RF TEST REPORT

For

BMV UEM Eng Co., Ltd
Product Name: Diagnostic Ultrasound Systems
Test Model(s).: MX

Report Reference No.	:	**DACE241031014RL002**
FCC ID	:	**2BMI5-MX**
Applicant's Name	:	BMV UEM Eng Co., Ltd
Address	:	Yinjin Building 701, Block 71, Xingdong Community, Xin'an Street, Bao'an District, Shenzhen, Guangdong Province 518133, P.R.China
Testing Laboratory	:	Shenzhen DACE Testing Technology Co., Ltd.
Address	:	102, Building H1, & 1/F., Building H, Hongfa Science & Technology Park, Tangtou Connunity, Shiyan Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Test Specification Standard	:	**47 CFR Part 15E**
Date of Receipt	:	October 31, 2024
Date of Test	:	October 31, 2024 to November 12, 2024
Data of Issue	:	November 12, 2024
Result	:	**Pass**

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Apply for company information

Applicant's Name	:	BMV UEM Eng Co., Ltd
Address	:	Yinjin Building 701, Block 71, Xingdong Community, Xin'an Street, Bao'an District, Shenzhen, Guangdong Province 518133, P.R.China
Product Name	:	Diagnostic Ultrasound Systems
Test Model(s)	:	MX
Test Specification Standard(s)	:	47 CFR Part 15E

NOTE1:

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

Compiled by:	Supervised by:	Approved by:
Keren Huang	Stone Yin	Tom Chen
Keren Huang / Test Engineer	Stone Yin / Project Engineer	Tom Chen / Manager
November 25, 2024	November 25, 2024	November 25, 2024

Revision History Of Report

Version	Description	REPORT No.	Issue Date
V1.0	Original	DACE241031014RL002	November 12, 2024

CONTENTS

1 TEST SUMMARY 6

1.1 TEST STANDARDS 6
1.2 SUMMARY OF TEST RESULT 6

2 GENERAL INFORMATION 7

2.1 CLIENT INFORMATION 7
2.2 DESCRIPTION OF DEVICE (EUT)* 7
2.3 DESCRIPTION OF TEST MODES 8
2.4 DESCRIPTION OF SUPPORT UNITS 8
2.5 EQUIPMENTS USED DURING THE TEST 9
2.6 STATEMENT OF THE MEASUREMENT UNCERTAINTY 10
2.7 AUTHORIZATIONS 10
2.8 ANNOUNCEMENT 11

3 EVALUATION RESULTS (EVALUATION) 12

3.1 ANTENNA REQUIREMENT 12
3.1.1 Conclusion: 12

4 RADIO SPECTRUM MATTER TEST RESULTS (RF) 13

4.1 CONDUCTED EMISSION AT AC POWER LINE 13
4.1.1 E.U.T. Operation: 13
4.1.2 Test Setup Diagram: 13
4.1.3 Test Data: 14
4.2 DUTY CYCLE 16
4.2.1 E.U.T. Operation: 16
4.2.2 Test Setup Diagram: 16
4.2.3 Test Data: 16
4.3 EMISSION BANDWIDTH AND OCCUPIED BANDWIDTH 17
4.3.1 E.U.T. Operation: 18
4.3.2 Test Setup Diagram: 18
4.3.3 Test Data: 18
4.4 MAXIMUM CONDUCTED OUTPUT POWER 19
4.4.1 E.U.T. Operation: 19
4.4.2 Test Setup Diagram: 19
4.4.3 Test Data: 19
4.5 POWER SPECTRAL DENSITY 20
4.5.1 E.U.T. Operation: 20
4.5.2 Test Setup Diagram: 20
4.5.3 Test Data: 20
4.6 BAND EDGE EMISSIONS (RADIATED) 21
4.6.1 E.U.T. Operation: 23
4.6.2 Test Setup Diagram: 23
4.6.3 Test Data: 23
4.7 UNDESIRABLE EMISSION LIMITS (BELOW 1GHZ) 32
4.7.1 E.U.T. Operation: 33
4.7.2 Test Setup Diagram: 33
4.7.3 Test Data: 33
4.8 UNDESIRABLE EMISSION LIMITS (ABOVE 1GHZ) 35
4.8.1 E.U.T. Operation: 37

4.8.2 Test Setup Diagram: 37
4.8.3 Test Data: 37

5 TEST SETUP PHOTOS 41
6 PHOTOS OF THE EUT 42
APPENDIX-5.2G 43

1. -26dB and 99% Emission Bandwidth 43
2. Duty Cycle 50
3. Maximum Conducted Output Power 54
4. Power Spectral Density 58
5. Bandedge 62
6. Spurious Emission 64
7. Frequency Stability 68

APPENDIX-5.8G 69

1. -6dB Emission Bandwidth 69
2. -26dB and 99% Emission Bandwidth 73
3. Duty Cycle 79
4. Maximum Conducted Output Power 83
5. Power Spectral Density 87
6. Bandedge 91
7. Spurious Emission 94
8. Frequency Stability 98

1 TEST SUMMARY

1.1 Test Standards

The tests were performed according to following standards:

47 CFR Part 15E: Unlicensed National Information Infrastructure Devices

1.2 Summary of Test Result

Item	Method	Requirement	Result
Conducted Emission at AC power line	ANSI C63.10-2013 section 6.2	47 CFR Part 15.207(a)	Pass
Duty Cycle	ANSI C63.10-2013 section 12.2 (b)	/	Pass
Emission bandwidth and occupied bandwidth	ANSI C63.10-2013, section 6.9 & 12.4 KDB 789033 D02, Clause C.2	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use. 47 CFR Part 15.407(e)	Pass
Maximum conducted output power	ANSI C63.10-2013, section 12.3	47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)	Pass
Power spectral density	ANSI C63.10-2013, section 12.5	47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)	Pass
Band edge emissions (Radiated)	ANSI C63.10-2013, section 12.7.4, 12.7.6, 12.7.7	47 CFR Part 15.407(b)(1) 47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)	Pass
Undesirable emission limits (below 1GHz)	ANSI C63.10-2013, section 12.7.4, 12.7.5	47 CFR Part 15.407(b)(9)	Pass
Undesirable emission limits (above 1GHz)	ANSI C63.10-2013, section 12.7.4, 12.7.6, 12.7.7	47 CFR Part 15.407(b)(1) 47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)	Pass

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

2 GENERAL INFORMATION

2.1 Client Information

Applicant's Name : BMV UEM Eng Co., Ltd
Address : Yinjin Building 701, Block 71, Xingdong Community, Xin'an Street, Bao'an District, Shenzhen, Guangdong Province 518133, P.R.China

Manufacturer : BMV UEM Eng Co., Ltd
Address : Yinjin Building 701, Block 71, Xingdong Community, Xin'an Street, Bao'an District, Shenzhen, Guangdong Province 518133, P.R.China

2.2 Description of Device (EUT)*

Product Name:	Diagnostic Ultrasound Systems
Model/Type reference:	MX
Trade Mark:	BMV
Product Description:	Diagnostic Ultrasound Systems
Power Supply:	DC7.4V from battery
Operation Frequency:	802.11a/n(HT20): U-NII Band 1: 5180MHz to 5240MHz; U-NII Band 3: 5745MHz to 5825MHz;
Number of Channels:	802.11a/n(HT20):U-NII Band 1: 4;U-NII Band 3: 5;
Modulation Type:	802.11a: OFDM(BPSK, QPSK, 16QAM, 64QAM); 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM);
Antenna Type:	Chip Antenna
Antenna Gain:	5.2G:1.94dBi; 5.8G:2.02dBi
Hardware Version:	V1
Software Version:	V2

Operation Frequency each of channel

802.11a/n(HT20)

	U-NII Band 1	U-NII Band 3
Channel	Frequency	Frequency
1	5180 MHz	5745 MHz
2	5200 MHz	5765 MHz
3	5220 MHz	5785 MHz
4	5240 MHz	5805 MHz
5	/	5825 MHz

Note:
In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

802.11a/n(HT20)		
	U-NII Band 1	U-NII Band 3

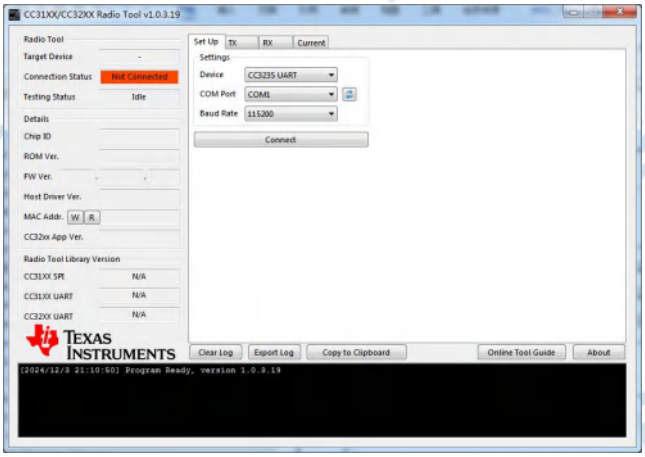
Test channel	Frequency (MHz)	Frequency (MHz)
Lowest channel	5180 MHz	5745 MHz
Middle channel	5200 MHz	5785 MHz
Highest channel	5240 MHz	5825 MHz

2.3 Description of Test Modes

No	Title	Description
TM1	802.11a mode	Keep the EUT in continuously transmitting mode with 802.11a modulation type at lowest, middle and highest channel. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.
TM2	802.11n mode	Keep the EUT in continuously transmitting mode with 802.11n modulation type at lowest, middle and highest channel. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.

☐ Special software is used.
☐ Through engineering command into the engineering mode.
engineering command: *#*#3646633#*#*
☒ Other method:

Special software+test command



2.4 Description of Support Units

Equipment	Manufacturer	Model No	Inventory No
Adapter	PHOTON	ATXC-069AC65B	Provide by lab

2.5 Equipments Used During The Test

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

Maximum conducted output power **Power spectral density** **Duty Cycle** **Emission bandwidth and occupied bandwidth**					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
RF Test Software	Tachoy Information	RTS-01	V1.0.0	/	/
Power divider	MIDEWEST	PWD-2533	SMA-79	2023-05-11	2026-05-10
RF Sensor Unit	Tachoy Information	TR1029-2	000001	/	/
Signal Generator	Keysight	N5181A	MY48180415	2023-12-11	2024-12-10
Signal Generator	Keysight	N5182A	MY50143455	2023-12-12	2024-12-11
Spectrum Analyzer	Keysight	N9020A	MY53420323	2023-12-12	2024-12-11

Undesirable emission limits (below 1GHz) **Undesirable emission limits (above 1GHz)** **Band edge emissions (Radiated)**					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
EMI Test software	Farad	EZ -EMC	V1.1.42	/	/
Positioning Controller	/	MF-7802	/	/	/
Amplifier(18-40G)	COM-POWER	AH-1840	10100008-1	2022-04-05	2025-04-04
Horn antenna	COM-POWER	AH-1840 (18-40G)	10100008	2023-04-05	2025-04-04
Loop antenna	ZHINAN	ZN30900C	ZN30900C	2024-06-14	2026-06-13
Cable(LF)#2	Schwarzbeck	/	/	2024-02-19	2025-02-18
Cable(LF)#1	Schwarzbeck	/	/	2024-02-19	2025-02-18
Cable(HF)#2	Schwarzbeck	AK9515E	96250	2024-03-20	2025-03-19
Cable(HF)#1	Schwarzbeck	SYV-50-3-1	/	2024-03-20	2025-03-19
Power amplifier(LF)	Schwarzbeck	BBV9743	9743-151	2024-06-12	2025-06-11
Power amplifier(HF)	Schwarzbeck	BBV9718	9718-282	2024-06-12	2025-06-11

Spectrum Analyzer	R&S	FSP30	1321.3008K40-101729-jR	2024-06-12	2025-06-11
Test Receiver	R&S	ESCI 3	1166.5950K03-101431-Jq	2024-06-13	2025-06-12
Horn Antenna	Sunol Sciences	DRH-118	A091114	2023-05-13	2025-05-12
Broadband Antenna	Sunol Sciences	JB6 Antenna	A090414	2024-09-28	2026-09-27

2.6 Statement Of The Measurement Uncertainty

Test Item	**Measurement Uncertainty**
Conducted Disturbance (0.15~30MHz)	±3.41dB
Duty cycle	±3.1%
Occupied Bandwidth	±3.63%
RF conducted power	±0.733dB
RF power density	±0.234%
Radiated Emission (Above 1GHz)	±5.46dB
Radiated Emission (Below 1GHz)	±5.79dB
Note: (1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

2.7 Authorizations

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

Identification of the Responsible Testing Location

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

2.8 Announcement

(1) The test report reference to the report template version v0.

(2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.

(3) The test report is invalid if there is any evidence and/or falsification.

(4) This document may not be altered or revised in any way unless done so by DACE and all revisions are duly noted in the revisions section.

(5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

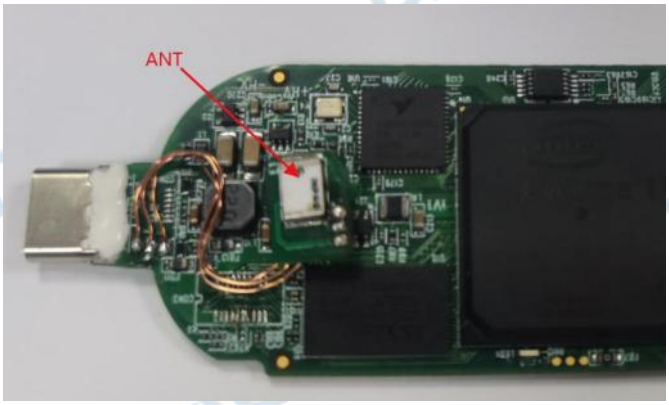
(6) We hereby declare that the laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant(information with "*" provided by applicant). the laboratory is not responsible for the accuracy of the information provided by the client. When the information provided by the customer may affect the effectiveness of the results, the responsibility lies with the customer, and the laboratory does not assume any responsibility.

3 Evaluation Results (Evaluation)

3.1 Antenna requirement

Test Requirement:	Refer to 47 CFR Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

3.1.1 Conclusion:



4 Radio Spectrum Matter Test Results (RF)

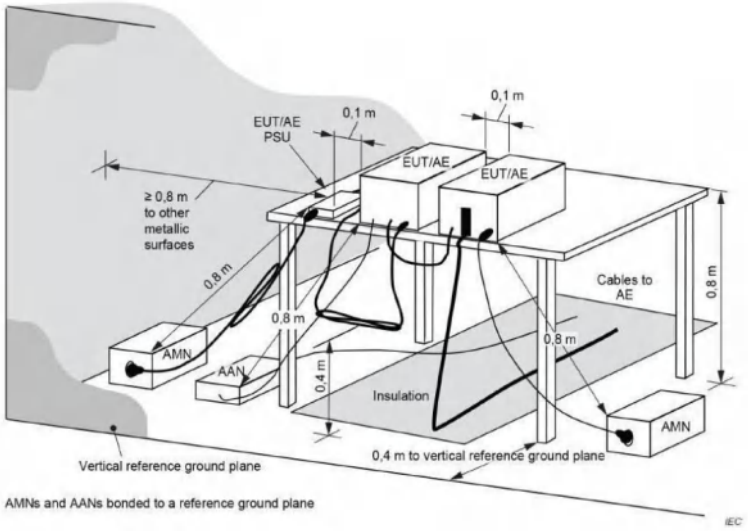
4.1 Conducted Emission at AC power line

Test Requirement:	47 CFR Part 15.207(a)		
Test Limit:	Frequency of emission (MHz)	Conducted limit (dBμV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
	*Decreases with the logarithm of the frequency.		
Test Method:	ANSI C63.10-2013 section 6.2		

4.1.1 E.U.T. Operation:

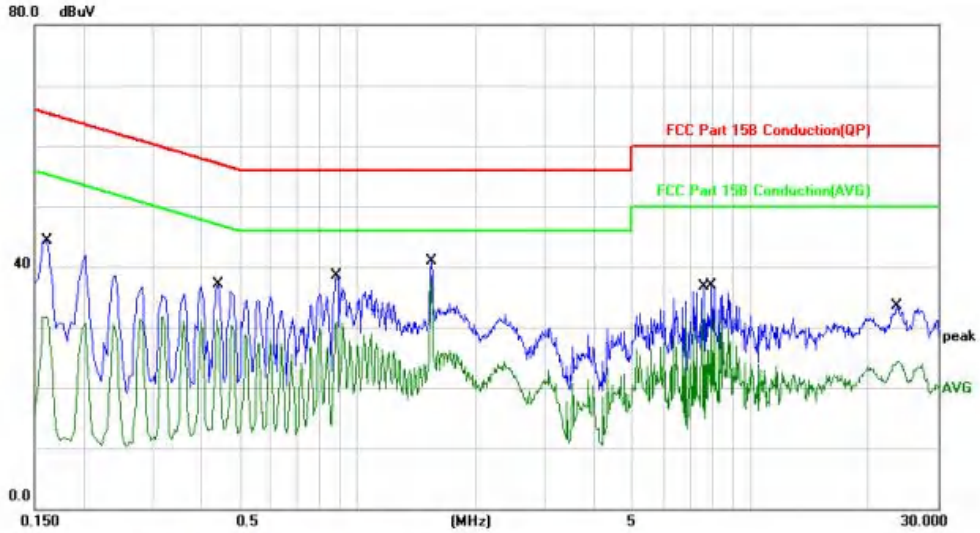
Operating Environment:					
Temperature:	23 °C	Humidity:	55 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1,TM2				
Final test mode:	TM2				

4.1.2 Test Setup Diagram:



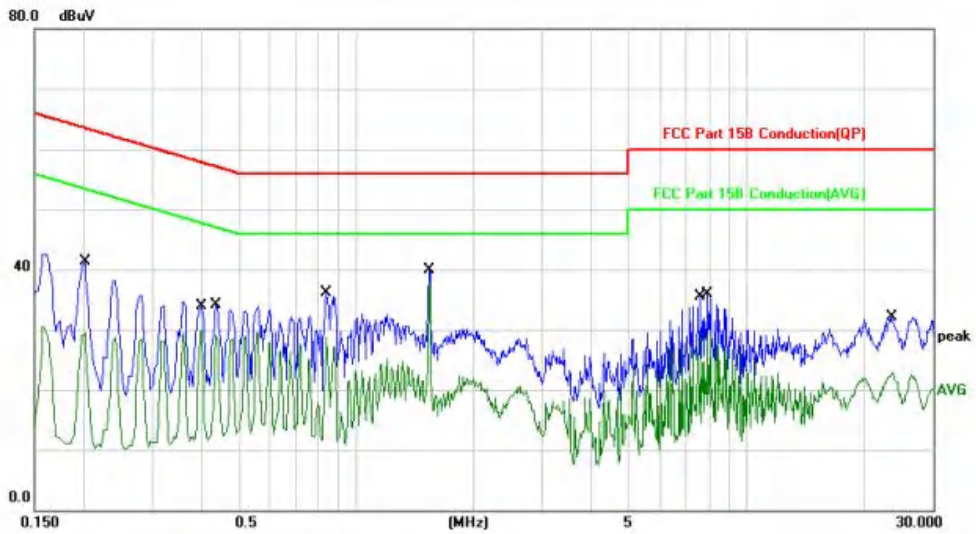
4.1.3 Test Data:

TM2 / Line: Line / Band: 5725-5850 MHz / BW: 20 / CH: L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1620	34.23	10.10	44.33	65.36	-21.03	QP	
2		0.1620	21.66	10.10	31.76	55.36	-23.60	AVG	
3		0.4380	21.10	10.07	31.17	47.10	-15.93	AVG	
4		0.4420	26.94	10.07	37.01	57.02	-20.01	QP	
5		0.8820	28.37	10.08	38.45	56.00	-17.55	QP	
6		0.8820	20.73	10.08	30.81	46.00	-15.19	AVG	
7		1.5380	30.81	10.04	40.85	56.00	-15.15	QP	
8	*	1.5380	28.37	10.04	38.41	46.00	-7.59	AVG	
9		7.6180	22.56	10.25	32.81	50.00	-17.19	AVG	
10		7.9580	26.56	10.27	36.83	60.00	-23.17	QP	
11		23.5340	22.69	10.76	33.45	60.00	-26.55	QP	
12		23.8740	13.60	10.78	24.38	50.00	-25.62	AVG	

TM2 / Line: Neutral / Band: 5725-5850 MHz / BW: 20 / CH: L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2020	31.23	10.10	41.33	63.52	-22.19	QP	
2		0.2020	19.31	10.10	29.41	53.52	-24.11	AVG	
3		0.4020	19.91	10.07	29.98	47.81	-17.83	AVG	
4		0.4380	23.96	10.07	34.03	57.10	-23.07	QP	
5		0.8380	26.04	10.08	36.12	56.00	-19.88	QP	
6		0.8420	18.62	10.08	28.70	46.00	-17.30	AVG	
7		1.5420	29.92	10.03	39.95	56.00	-16.05	QP	
8	*	1.5420	28.07	10.03	38.10	46.00	-7.90	AVG	
9		7.6180	19.16	10.25	29.41	50.00	-20.59	AVG	
10		7.9540	25.71	10.27	35.98	60.00	-24.02	QP	
11		23.5180	21.37	10.76	32.13	60.00	-27.87	QP	
12		23.5180	12.19	10.76	22.95	50.00	-27.05	AVG	

NOTE:

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, Over=Limit- Mesurement

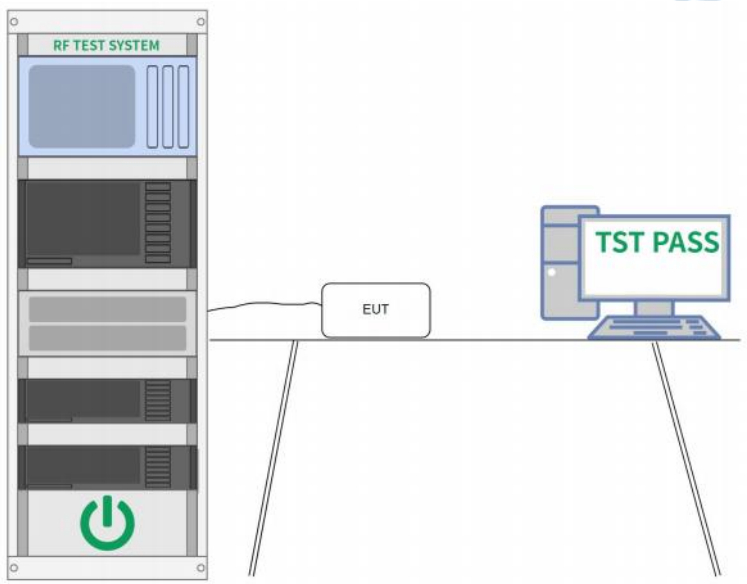
4.2 Duty Cycle

Test Requirement:	All measurements are to be performed with the EUT transmitting at 100% duty cycle at its maximum power control level; however, if 100% duty cycle cannot be achieved, measurements of duty cycle, x, and maximum-power transmission duration, T, are required for each tested mode of operation.
Test Limit:	No limits, only for report use.
Test Method:	ANSI C63.10-2013 section 12.2 (b)
Procedure:	i) Set the center frequency of the instrument to the center frequency of the transmission. ii) Set RBW >= EBW if possible; otherwise, set RBW to the largest available value. iii) Set VBW >= RBW. iv) Set detector = peak. v) The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T, where T is defined in item a1) of 12.2, and the number of sweep points across duration T exceeds 100.

4.2.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	55 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1, TM2				
Final test mode:	TM1, TM2				

4.2.2 Test Setup Diagram:



4.2.3 Test Data:

Please Refer to Appendix for Details.

4.3 Emission bandwidth and occupied bandwidth

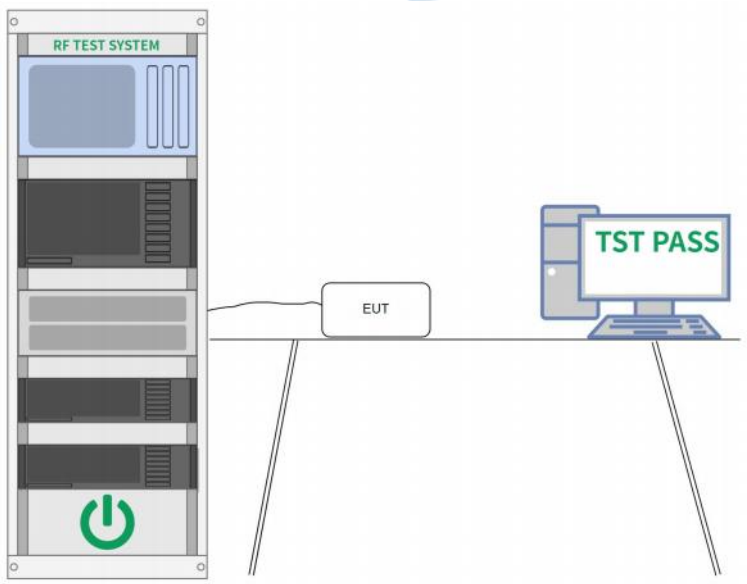
Test Requirement:	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use. U-NII 3, U-NII 4: 47 CFR Part 15.407(e)
Test Limit:	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use. U-NII 3, U-NII 4: Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.
Test Method:	ANSI C63.10-2013, section 6.9 & 12.4 KDB 789033 D02, Clause C.2
Procedure:	Emission bandwidth: a) Set RBW = approximately 1% of the emission bandwidth. b) Set the VBW > RBW. c) Detector = peak. d) Trace mode = max hold. e) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurementas needed until the RBW/EBW ratio is approximately 1%. Occupied bandwidth: a) The instrument center frequency is set to the nominal EUT channel center frequency. Thefrequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW. b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW,and VBW shall be approximately three times the RBW, unless otherwise specified by theapplicable requirement. c) Set the reference level of the instrument as required, keeping the signal from exceeding themaximum input mixer level for linear operation. In general, the peak of the spectral envelopeshall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is givenin 4.1.5.2. d) Step a) through step c) might require iteration to adjust within the specified range.e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used. f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth. g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies. h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s). 6 dB emission bandwidth: a) Set RBW = 100 kHz. b) Set the video bandwidth (VBW) ≥ 3 >= 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.

4.3.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	55 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1, TM2				
Final test mode:	TM1, TM2				

4.3.2 Test Setup Diagram:



4.3.3 Test Data:

Please Refer to Appendix for Details.

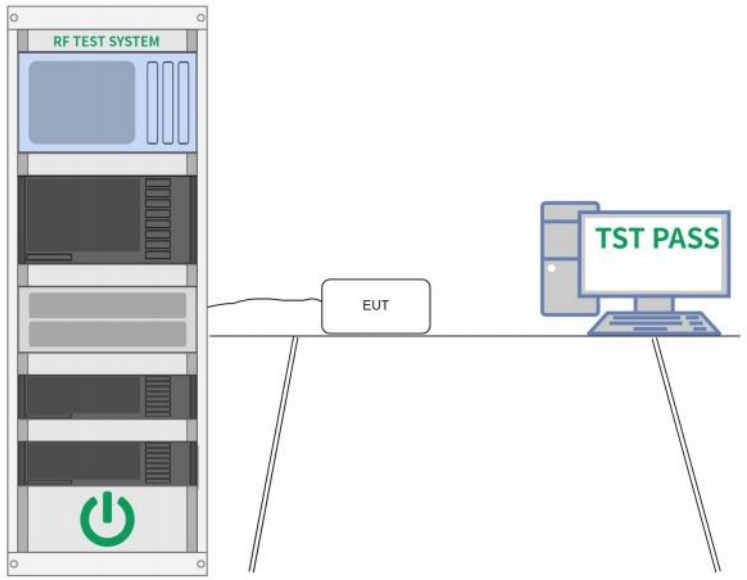
4.4 Maximum conducted output power

Test Requirement:	47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)
Test Limit:	For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
Test Method:	ANSI C63.10-2013, section 12.3
Procedure:	Refer to ANSI C63.10-2013 section 12.3

4.4.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	55 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1, TM2				
Final test mode:	TM1, TM2				

4.4.2 Test Setup Diagram:



4.4.3 Test Data:

Please Refer to Appendix for Details.

