



RF Test Report

For

Applicant Name: Shenzhen Qingfen Tingxiu Information Technology Co., Ltd
Address: 2405-06, Baotai Building, 182 Design Park, 182 Bulan Road, Lilang Community, Nanwan Street, Longgang District, Shenzhen
EUT Name: Mini PC
Brand Name: N/A
Model Number: AK2
Series Model Number: CK06, CK07, CK08, CK09, CK10, CK11, JK01, JK02, JK03, JK05, JK06, JK07, JK08, JK09, JK10, TK11-A0S, TK11-B0, TK12, TK13, TK15, AK1, AK3, GK1, T8pro, T8plus, GK2, GK3, T6pro, AMR5, AM02, AM03, AK5, GK5, AK7, GK7, CK12, T6P1, T6P2, T6P3, AK1Pro, AK2pro, GK3PRO, AK5Pro, AK7pro, MN56

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: BTF230717R01401
Test Standards: 47 CFR Part 15.247
Test Conclusion: Pass
FCC ID: 2BB7B-AK2
Test Date: 2023-07-13 to 2023-07-25
Date of Issue: 2023-07-25

Prepared By:

Elma.Yang

Date:

Elma.yang / Project Engineer
2023-07-25

Approved By:

Ryan.CJ

Date:

Ryan.CJ / EMC Manager
2023-07-25



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Test Report Number: BTF230717R01401

Revision History		
Version	Issue Date	Revisions Content
R_V0	2023-07-25	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 Qingfen Tingxiu Information Technology Co., Ltd
Address:	2405-06, Baotai Building, 182 Design Park, 182 Bulan Road, Lilang Community, Nanwan Street, Longgang District, Shenzhen

2.2 Manufacturer Information

Company Name:	Shen Zhen Chuang Ying Xin Industrial Co. Ltd
Address:	2/F and 5/F East of Building A, Corenter Low Carbon Industrial Park, Summit Community, Dalang Street, Longhua District, Shenzhen

2.3 General Description of Equipment under Test (EUT)

EUT Name:	Mini PC
Test Model Number:	AK2
Series Model:	CK06, CK07, CK08, CK09, CK10 , CK11, JK01, JK02, JK03, JK05, JK06, JK07, JK08, JK09, JK10, TK11-A0S, TK11-B0, TK12, TK13, TK15, AK1, AK3, GK1, T8pro, T8plus, GK2, GK3, T6pro, AMR5, AM02, AM03, AK5, GK5, AK7, GK7, CK12, T6P1, T6P2, T6P3, AK1Pro, AK2pro, GK3PRO, AK5Pro, AK7pro , MN56
Difference:	All the same except hte model number.

2.4 Technical Information

Power Supply:	DC 12V from adapter input AC 120V/60Hz
Power Adaptor:	Input:100-240V,50/60Hz 0.8V Output:12.0V 2.5A 30.0W
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz; 802.11n(HT40): 2422MHz to 2452MHz
Number of Channels:	802.11b/g/n(HT20): 11 Channels; 802.11n(HT40): 7 Channels
Modulation Type:	802.11b: DSSS(CCK, DQPSK, DBPSK); 802.11g: OFDM(BPSK, QPSK, 16QAM, 64QAM); 802.11n(HT20 and HT40): OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna Type:	FPC ANT
Antenna Gain#:	2.38 dBi
Directional gain:	5.39dBi

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
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	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	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	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-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	ROHDE&SCHWARZ	ESC17	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	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-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	ROHDE&SCHWA RZ	ESCI7	101032	2022-11-24	2023-11-23
SIGNAL ANALYZER	ROHDE&SCHWA RZ	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.
TM4	802.11n(HT40) mode	Keep the EUT in continuously transmitting mode with 802.11n(HT40) 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:

The antenna is FPC antenna, the best case gain of the antennas is 2.38 dBi, reference to EUT Photo for details.

6 Radio Spectrum Matter Test Results (RF)

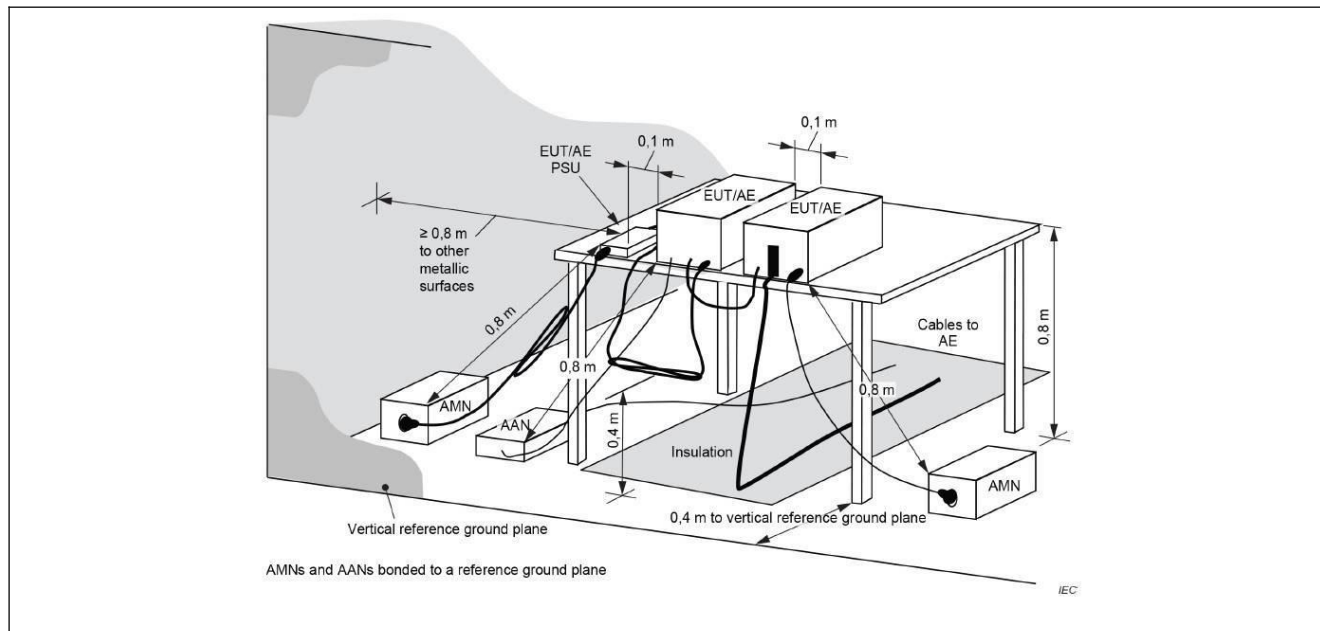
6.1 Conducted Emission at AC power line

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:

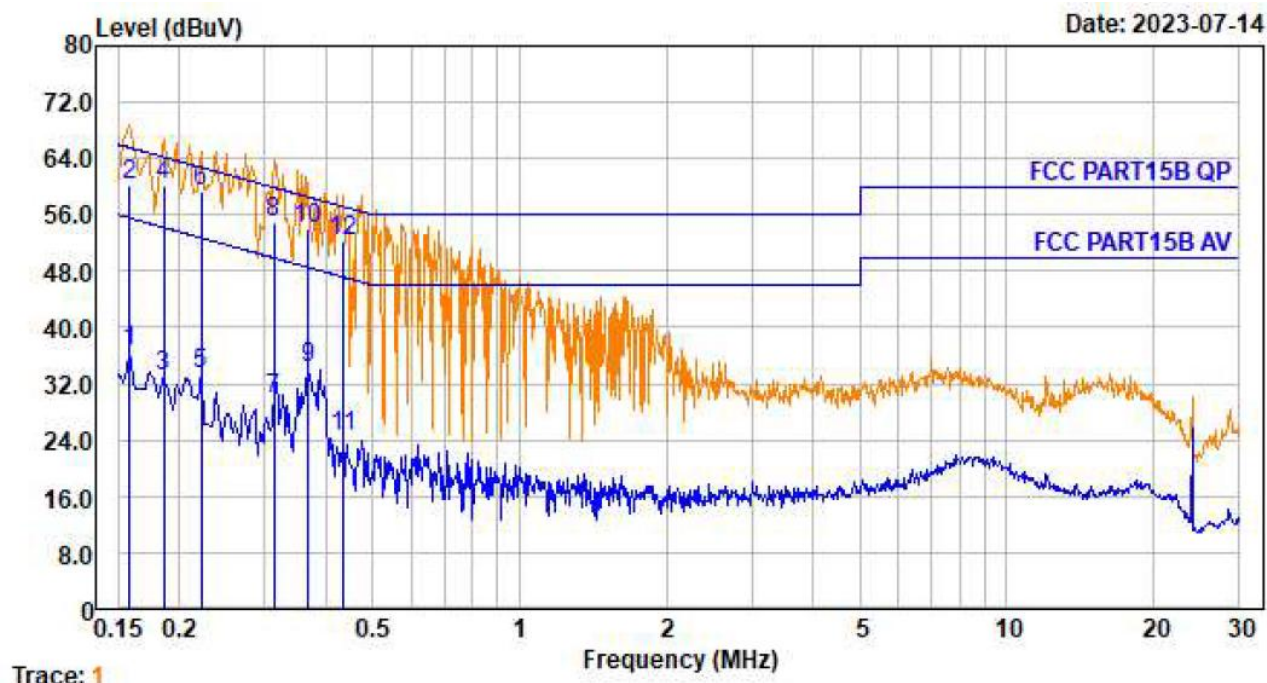
Operating Environment:	
Temperature:	24.8 °C
Humidity:	52.5 %
Atmospheric Pressure:	1010 mbar

6.1.2 Test Setup Diagram:



6.1.3 Test Data:

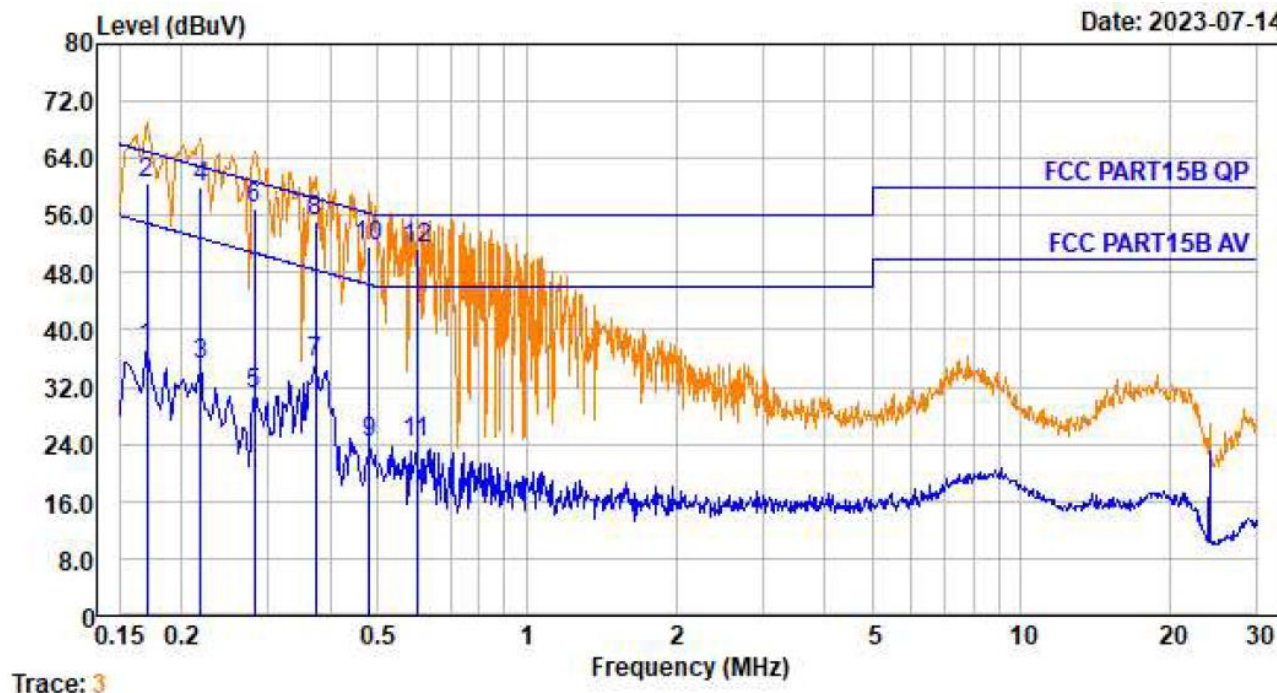
TM1 / Line: Line / Band: 2.4G / BW: 20 / CH: M



No.	Freq MHz	Cable Loss dB	LISN Factor dB/m	Receiver Reading dBuV	Emission Level dBuV/m	Limit dBuV/m	Over Limit dB	Remark
1.	0.158	0.00	9.54	27.07	36.61	55.56	-18.95	Average
2.	0.158	0.00	9.54	50.71	60.25	65.56	-5.31	QP
3.	0.186	0.01	9.55	23.58	33.14	54.20	-21.06	Average
4.	0.186	0.01	9.55	50.54	60.10	64.20	-4.10	QP
5.	0.222	0.01	9.55	23.80	33.36	52.74	-19.38	Average
6.	0.222	0.01	9.55	49.70	59.26	62.74	-3.48	QP
7.	0.313	0.01	9.56	20.33	29.90	49.88	-19.98	Average
8.	0.313	0.01	9.56	45.40	54.97	59.88	-4.91	QP
9.	0.369	0.01	9.56	24.61	34.18	48.52	-14.34	Average
10.	0.369	0.01	9.56	44.31	53.88	58.52	-4.64	QP
11.	0.435	0.01	9.57	14.85	24.43	47.15	-22.72	Average
12.	0.435	0.01	9.57	42.70	52.28	57.15	-4.87	QP

