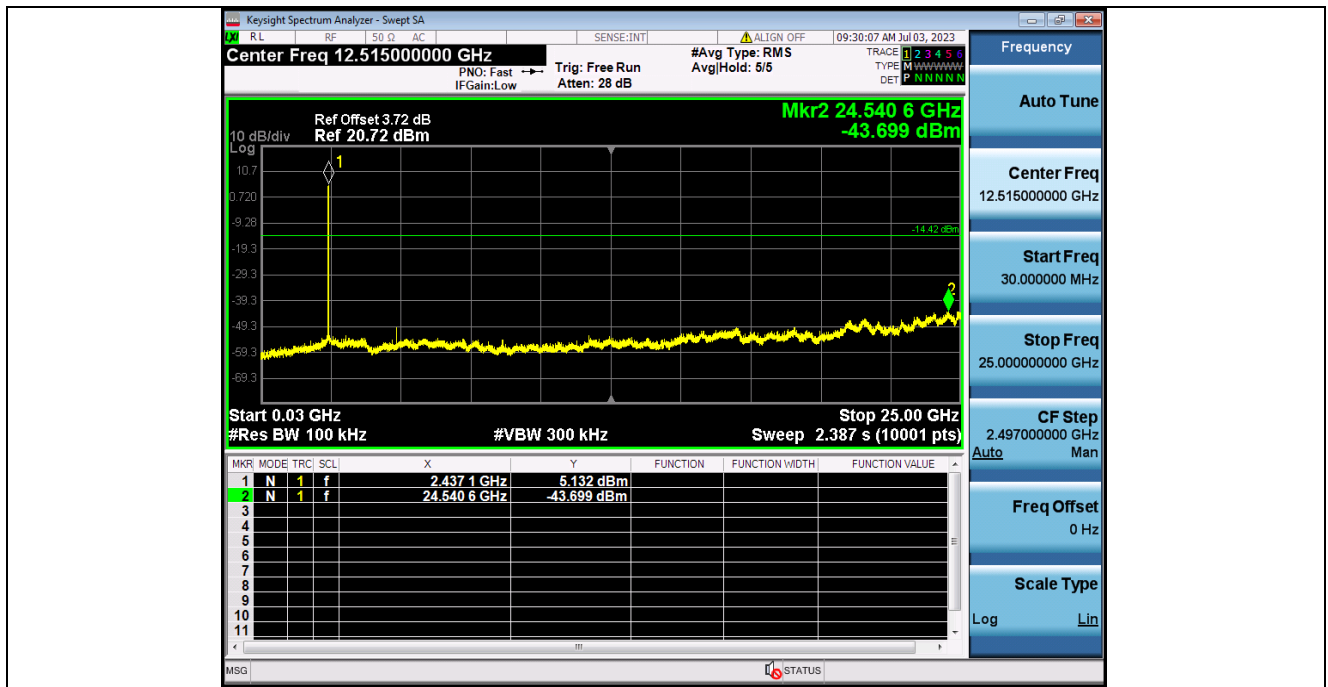
3 Bandedge NVNT ANT1 802 11b 2412



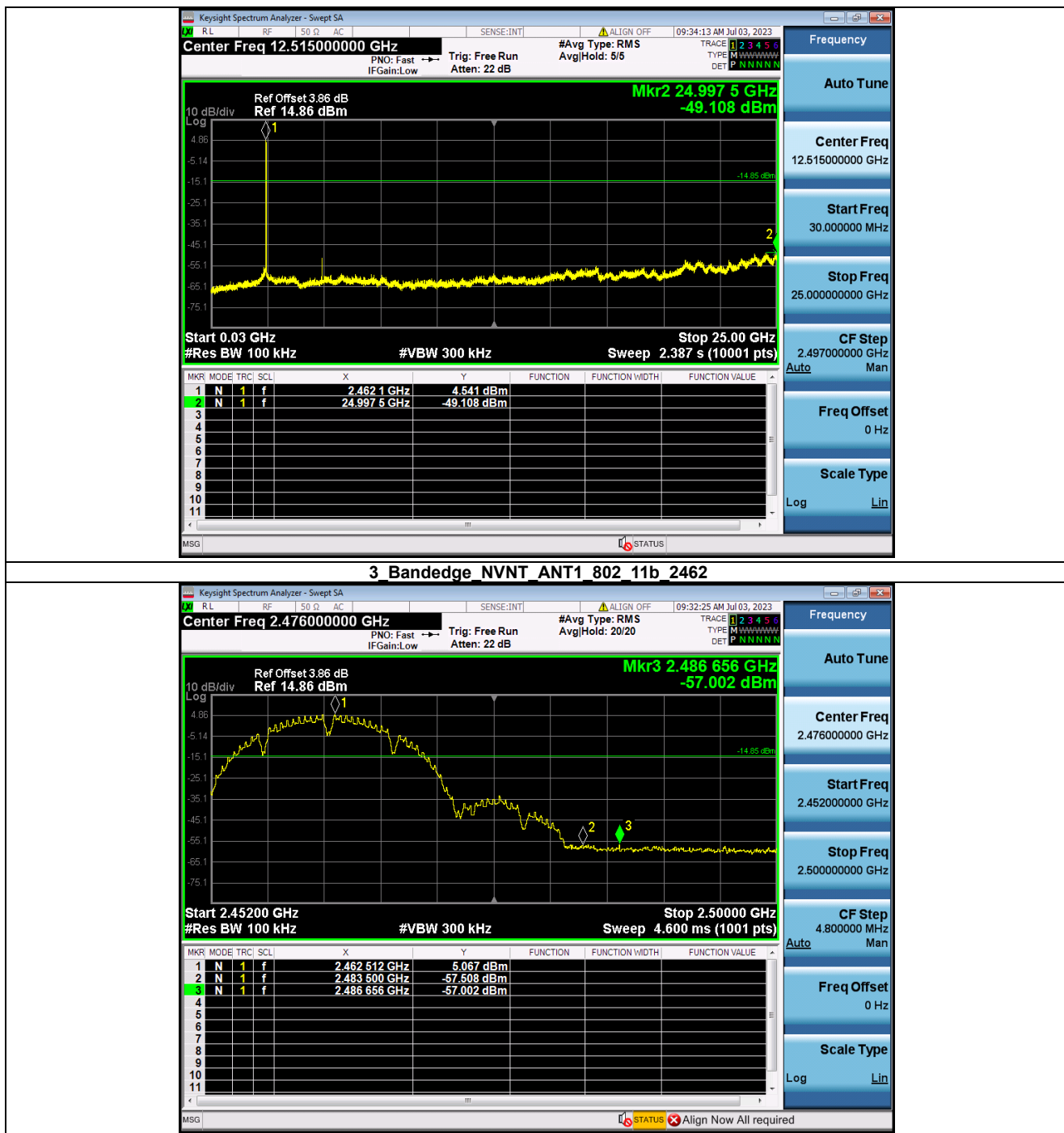