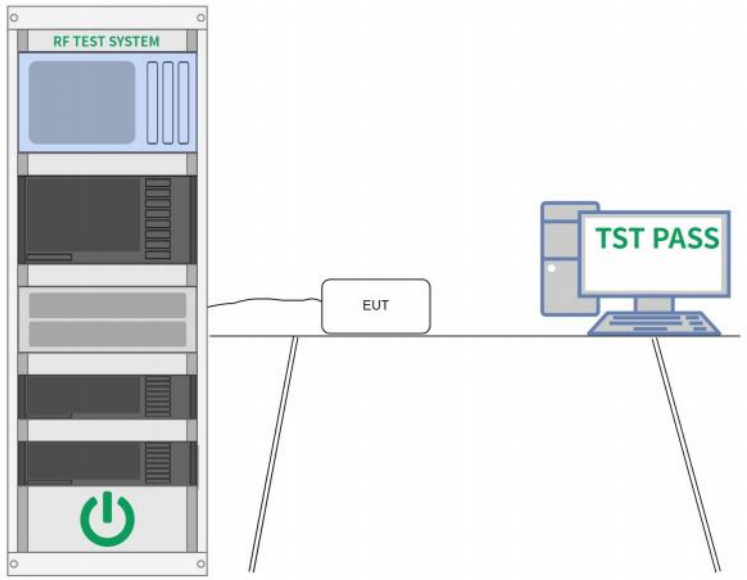
4.5 Power spectral density

Test Requirement:	47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)
Test Limit:	For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the band 5.725-5.850 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
Test Method:	ANSI C63.10-2013, section 12.5
Procedure:	Refer to ANSI C63.10-2013, section 12.5

4.5.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	55 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1, TM2				
Final test mode:	TM1, TM2				

4.5.2 Test Setup Diagram:



4.5.3 Test Data:

Please Refer to Appendix for Details.

4.6 Band edge emissions (Radiated)

Test Requirement:	47 CFR Part 15.407(b)(1) 47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)
Test Limit:	For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz. For transmitters operating solely in the 5.725-5.850 GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1] 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
[2] Above 38.6

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35apply to these measurements.

Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300

0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

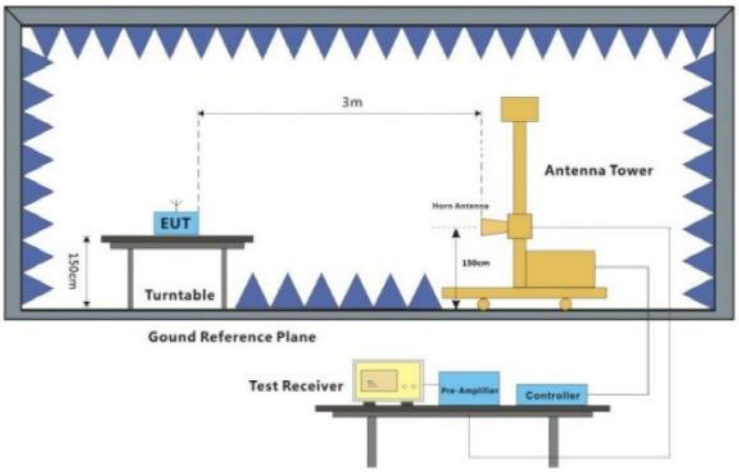
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.
In the emission table above, the tighter limit applies at the band edges.
The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

Test Method:	ANSI C63.10-2013, section 12.7.4, 12.7.6, 12.7.7
Procedure:	Above 1GHz: a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel. h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete. Remark: 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor 2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. 3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report. 4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

4.6.1 E.U.T. Operation:

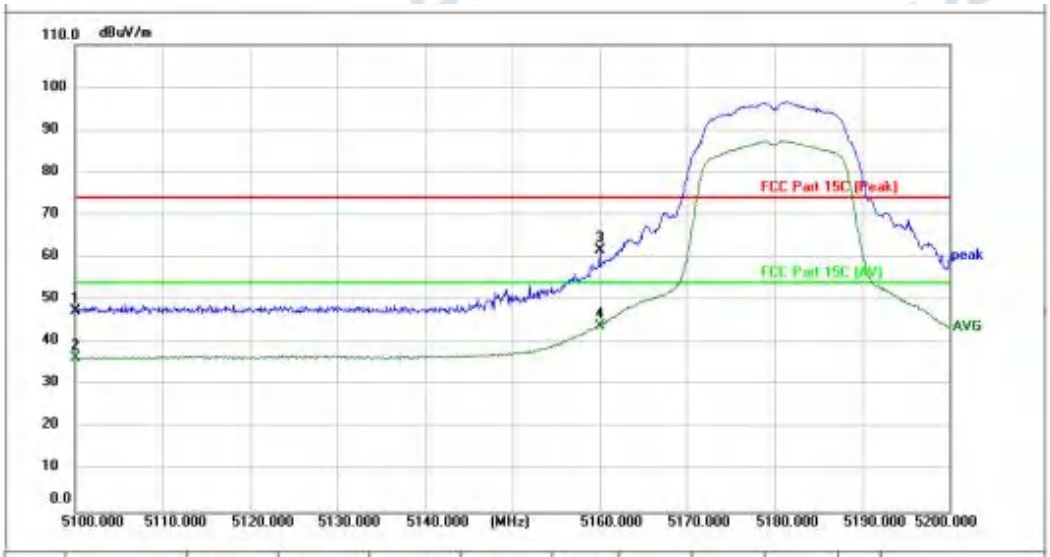
Operating Environment:					
Temperature:	23 °C	Humidity:	55 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1, TM2				
Final test mode:	TM1, TM2				

4.6.2 Test Setup Diagram:



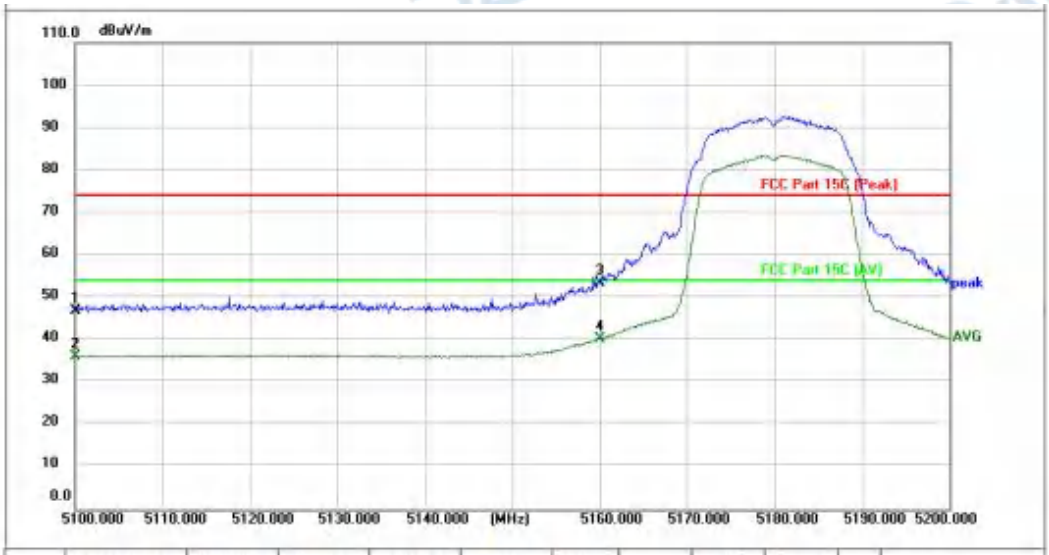
4.6.3 Test Data:

TM1 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 20 / CH: L



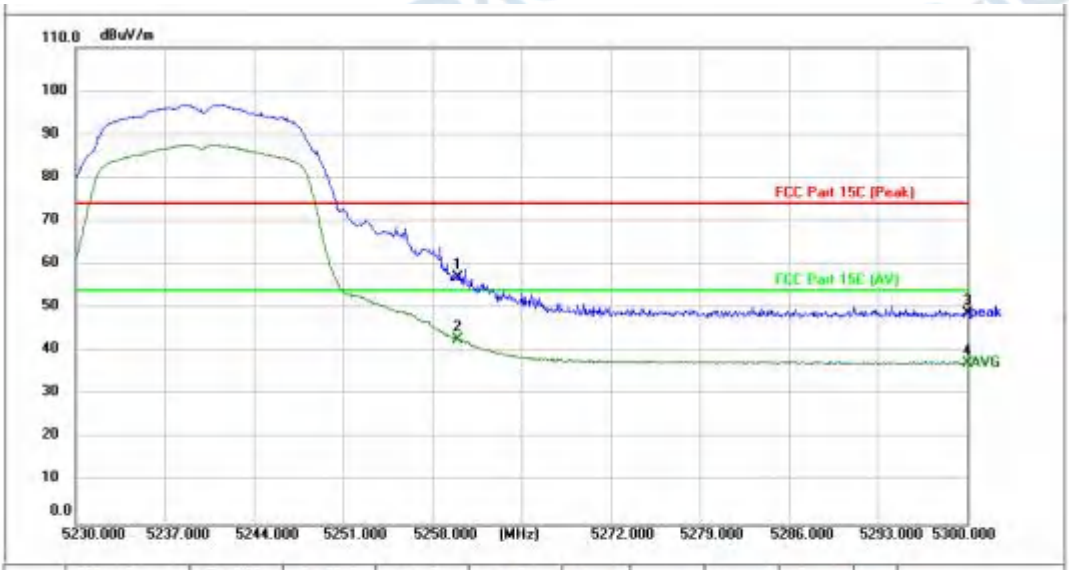
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5100.000	43.16	4.26	47.42	74.00	-26.58	peak	149		P	
2	5100.000	32.23	4.26	36.49	54.00	-17.51	AVG	149		P	
3	5160.000	57.41	4.43	61.84	74.00	-12.16	peak	149		P	
4 *	5160.000	39.54	4.43	43.97	54.00	-10.03	AVG	149		P	

TM1 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: L



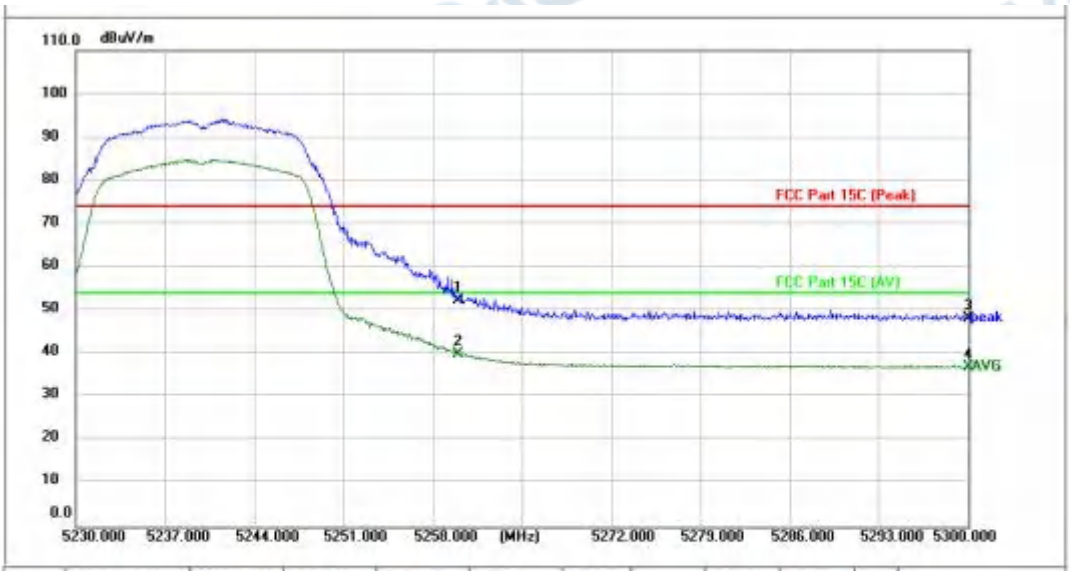
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5100.000	42.75	4.26	47.01	74.00	-26.99	peak	149		P	
2	5100.000	32.01	4.26	36.27	54.00	-17.73	AVG	149		P	
3	5160.000	49.11	4.43	53.54	74.00	-20.46	peak	149		P	
4 *	5160.000	35.82	4.43	40.25	54.00	-13.75	AVG	149		P	

TM1 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 20 / CH: H



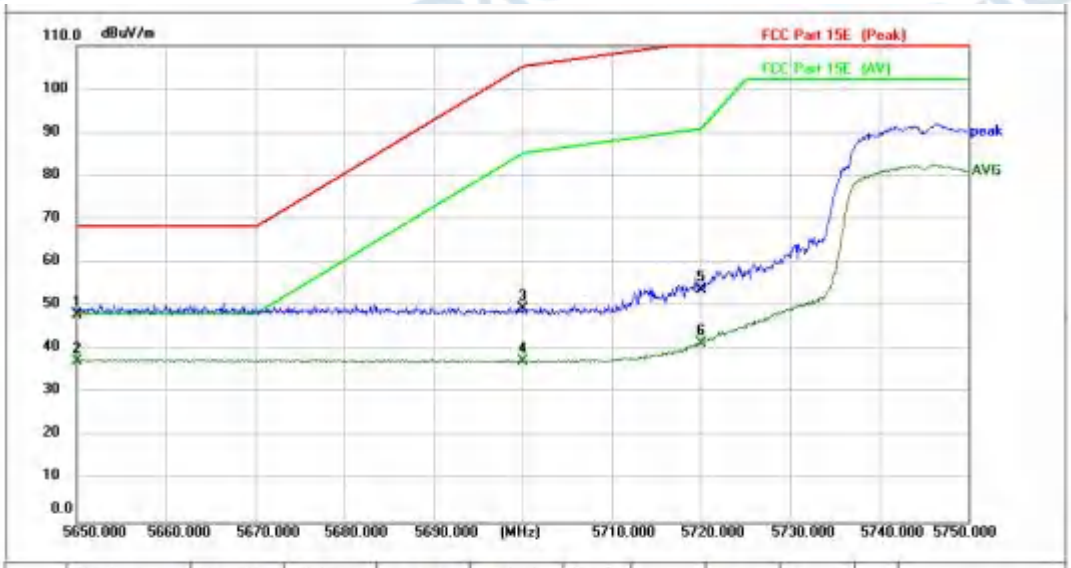
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5260.000	52.41	4.73	57.14	74.00	-16.86	peak	149		P	
2 *	5260.000	38.03	4.73	42.76	54.00	-11.24	AVG	149		P	
3	5300.000	43.97	4.85	48.82	74.00	-25.18	peak	149		P	
4	5300.000	32.46	4.85	37.31	54.00	-16.69	AVG	149		P	

TM1 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: H



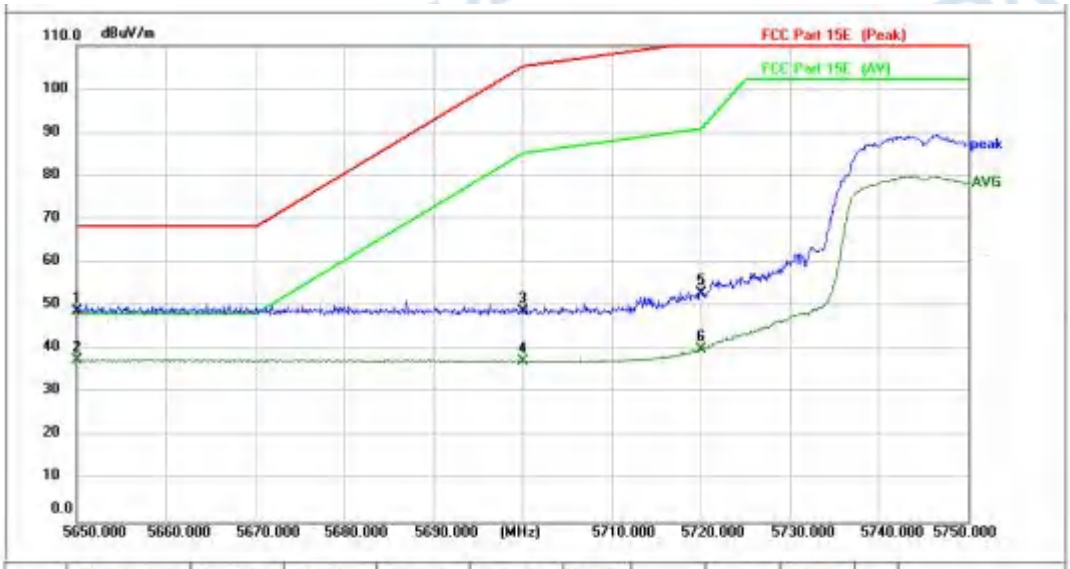
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5260.000	47.63	4.73	52.36	74.00	-21.64	peak	149		P	
2 *	5260.000	35.28	4.73	40.01	54.00	-13.99	AVG	149		P	
3	5300.000	43.48	4.85	48.33	74.00	-25.67	peak	149		P	
4	5300.000	32.26	4.85	37.11	54.00	-16.89	AVG	149		P	

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: L



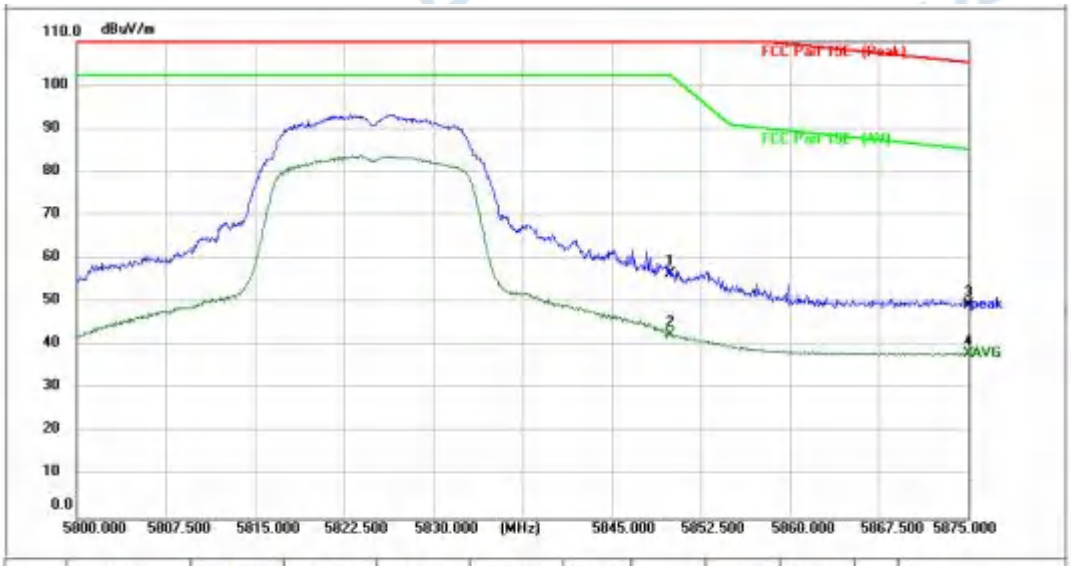
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5650.000	42.37	5.74	48.11	68.20	-20.09	peak	149		P	
2 *	5650.000	31.65	5.74	37.39	48.20	-10.81	AVG	149		P	
3	5700.000	43.58	5.85	49.43	105.20	-55.77	peak	149		P	
4	5700.000	31.40	5.85	37.25	85.20	-47.95	AVG	149		P	
5	5720.000	47.84	5.89	53.73	110.80	-57.07	peak	149		P	
6	5720.000	35.56	5.89	41.45	90.80	-49.35	AVG	149		P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: L



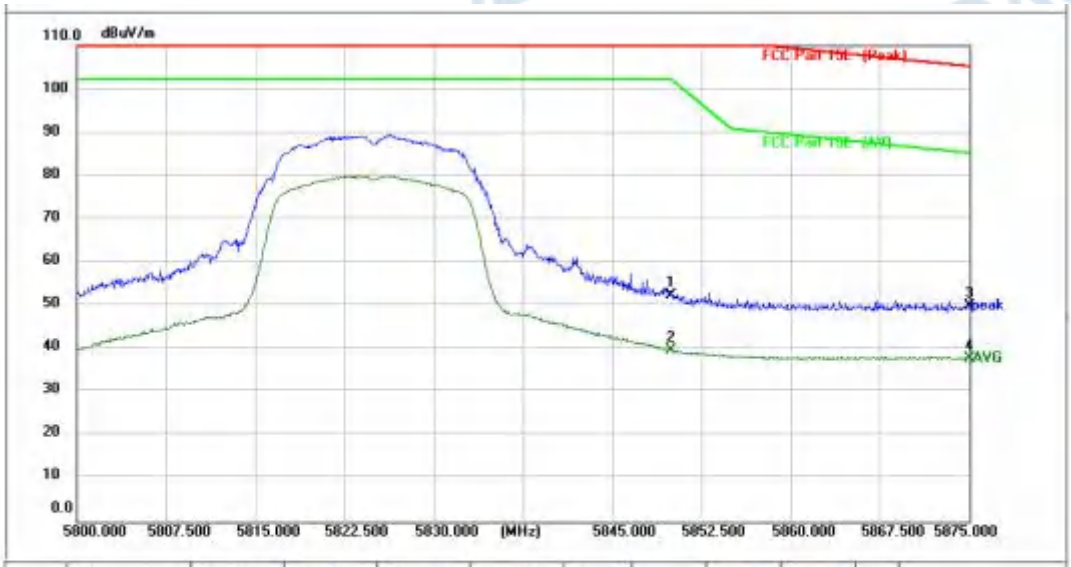
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5650.000	42.99	5.74	48.73	68.20	-19.47	peak	149		P	
2 *	5650.000	31.74	5.74	37.48	48.20	-10.72	AVG	149		P	
3	5700.000	43.01	5.85	48.86	105.20	-56.34	peak	149		P	
4	5700.000	31.47	5.85	37.32	85.20	-47.88	AVG	149		P	
5	5720.000	47.09	5.89	52.98	110.80	-57.82	peak	149		P	
6	5720.000	34.22	5.89	40.11	90.80	-50.69	AVG	149		P	

TM1 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: H



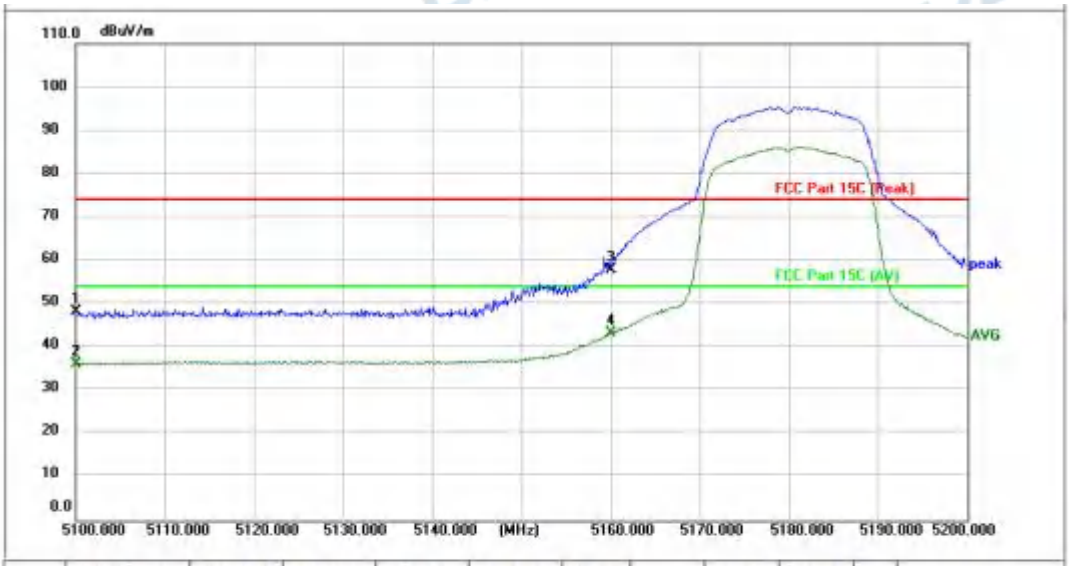
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5850.000	50.45	6.18	56.63	122.20	-65.57	peak	149		P	
2	5850.000	36.36	6.18	42.54	102.20	-59.66	AVG	149		P	
3	5875.000	43.24	6.22	49.46	105.20	-55.74	peak	149		P	
4 *	5875.000	31.88	6.22	38.10	85.20	-47.10	AVG	149		P	

TM1 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: H



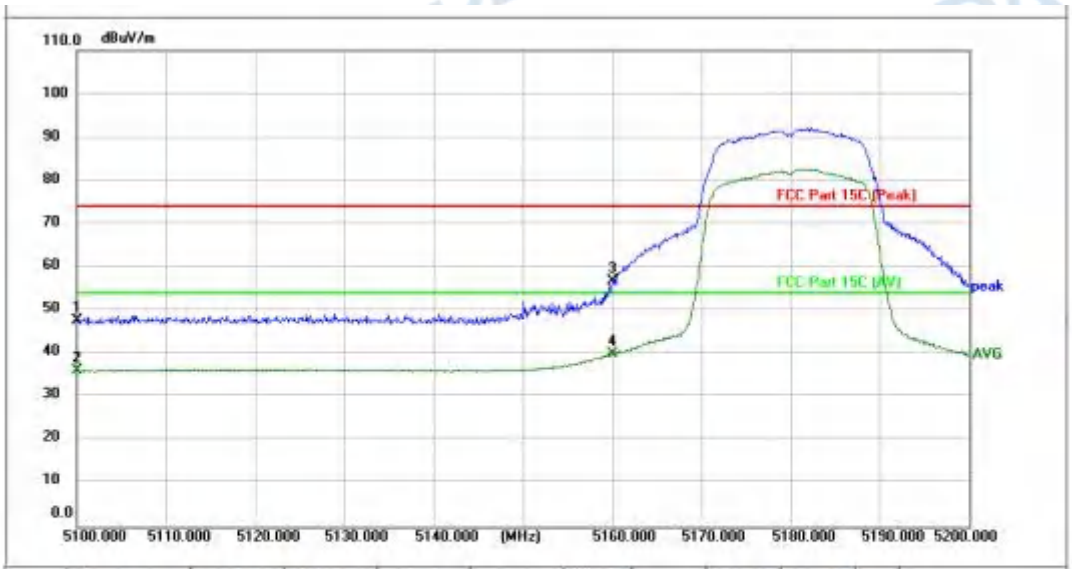
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5850.000	46.30	6.18	52.48	122.20	-69.72	peak	149		P	
2	5850.000	33.49	6.18	39.67	102.20	-62.53	AVG	149		P	
3	5875.000	43.76	6.22	49.98	105.20	-55.22	peak	149		P	
4 *	5875.000	31.55	6.22	37.77	85.20	-47.43	AVG	149		P	