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

Date: 2023-07-14



No.	Freq MHz	Cable Loss dB	LISN Factor dB/m	Receiver Reading dBuV	Emission Level dBuV/m	Limit dBuV/m	Over Limit dB	Remark
1.	0.170	0.00	9.54	27.95	37.49	54.94	-17.45	Average
2.	0.170	0.00	9.54	51.00	60.54	64.94	-4.40	QP
3.	0.219	0.01	9.55	25.54	35.10	52.88	-17.78	Average
4.	0.219	0.01	9.55	50.30	59.86	62.88	-3.02	QP
5.	0.282	0.01	9.56	21.35	30.92	50.76	-19.84	Average
6.	0.282	0.01	9.56	47.30	56.87	60.76	-3.89	QP
7.	0.373	0.01	9.57	25.86	35.44	48.43	-12.99	Average
8.	0.373	0.01	9.57	45.70	55.28	58.43	-3.15	QP
9.	0.481	0.01	9.58	14.70	24.29	46.32	-22.03	Average
10.	0.481	0.01	9.58	42.10	51.69	56.32	-4.63	QP
11.	0.598	0.02	9.58	14.52	24.12	46.00	-21.88	Average
12.	0.598	0.02	9.58	41.80	51.40	56.00	-4.60	QP

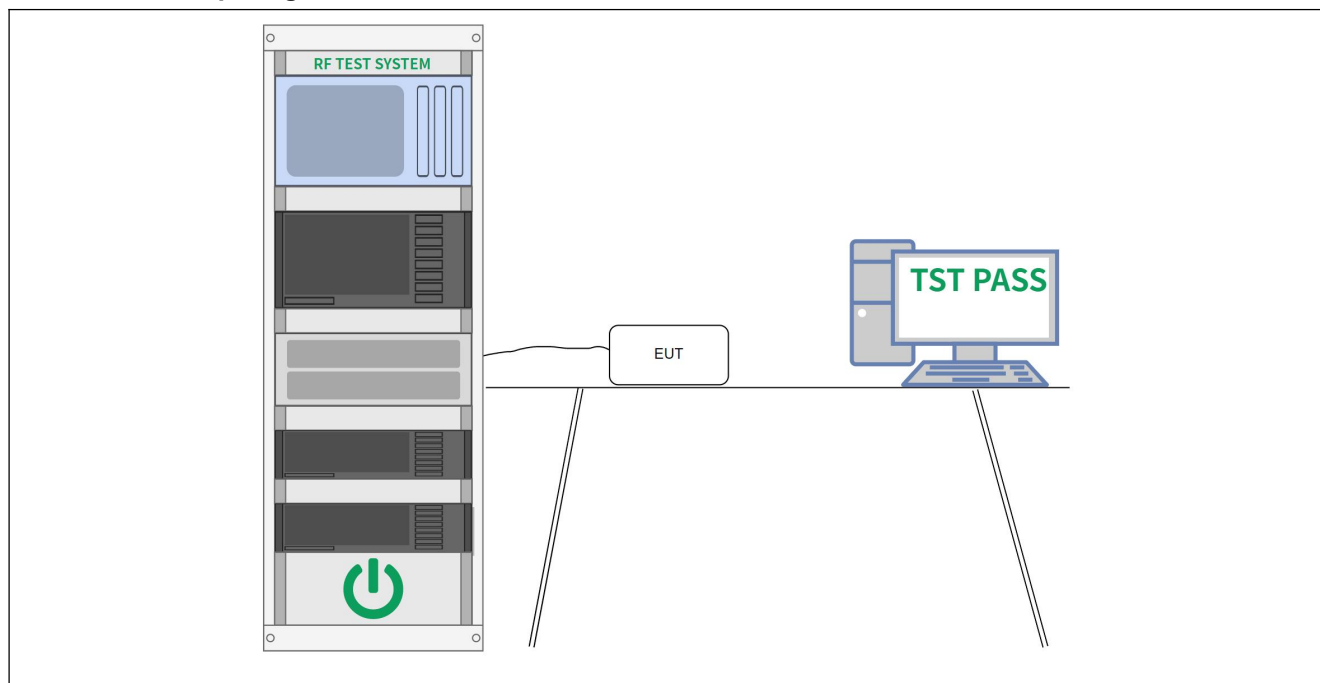
6.2 Occupied Bandwidth

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:	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.

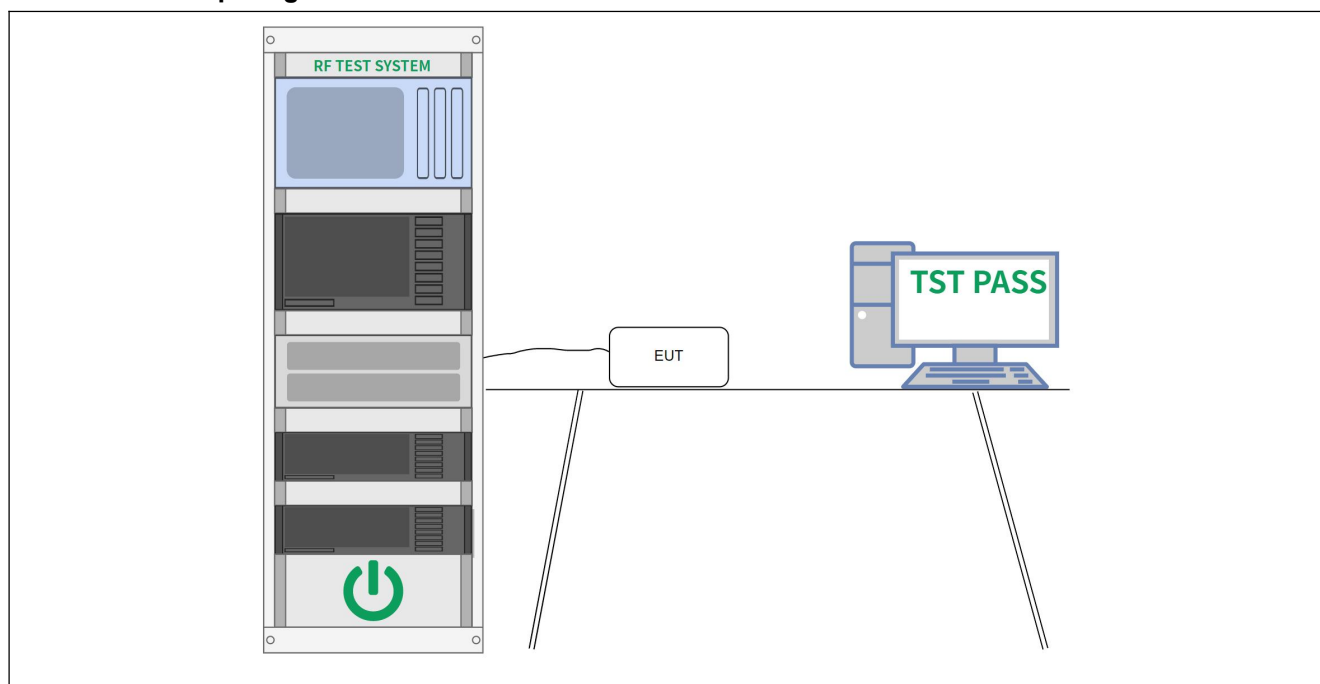
6.3 Maximum Conducted Output Power

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 Maximum peak conducted output power

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.

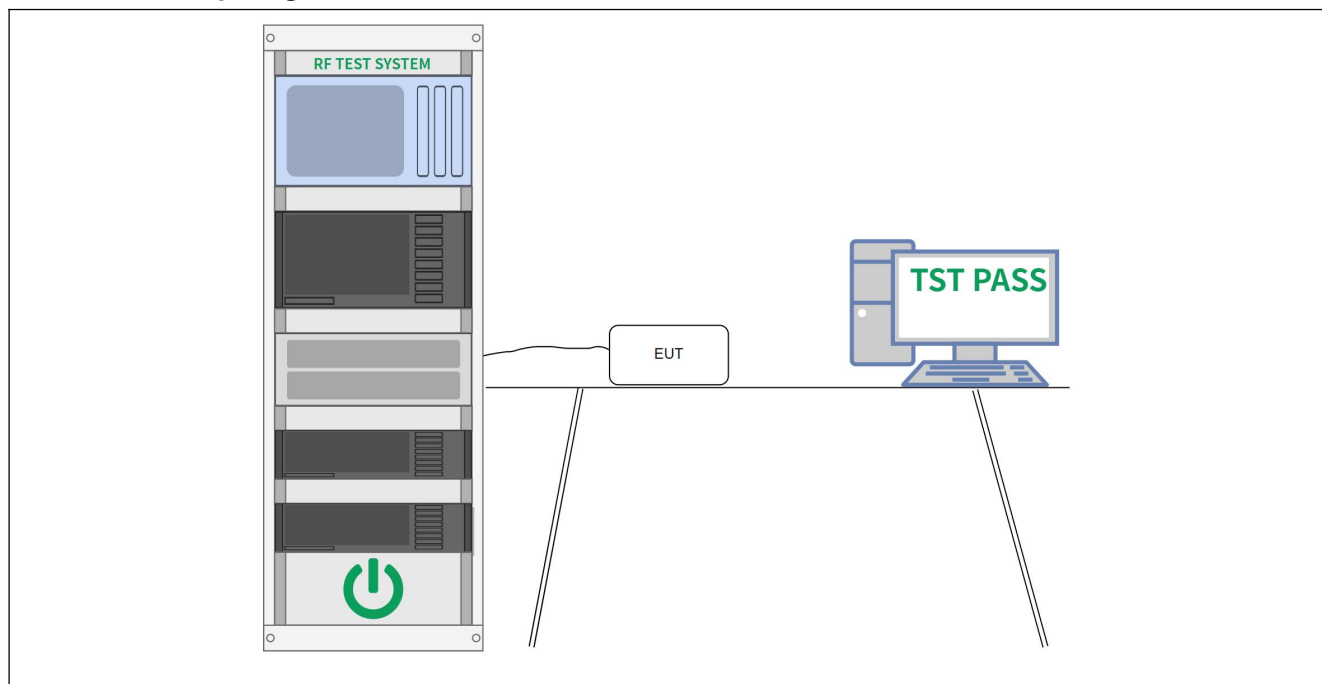
6.4 Power Spectral Density

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.

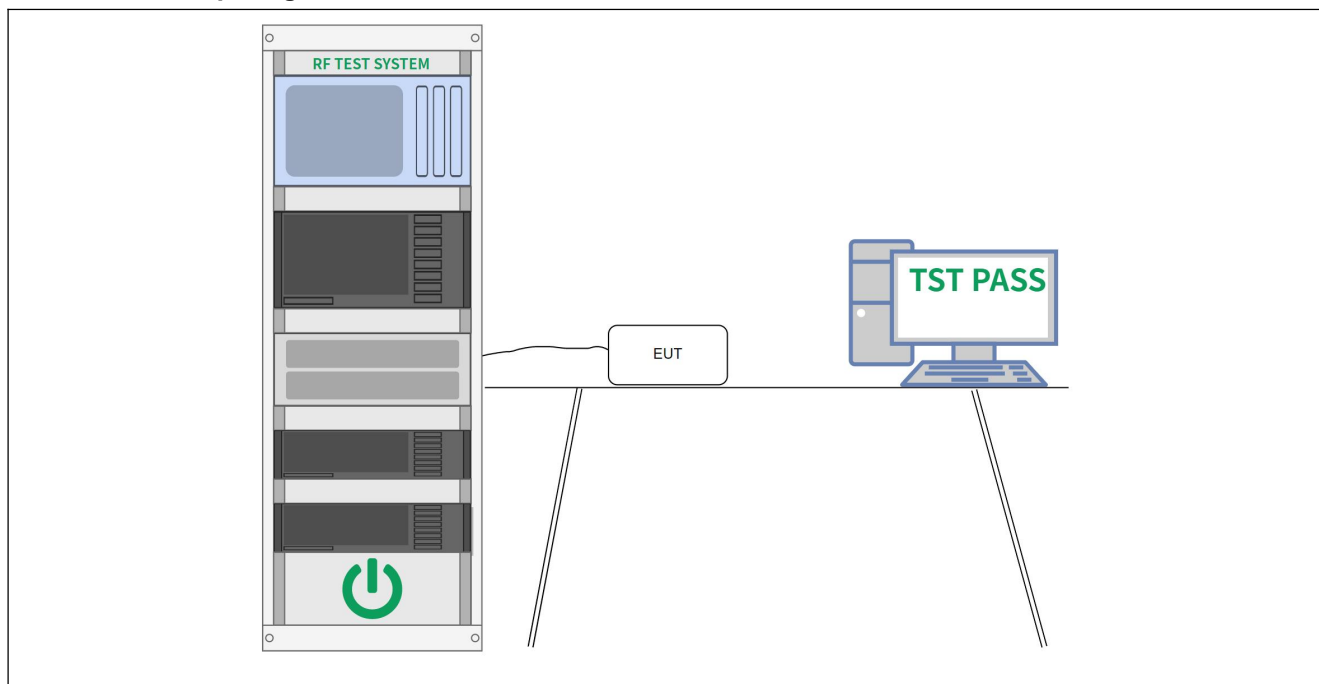
6.5 Emissions in non-restricted frequency bands

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 Data:

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	Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Detector Type	Result
802.11b	Low Channel 2412MHz									
	H	2390.00	54.81	30.22	4.85	23.98	53.42	74.00	PK	PASS
	H	2390.00	46.34	30.22	4.85	23.98	44.95	54.00	AV	PASS
	H	2400.00	55.43	30.22	4.85	23.98	54.04	74.00	PK	PASS
	H	2400.00	44.93	30.22	4.85	23.98	43.54	54.00	AV	PASS
	V	2390.00	54.41	30.22	4.85	23.98	53.02	74.00	PK	PASS
	V	2390.00	47.49	30.22	4.85	23.98	46.10	54.00	AV	PASS
	V	2400.00	58.32	30.22	4.85	23.98	56.93	74.00	PK	PASS
	V	2400.00	45.38	30.22	4.85	23.98	43.99	54.00	AV	PASS
	High Channel 2462MHz									
	H	2483.50	55.68	30.22	4.85	23.98	54.29	74.00	PK	PASS
	H	2483.50	43.45	30.22	4.85	23.98	42.06	54.00	AV	PASS
	H	2500.00	55.25	30.22	4.85	23.98	53.86	74.00	PK	PASS
	H	2500.00	46.50	30.22	4.85	23.98	45.11	54.00	AV	PASS
	V	2483.50	57.46	30.22	4.85	23.98	56.07	74.00	PK	PASS
	V	2483.50	47.93	30.22	4.85	23.98	46.54	54.00	AV	PASS
	V	2500.00	57.83	30.22	4.85	23.98	56.44	74.00	PK	PASS
	V	2500.00	49.12	30.22	4.85	23.98	47.73	54.00	AV	PASS
802.11g	Low Channel 2412MHz									
	H	2390.00	55.91	30.22	4.85	23.98	54.52	74.00	PK	PASS
	H	2390.00	48.18	30.22	4.85	23.98	46.79	54.00	AV	PASS
	H	2400.00	57.13	30.22	4.85	23.98	55.74	74.00	PK	PASS
	H	2400.00	44.43	30.22	4.85	23.98	43.04	54.00	AV	PASS
	V	2390.00	56.45	30.22	4.85	23.98	55.06	74.00	PK	PASS
	V	2390.00	47.00	30.22	4.85	23.98	45.61	54.00	AV	PASS
	V	2400.00	55.72	30.22	4.85	23.98	54.33	74.00	PK	PASS
	V	2400.00	46.08	30.22	4.85	23.98	44.69	54.00	AV	PASS
	High Channel 2462MHz									
	H	2483.50	51.70	30.22	4.85	23.98	50.31	74.00	PK	PASS
	H	2483.50	44.11	30.22	4.85	23.98	42.72	54.00	AV	PASS
	H	2500.00	57.26	30.22	4.85	23.98	55.87	74.00	PK	PASS
	H	2500.00	43.84	30.22	4.85	23.98	42.45	54.00	AV	PASS
	V	2483.50	54.72	30.22	4.85	23.98	53.33	74.00	PK	PASS
	V	2483.50	47.96	30.22	4.85	23.98	46.57	54.00	AV	PASS
	V	2500.00	52.91	30.22	4.85	23.98	51.52	74.00	PK	PASS
	V	2500.00	46.59	30.22	4.85	23.98	45.20	54.00	AV	PASS
802.11n20	Low Channel 2412MHz									
	H	2390.00	54.32	30.22	4.85	23.98	52.93	74.00	PK	PASS
	H	2390.00	47.31	30.22	4.85	23.98	45.92	54.00	AV	PASS
	H	2400.00	57.66	30.22	4.85	23.98	56.27	74.00	PK	PASS
	H	2400.00	45.31	30.22	4.85	23.98	43.92	54.00	AV	PASS
	V	2390.00	54.94	30.22	4.85	23.98	53.55	74.00	PK	PASS
	V	2390.00	48.89	30.22	4.85	23.98	47.50	54.00	AV	PASS
	V	2400.00	58.92	30.22	4.85	23.98	57.53	74.00	PK	PASS

802.11n40	V	2400.00	47.80	30.22	4.85	23.98	46.41	54.00	AV	PASS
	High Channel 2462MHz									
	H	2483.50	54.44	30.22	4.85	23.98	53.05	74.00	PK	PASS
	H	2483.50	47.34	30.22	4.85	23.98	45.95	54.00	AV	PASS
	H	2500.00	57.36	30.22	4.85	23.98	55.97	74.00	PK	PASS
	H	2500.00	45.29	30.22	4.85	23.98	43.90	54.00	AV	PASS
	V	2483.50	54.93	30.22	4.85	23.98	53.54	74.00	PK	PASS
	V	2483.50	48.84	30.22	4.85	23.98	47.45	54.00	AV	PASS
	V	2500.00	58.49	30.22	4.85	23.98	57.10	74.00	PK	PASS
	V	2500.00	48.13	30.22	4.85	23.98	46.74	54.00	AV	PASS
	Low Channel 2422MHz									
	H	2390.00	55.43	30.22	4.85	23.98	54.04	74.00	PK	PASS
	H	2390.00	47.86	30.22	4.85	23.98	46.47	54.00	AV	PASS
	H	2400.00	56.89	30.22	4.85	23.98	55.50	74.00	PK	PASS
	H	2400.00	45.03	30.22	4.85	23.98	43.64	54.00	AV	PASS
	V	2390.00	56.26	30.22	4.85	23.98	54.87	74.00	PK	PASS
	V	2390.00	47.20	30.22	4.85	23.98	45.81	54.00	AV	PASS
	V	2400.00	55.21	30.22	4.85	23.98	53.82	74.00	PK	PASS
	V	2400.00	45.58	30.22	4.85	23.98	44.19	54.00	AV	PASS
	High Channel 2452MHz									
	H	2483.50	51.37	30.22	4.85	23.98	49.98	74.00	PK	PASS
	H	2483.50	44.16	30.22	4.85	23.98	42.77	54.00	AV	PASS
	H	2500.00	57.82	30.22	4.85	23.98	56.43	74.00	PK	PASS
	H	2500.00	44.30	30.22	4.85	23.98	42.91	54.00	AV	PASS
	V	2483.50	54.30	30.22	4.85	23.98	52.91	74.00	PK	PASS
	V	2483.50	47.50	30.22	4.85	23.98	46.11	54.00	AV	PASS
	V	2500.00	52.60	30.22	4.85	23.98	51.21	74.00	PK	PASS
	V	2500.00	46.54	30.22	4.85	23.98	45.15	52.36	AV	PASS
Remark: 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit										

Note 1: The lowest and highest channels are tested to verify the band edge emissions. Please refer to the following the plots for emissions values.

Note 2: The test data all are tested in the vertical and horizontal antenna which the trace is max hold. So these plots have shown the worst case.

Note 3: According the ANSI C63.10-2013, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note 4: The Level (dBuV/m) has been corrected by factor.

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	Polar (H/V)	Frequenc y (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV /m)	Detec tor Type	Result
802.11b	Low Channel 2412MHz									
	H	2390.00	53.82	30.22	4.85	23.98	52.43	74.00	PK	PASS
	H	2390.00	45.87	30.22	4.85	23.98	44.48	54.00	AV	PASS
	H	2400.00	59.14	30.22	4.85	23.98	57.75	74.00	PK	PASS
	H	2400.00	46.34	30.22	4.85	23.98	44.95	54.00	AV	PASS
	V	2390.00	54.14	30.22	4.85	23.98	52.75	74.00	PK	PASS
	V	2390.00	45.54	30.22	4.85	23.98	44.15	54.00	AV	PASS
	V	2400.00	58.03	30.22	4.85	23.98	56.64	74.00	PK	PASS
	V	2400.00	47.89	30.22	4.85	23.98	46.50	54.00	AV	PASS
	High Channel 2462MHz									
	H	2483.50	55.47	30.22	4.85	23.98	54.08	74.00	PK	PASS
	H	2483.50	45.15	30.22	4.85	23.98	43.76	54.00	AV	PASS
	H	2500.00	57.78	30.22	4.85	23.98	56.39	74.00	PK	PASS
	H	2500.00	43.78	30.22	4.85	23.98	42.39	54.00	AV	PASS
	V	2483.50	54.06	30.22	4.85	23.98	52.67	74.00	PK	PASS
	V	2483.50	47.34	30.22	4.85	23.98	45.95	54.00	AV	PASS
	V	2500.00	53.55	30.22	4.85	23.98	52.16	74.00	PK	PASS
	V	2500.00	47.96	30.22	4.85	23.98	46.57	54.00	AV	PASS
802.11g	Low Channel 2412MHz									
	H	2390.00	55.43	30.22	4.85	23.98	54.04	74.00	PK	PASS
	H	2390.00	47.86	30.22	4.85	23.98	46.47	54.00	AV	PASS
	H	2400.00	56.89	30.22	4.85	23.98	55.50	74.00	PK	PASS
	H	2400.00	45.03	30.22	4.85	23.98	43.64	54.00	AV	PASS
	V	2390.00	56.26	30.22	4.85	23.98	54.87	74.00	PK	PASS
	V	2390.00	47.20	30.22	4.85	23.98	45.81	54.00	AV	PASS
	V	2400.00	55.21	30.22	4.85	23.98	53.82	74.00	PK	PASS
	V	2400.00	45.58	30.22	4.85	23.98	44.19	54.00	AV	PASS
	High Channel 2462MHz									
	H	2483.50	51.37	30.22	4.85	23.98	49.98	74.00	PK	PASS
	H	2483.50	44.16	30.22	4.85	23.98	42.77	54.00	AV	PASS
	H	2500.00	57.82	30.22	4.85	23.98	56.43	74.00	PK	PASS
	H	2500.00	44.30	30.22	4.85	23.98	42.91	54.00	AV	PASS
	V	2483.50	54.30	30.22	4.85	23.98	52.91	74.00	PK	PASS
	V	2483.50	47.50	30.22	4.85	23.98	46.11	54.00	AV	PASS
	V	2500.00	52.60	30.22	4.85	23.98	51.21	74.00	PK	PASS
	V	2500.00	46.54	30.22	4.85	23.98	45.15	54.00	AV	PASS
802.11n20	Low Channel 2412MHz									
	H	2390.00	54.49	30.22	4.85	23.98	53.10	74.00	PK	PASS
	H	2390.00	47.23	30.22	4.85	23.98	45.84	54.00	AV	PASS
	H	2400.00	57.64	30.22	4.85	23.98	56.25	74.00	PK	PASS
	H	2400.00	45.18	30.22	4.85	23.98	43.79	54.00	AV	PASS
	V	2390.00	55.08	30.22	4.85	23.98	53.69	74.00	PK	PASS
	V	2390.00	48.47	30.22	4.85	23.98	47.08	54.00	AV	PASS
	V	2400.00	58.69	30.22	4.85	23.98	57.30	74.00	PK	PASS
	V	2400.00	48.15	30.22	4.85	23.98	46.76	54.00	AV	PASS
	High Channel 2462MHz									

	H	2483.50	54.22	30.22	4.85	23.98	52.83	74.00	PK	PASS
	H	2483.50	46.87	30.22	4.85	23.98	45.48	54.00	AV	PASS
	H	2500.00	57.82	30.22	4.85	23.98	56.43	74.00	PK	PASS
	H	2500.00	45.44	30.22	4.85	23.98	44.05	54.00	AV	PASS
	V	2483.50	55.36	30.22	4.85	23.98	53.97	74.00	PK	PASS
	V	2483.50	48.80	30.22	4.85	23.98	47.41	54.00	AV	PASS
	V	2500.00	58.71	30.22	4.85	23.98	57.32	74.00	PK	PASS
	V	2500.00	47.66	30.22	4.85	23.98	46.27	54.00	AV	PASS
802.11n40	Low Channel 2422MHz									
	H	2390.00	54.43	30.22	4.85	23.98	53.04	74.00	PK	PASS
	H	2390.00	47.04	30.22	4.85	23.98	45.65	54.00	AV	PASS
	H	2400.00	57.13	30.22	4.85	23.98	55.74	74.00	PK	PASS
	H	2400.00	44.96	30.22	4.85	23.98	43.57	54.00	AV	PASS
	V	2390.00	55.13	30.22	4.85	23.98	53.74	74.00	PK	PASS
	V	2390.00	48.70	30.22	4.85	23.98	47.31	54.00	AV	PASS
	V	2400.00	58.71	30.22	4.85	23.98	57.32	74.00	PK	PASS
	V	2400.00	48.28	30.22	4.85	23.98	46.89	54.00	AV	PASS
	High Channel 2452MHz									
	H	2483.50	54.69	30.22	4.85	23.98	53.30	74.00	PK	PASS
	H	2483.50	47.16	30.22	4.85	23.98	45.77	54.00	AV	PASS
	H	2500.00	57.55	30.22	4.85	23.98	56.16	74.00	PK	PASS
	H	2500.00	45.28	30.22	4.85	23.98	43.89	54.00	AV	PASS
	V	2483.50	55.36	30.22	4.85	23.98	53.97	74.00	PK	PASS
	V	2483.50	49.07	30.22	4.85	23.98	47.68	54.00	AV	PASS
	V	2500.00	58.78	30.22	4.85	23.98	57.39	74.00	PK	PASS
	V	2500.00	47.73	30.22	4.85	23.98	46.34	52.36	AV	PASS
Remark:										
1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit										

Note 1: The lowest and highest channels are tested to verify the band edge emissions. Please refer to the following the plots for emissions values.