1 Reference Level NVNT ANT1 802 11b 2437



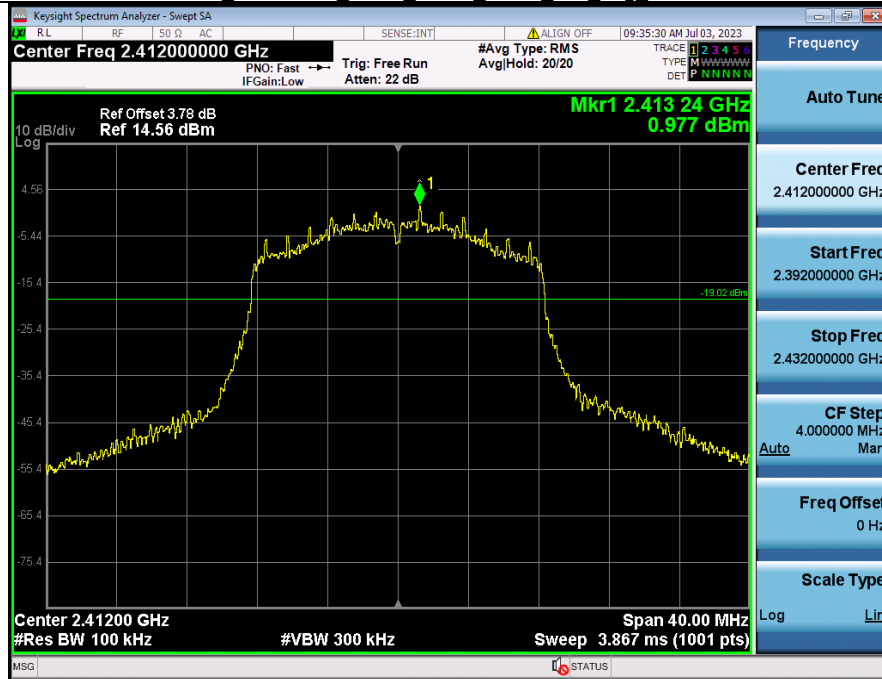
2 Spurious Emission NVNT ANT1 802 11b 2437