TM2 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 20 / CH: L



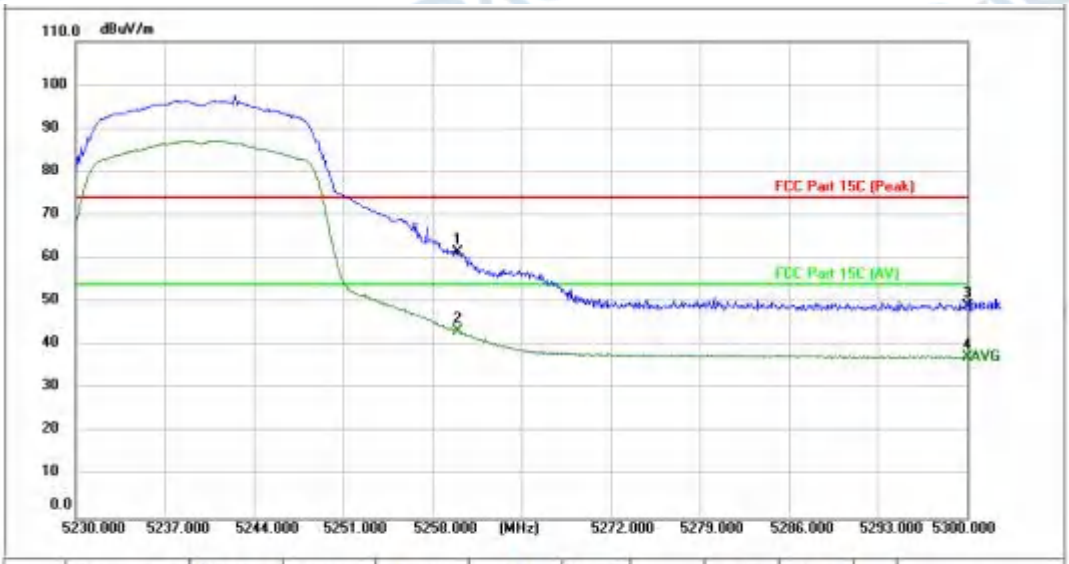
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5100.000	43.89	4.26	48.15	74.00	-25.85	peak	149		P	
2	5100.000	32.01	4.26	36.27	54.00	-17.73	AVG	149		P	
3	5160.000	53.47	4.43	57.90	74.00	-16.10	peak	149		P	
4 *	5160.000	38.90	4.43	43.33	54.00	-10.67	AVG	149		P	

TM2 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: L



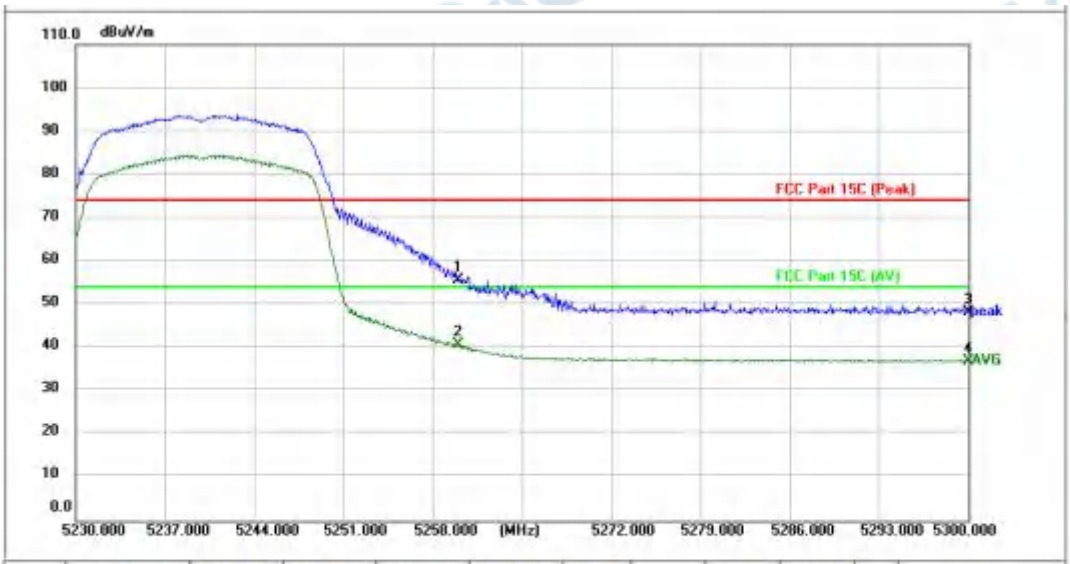
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5100.000	43.51	4.26	47.77	74.00	-26.23	peak	149		P	
2	5100.000	31.77	4.26	36.03	54.00	-17.97	AVG	149		P	
3	5160.000	52.36	4.43	56.79	74.00	-17.21	peak	149		P	
4 *	5160.000	35.69	4.43	40.12	54.00	-13.88	AVG	149		P	

TM2 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 20 / CH: H



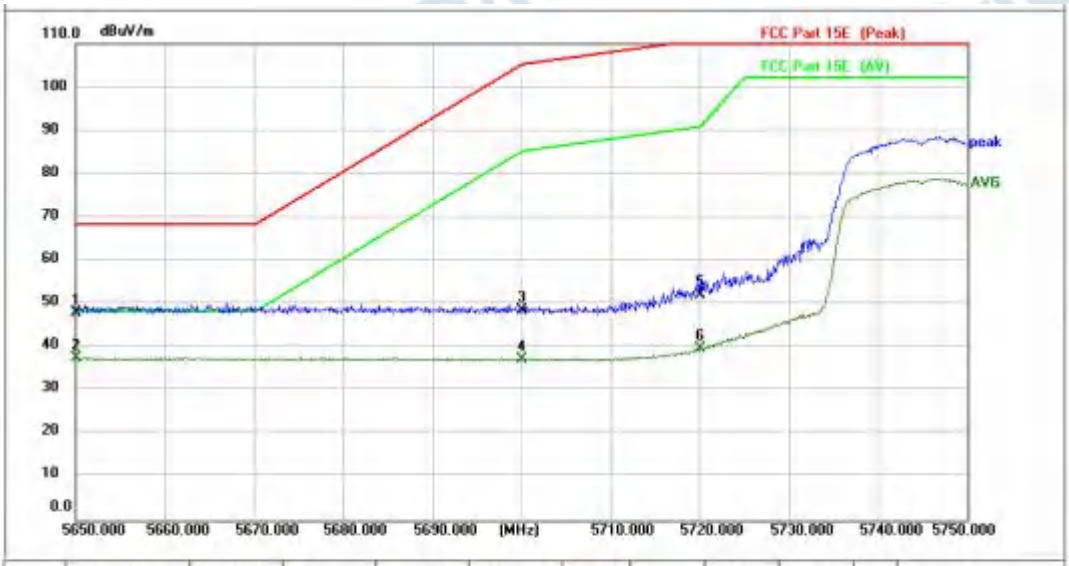
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5260.000	56.65	4.73	61.38	74.00	-12.62	peak	149		P	
2 *	5260.000	38.62	4.73	43.35	54.00	-10.65	AVG	149		P	
3	5300.000	44.28	4.85	49.13	74.00	-24.87	peak	149		P	
4	5300.000	32.35	4.85	37.20	54.00	-16.80	AVG	149		P	

TM2 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: H



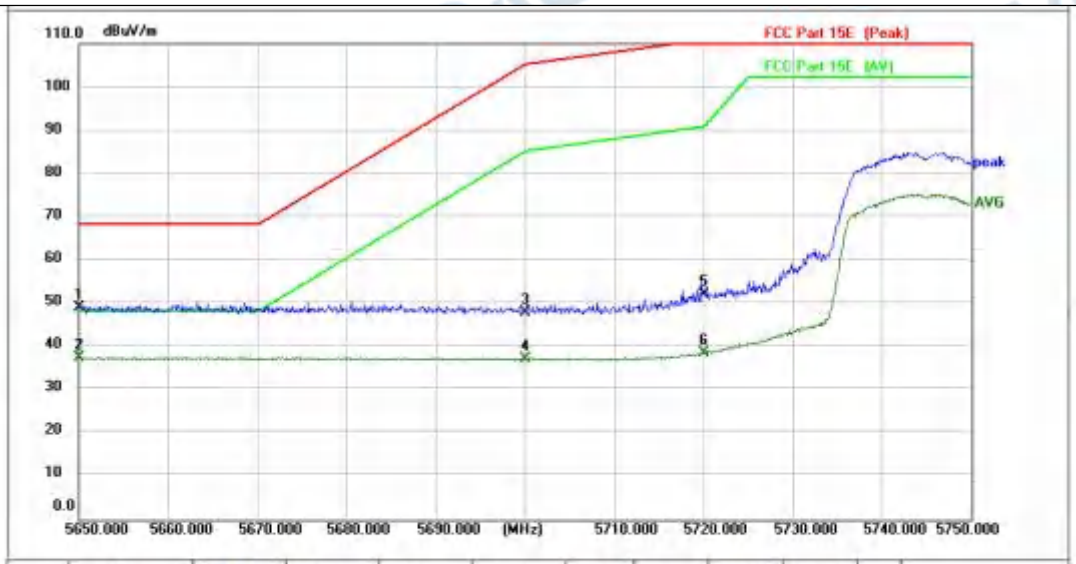
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5260.000	51.01	4.73	55.74	74.00	-18.26	peak	149		P	
2 *	5260.000	36.17	4.73	40.90	54.00	-13.10	AVG	149		P	
3	5300.000	43.40	4.85	48.25	74.00	-25.75	peak	149		P	
4	5300.000	32.14	4.85	36.99	54.00	-17.01	AVG	149		P	

TM2 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: L



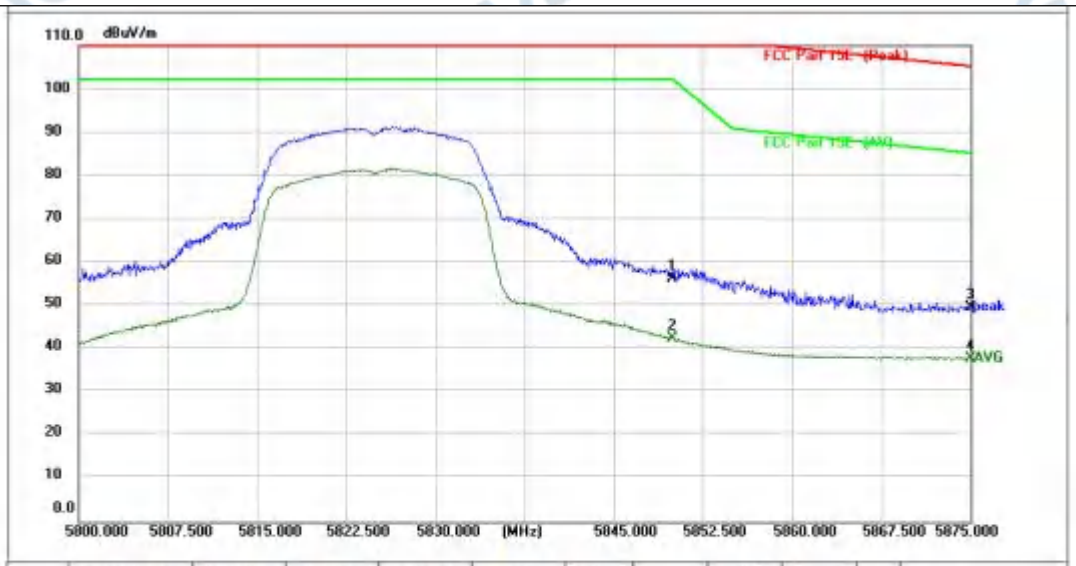
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5650.000	42.32	5.74	48.06	68.20	-20.14	peak	149		P	
2 *	5650.000	31.76	5.74	37.50	48.20	-10.70	AVG	149		P	
3	5700.000	42.56	5.85	48.41	105.20	-56.79	peak	149		P	
4	5700.000	31.52	5.85	37.37	85.20	-47.83	AVG	149		P	
5	5720.000	46.30	5.89	52.19	110.80	-58.61	peak	149		P	
6	5720.000	33.95	5.89	39.84	90.80	-50.96	AVG	149		P	

TM2 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: L



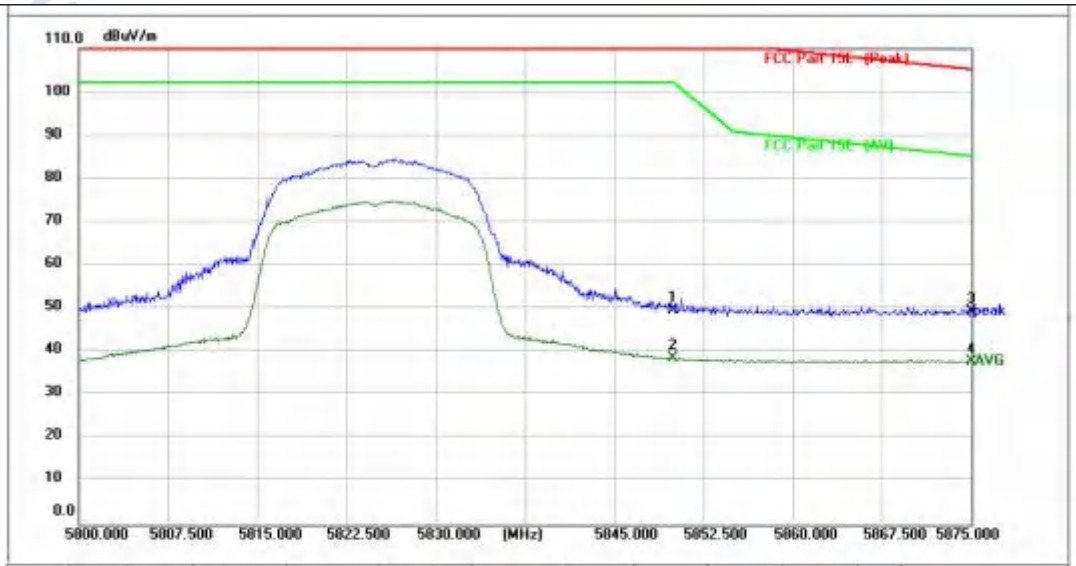
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5650.000	43.23	5.74	48.97	68.20	-19.23	peak	149		P	
2 *	5650.000	31.71	5.74	37.45	48.20	-10.75	AVG	149		P	
3	5700.000	42.23	5.85	48.08	105.20	-57.12	peak	149		P	
4	5700.000	31.52	5.85	37.37	85.20	-47.83	AVG	149		P	
5	5720.000	46.34	5.89	52.23	110.80	-58.57	peak	149		P	
6	5720.000	32.62	5.89	38.51	90.80	-52.29	AVG	149		P	

TM2 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5850.000	49.95	6.18	56.13	122.20	-66.07	peak	149		P	
2	5850.000	36.30	6.18	42.48	102.20	-59.72	AVG	149		P	
3	5875.000	43.36	6.22	49.58	105.20	-55.62	peak	149		P	
4 *	5875.000	31.67	6.22	37.89	85.20	-47.31	AVG	149		P	

TM2 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5850.000	43.35	6.18	49.53	122.20	-72.67	peak	149		P	
2	5850.000	32.44	6.18	38.62	102.20	-63.58	AVG	149		P	
3	5875.000	43.09	6.22	49.31	105.20	-55.89	peak	149		P	
4 *	5875.000	31.49	6.22	37.71	85.20	-47.49	AVG	149		P	

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

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

4.7 Undesirable emission limits (below 1GHz)

<table>
<tr><td>Test Requirement:</td><td>47 CFR Part 15.407(b)(9)</td></tr>
<tr><td>Test Limit:</td><td>Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.

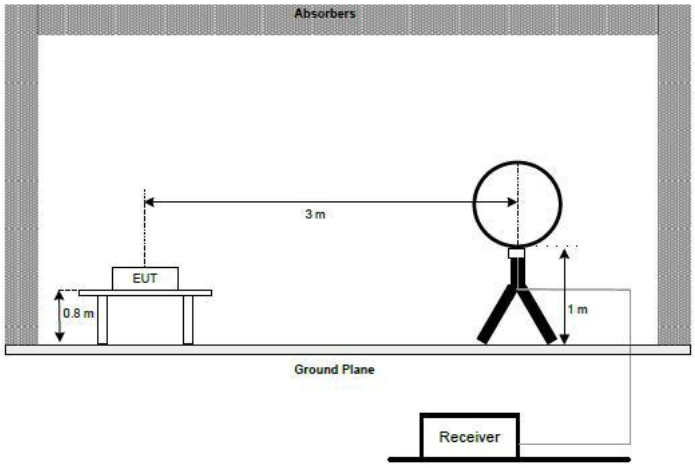
Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:
<table>
<tr><td>Frequency (MHz)</td><td>Field strength (microvolts/meter)</td><td>Measurement distance (meters)</td></tr>
<tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr>
<tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr>
<tr><td>1.705-30.0</td><td>30</td><td>30</td></tr>
<tr><td>30-88</td><td>100 **</td><td>3</td></tr>
<tr><td>88-216</td><td>150 **</td><td>3</td></tr>
<tr><td>216-960</td><td>200 **</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>3</td></tr>
</table>
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.
In the emission table above, the tighter limit applies at the band edges.
The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10-2013, section 12.7.4, 12.7.5</td></tr>
<tr><td>Procedure:</td><td>Below 1GHz:
a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.
g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
i. Repeat above procedures until all frequencies measured was complete.
Remark:
1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The</td></tr>
</table>

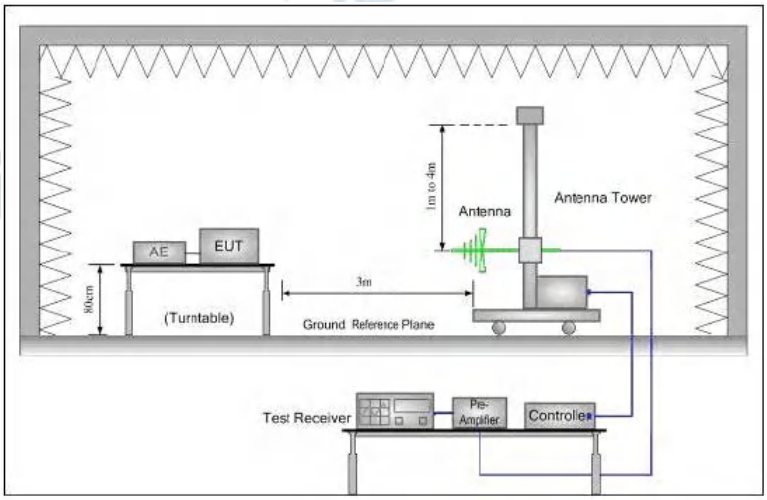
	points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. 3. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

4.7.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	55 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1, TM2				
Final test mode:	TM2				

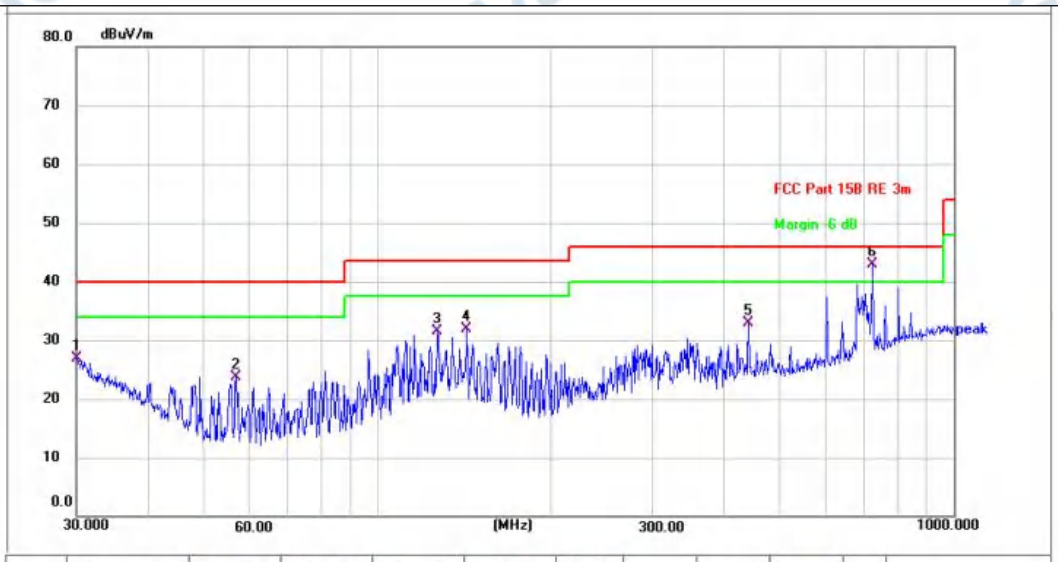
4.7.2 Test Setup Diagram:





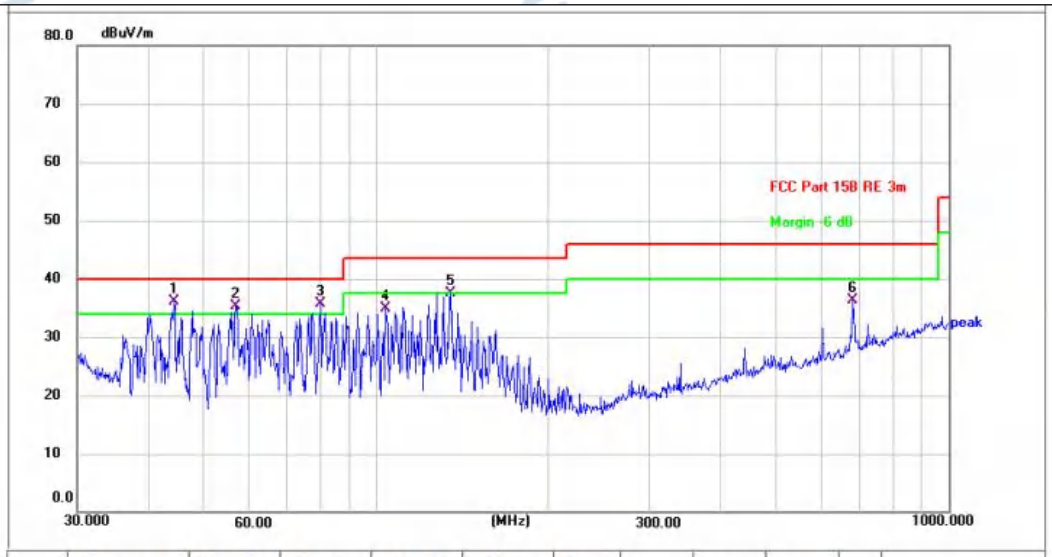
4.7.3 Test Data:

TM2 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	30.1054	26.10	0.77	26.87	40.00	-13.13	QP	100		P	
2	56.7917	36.39	-12.67	23.72	40.00	-16.28	QP	100		P	
3	126.7723	37.00	-5.51	31.49	43.50	-12.01	QP	100		P	
4	142.8243	37.82	-5.82	32.00	43.50	-11.50	QP	100		P	
5	440.1963	35.29	-2.30	32.99	46.00	-13.01	QP	100		P	
6 *	721.7259	40.19	2.70	42.89	46.00	-3.11	QP	100		P	

TM2 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	44.2752	45.20	-9.02	36.18	40.00	-3.82	QP	100		P	
2 !	56.7917	48.32	-12.93	35.39	40.00	-4.61	QP	100		P	
3 !	79.8003	47.71	-11.92	35.79	40.00	-4.21	QP	100		P	
4	103.8055	42.05	-7.16	34.89	43.50	-8.61	QP	100		P	
5 !	134.5592	43.25	-5.71	37.54	43.50	-5.96	QP	100		P	
6	679.9600	34.56	1.65	36.21	46.00	-9.79	QP	100		P	

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

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

4.8 Undesirable emission limits (above 1GHz)

Test Requirement:	47 CFR Part 15.407(b)(1) 47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)
Test Limit:	For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz. For transmitters operating solely in the 5.725-5.850 GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1] 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] Above 38.6

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35apply to these measurements.

Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)

0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.
In the emission table above, the tighter limit applies at the band edges.
The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

Test Method: ANSI C63.10-2013, section 12.7.4, 12.7.6, 12.7.7

Procedure:

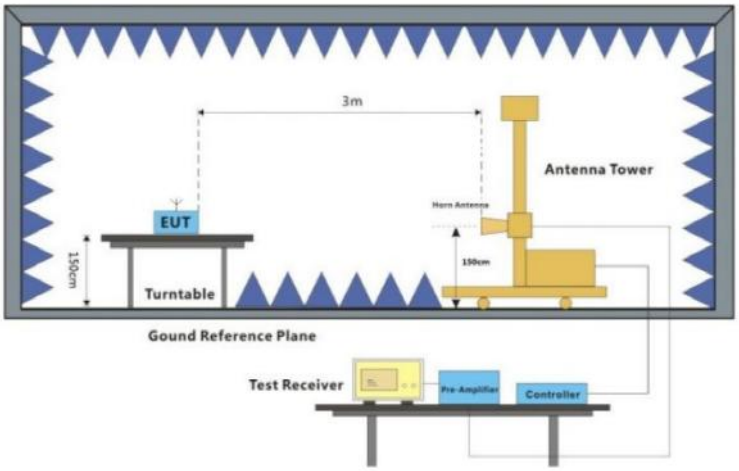
Above 1GHz:
a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet.
g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
i. Repeat above procedures until all frequencies measured was complete.
Remark:
1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.
4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been

	displayed.