Note 2: The test data all are tested in the vertical and horizontal antenna which the trace is max hold. So these plots have shown the worst case.

Note 3: According the ANSI C63.10-2013, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note 4: The Level (dBuV/m) has been corrected by factor.

6.7 Emissions in restricted frequency bands (below 1GHz)

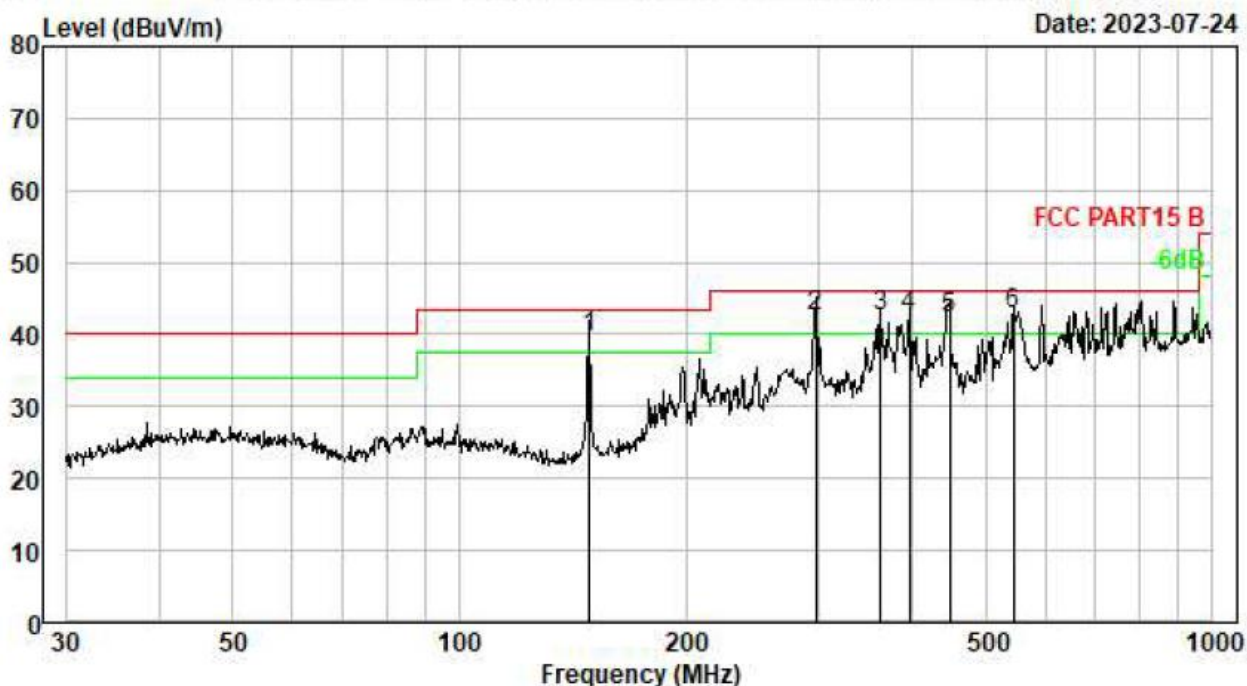
Test Requirement:	In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`		
Test Method:	Radiated emissions tests		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)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

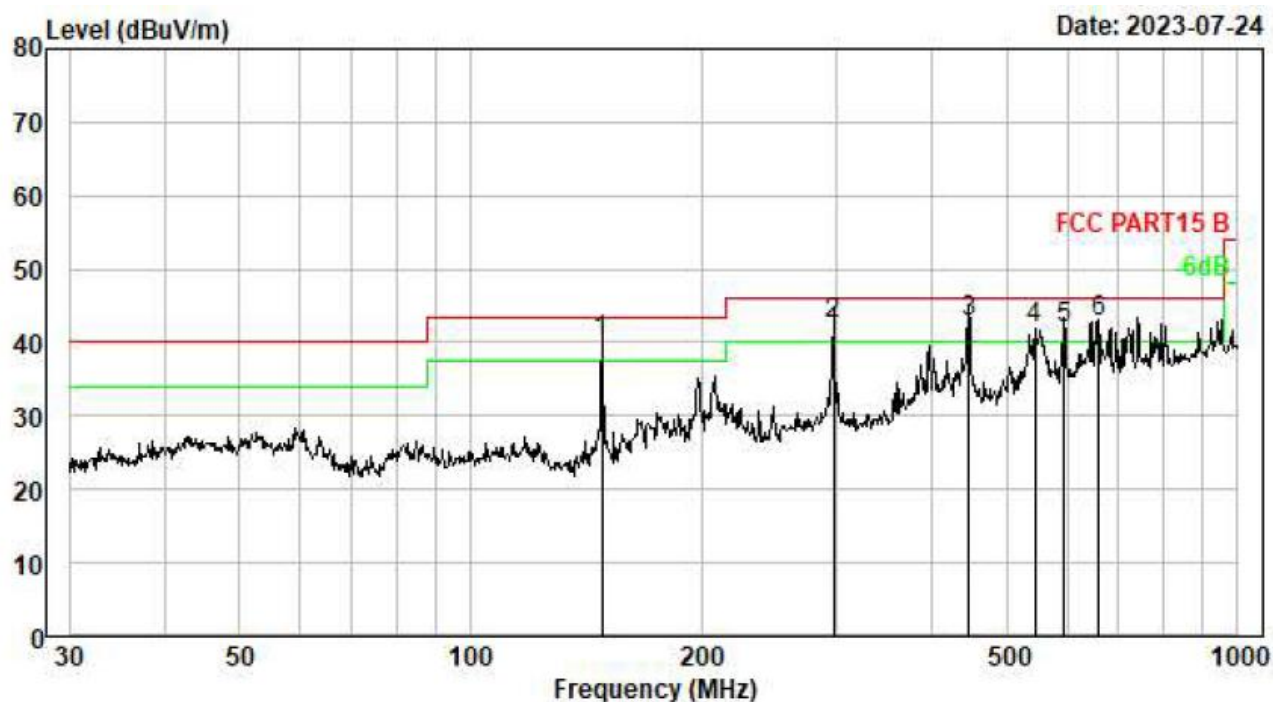
6.7.2 Test Data:

Note: All the mode have been tested, and only the worst case of 802.11n mode are in the report
TM4 / Polarization: Horizontal / Band: 2.4G / BW: 40 / CH: L



No.	Freq MHz	Cable Loss dB	ANT Factor dB/m	Receiver Reading dBμV	Emission Level dBμV/m	Limit dBμV/m	Over Limit dB	Remark
1	148.963	0.90	8.32	30.40	39.62	43.50	-3.88	QP
2	297.224	1.27	14.23	27.11	42.61	46.00	-3.39	QP
3	362.985	1.38	15.29	25.90	42.57	46.00	-3.43	QP
4	396.242	1.43	15.75	25.20	42.38	46.00	-3.62	QP
5	447.982	1.49	16.51	24.30	42.30	46.00	-3.70	QP
6	545.183	1.63	18.01	23.10	42.74	46.00	-3.26	QP

TM4 / Polarization: Vertical / Band: 2.4G / BW: 40 / CH: L



No.	Freq MHz	Cable Loss dB	ANT Factor dB/m	Receiver Reading dBuV	Emission Level dBuV/m	Limit dBuV/m	Over Limit dB	Remark
1	148.441	0.90	8.33	31.00	40.23	43.50	-3.27	QP
2	297.224	1.27	14.23	27.01	42.51	46.00	-3.49	QP
3	446.414	1.49	16.49	24.90	42.88	46.00	-3.12	QP
4	545.183	1.63	18.01	22.40	42.04	46.00	-3.96	QP
5	595.133	1.71	18.82	21.40	41.93	46.00	-4.07	QP
6	658.836	1.80	19.87	21.01	42.68	46.00	-3.32	QP

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 Data:

(1 GHz ~ 25 GHz)

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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampl ifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
Low Channel:2412MHz									
V	4824.00	50.88	30.55	5.77	24.66	50.76	74.00	-23.24	PK
V	4824.00	40.12	30.55	5.77	24.66	40.00	54.00	-14.00	AV
V	7236.00	48.03	30.33	6.32	24.55	48.57	74.00	-25.43	PK
V	7236.00	41.44	30.33	6.32	24.55	41.98	54.00	-12.02	AV
V	9648.00	48.33	30.85	7.45	24.69	49.62	74.00	-24.38	PK
V	9648.00	41.59	30.85	7.45	24.69	42.88	54.00	-11.12	AV
V	12060.00	48.74	31.02	8.99	25.57	52.28	74.00	-21.72	PK
V	12060.00	39.22	31.02	8.99	25.57	42.76	54.00	-11.24	AV
H	4824.00	51.02	30.55	5.77	24.66	50.90	74.00	-23.10	PK
H	4824.00	41.21	30.55	5.77	24.66	41.09	54.00	-12.91	AV
H	7236.00	49.36	30.33	6.32	24.55	49.90	74.00	-24.10	PK
H	7236.00	40.94	30.33	6.32	24.55	41.48	54.00	-12.52	AV
H	9648.00	49.35	30.85	7.45	24.69	50.64	74.00	-23.36	PK
H	9648.00	40.43	30.85	7.45	24.69	41.72	54.00	-12.28	AV
H	12060.00	50.46	31.02	8.99	25.57	54.00	74.00	-20.00	PK
H	12060.00	39.89	31.02	8.99	25.57	43.43	54.00	-10.57	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampl ifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
Middle Channel:2437MHz									
V	4874.00	48.46	30.55	5.77	24.66	48.34	74.00	-25.66	PK
V	4874.00	39.22	30.55	5.77	24.66	39.10	54.00	-14.90	AV
V	7311.00	47.47	30.33	6.32	24.55	48.01	74.00	-25.99	PK
V	7311.00	39.58	30.33	6.32	24.55	40.12	54.00	-13.88	AV
V	9748.00	47.82	30.85	7.45	24.69	49.11	74.00	-24.89	PK
V	9748.00	39.98	30.85	7.45	24.69	41.27	54.00	-12.73	AV
V	12185.00	47.49	31.02	8.99	25.57	51.03	74.00	-22.97	PK
V	12185.00	38.13	31.02	8.99	25.57	41.67	54.00	-12.33	AV
H	4874.00	49.21	30.55	5.77	24.66	49.09	74.00	-24.91	PK
H	4874.00	40.40	30.55	5.77	24.66	40.28	54.00	-13.72	AV
H	7311.00	48.15	30.33	6.32	24.55	48.69	74.00	-25.31	PK
H	7311.00	39.99	30.33	6.32	24.55	40.53	54.00	-13.47	AV
H	9748.00	49.12	30.85	7.45	24.69	50.41	74.00	-23.59	PK
H	9748.00	40.18	30.85	7.45	24.69	41.47	54.00	-12.53	AV
H	12185.00	48.18	31.02	8.99	25.57	51.72	74.00	-22.28	PK
H	12185.00	39.08	31.02	8.99	25.57	42.62	54.00	-11.38	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampli fier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
High Channel:2462MHz									
V	4924.00	49.72	30.55	5.77	24.66	49.60	74.00	-24.40	PK
V	4924.00	38.53	30.55	5.77	24.66	38.41	54.00	-15.59	AV
V	7386.00	46.93	30.33	6.32	24.55	47.47	74.00	-26.53	PK
V	7386.00	41.59	30.33	6.32	24.55	42.13	54.00	-11.87	AV
V	9848.00	46.64	30.85	7.45	24.69	47.93	74.00	-26.07	PK
V	9848.00	38.99	30.85	7.45	24.69	40.28	54.00	-13.72	AV
V	12310.00	47.05	31.02	8.99	25.57	50.59	74.00	-23.41	PK
V	12310.00	38.16	31.02	8.99	25.57	41.70	54.00	-12.30	AV
H	4924.00	49.78	30.55	5.77	24.66	49.66	74.00	-24.34	PK
H	4924.00	39.90	30.55	5.77	24.66	39.78	54.00	-14.22	AV
H	7386.00	48.09	30.33	6.32	24.55	48.63	74.00	-25.37	PK
H	7386.00	40.37	30.33	6.32	24.55	40.91	54.00	-13.09	AV
H	9848.00	47.74	30.85	7.45	24.69	49.03	74.00	-24.97	PK
H	9848.00	40.28	30.85	7.45	24.69	41.57	54.00	-12.43	AV
H	12310.00	49.76	31.02	8.99	25.57	53.30	74.00	-20.70	PK
H	12310.00	38.09	31.02	8.99	25.57	41.63	54.00	-12.37	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, 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.
4. We test all the modes and recorded the worst mode in the report.