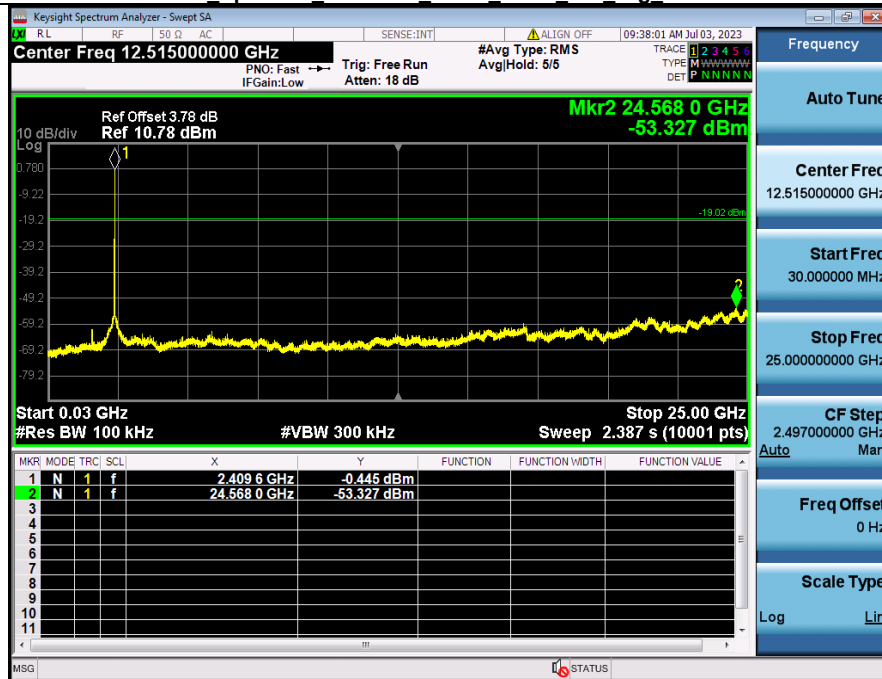
2 Spurious Emission NVNT_ANT1_802_11b_2462



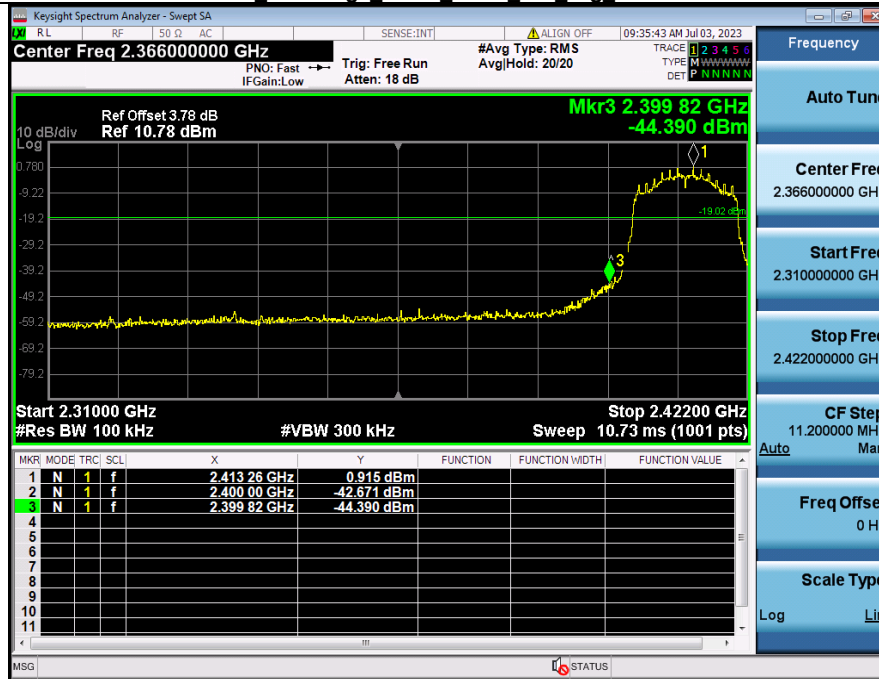
1 Reference Level NVNT_ANT1 802 11g 2412