4.8.1 E.U.T. Operation:

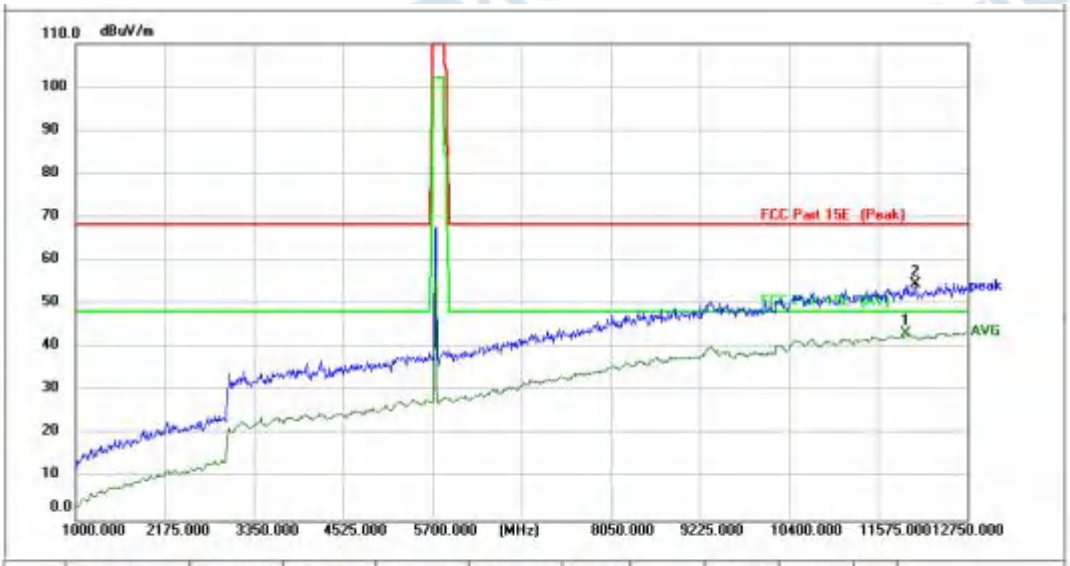
Operating Environment:					
Temperature:	23 °C	Humidity:	55 %	Atmospheric Pressure:	102 kPa
Pretest mode:	TM1, TM2				
Final test mode:	TM2				

4.8.2 Test Setup Diagram:



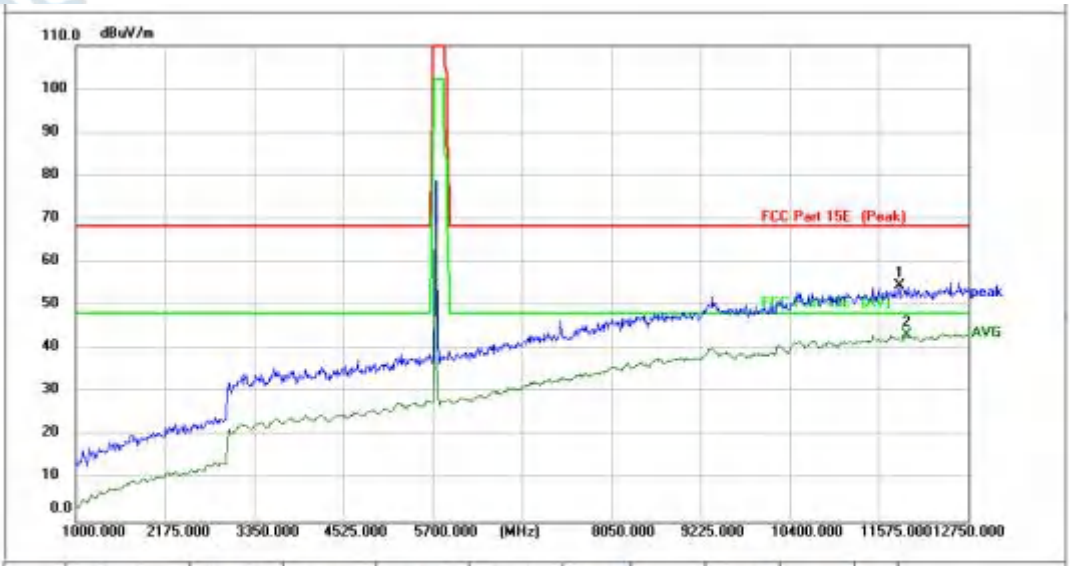
4.8.3 Test Data:

TM2 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: L



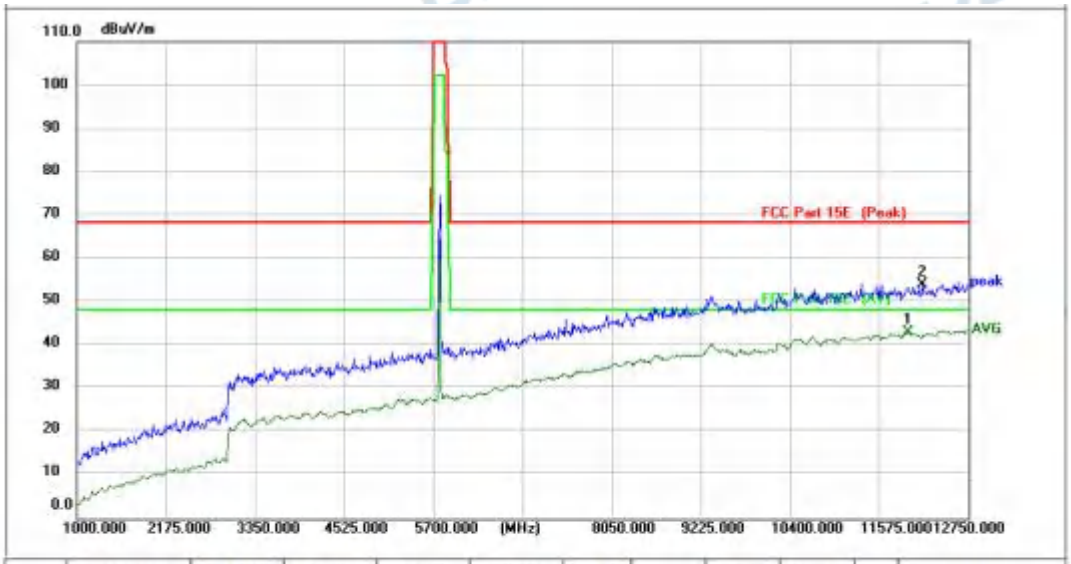
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	11939.250	25.45	17.97	43.42	48.20	-4.78	AVG	149		P	
2	12068.500	36.44	18.14	54.58	68.20	-13.62	peak	149		P	

TM2 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: L



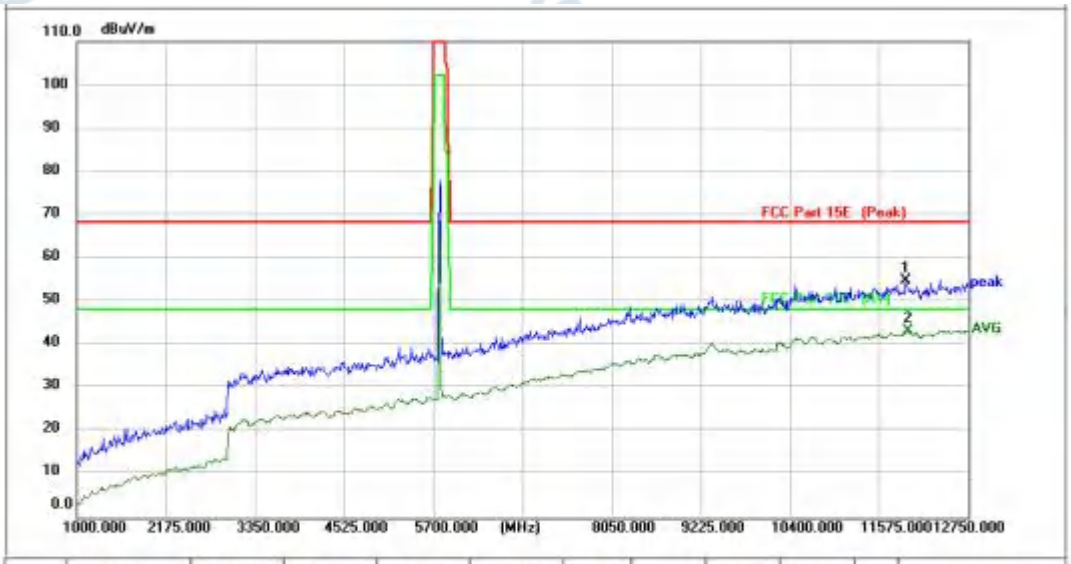
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	11845.250	36.58	17.91	54.49	68.20	-13.71	peak	149		P	
2 *	11939.250	25.30	17.97	43.27	48.20	-4.93	AVG	149		P	

TM2 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: M



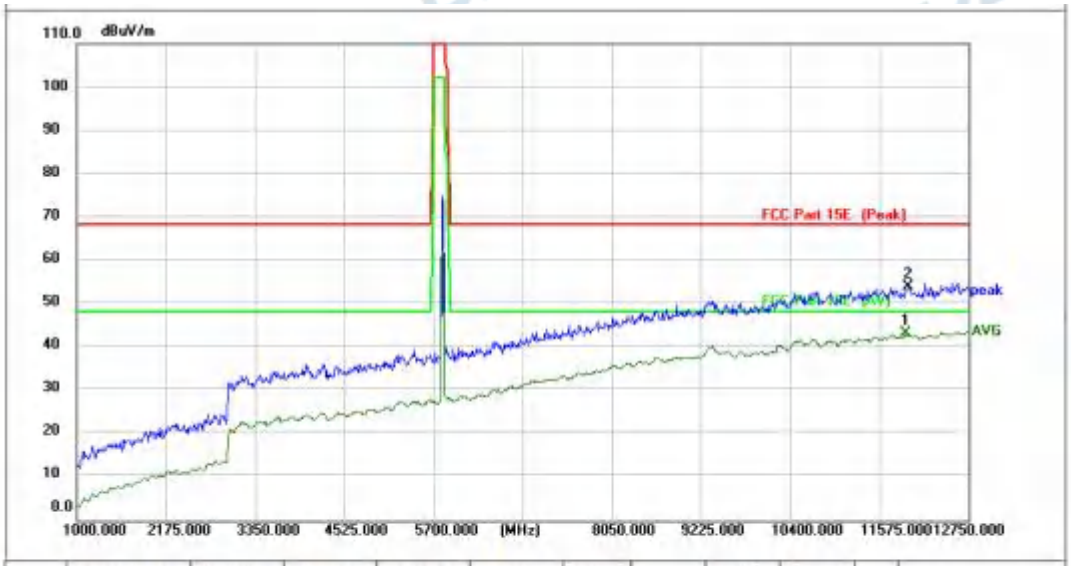
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	11951.000	25.10	17.97	43.07	48.20	-5.13	AVG			P	
2	12150.750	35.60	18.32	53.92	68.20	-14.28	peak			P	

TM2 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: M



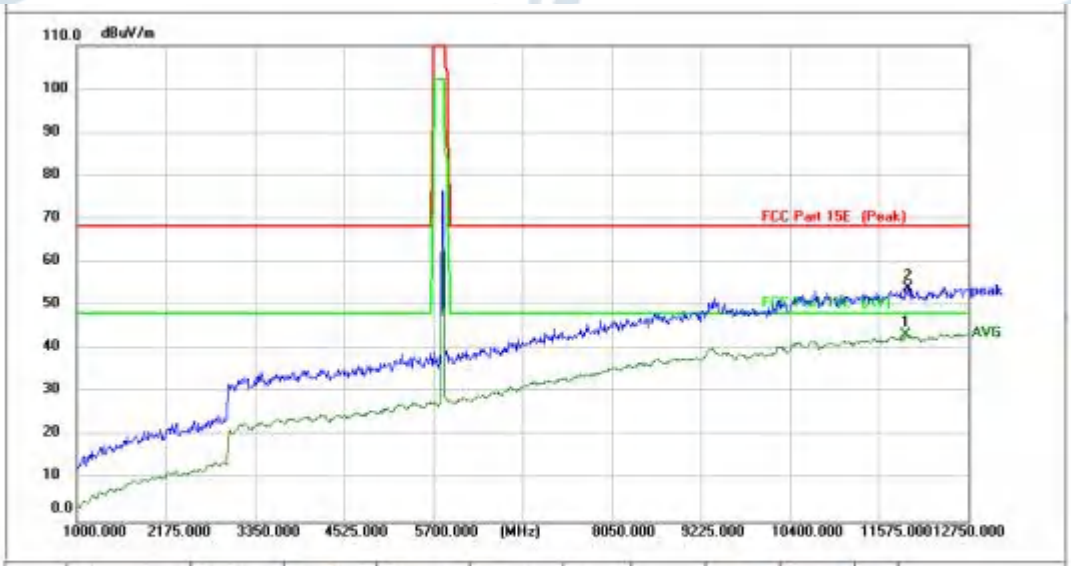
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	11927.500	36.83	17.96	54.79	68.20	-13.41	peak	149		P	
2 *	11951.000	25.21	17.97	43.18	48.20	-5.02	AVG	149		P	

TM2 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: H



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	11927.500	25.37	17.96	43.33	48.20	-4.87	AVG	149		P	
2	11962.750	35.97	17.99	53.96	68.20	-14.24	peak	149		P	

TM2 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: H

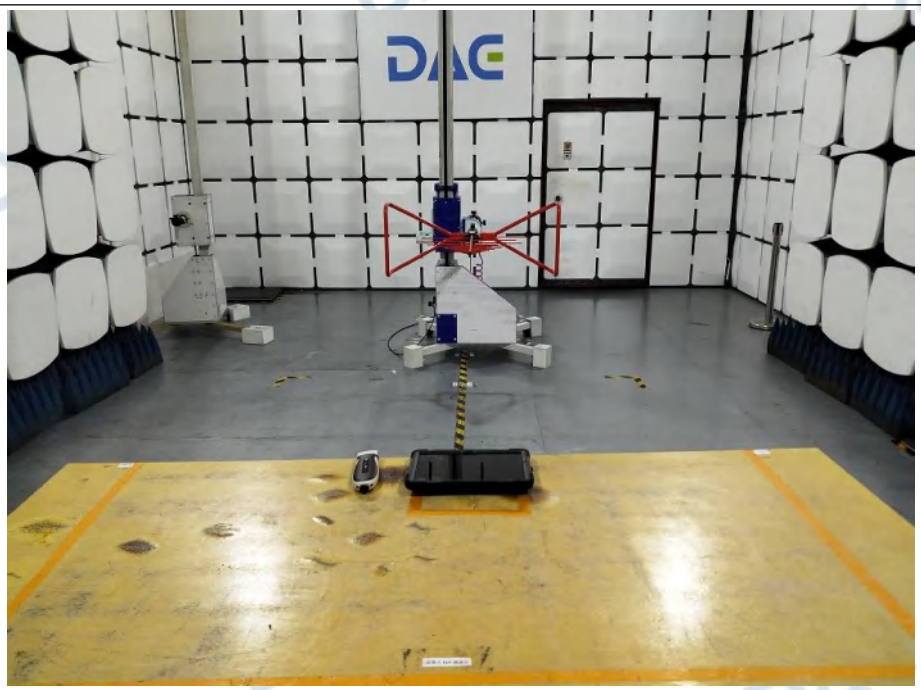
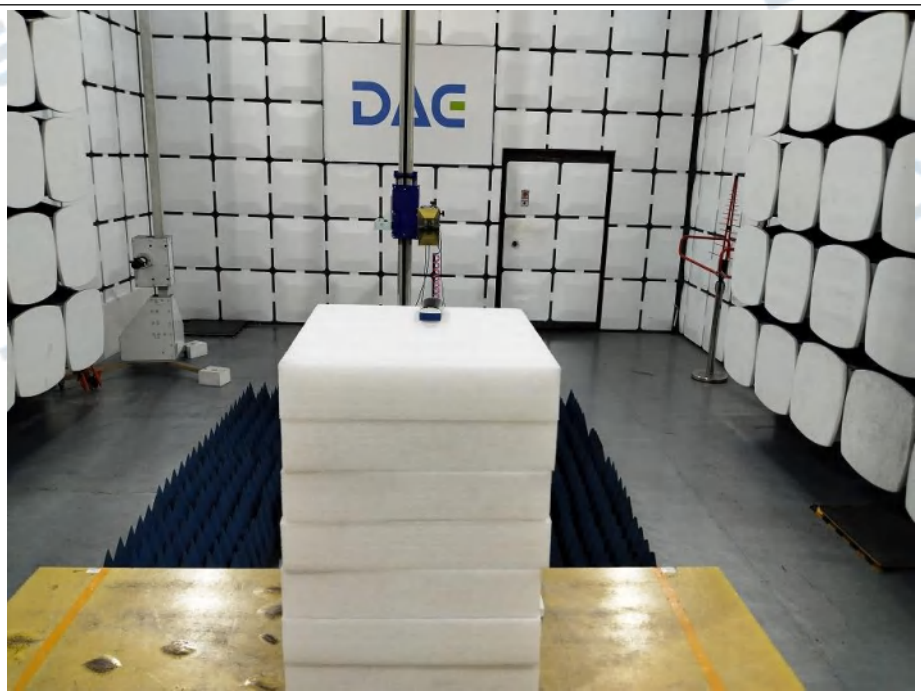


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	11927.500	25.27	17.96	43.23	48.20	-4.97	AVG	149		P	
2	11962.750	35.99	17.99	53.98	68.20	-14.22	peak	149		P	

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

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

5 TEST SETUP PHOTOS

Emissions in frequency bands (below 1GHz)

Emissions in frequency bands (above 1GHz)


Conducted Emission at AC power line

6 PHOTOS OF THE EUT

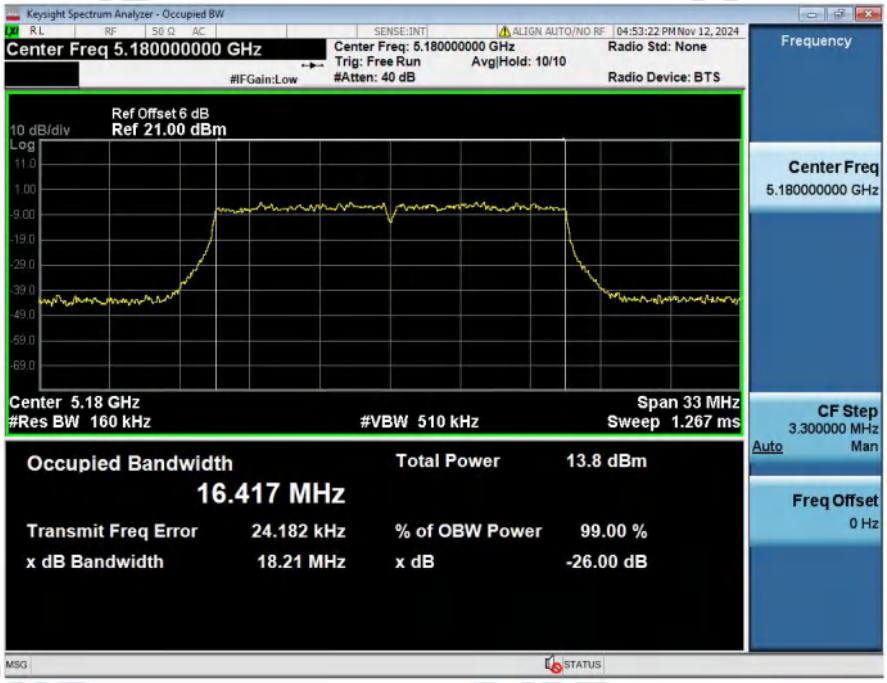
Please Refer to report DACE241031014RL001 for Details.

Appendix-5.2G

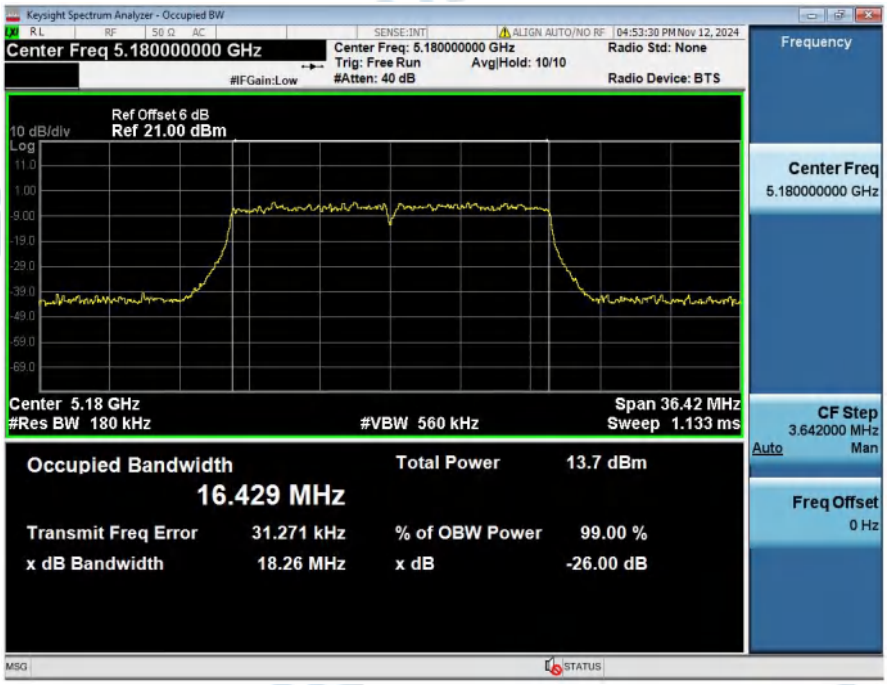
1. -26dB and 99% Emission Bandwidth

Condition	Antenna	Modulation	Frequency(MHz)	-26dB_Emission_Bandwidth(MHz)	Occupied Bandwidth(MHz)
NVNT	ANT1	802.11a	5180.00	18.26	16.42
NVNT	ANT1	802.11a	5200.00	18.17	16.42
NVNT	ANT1	802.11a	5240.00	18.15	16.42
NVNT	ANT1	802.11n(HT20)	5180.00	19.32	17.57
NVNT	ANT1	802.11n(HT20)	5200.00	19.30	17.56
NVNT	ANT1	802.11n(HT20)	5240.00	19.28	17.57

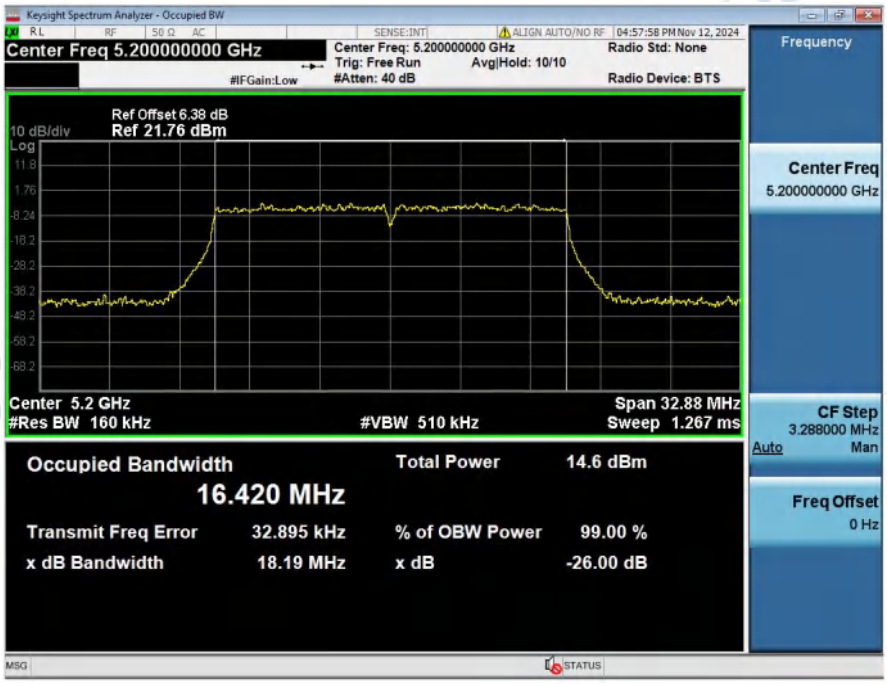
99%_OCB_NVNT_ANT1_802_11a_5180



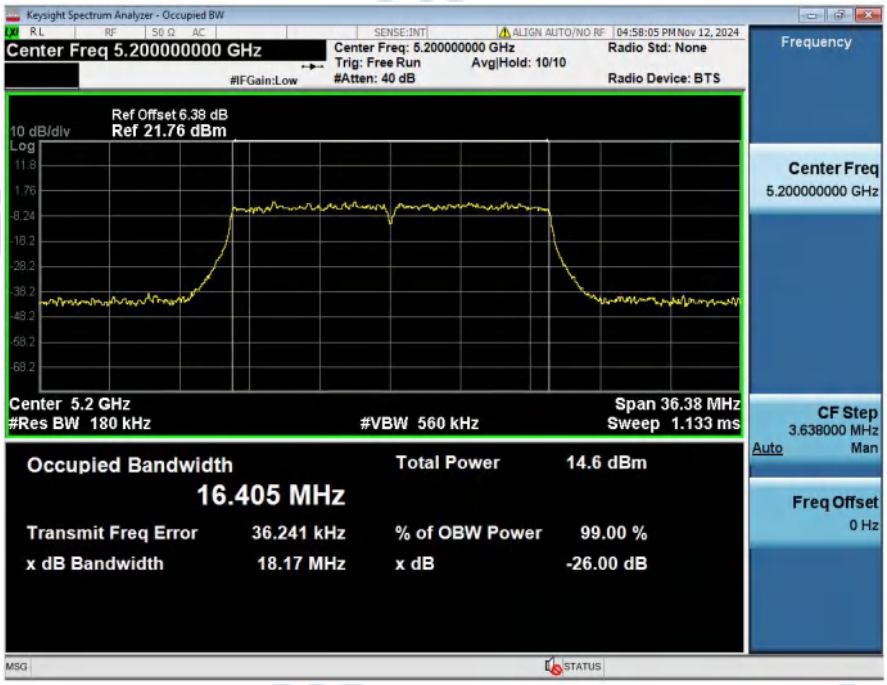
-26BW_NVNT_ANT1_802_11a_5180



99%_OCB_NVNT_ANT1_802_11a_5200



-26BW_NVNT_ANT1_802_11a_5200



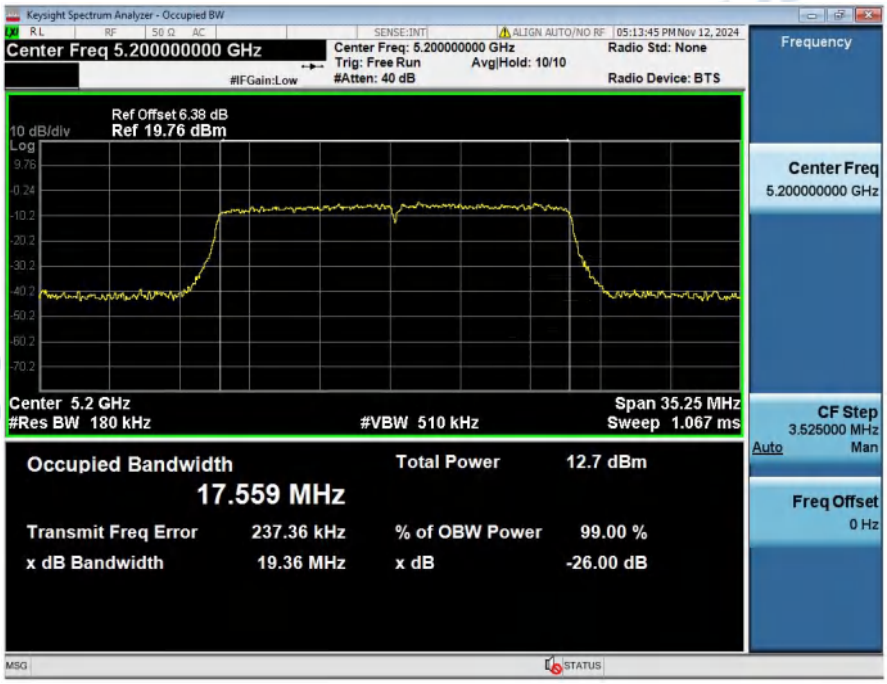
99%_OCB_NVNT_ANT1_802_11a_5240

-26BW_NVNT_ANT1_802_11a_5240

99%_OCB_NVNT_ANT1_802_11n(HT20)_5180

-26BW_NVNT_ANT1_802_11n(HT20)_5180

99%_OCB_NVNT_ANT1_802_11n(HT20)_5200



-26BW_NVNT_ANT1_802_11n(HT20)_5200

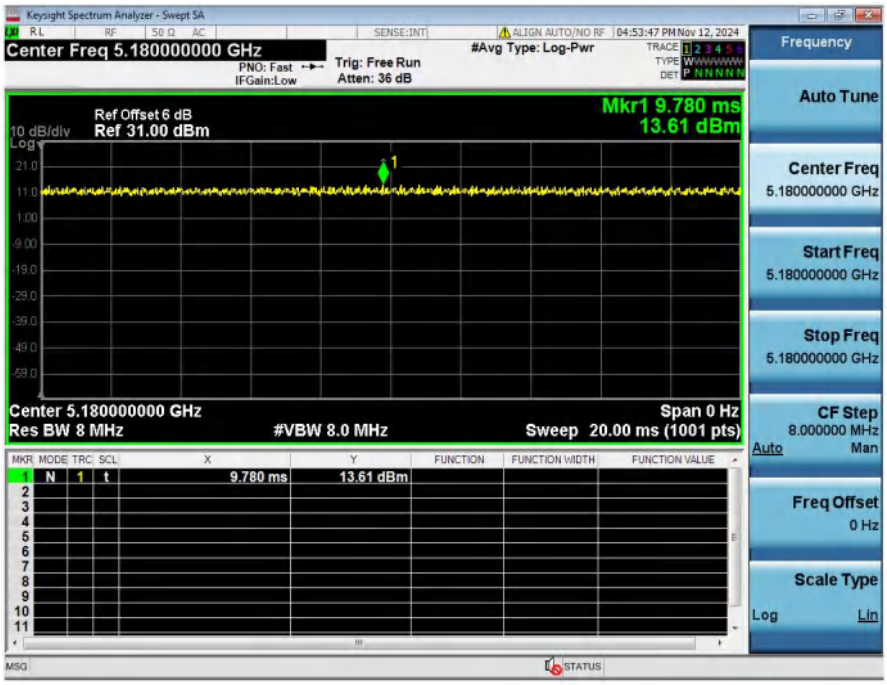
99%_OCB_NVNT_ANT1_802_11n(HT20)_5240

-26BW_NVNT_ANT1_802_11n(HT20)_5240

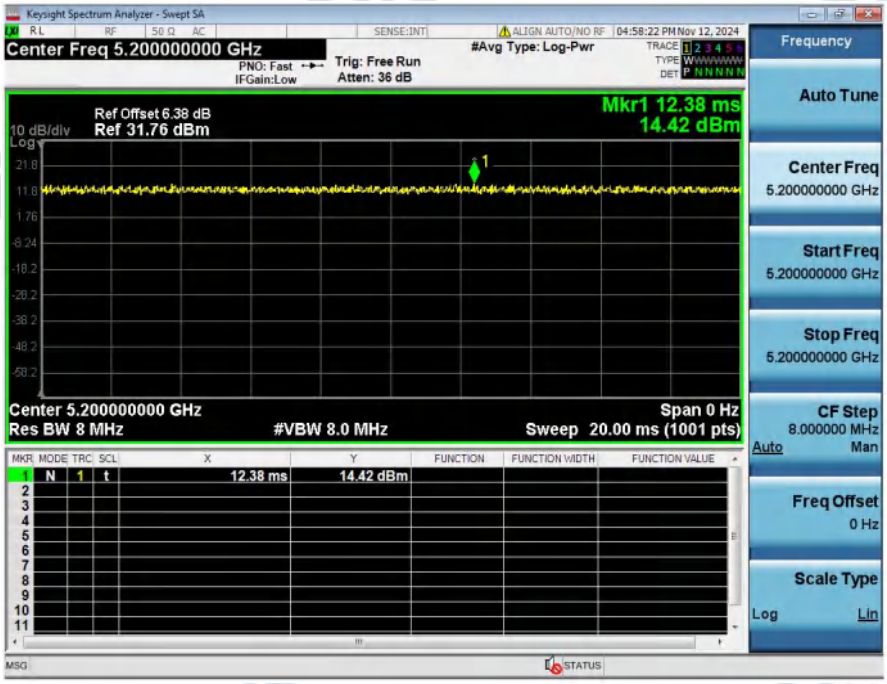
2. Duty Cycle

Condition	Antenna	Modulation	Frequency (MHz)	Duty cycle(%)	Duty_factor
NVNT	ANT1	802.11a	5180.00	100	0.00
NVNT	ANT1	802.11a	5200.00	100	0.00
NVNT	ANT1	802.11a	5240.00	100	0.00
NVNT	ANT1	802.11n(HT20)	5180.00	100	0.00
NVNT	ANT1	802.11n(HT20)	5200.00	100	0.00
NVNT	ANT1	802.11n(HT20)	5240.00	100	0.00