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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampl ifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
Low Channel:2412MHz									
V	4824.00	49.29	30.55	5.77	24.66	49.17	74.00	-24.83	PK
V	4824.00	39.05	30.55	5.77	24.66	38.93	54.00	-15.07	AV
V	7236.00	46.40	30.33	6.32	24.55	46.94	74.00	-27.06	PK
V	7236.00	40.33	30.33	6.32	24.55	40.87	54.00	-13.13	AV
V	9648.00	46.97	30.85	7.45	24.69	48.26	74.00	-25.74	PK
V	9648.00	40.27	30.85	7.45	24.69	41.56	54.00	-12.44	AV
V	12060.00	46.97	31.02	8.99	25.57	50.51	74.00	-23.49	PK
V	12060.00	38.10	31.02	8.99	25.57	41.64	54.00	-12.36	AV
H	4824.00	49.26	30.55	5.77	24.66	49.14	74.00	-24.86	PK
H	4824.00	40.58	30.55	5.77	24.66	40.46	54.00	-13.54	AV
H	7236.00	48.62	30.33	6.32	24.55	49.16	74.00	-24.84	PK
H	7236.00	39.69	30.33	6.32	24.55	40.23	54.00	-13.77	AV
H	9648.00	48.67	30.85	7.45	24.69	49.96	74.00	-24.04	PK
H	9648.00	39.58	30.85	7.45	24.69	40.87	54.00	-13.13	AV
H	12060.00	48.86	31.02	8.99	25.57	52.40	74.00	-21.60	PK
H	12060.00	37.85	31.02	8.99	25.57	41.39	54.00	-12.61	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampl ifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
Middle Channel:2437MHz									
V	4874.00	49.39	30.55	5.77	24.66	49.27	74.00	-24.73	PK
V	4874.00	39.20	30.55	5.77	24.66	39.08	54.00	-14.92	AV
V	7311.00	46.92	30.33	6.32	24.55	47.46	74.00	-26.54	PK
V	7311.00	40.12	30.33	6.32	24.55	40.66	54.00	-13.34	AV
V	9748.00	46.99	30.85	7.45	24.69	48.28	74.00	-25.72	PK
V	9748.00	39.12	30.85	7.45	24.69	40.41	54.00	-13.59	AV
V	12185.00	47.72	31.02	8.99	25.57	51.26	74.00	-22.74	PK
V	12185.00	38.74	31.02	8.99	25.57	42.28	54.00	-11.72	AV
H	4874.00	49.38	30.55	5.77	24.66	49.26	74.00	-24.74	PK
H	4874.00	40.27	30.55	5.77	24.66	40.15	54.00	-13.85	AV
H	7311.00	49.02	30.33	6.32	24.55	49.56	74.00	-24.44	PK
H	7311.00	39.74	30.33	6.32	24.55	40.28	54.00	-13.72	AV
H	9748.00	49.51	30.85	7.45	24.69	50.80	74.00	-23.20	PK
H	9748.00	40.57	30.85	7.45	24.69	41.86	54.00	-12.14	AV
H	12185.00	49.30	31.02	8.99	25.57	52.84	74.00	-21.16	PK
H	12185.00	39.02	31.02	8.99	25.57	42.56	54.00	-11.44	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-ampli fier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detect or Type
High Channel:2462MHz									
V	4924.00	49.97	30.55	5.77	24.66	49.85	74.00	-24.15	PK
V	4924.00	40.10	30.55	5.77	24.66	39.98	54.00	-14.02	AV
V	7386.00	48.61	30.33	6.32	24.55	49.15	74.00	-24.85	PK
V	7386.00	41.46	30.33	6.32	24.55	42.00	54.00	-12.00	AV
V	9848.00	48.11	30.85	7.45	24.69	49.40	74.00	-24.60	PK
V	9848.00	41.36	30.85	7.45	24.69	42.65	54.00	-11.35	AV
V	12310.00	48.64	31.02	8.99	25.57	52.18	74.00	-21.82	PK
V	12310.00	39.03	31.02	8.99	25.57	42.57	54.00	-11.43	AV
H	4924.00	50.33	30.55	5.77	24.66	50.21	74.00	-23.79	PK
H	4924.00	41.06	30.55	5.77	24.66	40.94	54.00	-13.06	AV
H	7386.00	49.46	30.33	6.32	24.55	50.00	74.00	-24.00	PK
H	7386.00	40.66	30.33	6.32	24.55	41.20	54.00	-12.80	AV
H	9848.00	50.21	30.85	7.45	24.69	51.50	74.00	-22.50	PK
H	9848.00	41.62	30.85	7.45	24.69	42.91	54.00	-11.09	AV
H	12310.00	49.26	31.02	8.99	25.57	52.80	74.00	-21.20	PK
H	12310.00	39.70	31.02	8.99	25.57	43.24	54.00	-10.76	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, 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.
4. We test all the modes and recorded the worst mode in the report.

7 Test Setup Photos

Please see the attachment for the test setup photos.

8 EUT Constructional Details (EUT Photos)

Please see the attachment for the EUTphotos.

Appendix

1. Duty Cycle

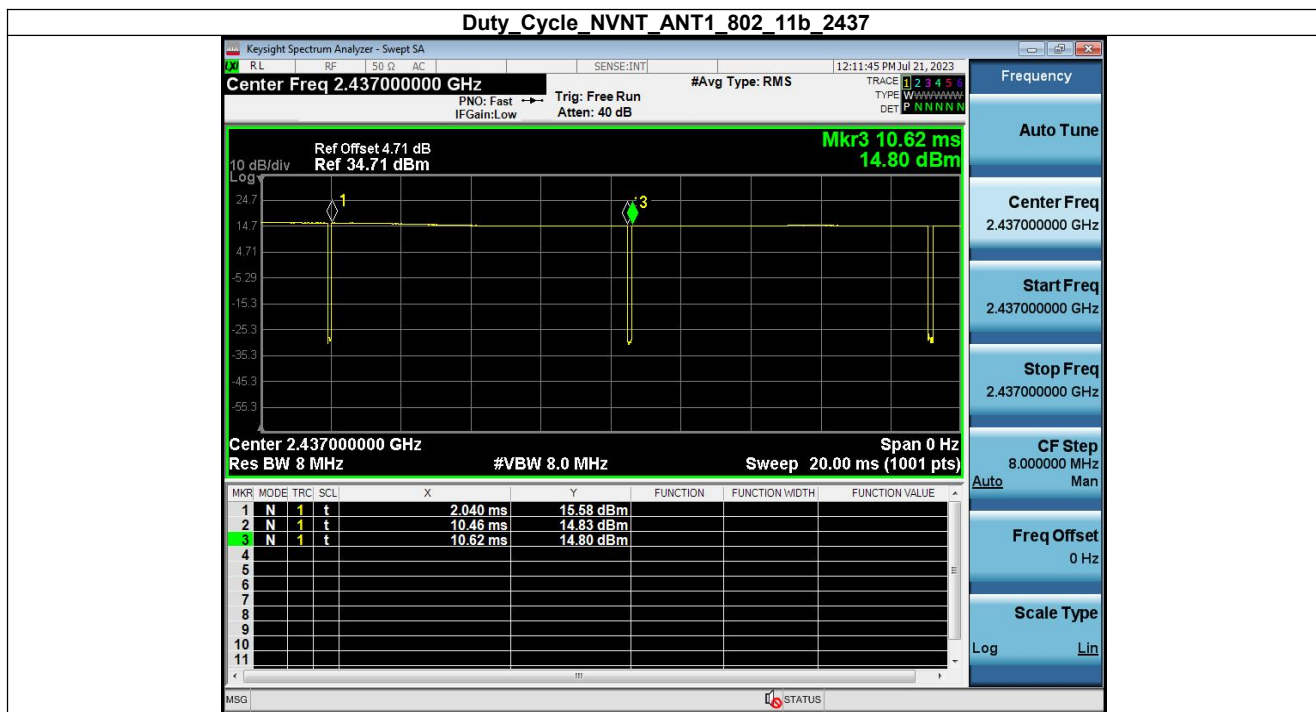
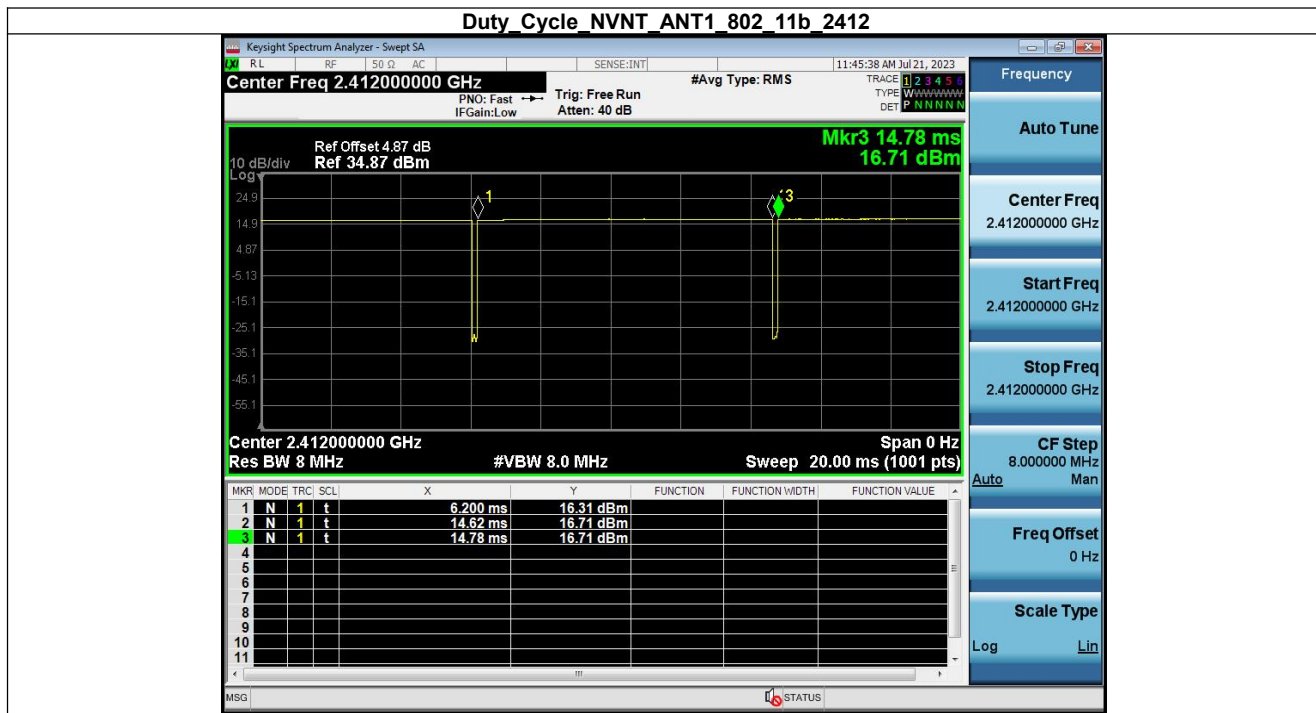
1.1 Ant1

1.1.1 Test Result

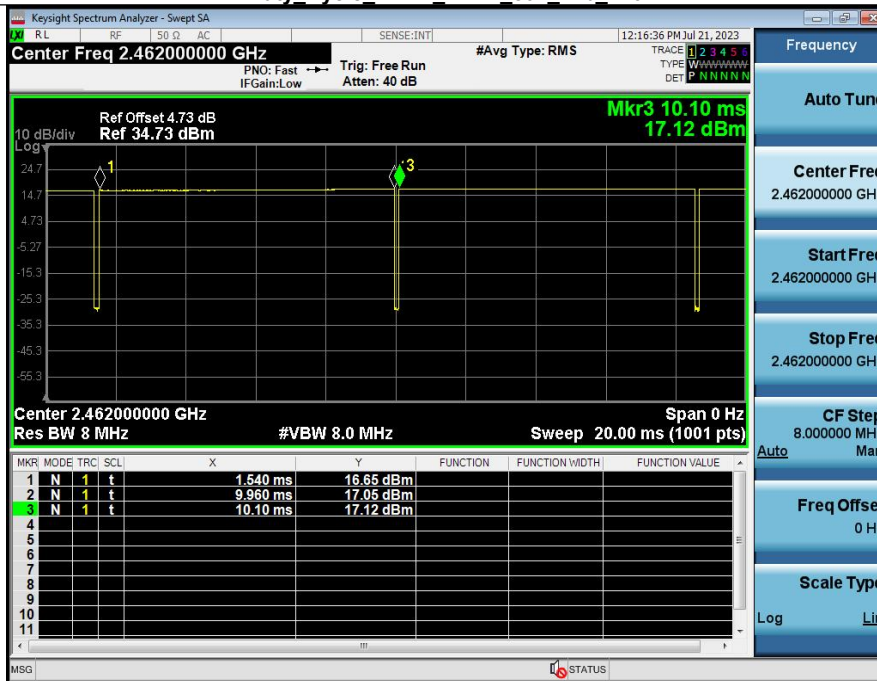
Condition	Antenna	Modulation	Frequency (MHz)	Dutycycle(%)	Duty_factor
NVNT	ANT1	802.11b	2412.00	98.37	0.00
NVNT	ANT1	802.11b	2437.00	98.37	0.00
NVNT	ANT1	802.11b	2462.00	98.60	0.00
NVNT	ANT1	802.11g	2412.00	91.03	0.41
NVNT	ANT1	802.11g	2437.00	91.03	0.41
NVNT	ANT1	802.11g	2462.00	90.91	0.41
NVNT	ANT1	802.11n(HT20)	2412.00	89.55	0.48
NVNT	ANT1	802.11n(HT20)	2437.00	91.04	0.41
NVNT	ANT1	802.11n(HT20)	2462.00	90.91	0.41
NVNT	ANT1	802.11n(HT40)	2422.00	81.08	0.91
NVNT	ANT1	802.11n(HT40)	2437.00	81.08	0.91
NVNT	ANT1	802.11n(HT40)	2452.00	81.08	0.91