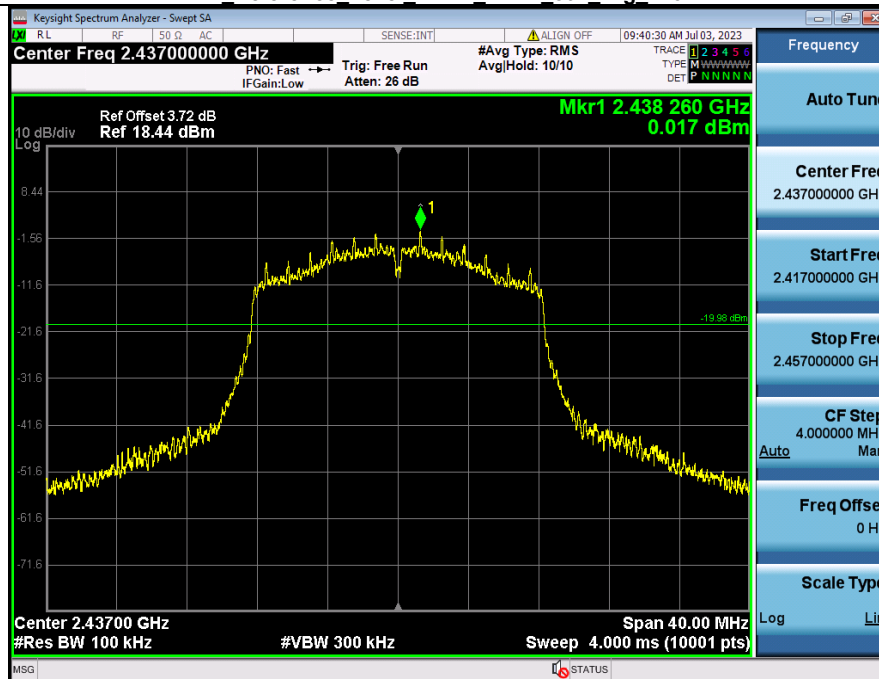
2 Spurious Emission NVNT_ANT1 802 11g 2412