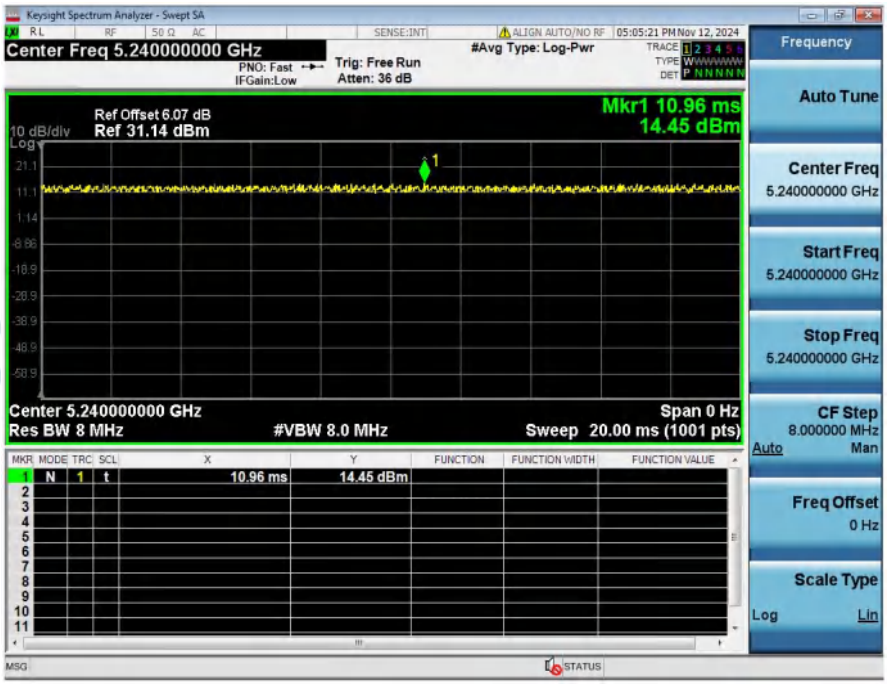
Duty_Cycle_NVNT_ANT1_802_11a_5180



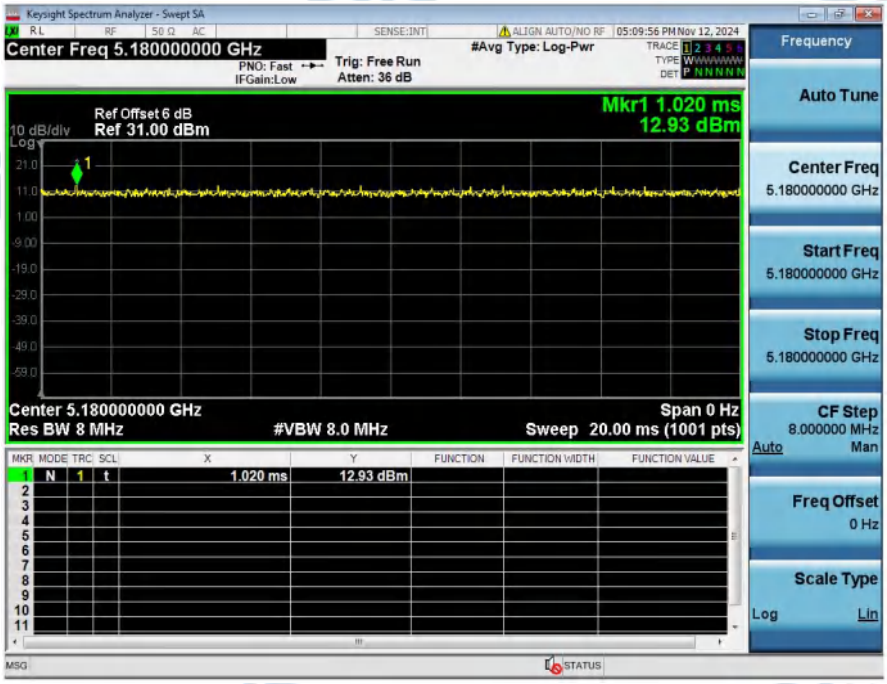
Duty_Cycle_NVNT_ANT1_802_11a_5200



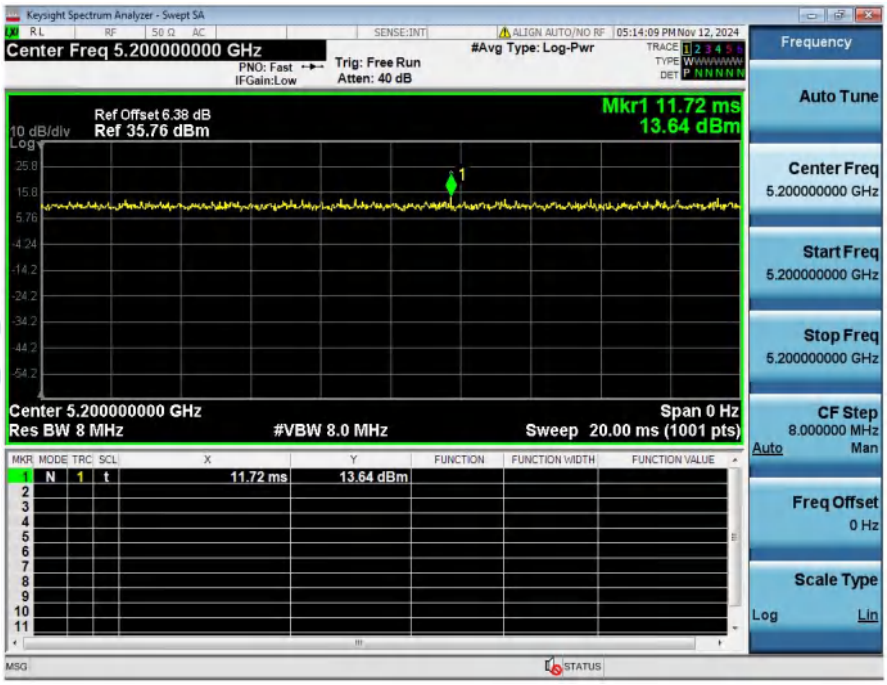
Duty_Cycle_NVNT_ANT1_802_11a_5240



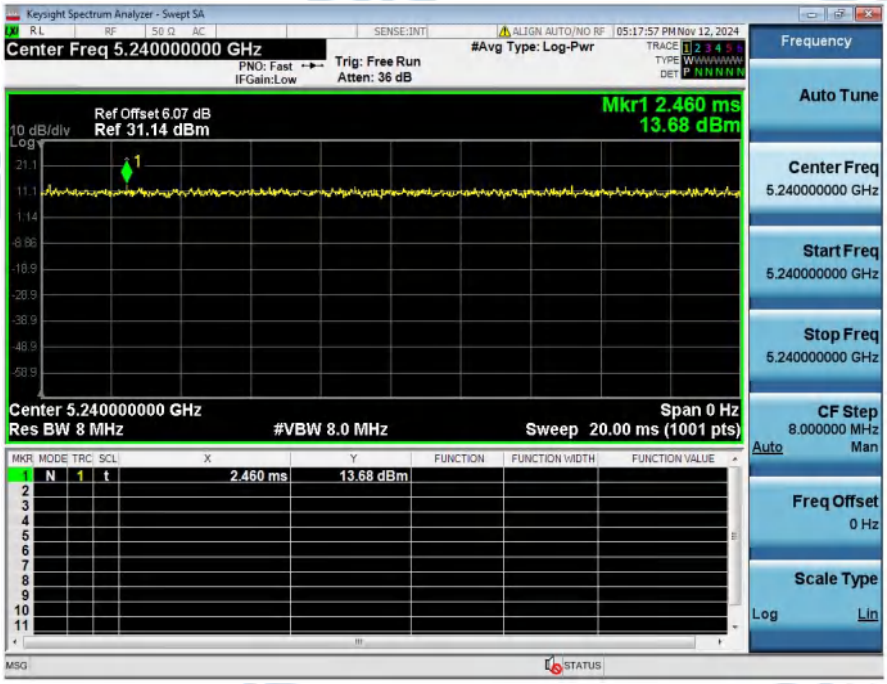
Duty_Cycle_NVNT_ANT1_802_11n(HT20)_5180



Duty_Cycle_NVNT_ANT1_802_11n(HT20)_5200



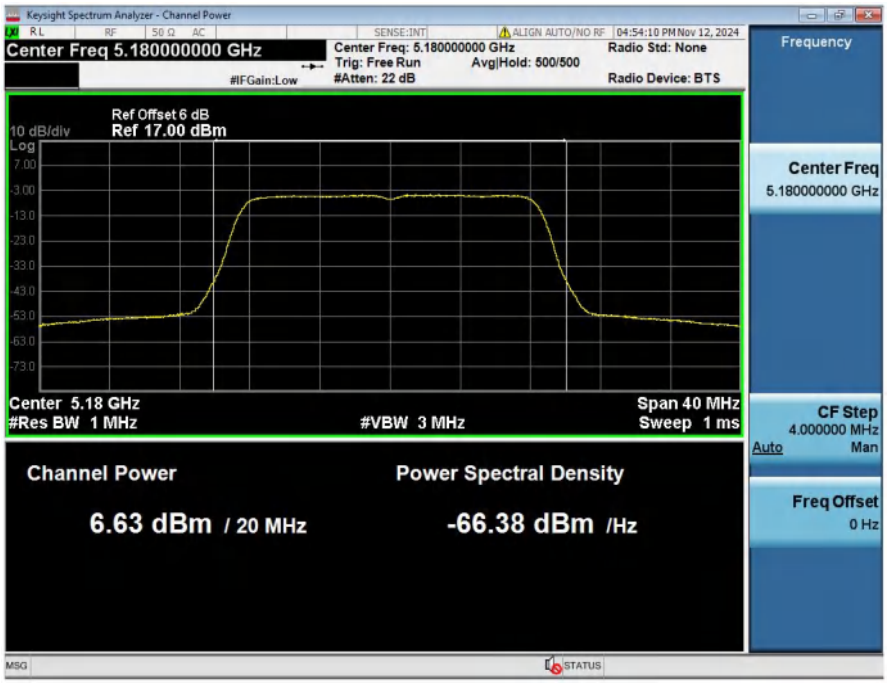
Duty_Cycle_NVNT_ANT1_802_11n(HT20)_5240



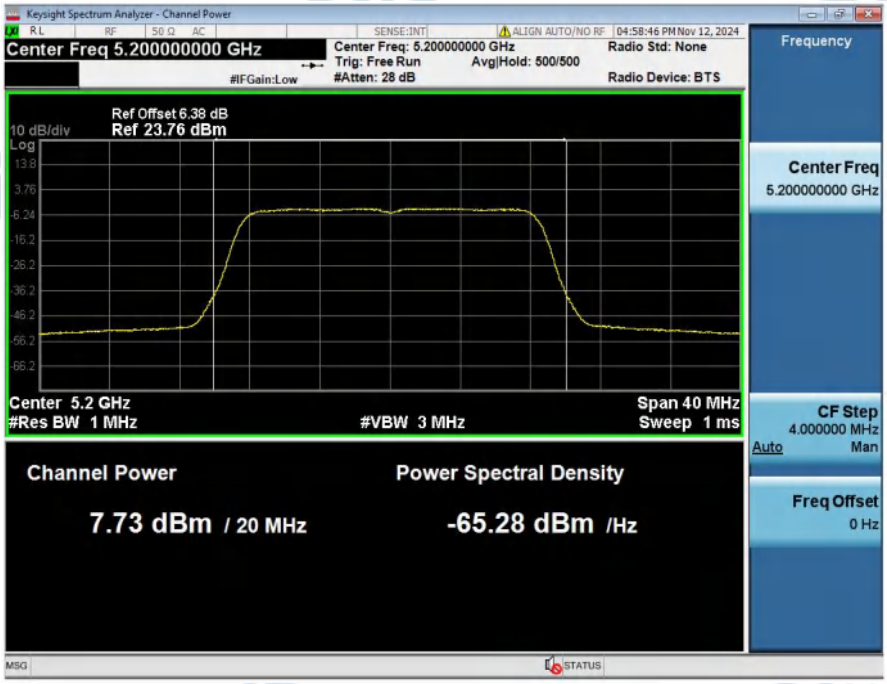
3. Maximum Conducted Output Power

Condition	Antenna	Modulation	Frequency (MHz)	Conducted Power(dBm)	Duty factor(dB)	Total Power(dBm)	limit(dBm)	Result
NVNT	ANT1	802.11a	5180.00	6.63	0.00	6.63	24	Pass
NVNT	ANT1	802.11a	5200.00	7.73	0.00	7.73	24	Pass
NVNT	ANT1	802.11a	5240.00	7.77	0.00	7.77	24	Pass
NVNT	ANT1	802.11n(HT20)	5180.00	5.79	0.00	5.79	24	Pass
NVNT	ANT1	802.11n(HT20)	5200.00	6.23	0.00	6.23	24	Pass
NVNT	ANT1	802.11n(HT20)	5240.00	6.33	0.00	6.33	24	Pass

Maximum_Conducted_Output_Power_NVNT_ANT1_802_11a_5180_20M

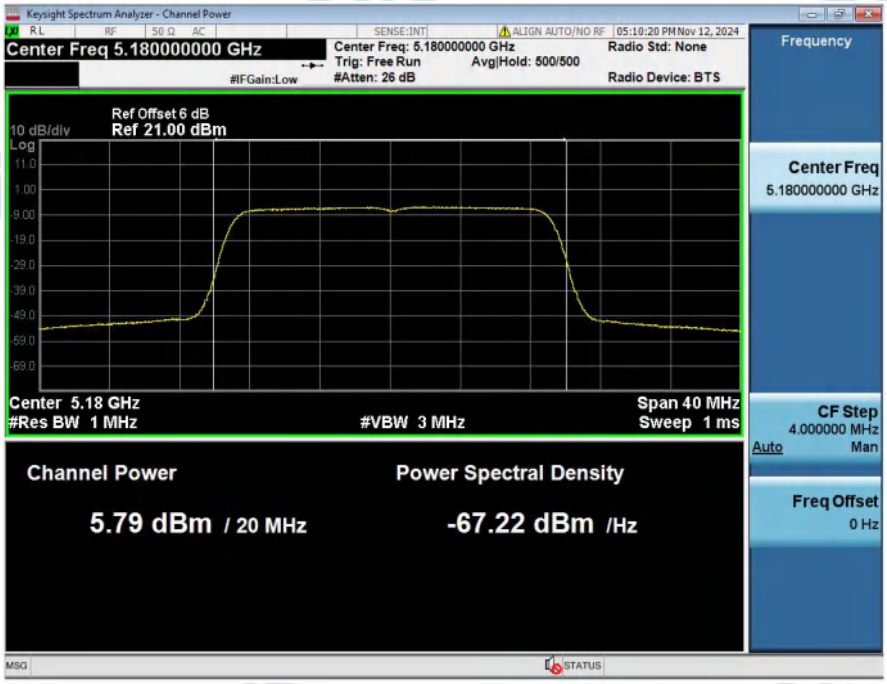


Maximum_Conducted_Output_Power_NVNT_ANT1_802_11a_5200_20M

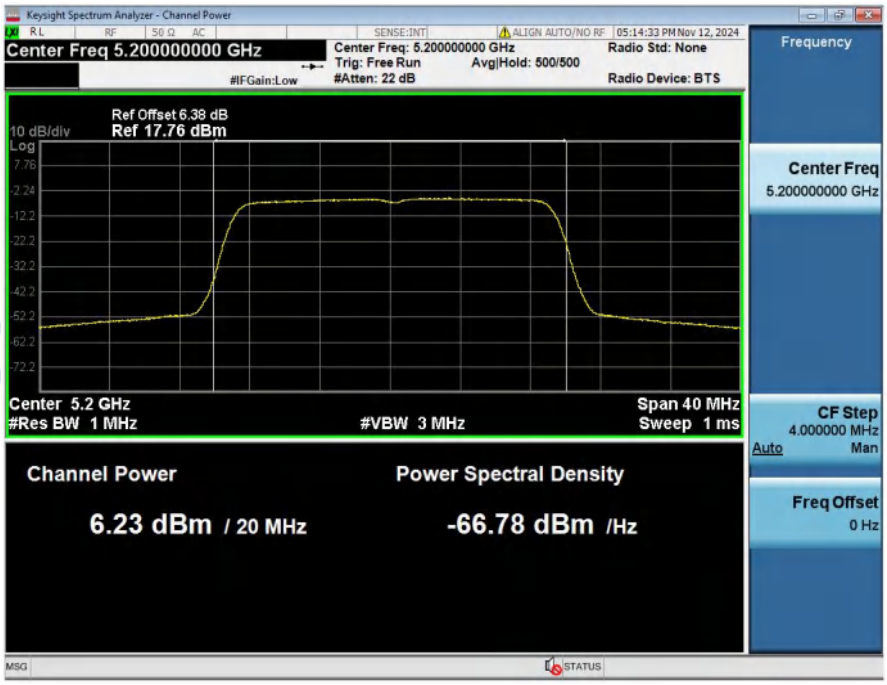


Maximum_Conducted_Output_Power_NVNT_ANT1_802_11a_5240_20M

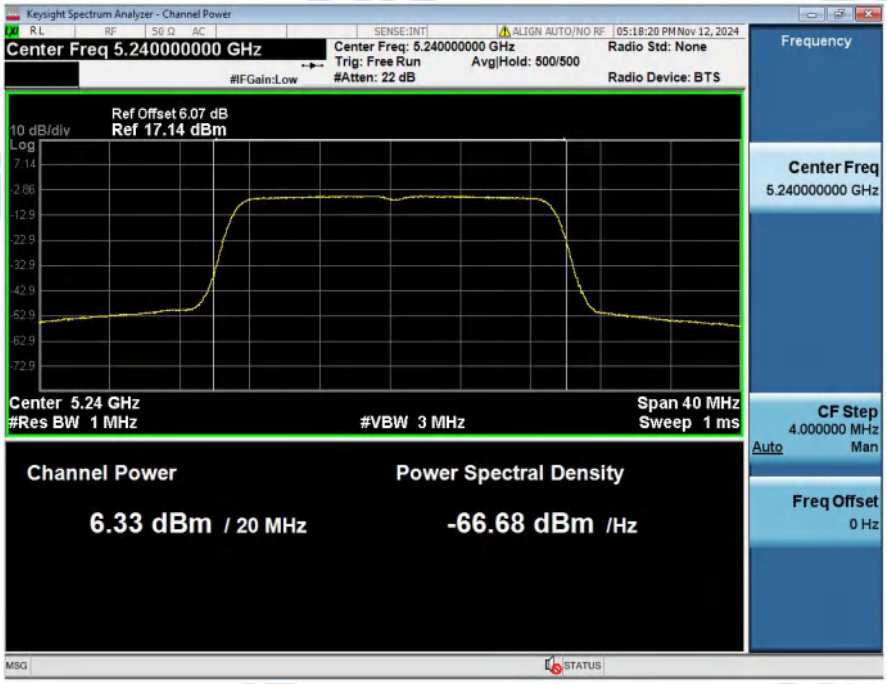
Maximum_Conducted_Output_Power_NVNT_ANT1_802_11n(HT20)_5180_20M



Maximum_Conducted_Output_Power_NVNT_ANT1_802_11n(HT20)_5200_20M



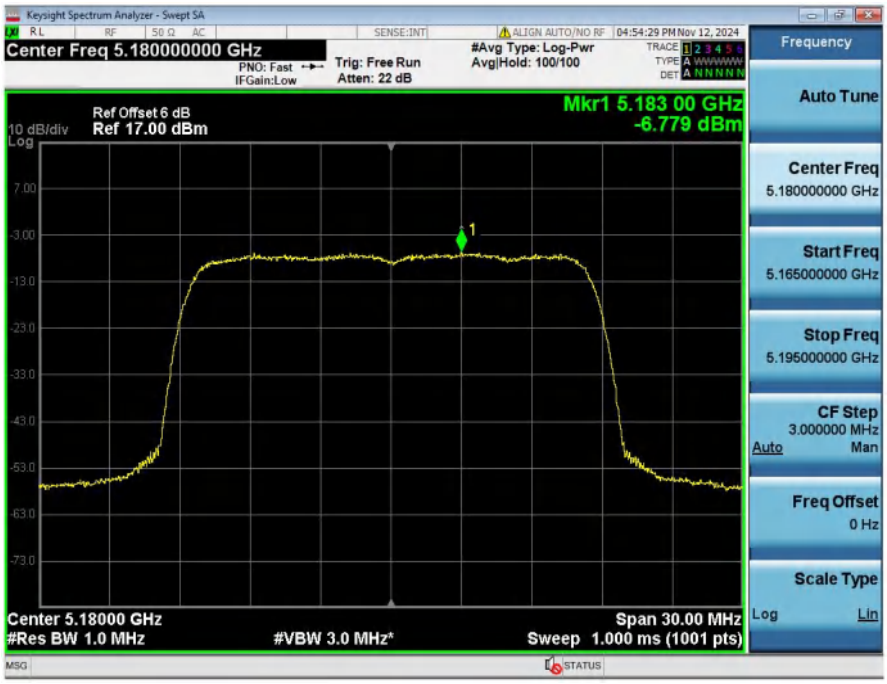
Maximum_Conducted_Output_Power_NVNT_ANT1_802_11n(HT20)_5240_20M



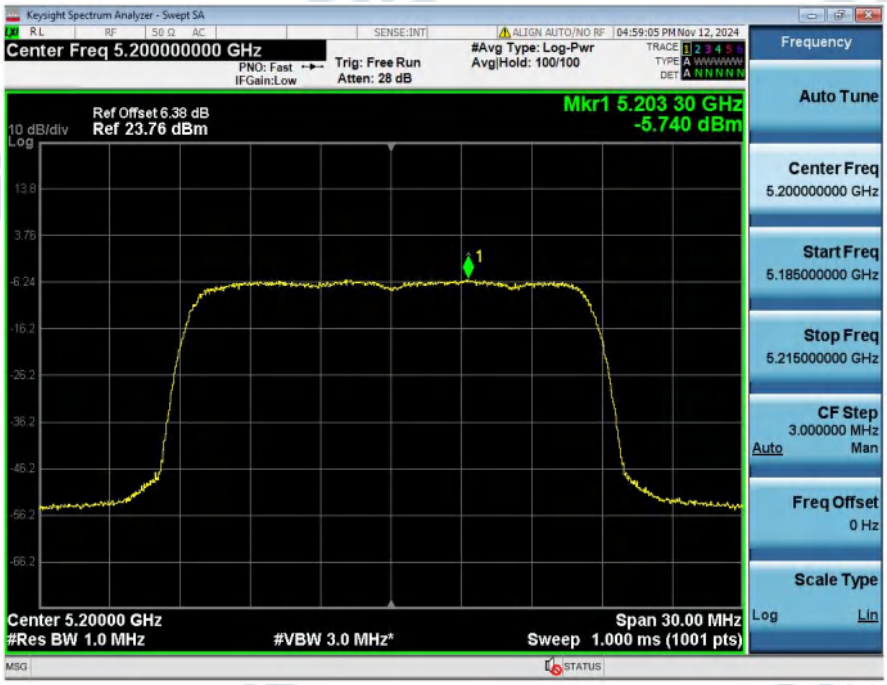
4. Power Spectral Density

Condition	Antenna	Modulation	Frequency (MHz)	PSD(dBm/MHz)	Duty factor(dB)	Total PSD(dBm/MHz)	limit(dBm)	Result
NVNT	ANT1	802.11a	5180.00	-6.78	0.00	-6.78	11	Pass
NVNT	ANT1	802.11a	5200.00	-5.74	0.00	-5.74	11	Pass
NVNT	ANT1	802.11a	5240.00	-5.72	0.00	-5.72	11	Pass
NVNT	ANT1	802.11n(HT20)	5180.00	-8.06	0.00	-8.06	11	Pass
NVNT	ANT1	802.11n(HT20)	5200.00	-7.41	0.00	-7.41	11	Pass
NVNT	ANT1	802.11n(HT20)	5240.00	-7.41	0.00	-7.41	11	Pass

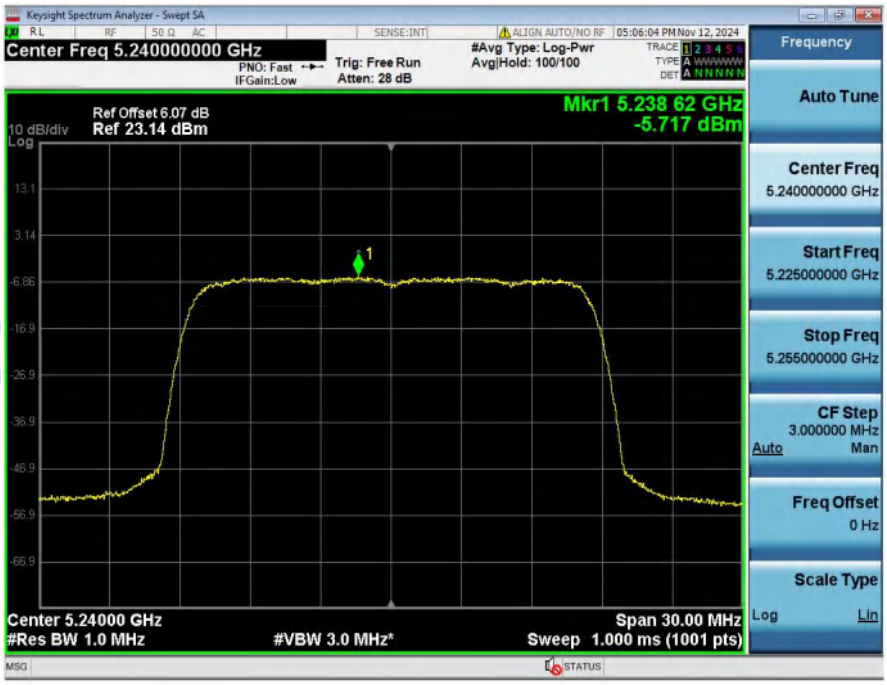
Power_Spectral_Density_NVNT_ANT1_802_11a_5180