Condition	Antenna	Modulation	Frequency (MHz)	Dutycycle(%)	Duty_factor
NVNT	ANT2	802.11b	2412.00	98.37	0.00
NVNT	ANT2	802.11b	2437.00	98.60	0.00
NVNT	ANT2	802.11b	2462.00	98.37	0.00
NVNT	ANT2	802.11g	2412.00	91.03	0.41
NVNT	ANT2	802.11g	2437.00	91.03	0.41
NVNT	ANT2	802.11g	2462.00	92.21	0.35
NVNT	ANT2	802.11n(HT20)	2412.00	89.55	0.48
NVNT	ANT2	802.11n(HT20)	2437.00	89.55	0.48
NVNT	ANT2	802.11n(HT20)	2462.00	89.55	0.48
NVNT	ANT2	802.11n(HT40)	2422.00	83.78	0.77
NVNT	ANT2	802.11n(HT40)	2437.00	81.08	0.91
NVNT	ANT2	802.11n(HT40)	2452.00	81.08	0.91

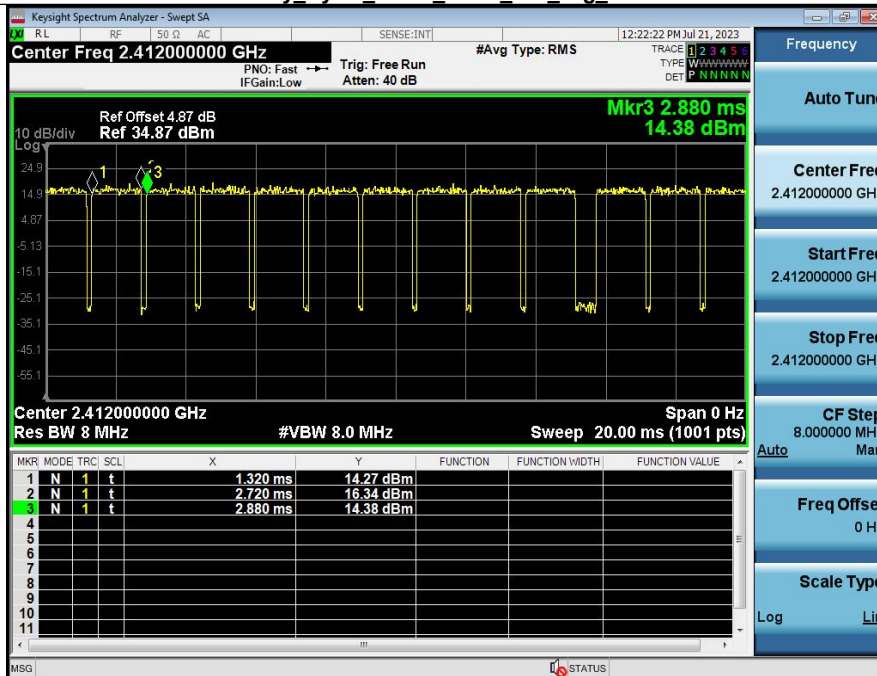
1.1.2 Test Graph



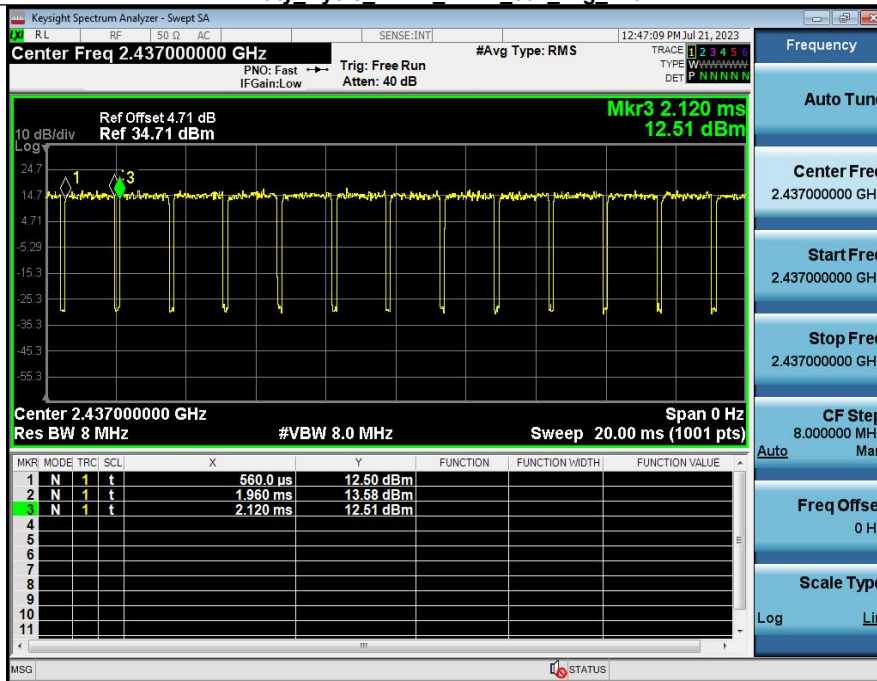
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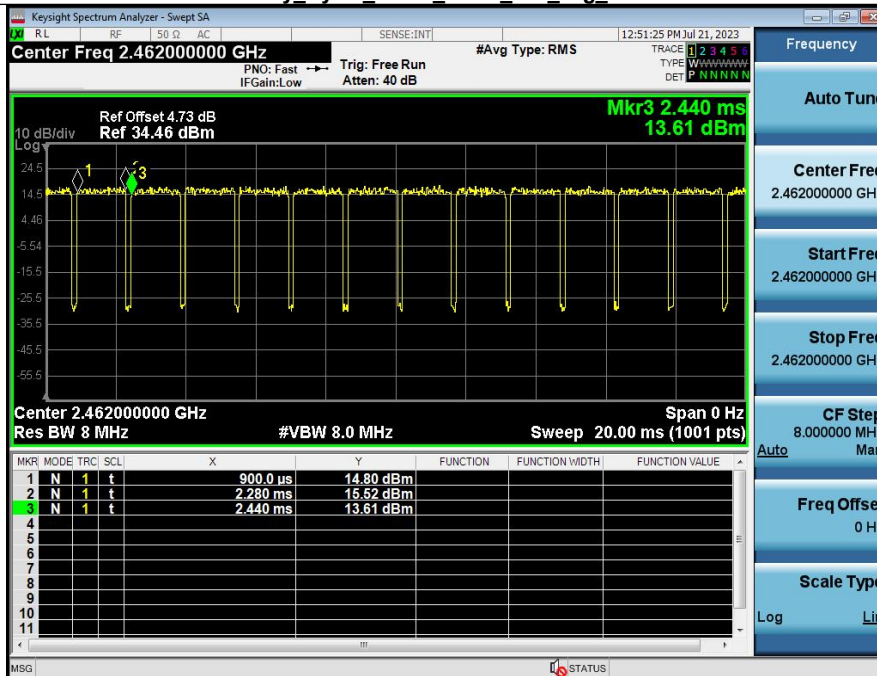
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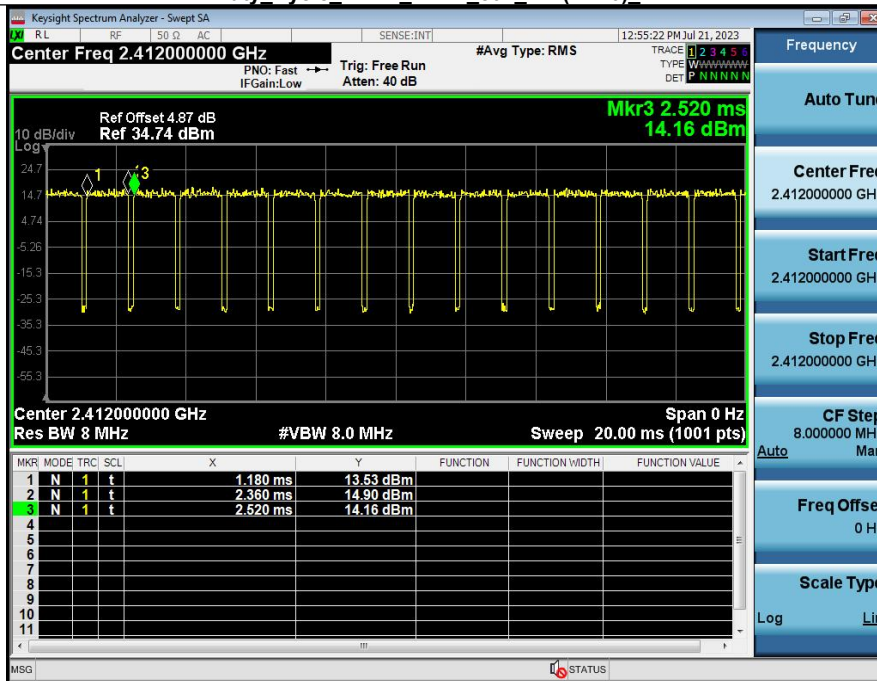