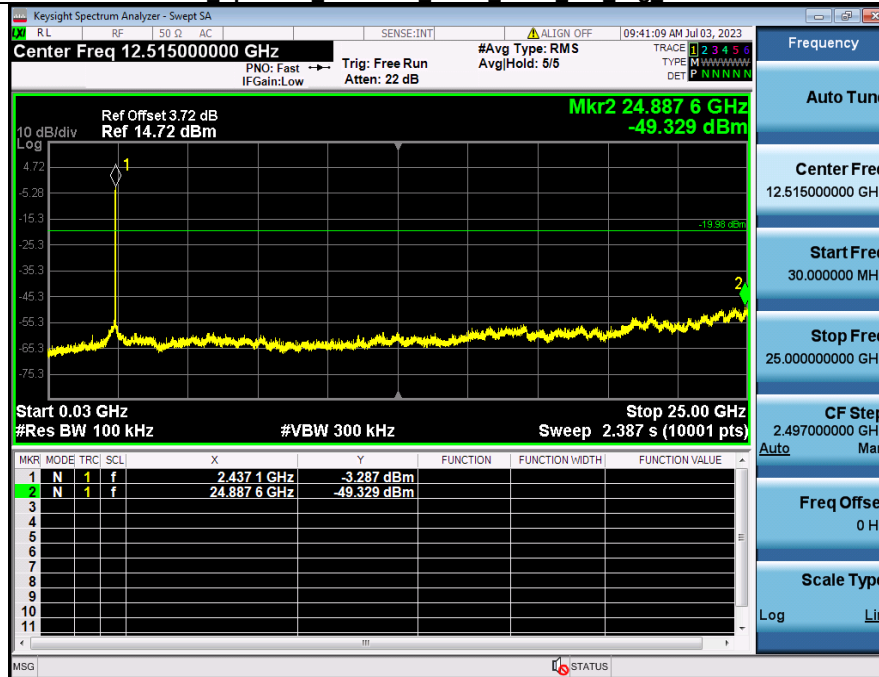
3 Bandedge NVNT ANT1 802 11g 2412



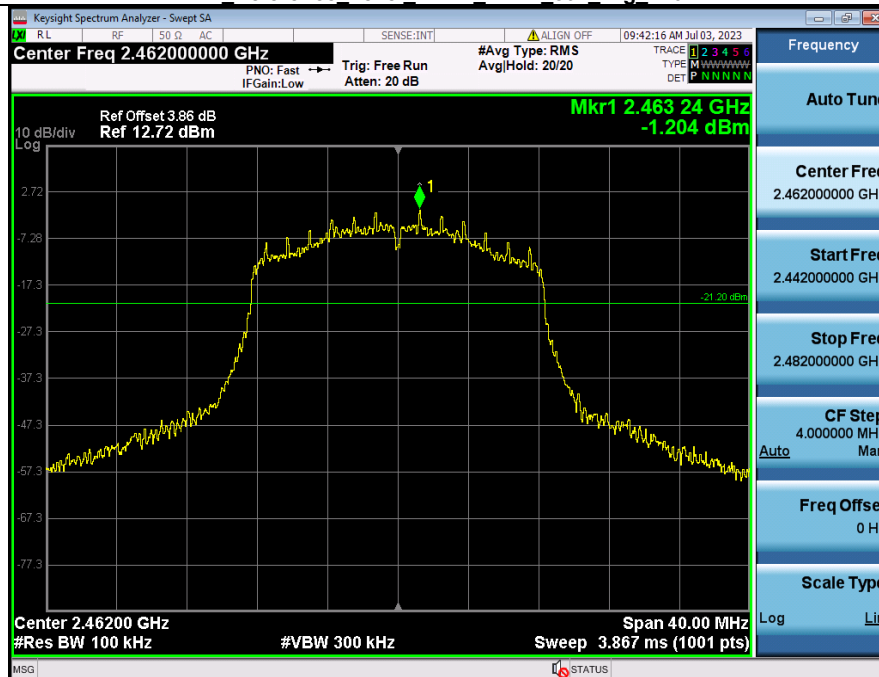
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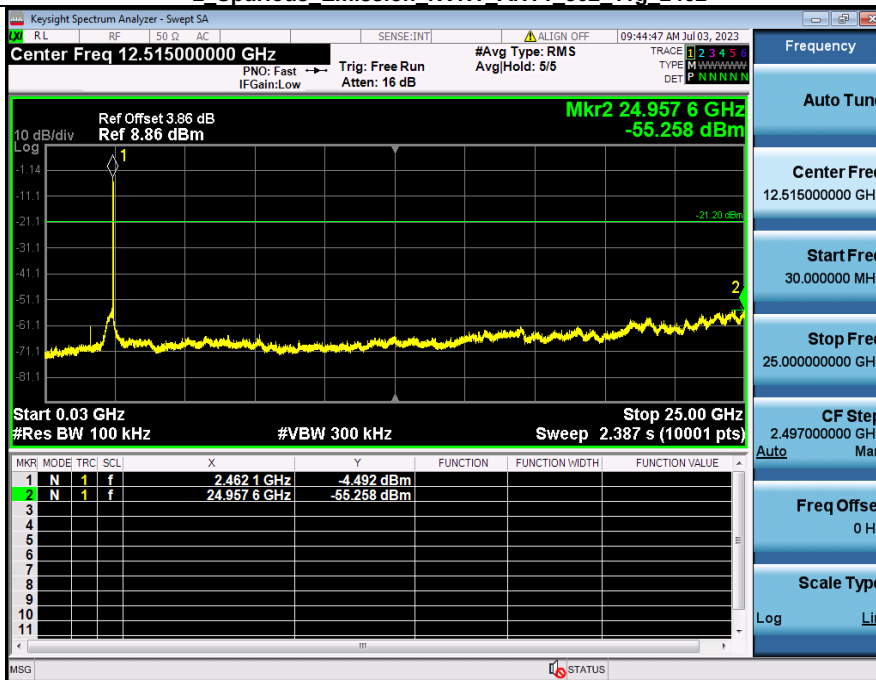
2 Spurious Emission NVNT ANT1 802 11g 2437