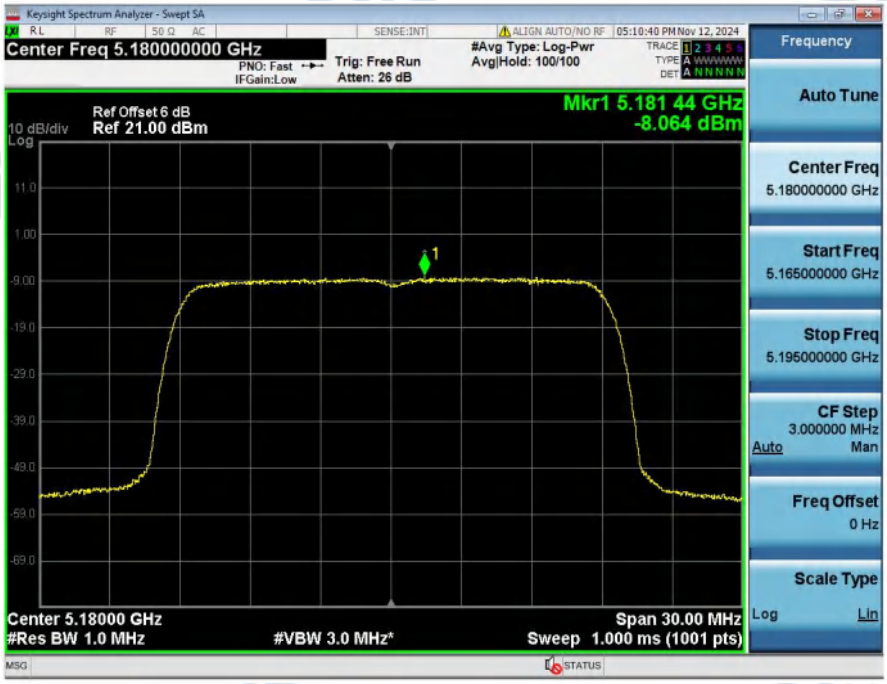
Power_Spectral_Density_NVNT_ANT1_802_11a_5200



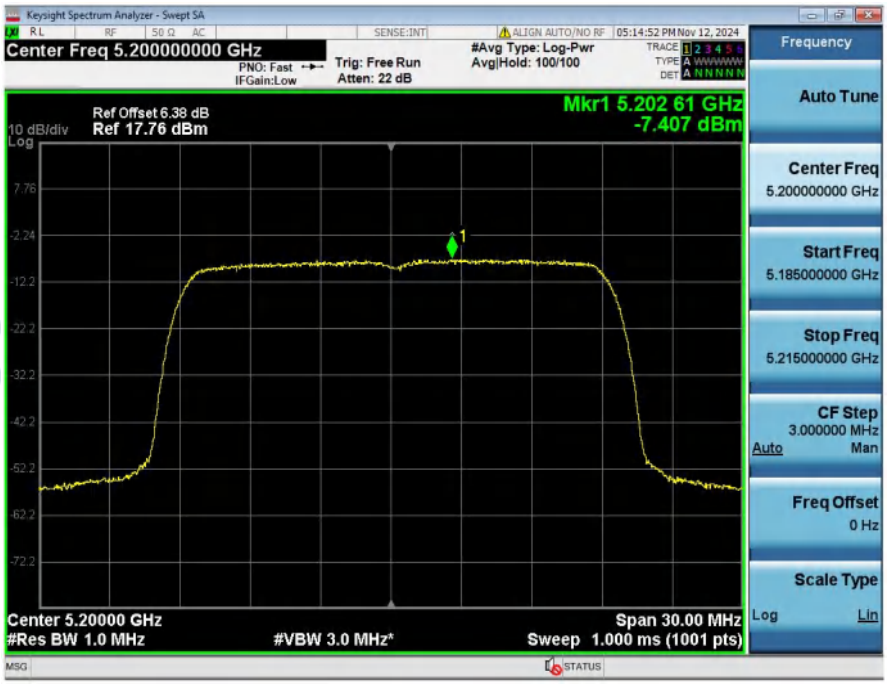
Power_Spectral_Density_NVNT_ANT1_802_11a_5240



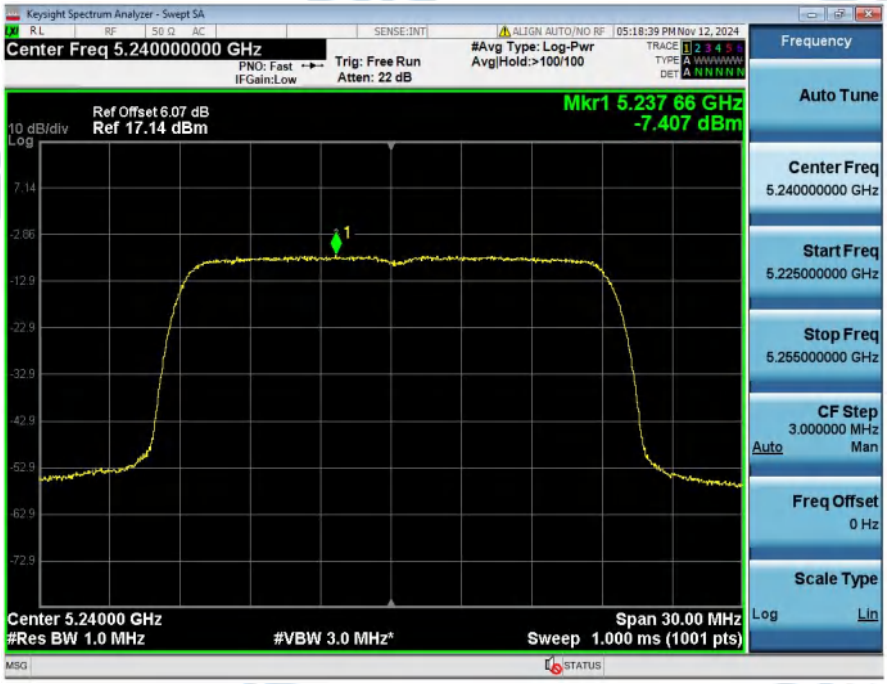
Power_Spectral_Density_NVNT_ANT1_802_11n(HT20)_5180



Power_Spectral_Density_NVNT_ANT1_802_11n(HT20)_5200



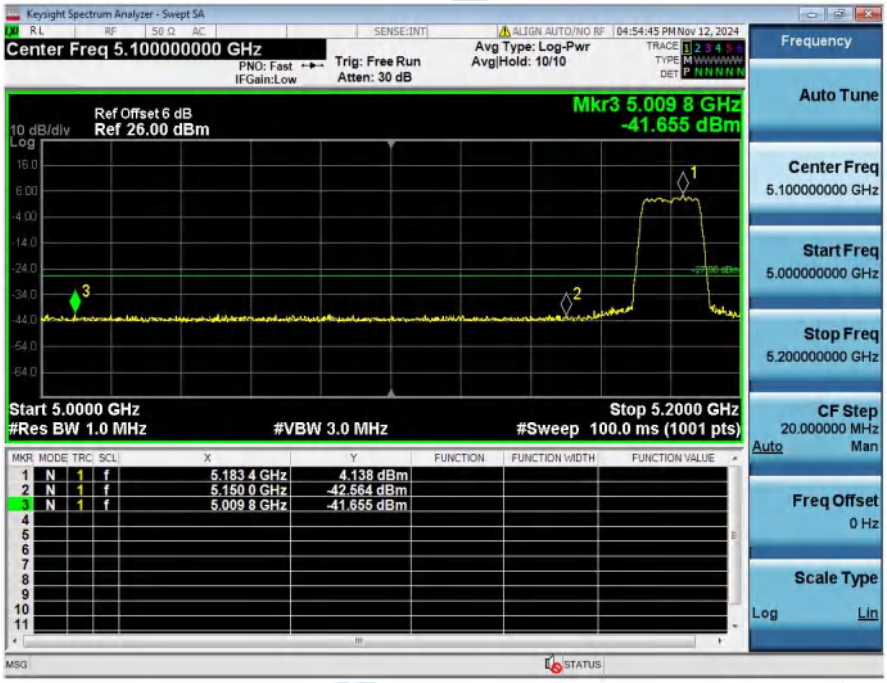
Power_Spectral_Density_NVNT_ANT1_802_11n(HT20)_5240



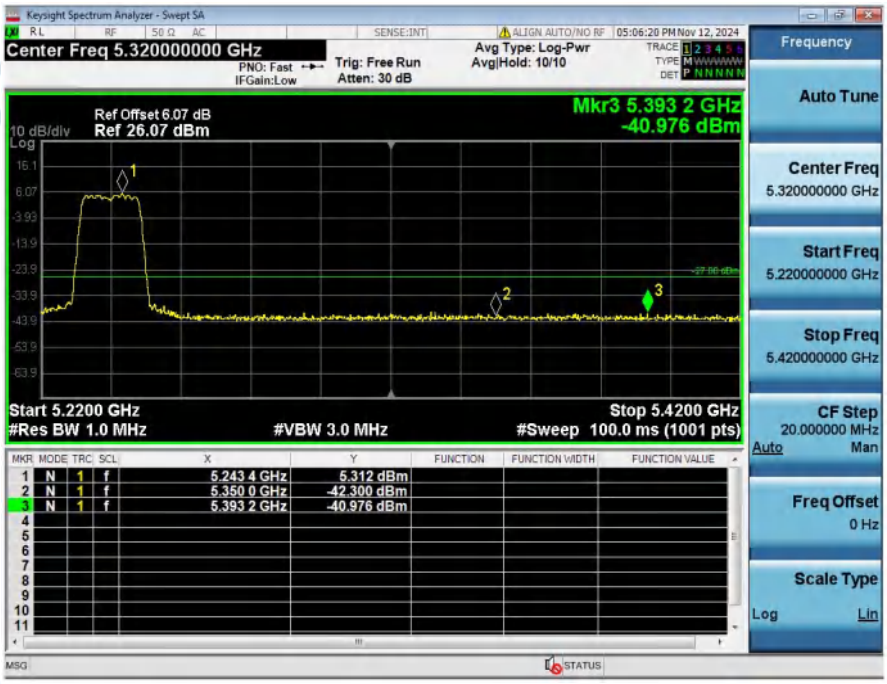
5. Bandedge

Condition	Antenna	Modulation	TX_Frequency (MHz)	Max. Mark Frequency(MHz)	Spurious level(dBm)	limit(dBm)	Result
NVNT	ANT1	802.11a	5180.00	5009.80	-41.65	-27	Pass
NVNT	ANT1	802.11a	5240.00	5393.20	-40.98	-27	Pass
NVNT	ANT1	802.11n(HT20)	5180.00	5125.20	-41.56	-27	Pass
NVNT	ANT1	802.11n(HT20)	5240.00	5363.60	-41.10	-27	Pass

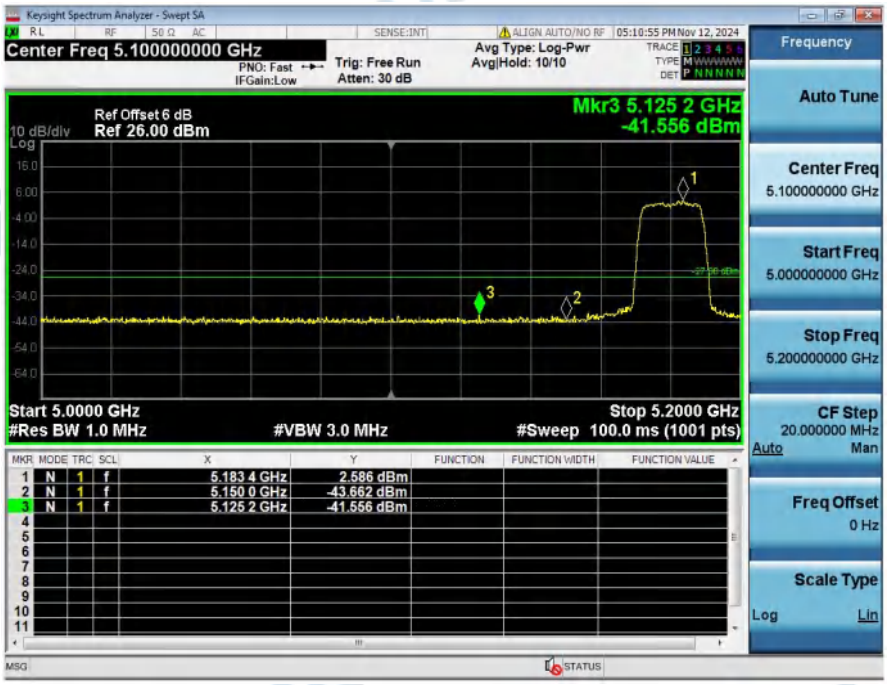
Bandedge_NVNT_ANT1_802_11a_5180



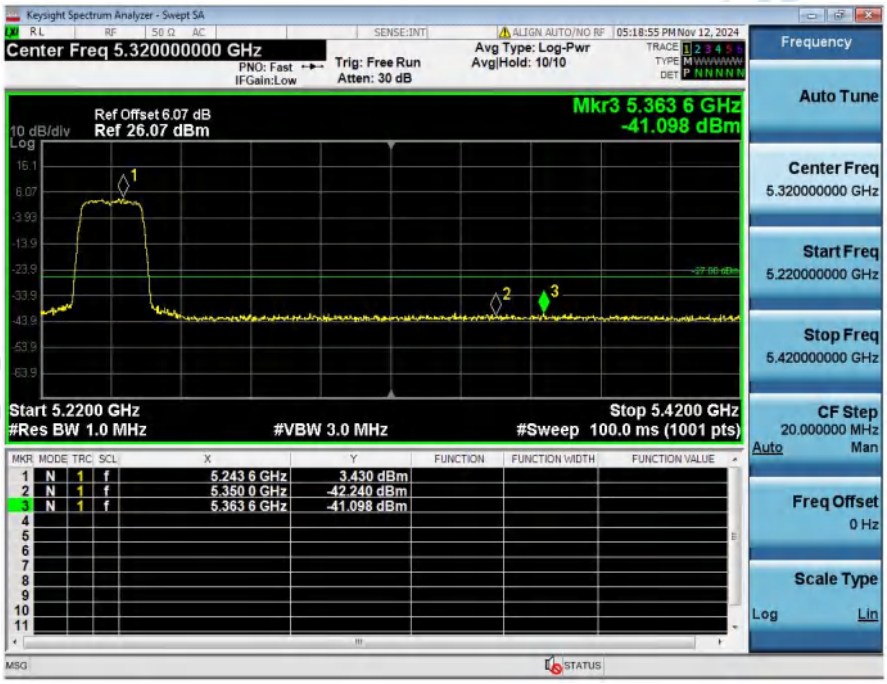
Bandedge_NVNT_ANT1_802_11a_5240



Bandedge_NVNT_ANT1_802_11n(HT20)_5180



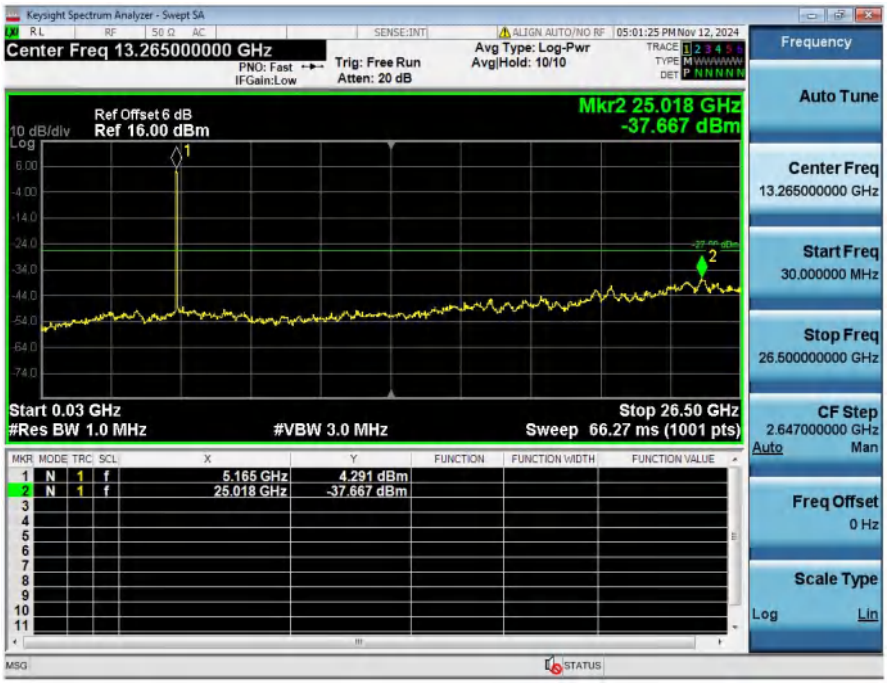
Bandedge_NVNT_ANT1_802_11n(HT20)_5240



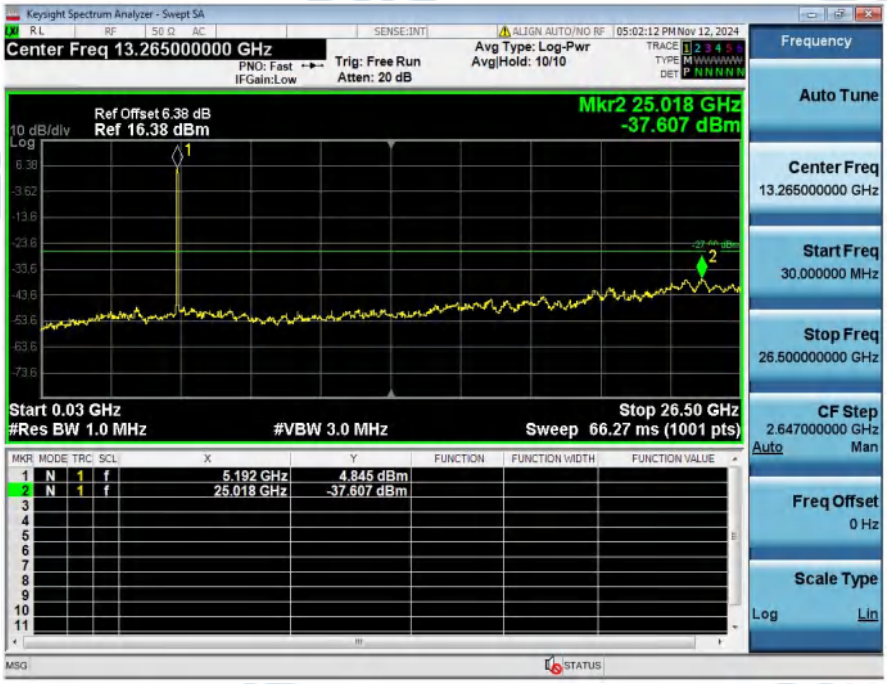
6. Spurious Emission

Condition	Antenna	Modulation	TX_Frequency (MHz)	Max. Mark Frequency(MHz)	Spurious level(dBm)	limit(dBm)	Result
NVNT	ANT1	802.11a	5180.00	25017.68	-37.67	-27	Pass
NVNT	ANT1	802.11a	5200.00	25017.68	-37.61	-27	Pass
NVNT	ANT1	802.11a	5240.00	25044.15	-37.54	-27	Pass
NVNT	ANT1	802.11n(HT20)	5180.00	24964.74	-37.66	-27	Pass
NVNT	ANT1	802.11n(HT20)	5200.00	24964.74	-36.75	-27	Pass
NVNT	ANT1	802.11n(HT20)	5240.00	24461.81	-37.35	-27	Pass

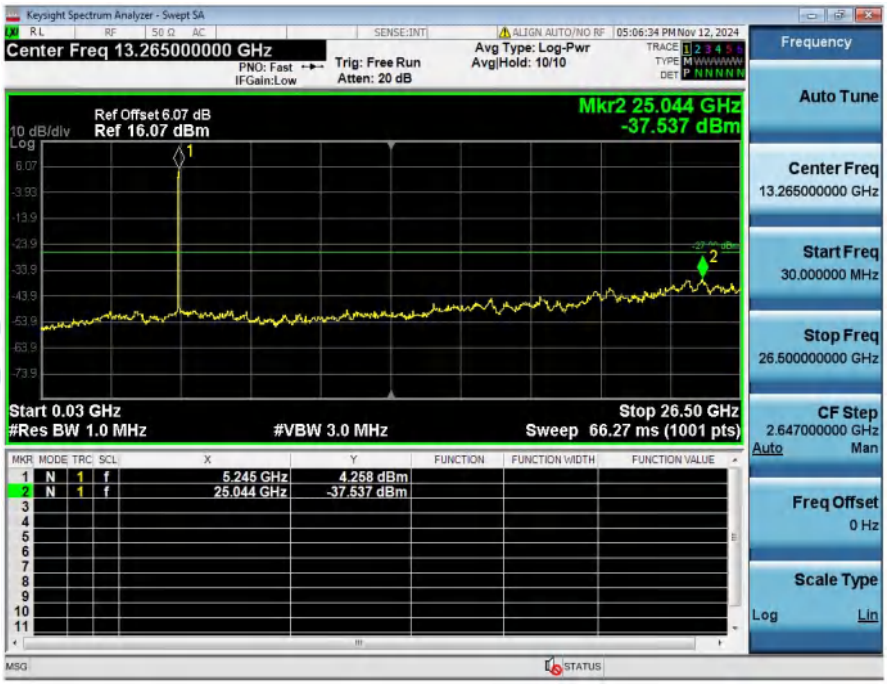
Spurious_Emission_NVNT_ANT1_802_11a_5180_20M



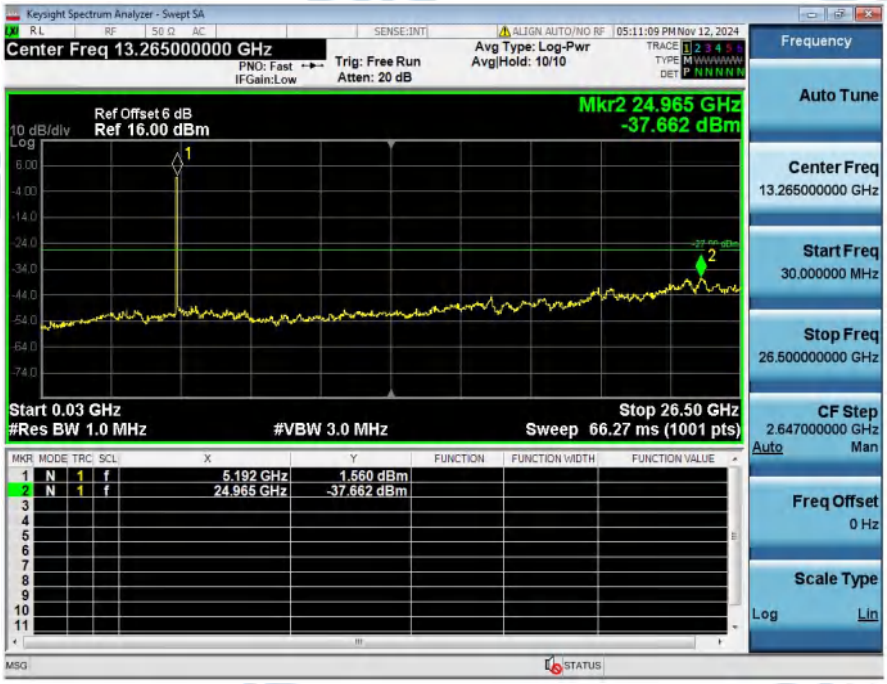
Spurious_Emission_NVNT_ANT1_802_11a_5200_20M



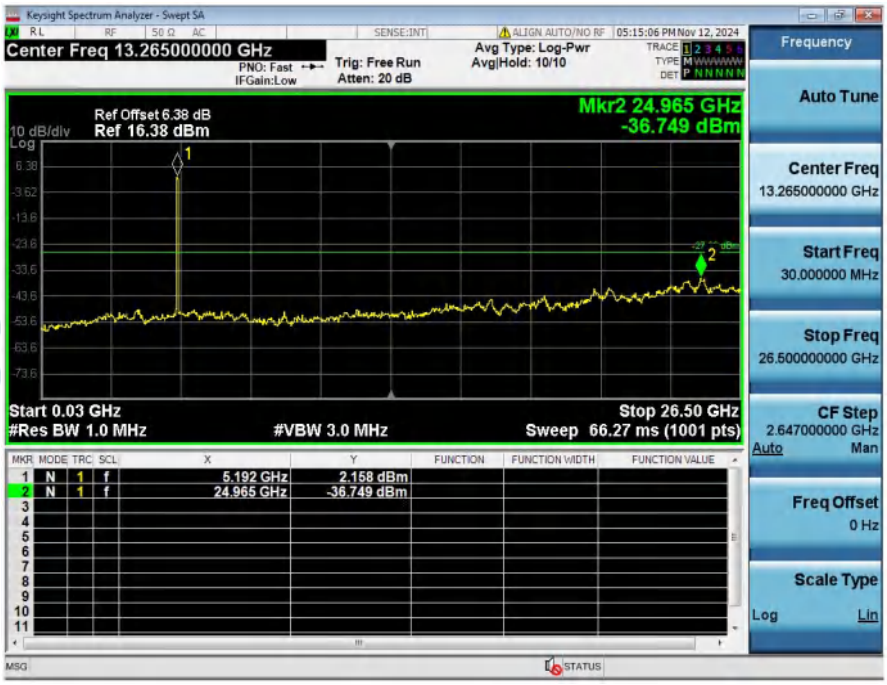
Spurious_Emission_NVNT_ANT1_802_11a_5240_20M



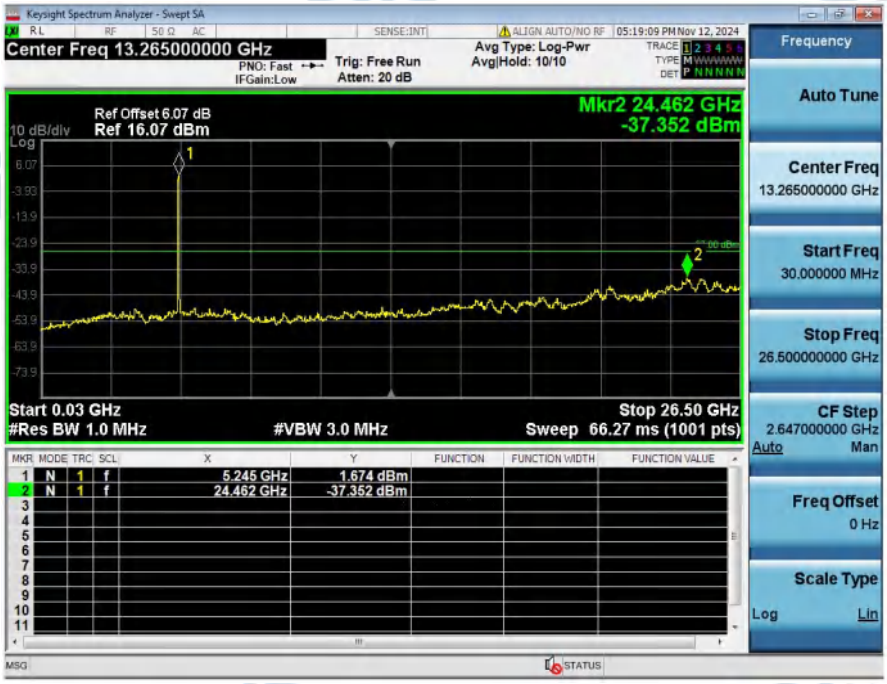
Spurious_Emission_NVNT_ANT1_802_11n(HT20)_5180_20M