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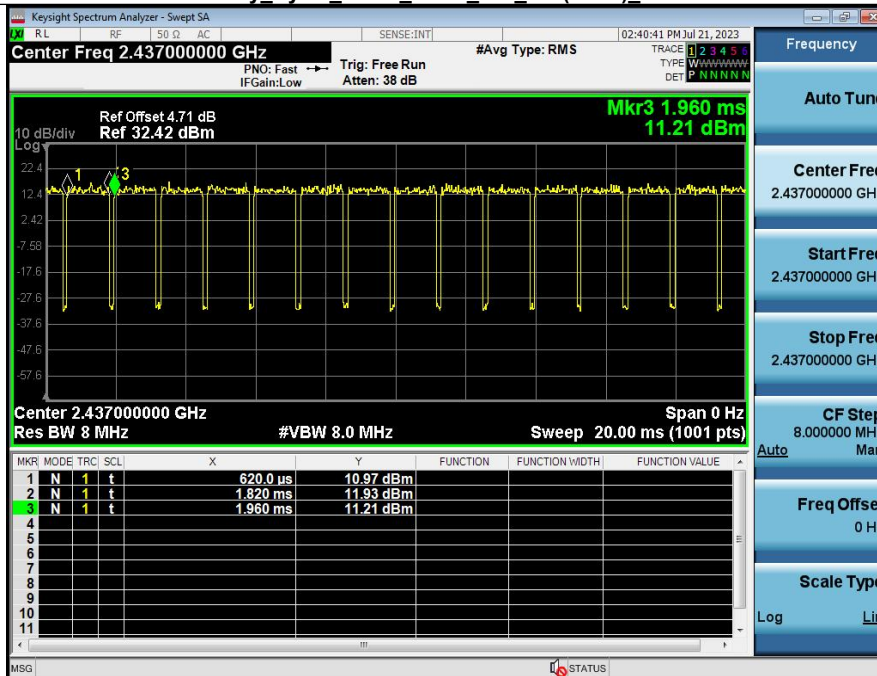
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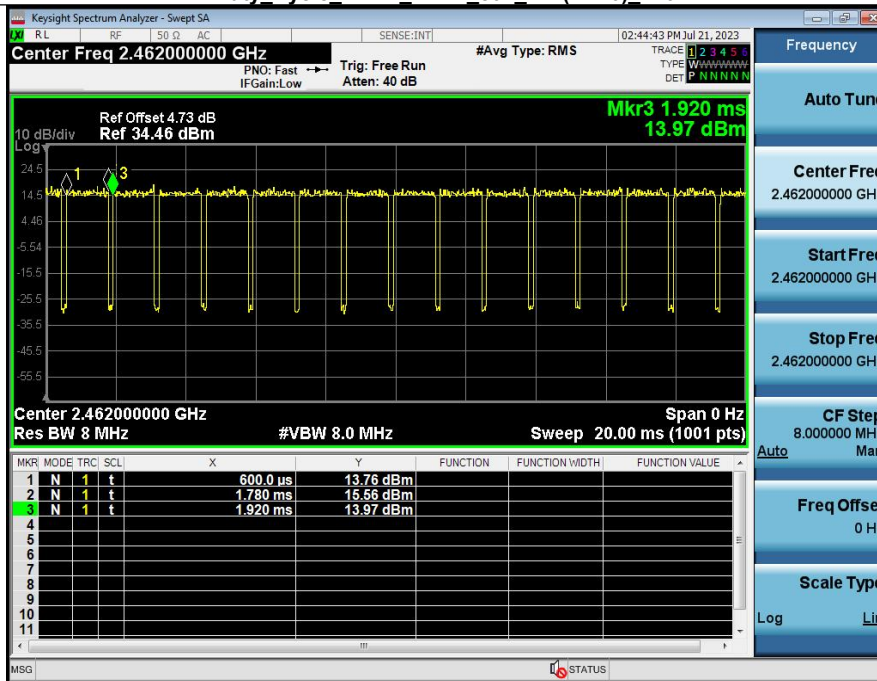
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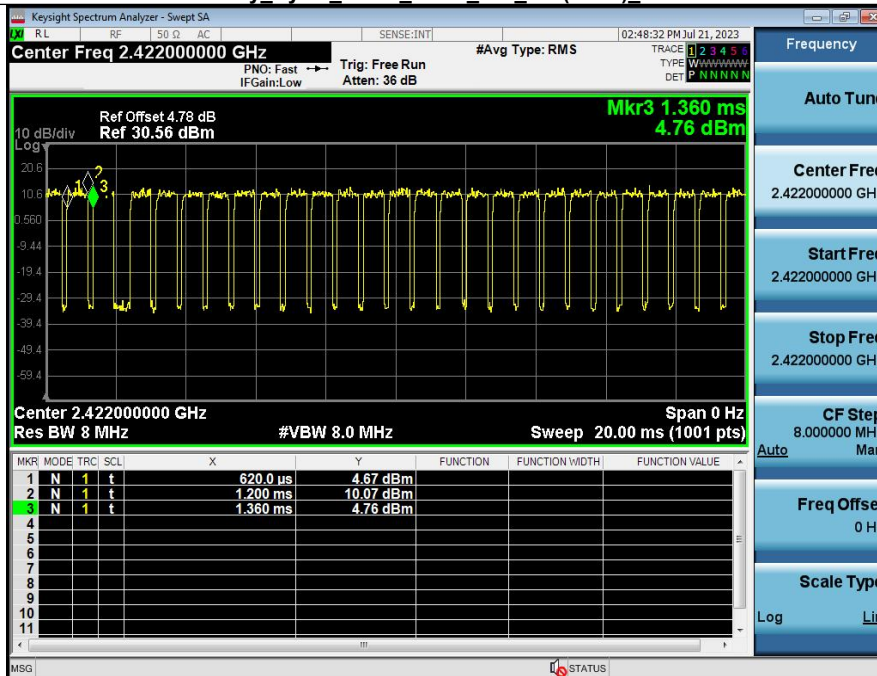
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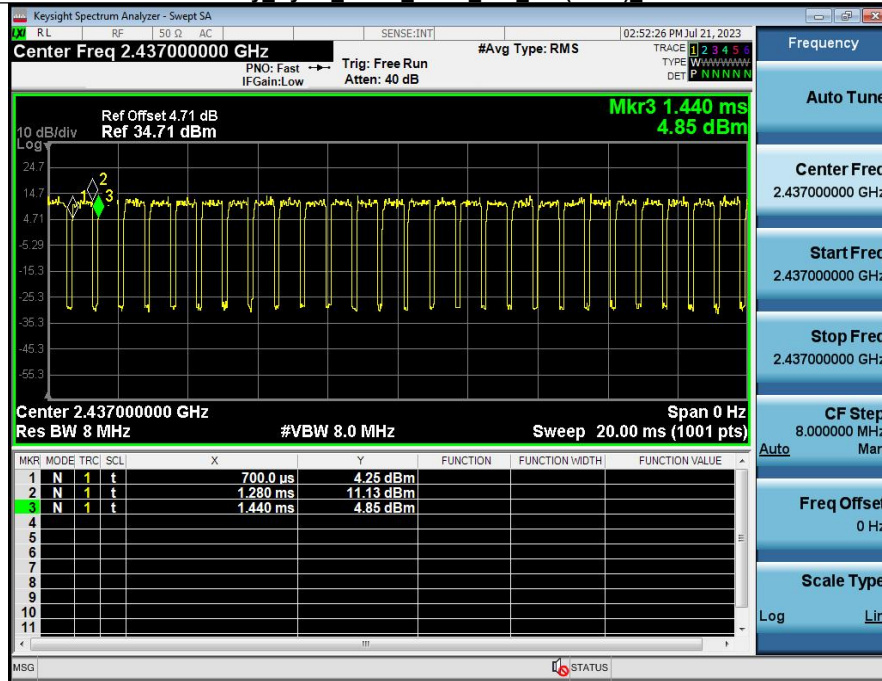
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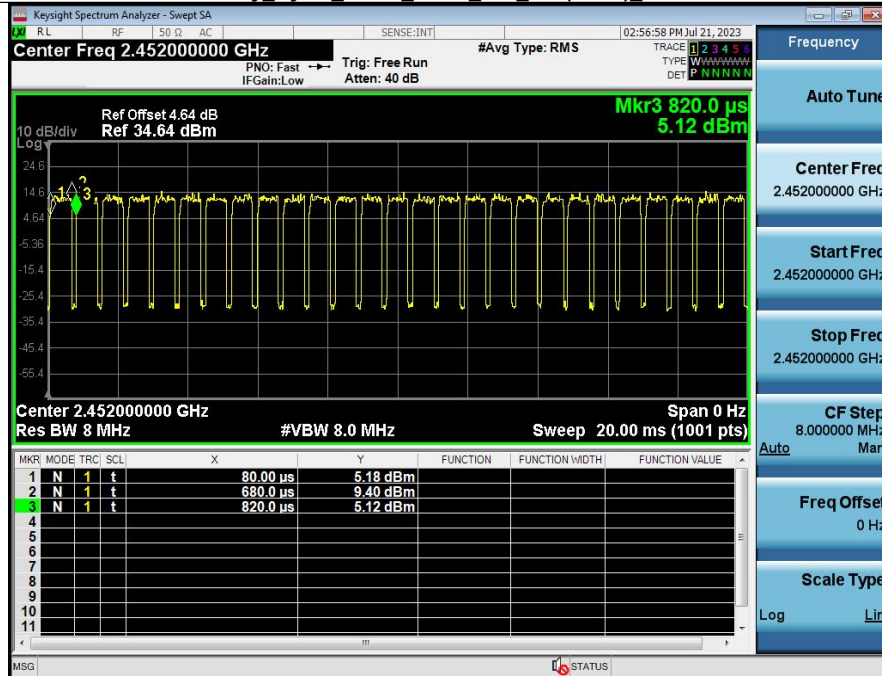
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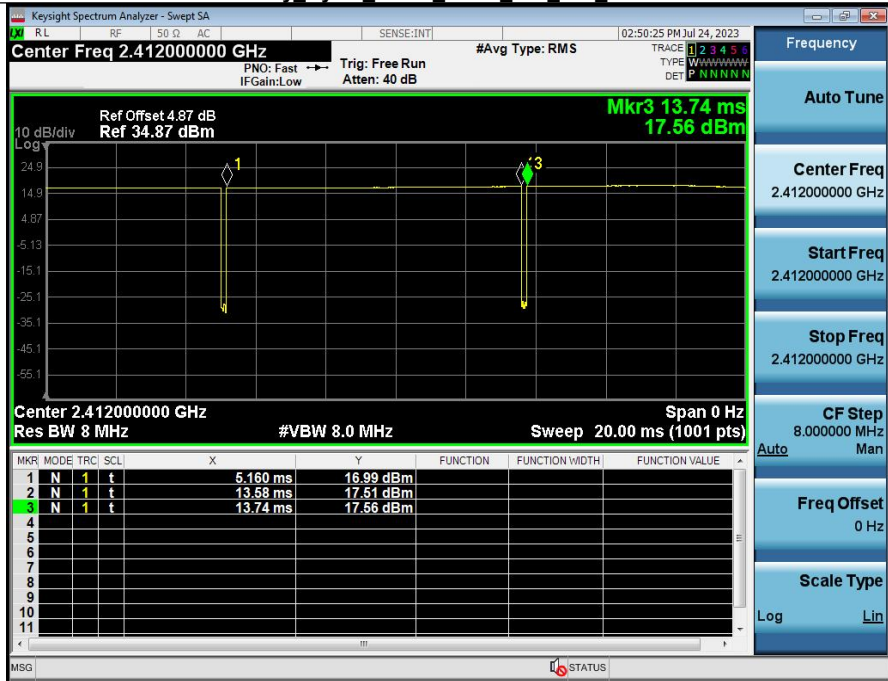
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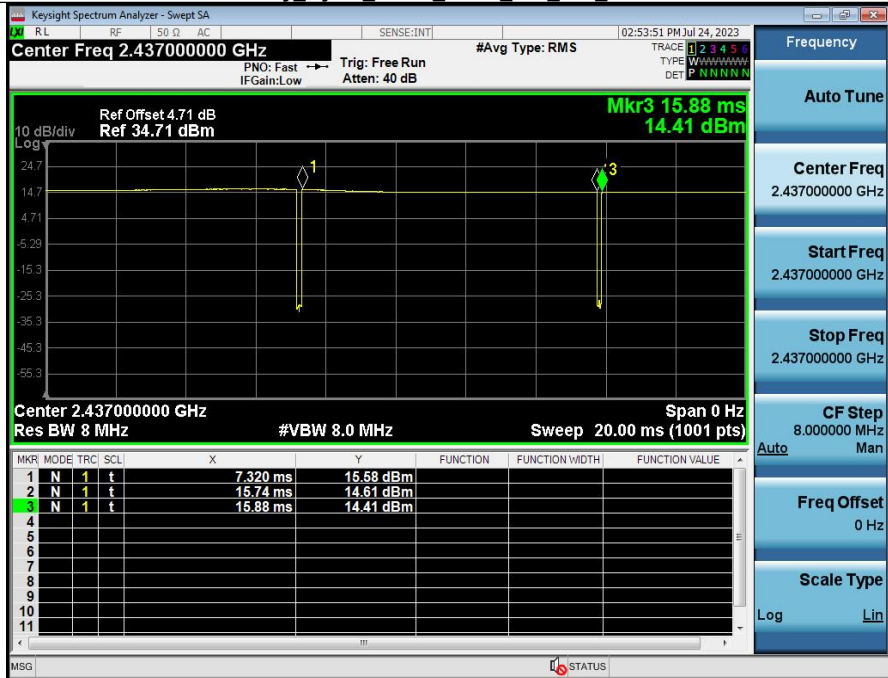
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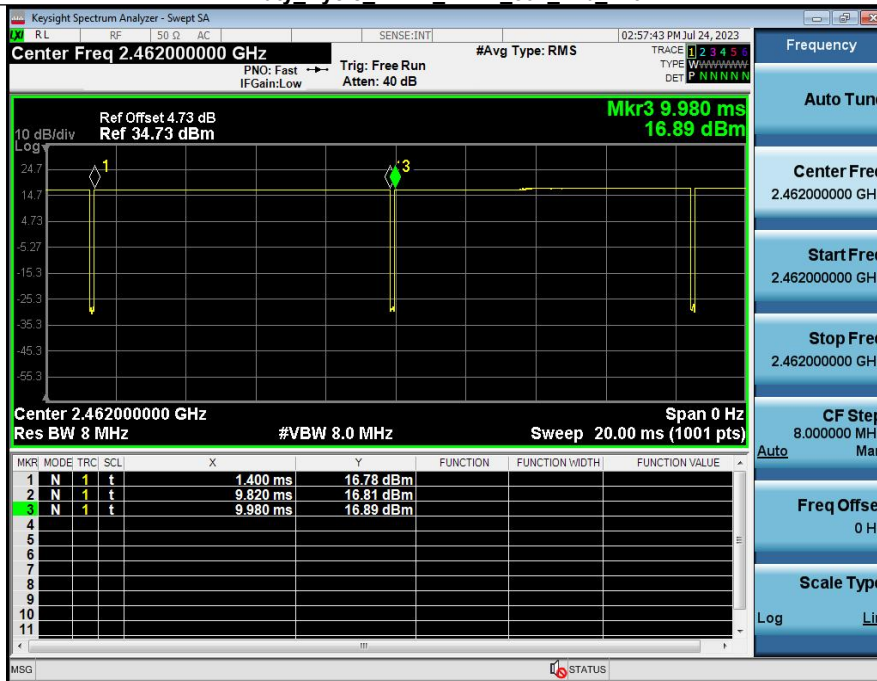
Duty_Cycle_NVNT_ANT2_802_11b_2412