1 Reference Level NVNT ANT1 802 11g 2462



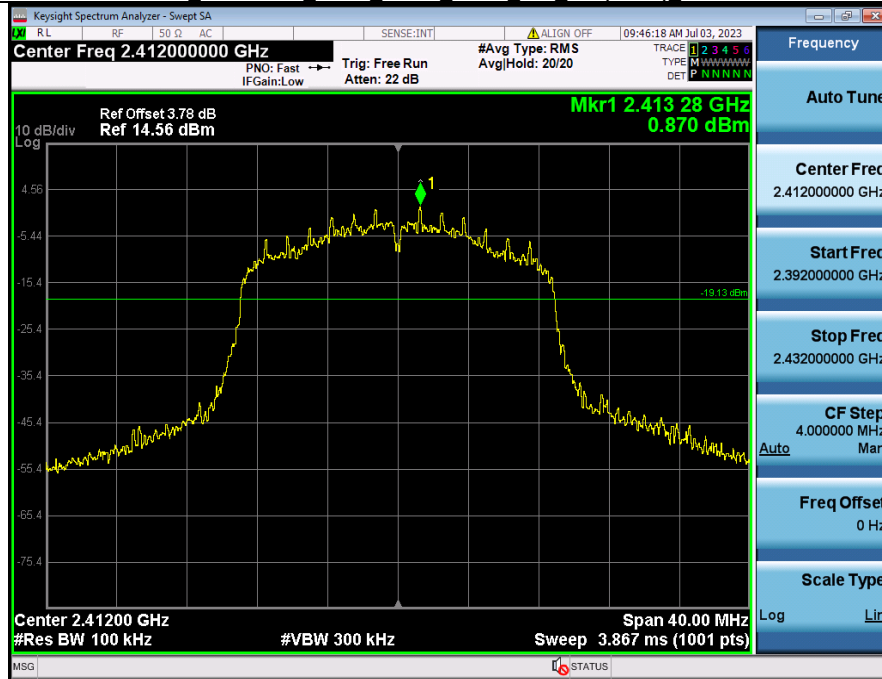
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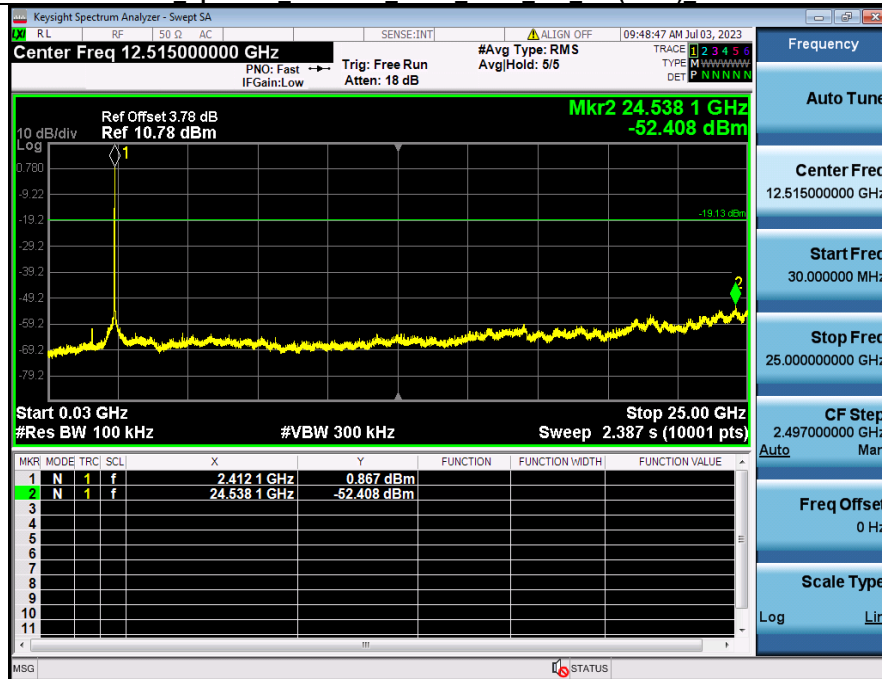
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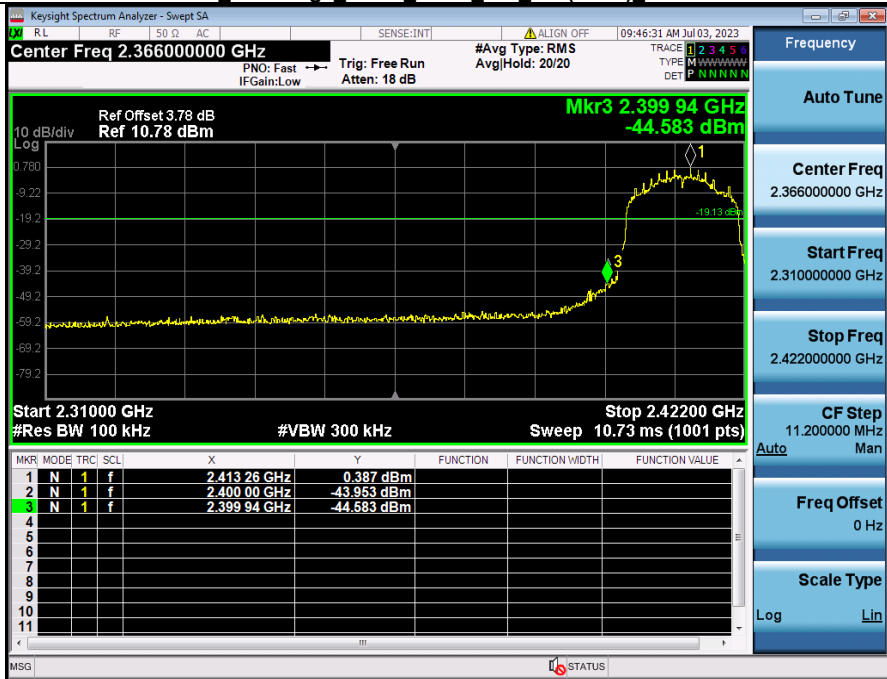
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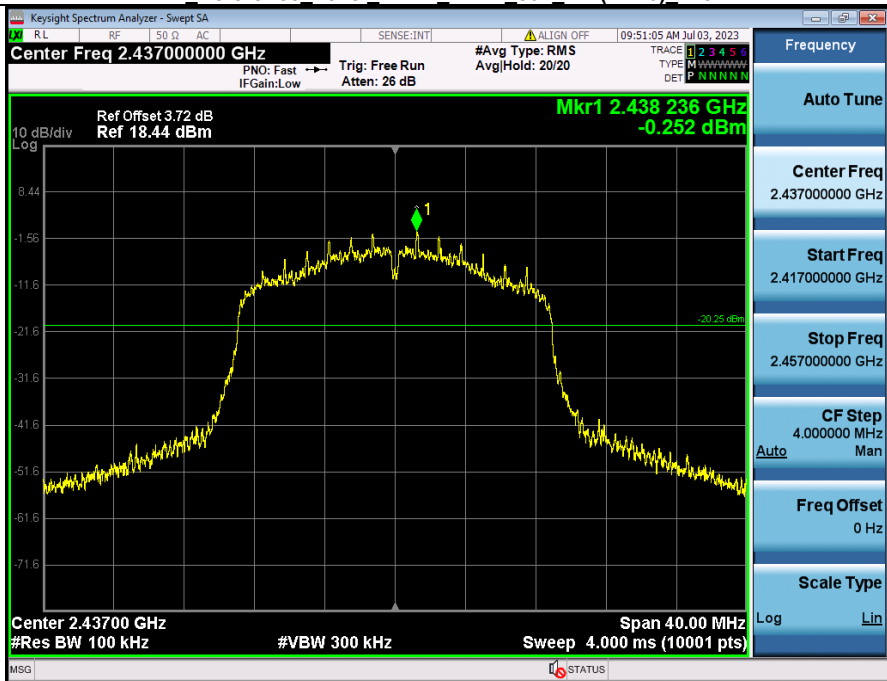