Spurious_Emission_NVNT_ANT1_802_11n(HT20)_5200_20M



Spurious_Emission_NVNT_ANT1_802_11n(HT20)_5240_20M



7. Frequency Stability

Condition	Antenna	Modulation	Frequency (MHz)	Fc(MHz)	Fl(MHz)	Fh(MHz)	Limit(MHz)	Result
NVHT	ANT1	802.11a	5180.00	5180.044	5171.696	5188.392	5150~5250	Pass
NVNT	ANT1	802.11a	5180.00	5180.056	5171.956	5188.156	5150~5250	Pass
NVLT	ANT1	802.11a	5180.00	5180.048	5172.152	5187.944	5150~5250	Pass
HVNT	ANT1	802.11a	5180.00	5180.056	5172.204	5187.908	5150~5250	Pass
LVNT	ANT1	802.11a	5180.00	5180.060	5172.320	5187.800	5150~5250	Pass
NVHT	ANT1	802.11a	5200.00	5200.024	5191.684	5208.364	5150~5250	Pass
NVNT	ANT1	802.11a	5200.00	5200.030	5191.800	5208.260	5150~5250	Pass
NVLT	ANT1	802.11a	5200.00	5200.030	5191.864	5208.196	5150~5250	Pass
HVNT	ANT1	802.11a	5200.00	5200.024	5191.912	5208.136	5150~5250	Pass
LVNT	ANT1	802.11a	5200.00	5200.022	5191.960	5208.084	5150~5250	Pass
NVHT	ANT1	802.11a	5240.00	5240.040	5231.700	5248.380	5150~5250	Pass
NVNT	ANT1	802.11a	5240.00	5240.038	5231.812	5248.264	5150~5250	Pass
NVLT	ANT1	802.11a	5240.00	5240.040	5231.880	5248.200	5150~5250	Pass
HVNT	ANT1	802.11a	5240.00	5240.034	5231.936	5248.132	5150~5250	Pass
LVNT	ANT1	802.11a	5240.00	5240.036	5231.984	5248.088	5150~5250	Pass
NVHT	ANT1	802.11n(HT20)	5180.00	5180.220	5171.300	5189.140	5150~5250	Pass
NVNT	ANT1	802.11n(HT20)	5180.00	5180.236	5171.440	5189.032	5150~5250	Pass
NVLT	ANT1	802.11n(HT20)	5180.00	5180.224	5171.508	5188.940	5150~5250	Pass
HVNT	ANT1	802.11n(HT20)	5180.00	5180.240	5171.580	5188.900	5150~5250	Pass
LVNT	ANT1	802.11n(HT20)	5180.00	5180.242	5171.648	5188.836	5150~5250	Pass
NVHT	ANT1	802.11n(HT20)	5200.00	5200.286	5191.376	5209.196	5150~5250	Pass
NVNT	ANT1	802.11n(HT20)	5200.00	5200.296	5191.508	5209.084	5150~5250	Pass
NVLT	ANT1	802.11n(HT20)	5200.00	5200.292	5191.580	5209.004	5150~5250	Pass
HVNT	ANT1	802.11n(HT20)	5200.00	5200.298	5191.664	5208.932	5150~5250	Pass
LVNT	ANT1	802.11n(HT20)	5200.00	5200.310	5191.736	5208.884	5150~5250	Pass
NVHT	ANT1	802.11n(HT20)	5240.00	5240.298	5231.388	5249.208	5150~5250	Pass
NVNT	ANT1	802.11n(HT20)	5240.00	5240.296	5231.508	5249.084	5150~5250	Pass
NVLT	ANT1	802.11n(HT20)	5240.00	5240.288	5231.584	5248.992	5150~5250	Pass
HVNT	ANT1	802.11n(HT20)	5240.00	5240.300	5231.648	5248.952	5150~5250	Pass
LVNT	ANT1	802.11n(HT20)	5240.00	5240.296	5231.720	5248.872	5150~5250	Pass

Appendix-5.8G

FCC_5.8G_WIFI (Part15.407) Test Data

1. -6dB Emission Bandwidth

Condition	Antenna	Mode	Frequency(MHz)	-6dB_Emission_Bandwidth(MHz)	Limit(MHz)	Result
NVNT	ANT1	802.11a	5745.00	16.527	0.500	Pass
NVNT	ANT1	802.11a	5785.00	16.527	0.500	Pass
NVNT	ANT1	802.11a	5825.00	16.535	0.500	Pass
NVNT	ANT1	802.11n(HT20)	5745.00	17.731	0.500	Pass
NVNT	ANT1	802.11n(HT20)	5785.00	17.760	0.500	Pass
NVNT	ANT1	802.11n(HT20)	5825.00	17.735	0.500	Pass

-6dB_Emission_Bandwidth_NVNT_ANT1_802_11a_5745_20M

-6dB_Emission_Bandwidth_NVNT_ANT1_802_11a_5785_20M

-6dB_Emission_Bandwidth_NVNT_ANT1_802_11a_5825_20M

-6dB_Emission_Bandwidth_NVNT_ANT1_802_11n(HT20)_5745_20M

-6dB_Emission_Bandwidth_NVNT_ANT1_802_11n(HT20)_5785_20M

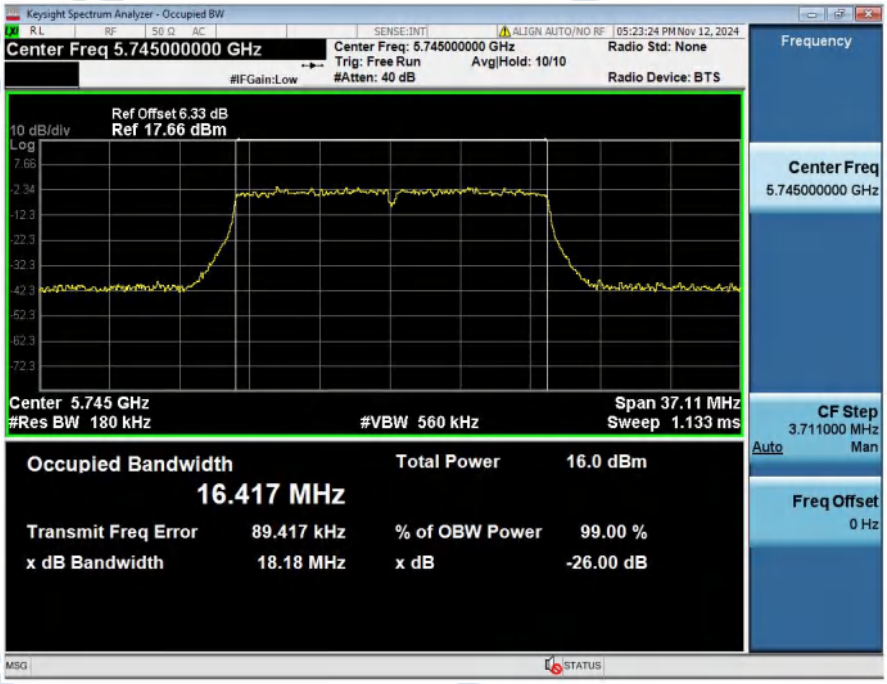
-6dB_Emission_Bandwidth_NVNT_ANT1_802_11n(HT20)_5825_20M

2. -26dB and 99% Emission Bandwidth

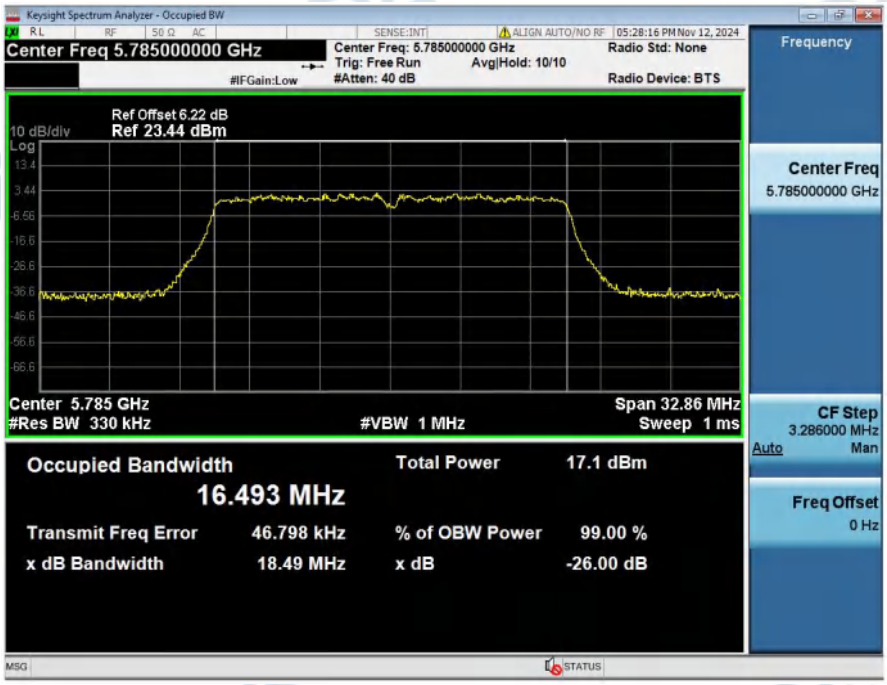
Condition	Antenna	Modulation	Frequency(MHz)	-26dB_Emission_Bandwidth(MHz)	Occupied Bandwidth(MHz)
NVNT	ANT1	802.11a	5745.00	18.18	16.48
NVNT	ANT1	802.11a	5785.00	18.30	16.49
NVNT	ANT1	802.11a	5825.00	18.29	16.51
NVNT	ANT1	802.11n(HT20)	5745.00	19.31	17.62
NVNT	ANT1	802.11n(HT20)	5785.00	19.31	17.64
NVNT	ANT1	802.11n(HT20)	5825.00	19.33	17.62

99%_OCB_NVNT_ANT1_802_11a_5745

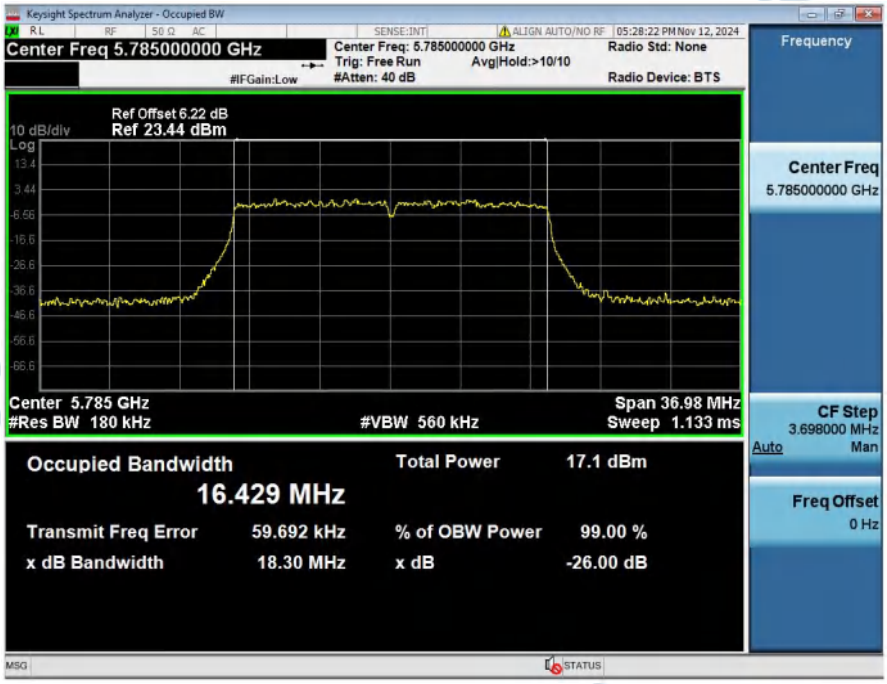
-26BW_NVNT_ANT1_802_11a_5745



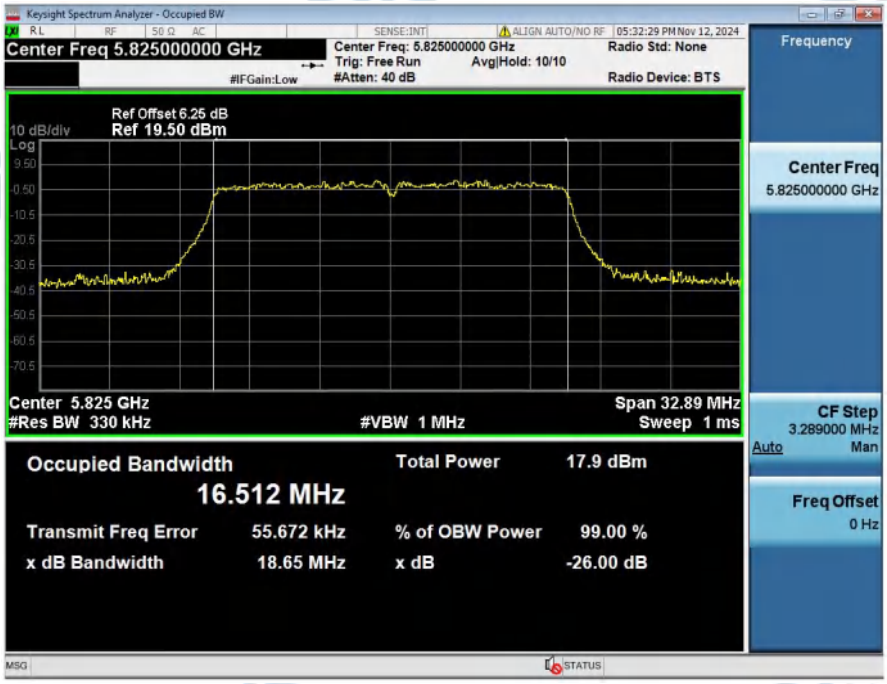
99%_OCB_NVNT_ANT1_802_11a_5785



-26BW_NVNT_ANT1_802_11a_5785



99%_OCB_NVNT_ANT1_802_11a_5825



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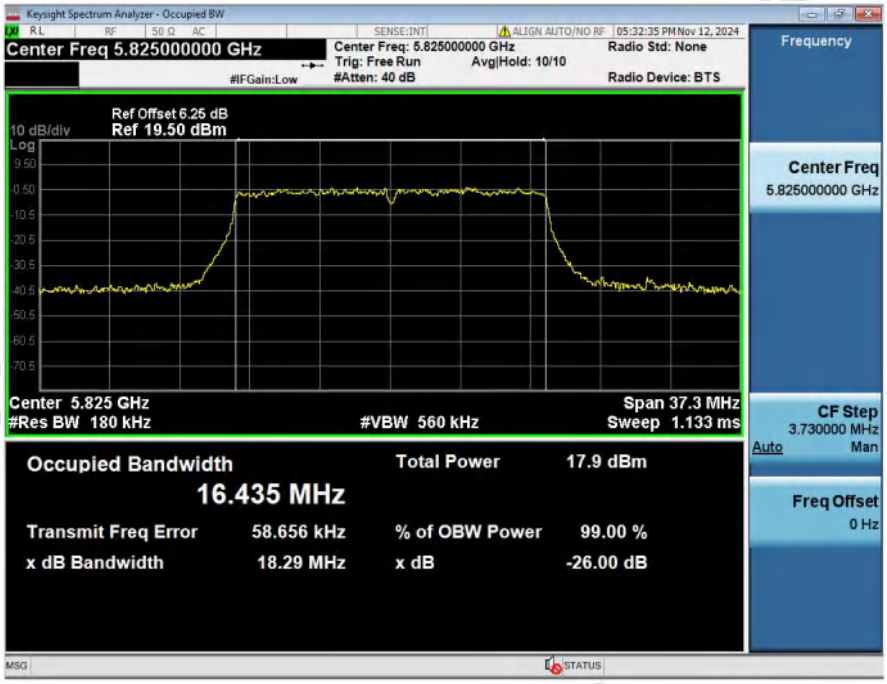
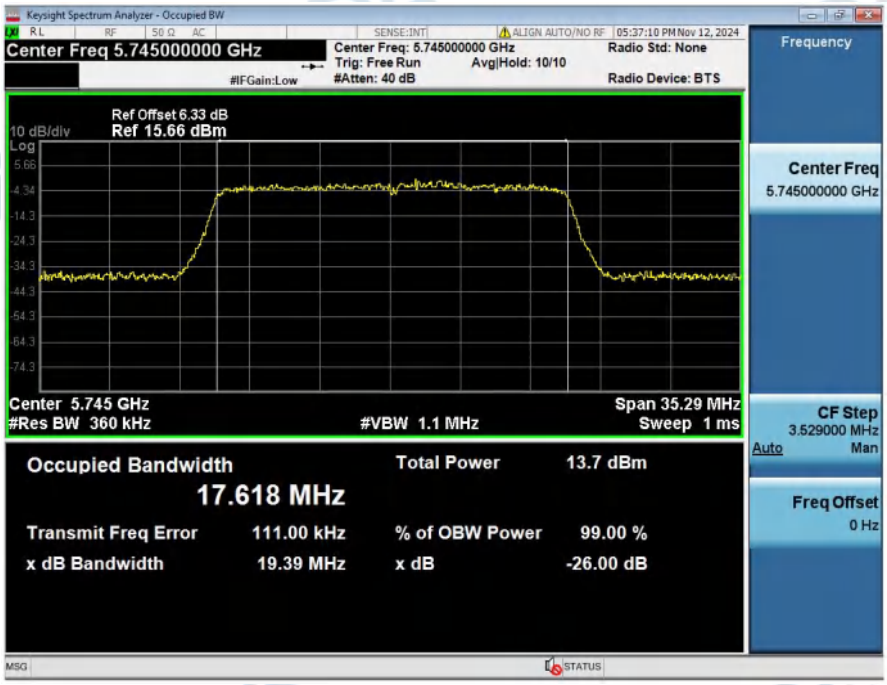
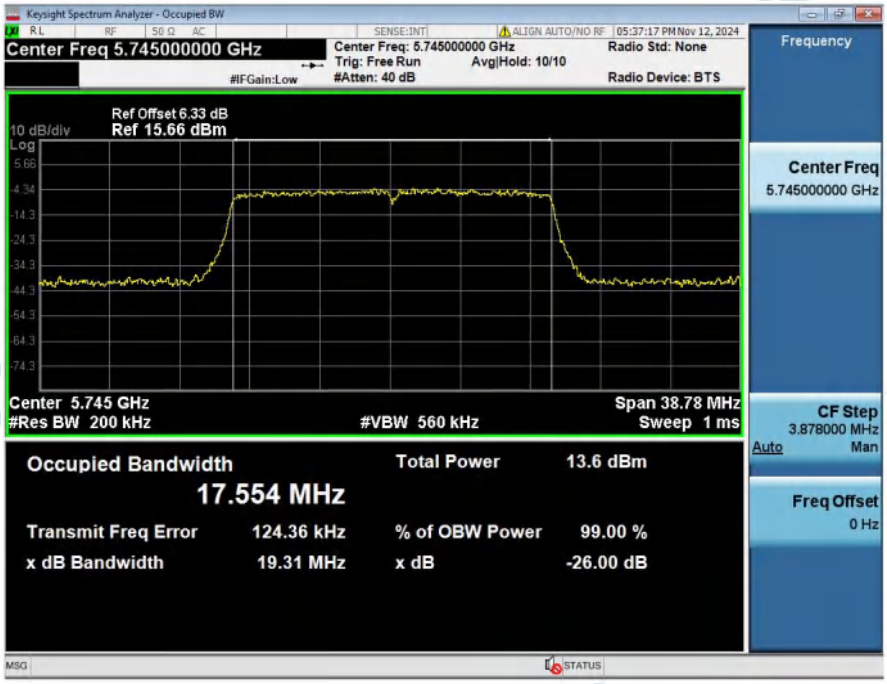


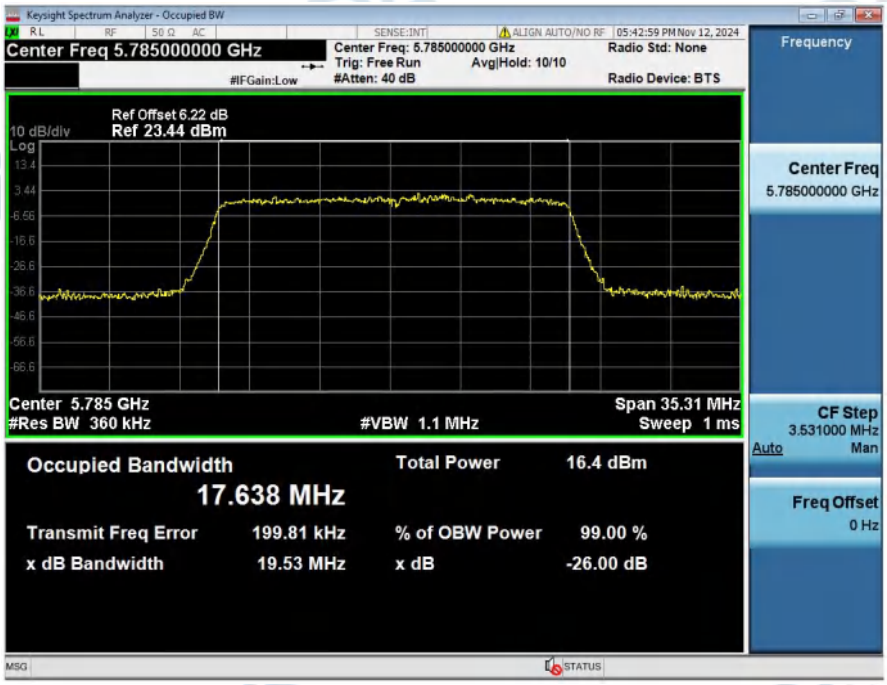
99%_OCB_NVNT_ANT1_802_11n(HT20)_5745



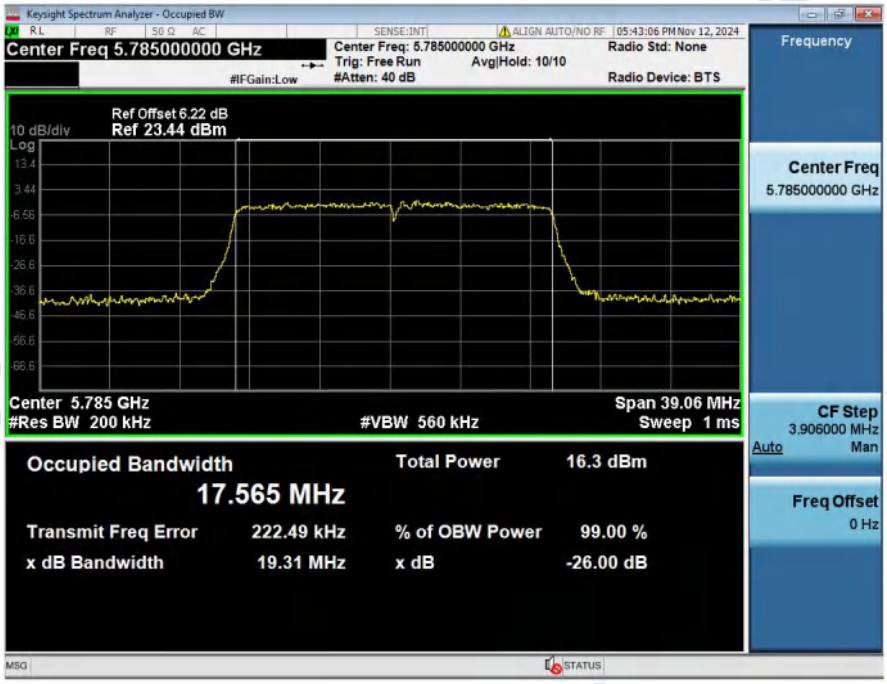
-26BW_NVNT_ANT1_802_11n(HT20)_5745



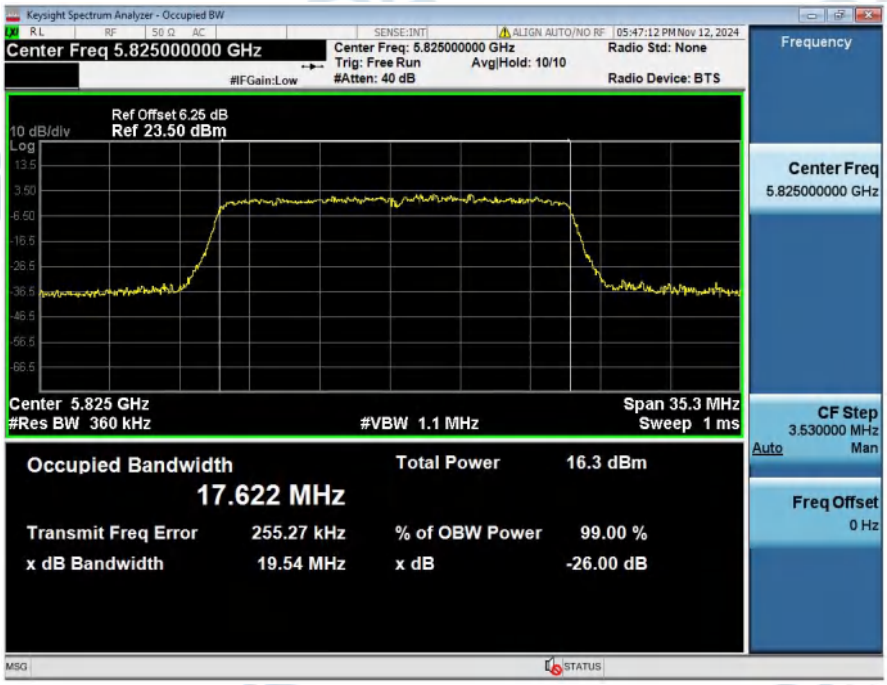
99%_OCB_NVNT_ANT1_802_11n(HT20)_5785



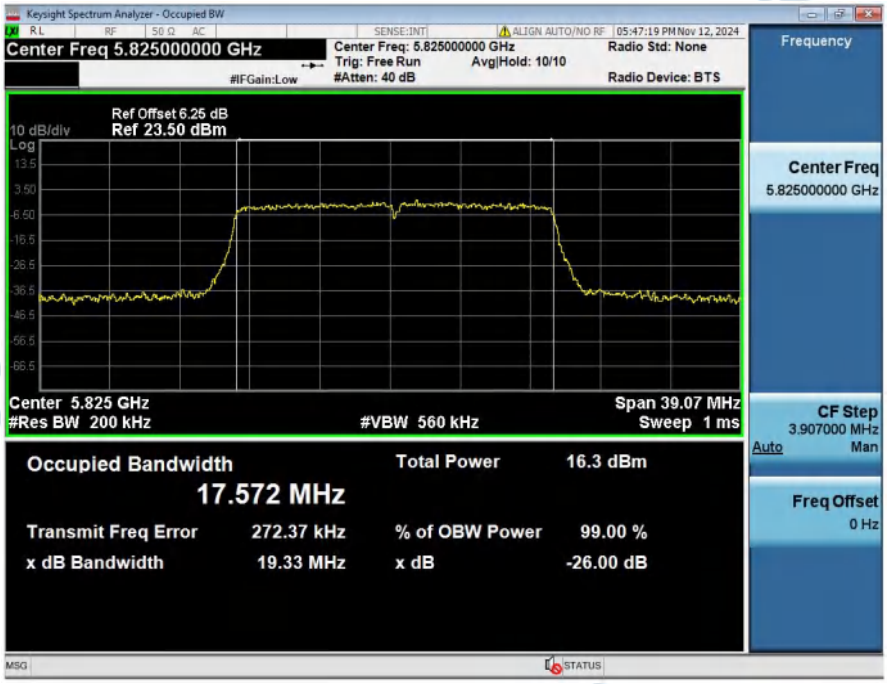
-26BW_NVNT_ANT1_802_11n(HT20)_5785



99%_OCB_NVNT_ANT1_802_11n(HT20)_5825



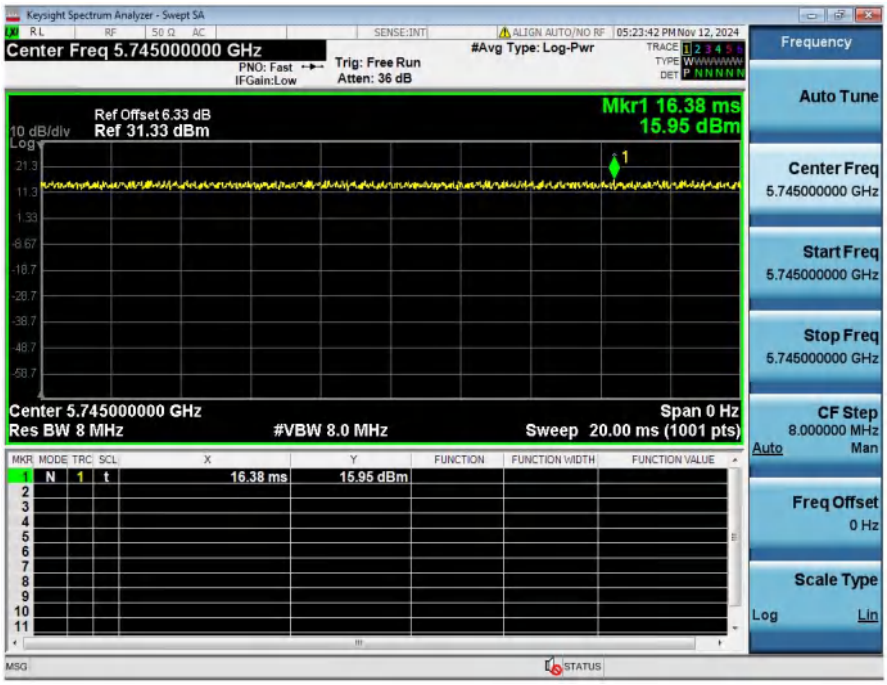
-26BW_NVNT_ANT1_802_11n(HT20)_5825



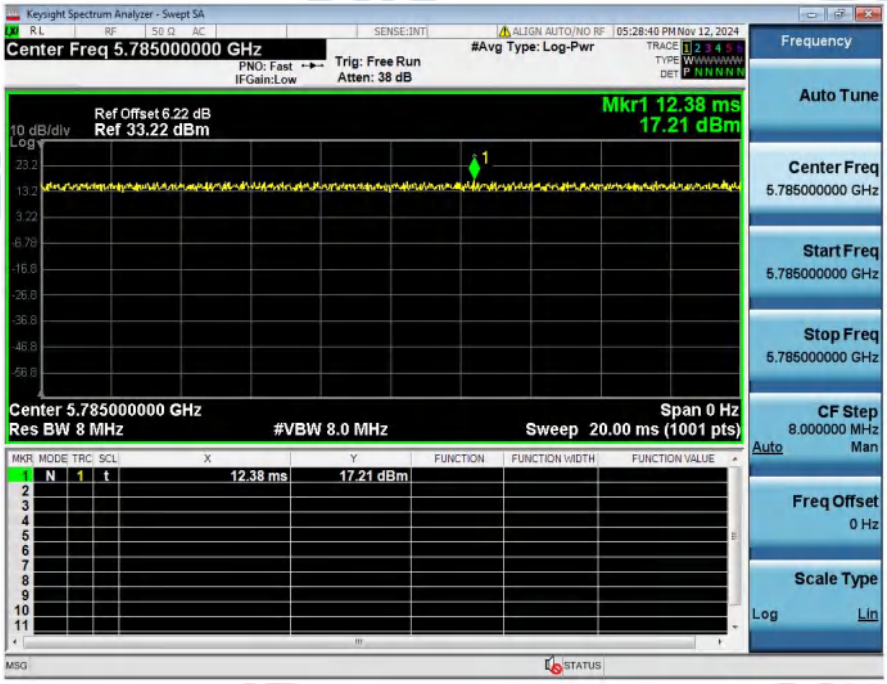
3. Duty Cycle

Condition	Antenna	Modulation	Frequency (MHz)	Duty cycle(%)	Duty_factor
NVNT	ANT1	802.11a	5745.00	100	0.00
NVNT	ANT1	802.11a	5785.00	100	0.00
NVNT	ANT1	802.11a	5825.00	100	0.00
NVNT	ANT1	802.11n(HT20)	5745.00	100	0.00
NVNT	ANT1	802.11n(HT20)	5785.00	100	0.00
NVNT	ANT1	802.11n(HT20)	5825.00	100	0.00