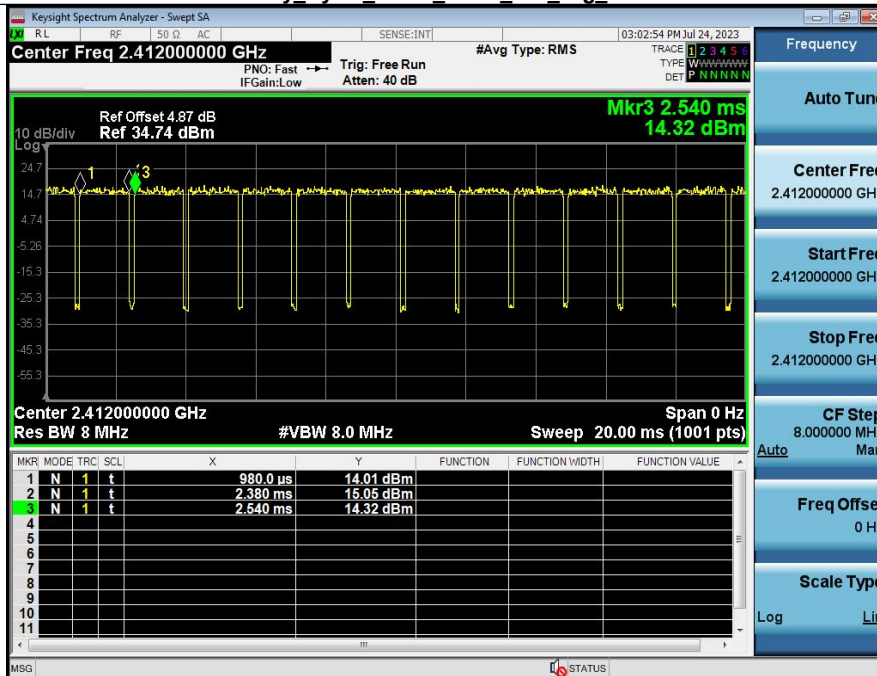
Duty_Cycle_NVNT_ANT2_802_11b_2437



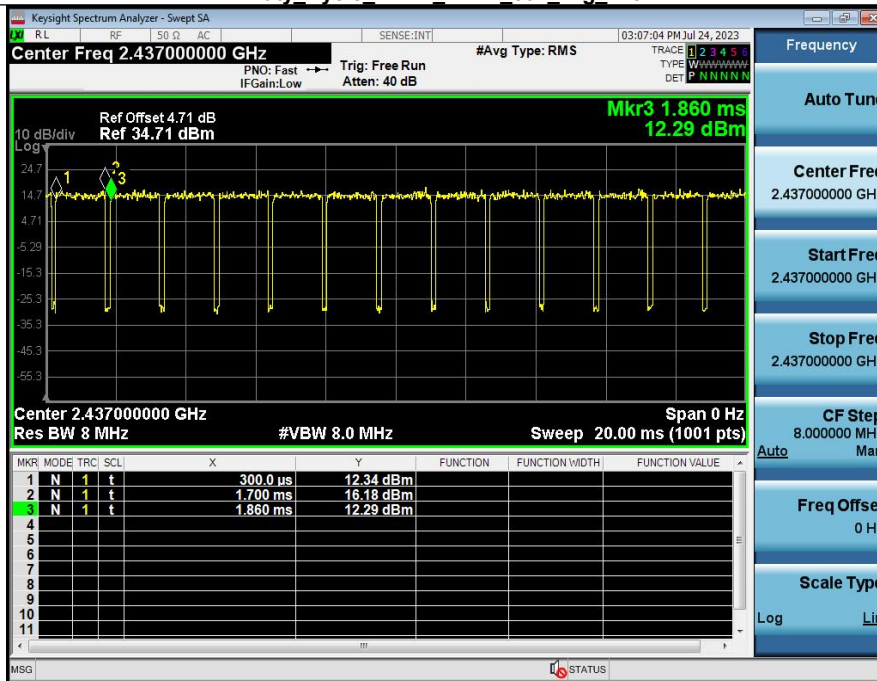
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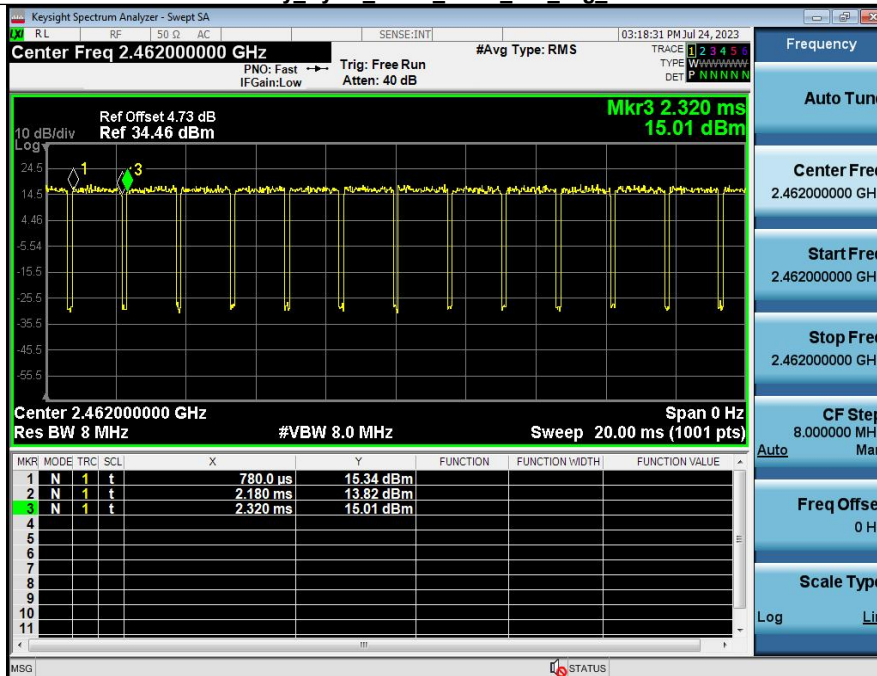
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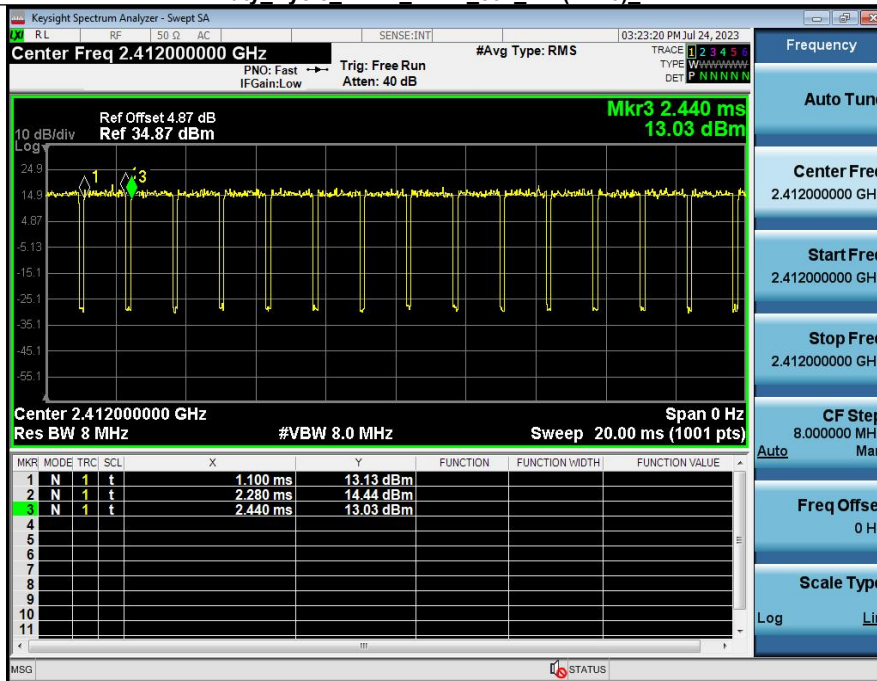
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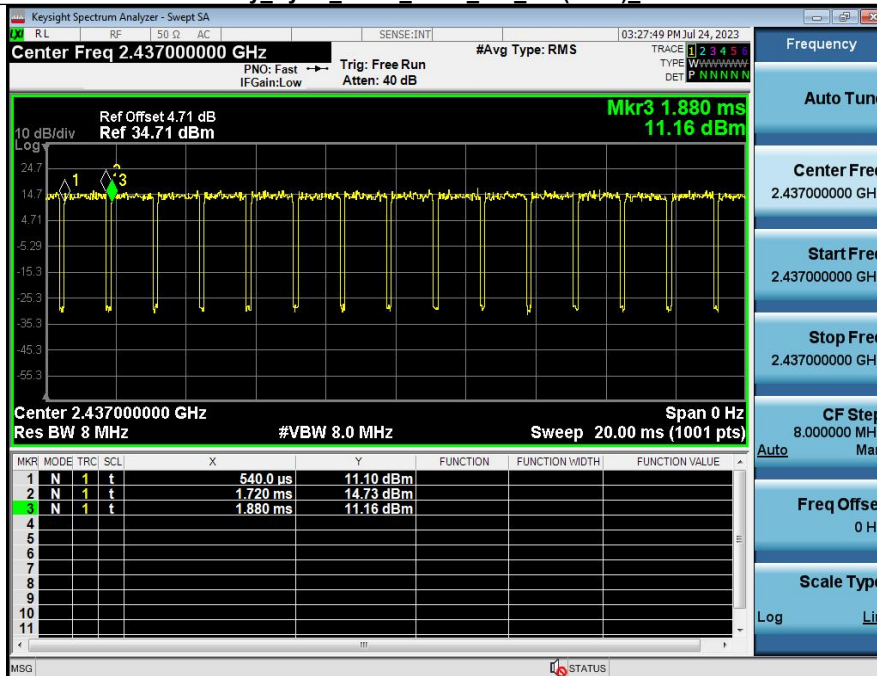
Duty Cycle NVNT_ANT2_802_11g_2462



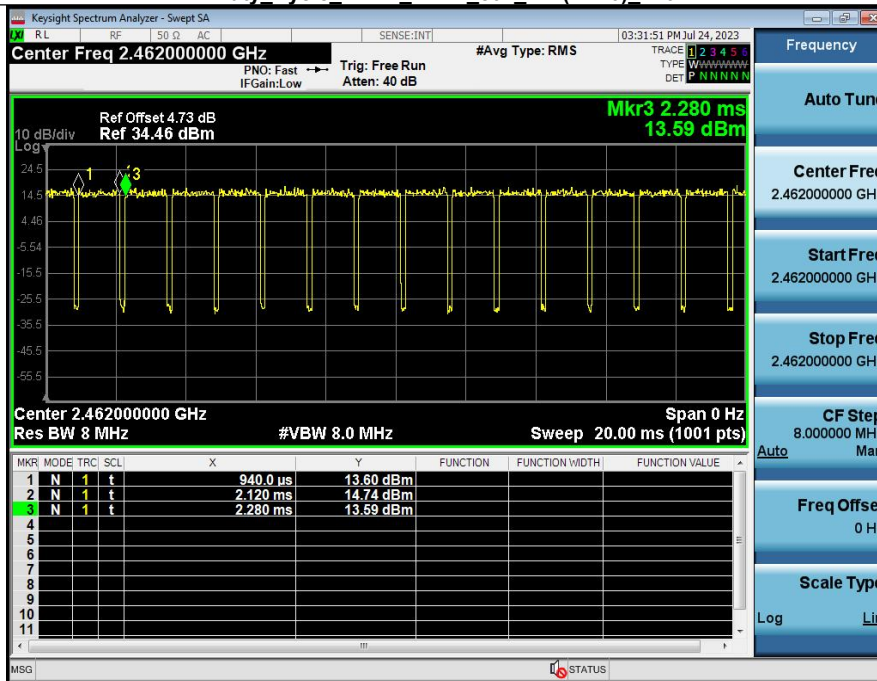
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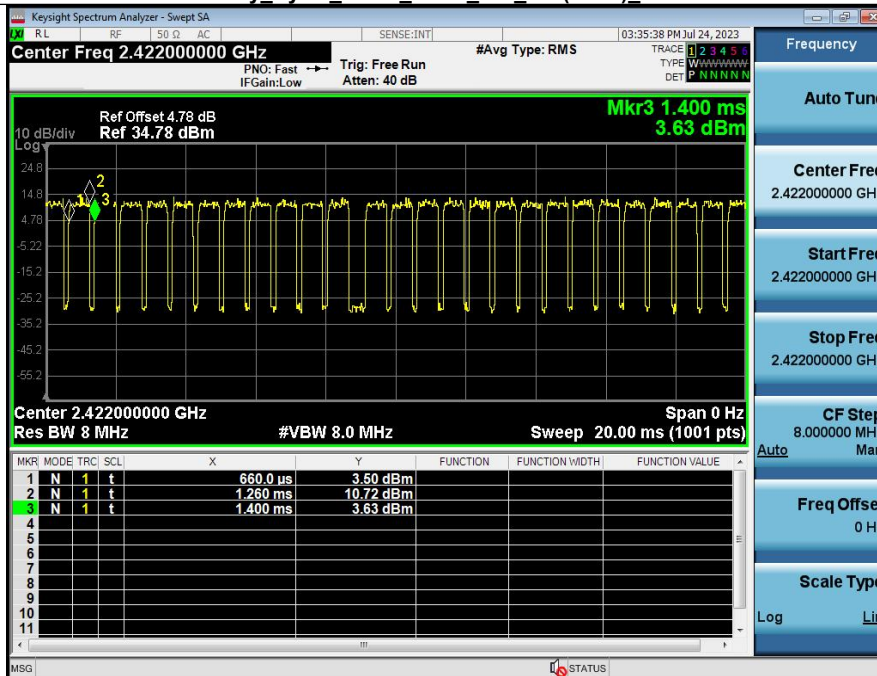
Duty Cycle NVNT_ANT2_802_11n(HT20)_2437



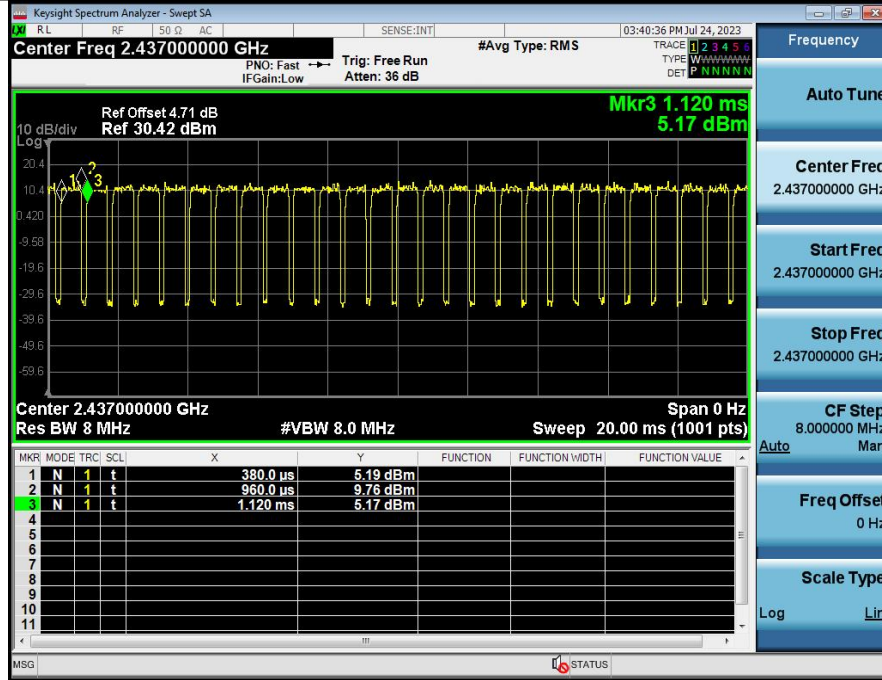
Duty Cycle NVNT_ANT2_802_11n(HT20)_2462



Duty Cycle NVNT_ANT2_802_11n(HT40)_2422



Duty Cycle NVNT_ANT2_802_11n(HT40)_2437



Duty Cycle NVNT_ANT2_802_11n(HT40)_2452