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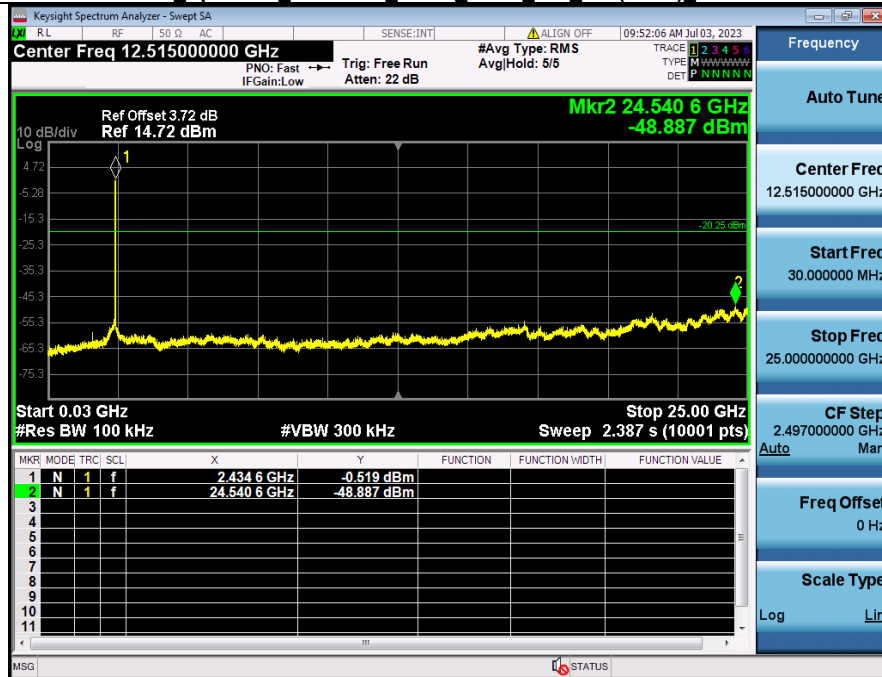
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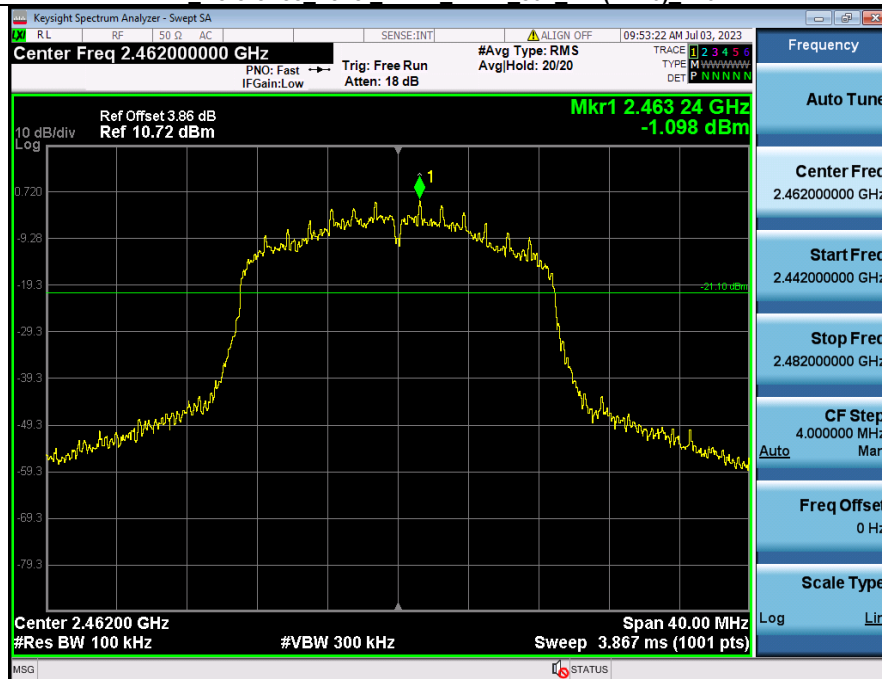
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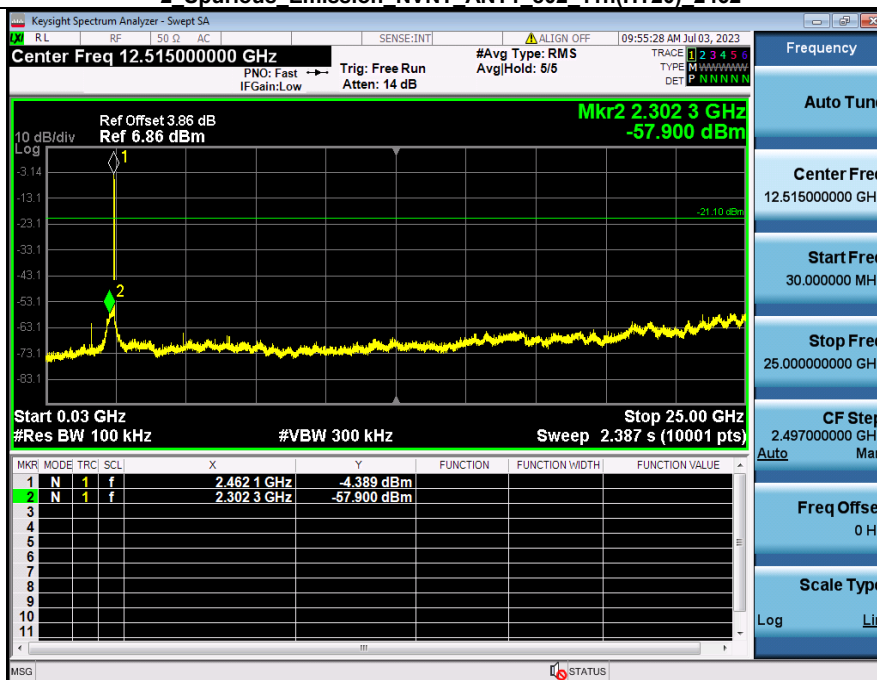
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1 Reference Level NVNT ANT1 802 11n(HT20) 2462



2 Spurious Emission NVNT ANT1 802 11n(HT20) 2462



3 Bandedge NVNT ANT1 802 11n(HT20) 2462





Test Report Number: BTF230720R00102

6. Form731

6.1 Form731

6.1.1 Test Result

Lower Freq (MHz)	High Freq (MHz)	MAX Power (W)	MAX Power (dBm)
2412	2462		



Test Report Number: BTF230720R00102



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