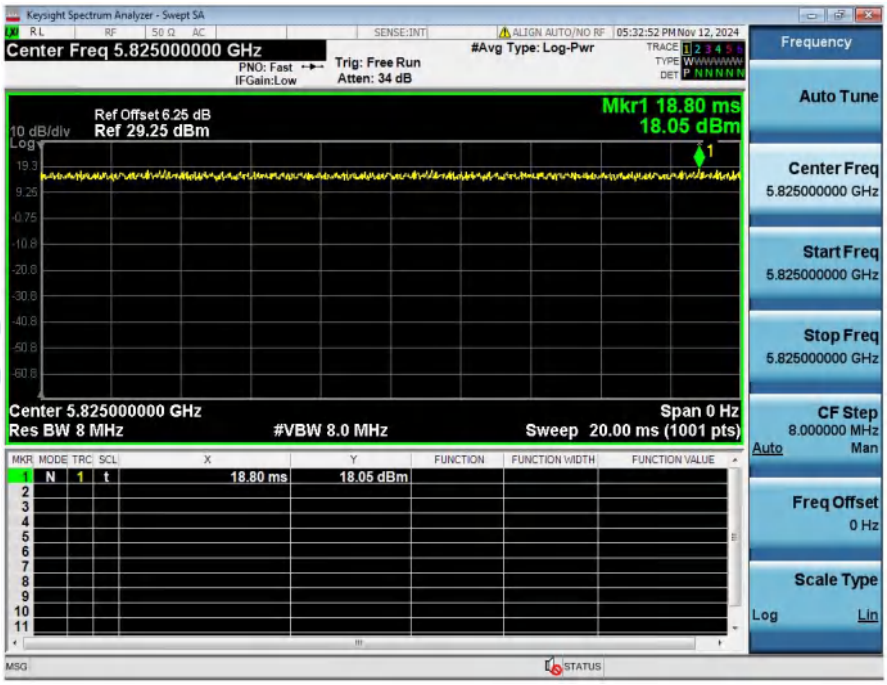
Duty_Cycle_NVNT_ANT1_802_11a_5745



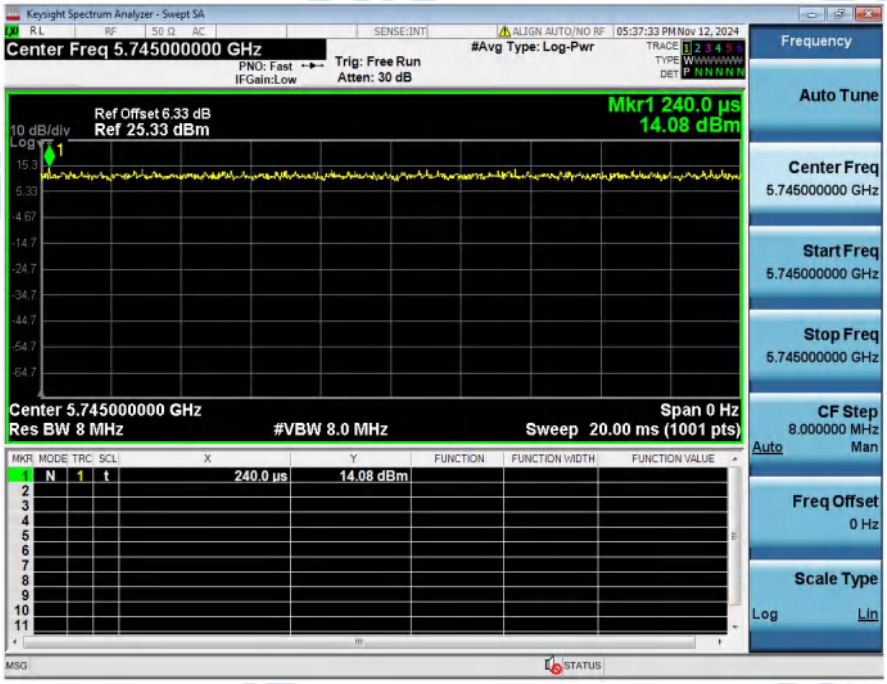
Duty_Cycle_NVNT_ANT1_802_11a_5785



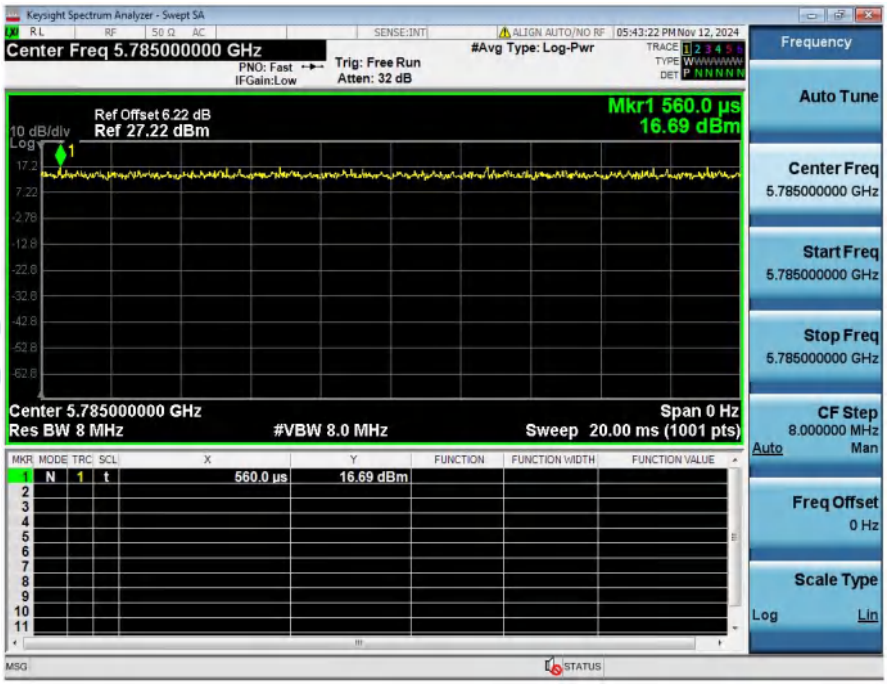
Duty_Cycle_NVNT_ANT1_802_11a_5825



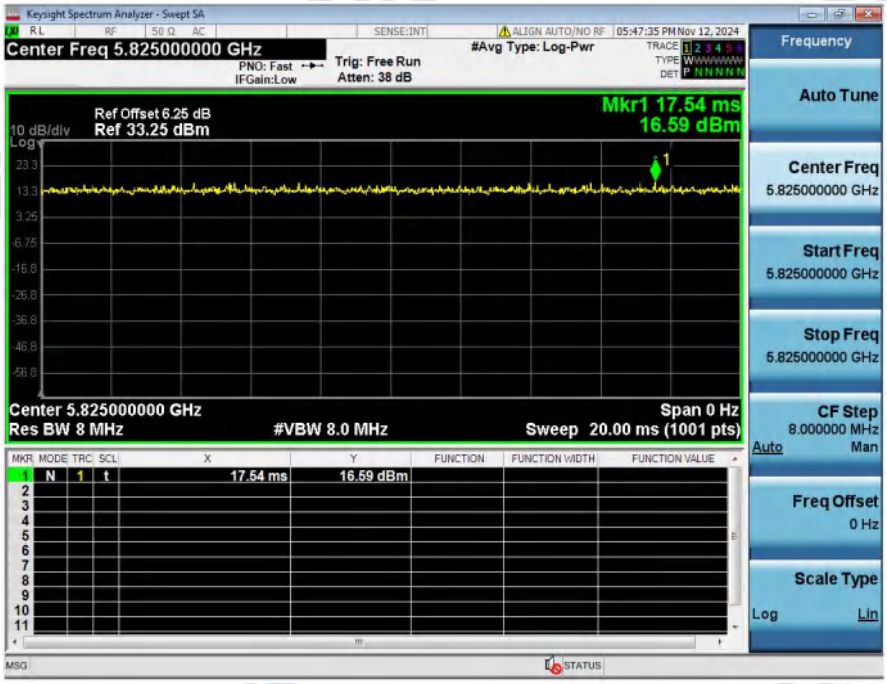
Duty_Cycle_NVNT_ANT1_802_11n(HT20)_5745



Duty_Cycle_NVNT_ANT1_802_11n(HT20)_5785



Duty_Cycle_NVNT_ANT1_802_11n(HT20)_5825

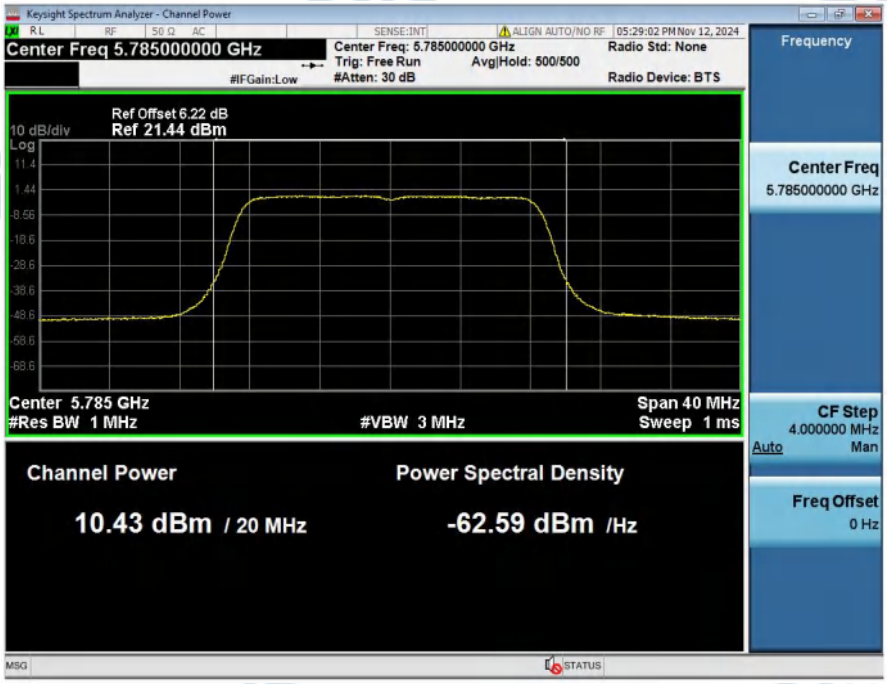


4. Maximum Conducted Output Power

Condition	Antenna	Modulation	Frequency (MHz)	Conducted Power(dBm)	Duty factor(dB)	Total Power(dBm)	limit(dBm)	Result
NVNT	ANT1	802.11a	5745.00	9.37	0.00	9.37	30	Pass
NVNT	ANT1	802.11a	5785.00	10.43	0.00	10.43	30	Pass
NVNT	ANT1	802.11a	5825.00	11.05	0.00	11.05	30	Pass
NVNT	ANT1	802.11n(HT20)	5745.00	12.49	0.00	12.49	30	Pass
NVNT	ANT1	802.11n(HT20)	5785.00	9.55	0.00	9.55	30	Pass
NVNT	ANT1	802.11n(HT20)	5825.00	9.63	0.00	9.63	30	Pass

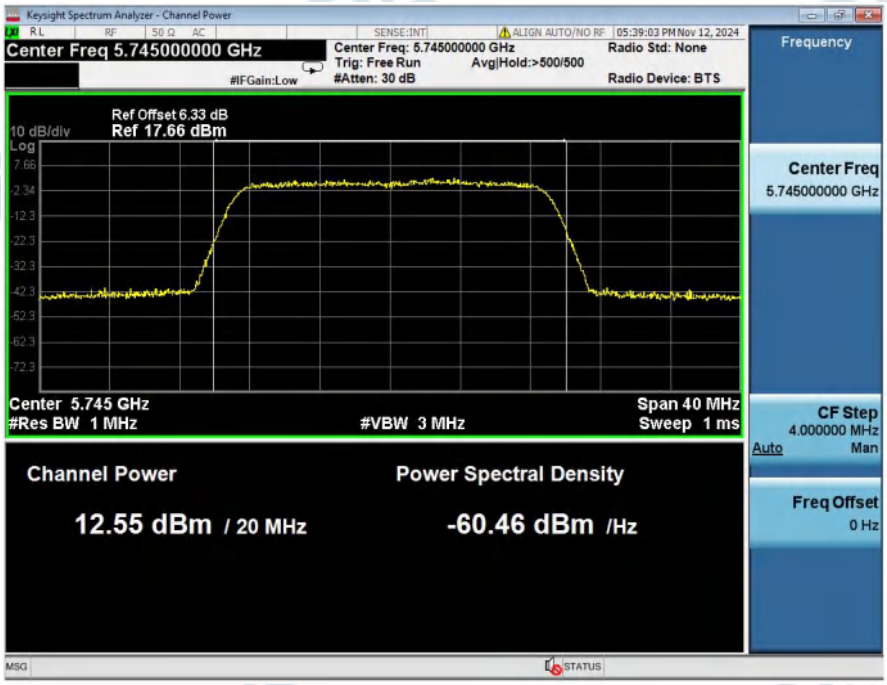
Maximum_Conducted_Output_Power_NVNT_ANT1_802_11a_5745

Maximum_Conducted_Output_Power_NVNT_ANT1_802_11a_5785

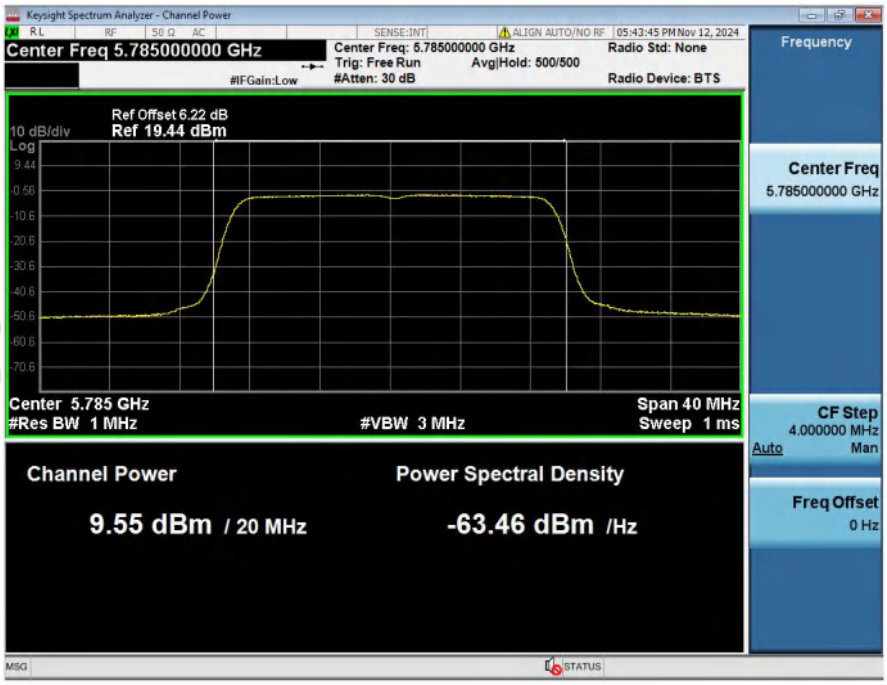


Maximum_Conducted_Output_Power_NVNT_ANT1_802_11a_5825

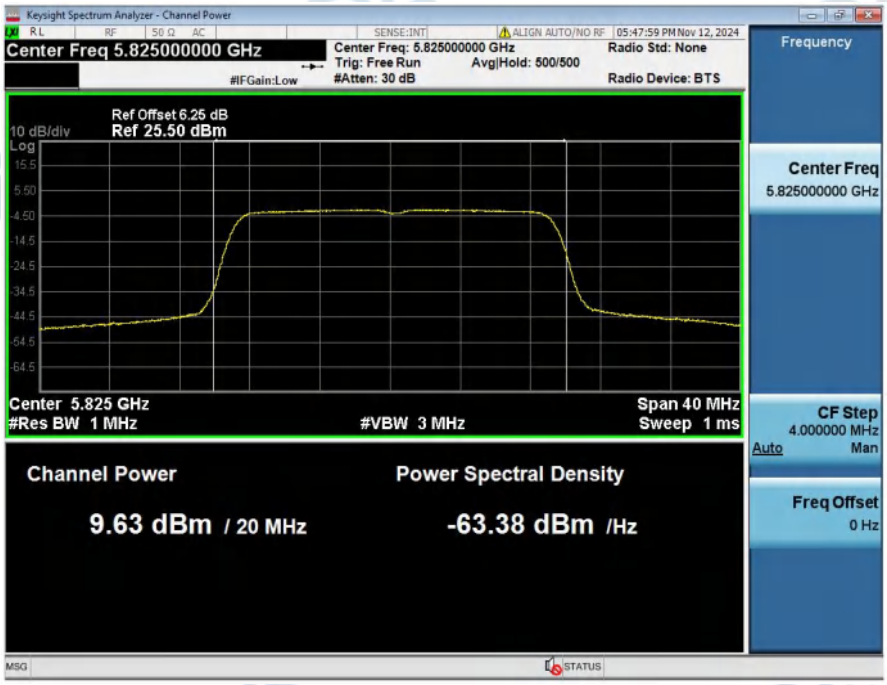
Maximum_Conducted_Output_Power_NVNT_ANT1_802_11n(HT20)_5745



Maximum_Conducted_Output_Power_NVNT_ANT1_802_11n(HT20)_5785



Maximum_Conducted_Output_Power_NVNT_ANT1_802_11n(HT20)_5825

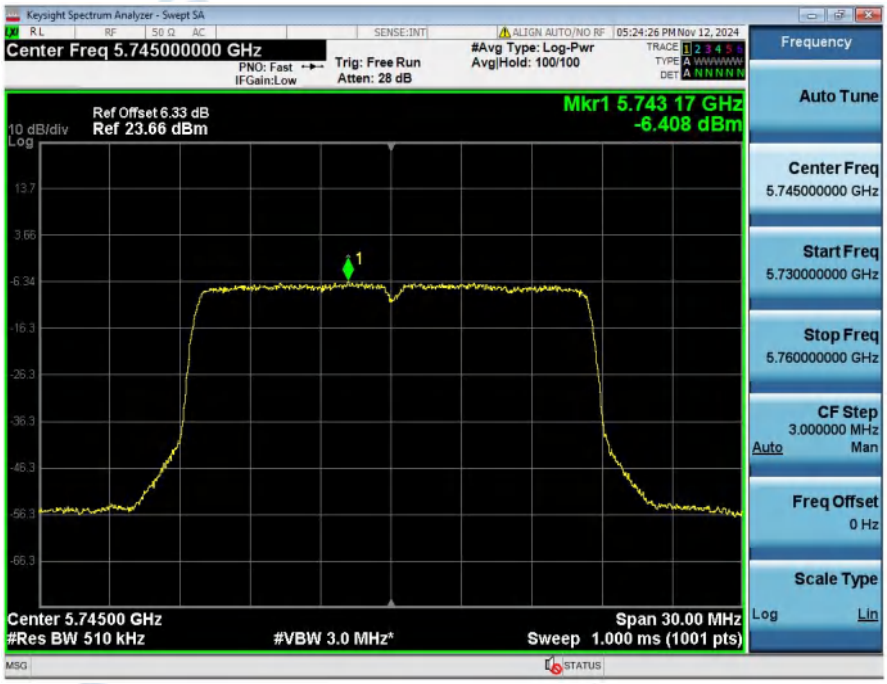


5. Power Spectral Density

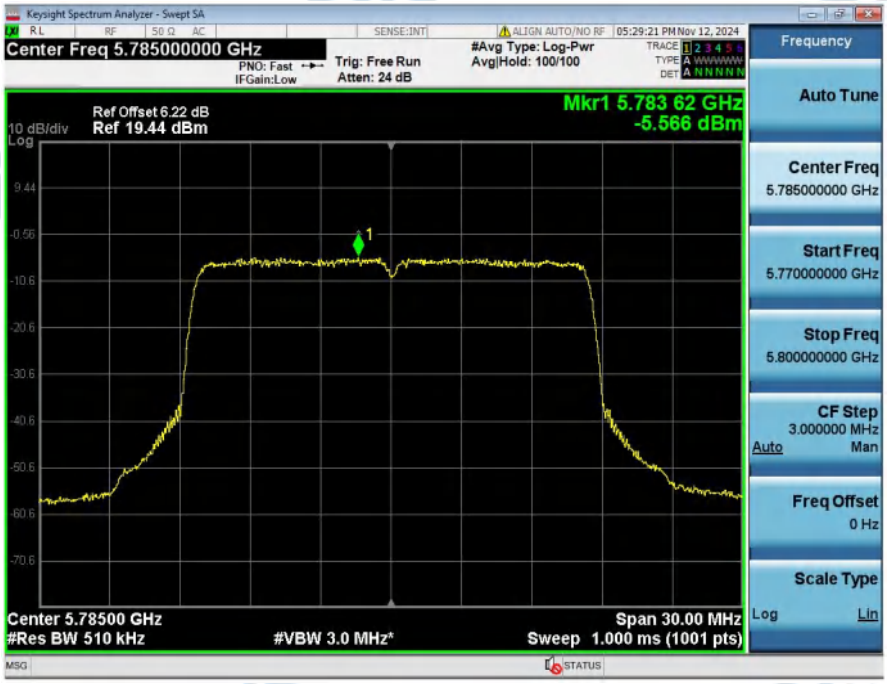
Condition	Antenna	Modulation	Frequency (MHz)	PSD_SA (dBm/RBW)	Duty factor(dB)	RB factor(dB)	PSD (dBm/500kHz)	Limit (dBm/500kHz)	Result
NVNT	ANT1	802.11a	5745.00	-6.41	0.00	-0.086	-6.49	30	Pass
NVNT	ANT1	802.11a	5785.00	-5.57	0.00	-0.086	-5.65	30	Pass
NVNT	ANT1	802.11a	5825.00	-5.13	0.00	-0.086	-5.22	30	Pass
NVNT	ANT1	802.11n(HT20)	5745.00	-9.32	0.00	-0.086	-9.41	30	Pass
NVNT	ANT1	802.11n(HT20)	5785.00	-6.91	0.00	-0.086	-7.00	30	Pass
NVNT	ANT1	802.11n(HT20)	5825.00	-6.57	0.00	-0.086	-6.66	30	Pass

PSD(dBm/500kHz)=PSD_SA(dBm/510KHz)+RB factor(dB); RB factor(dB)=10*log(500/510)=-0.086dB

Power_Spectral_Density_NVNT_ANT1_802_11a_5745

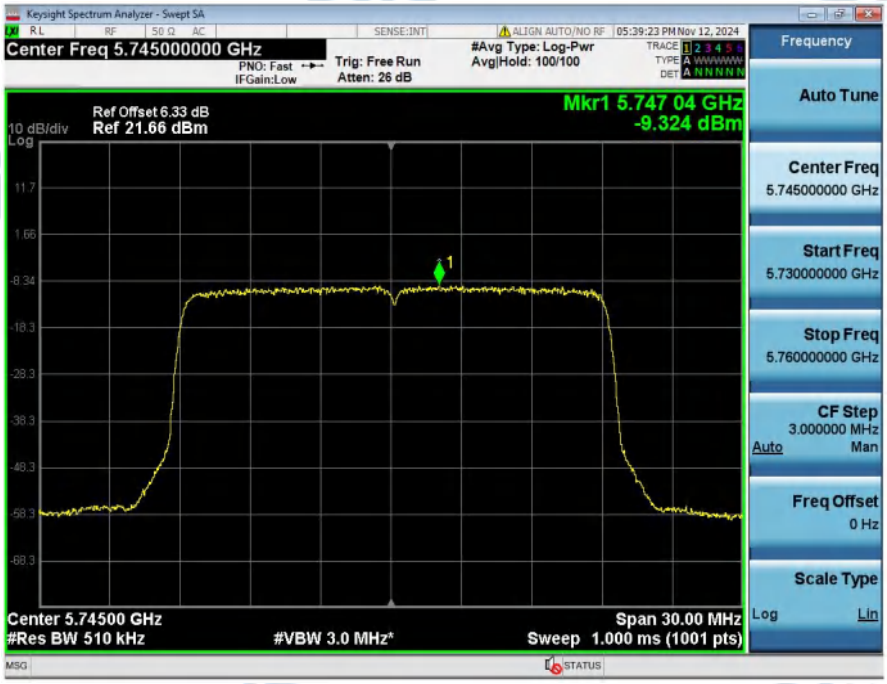


Power_Spectral_Density_NVNT_ANT1_802_11a_5785

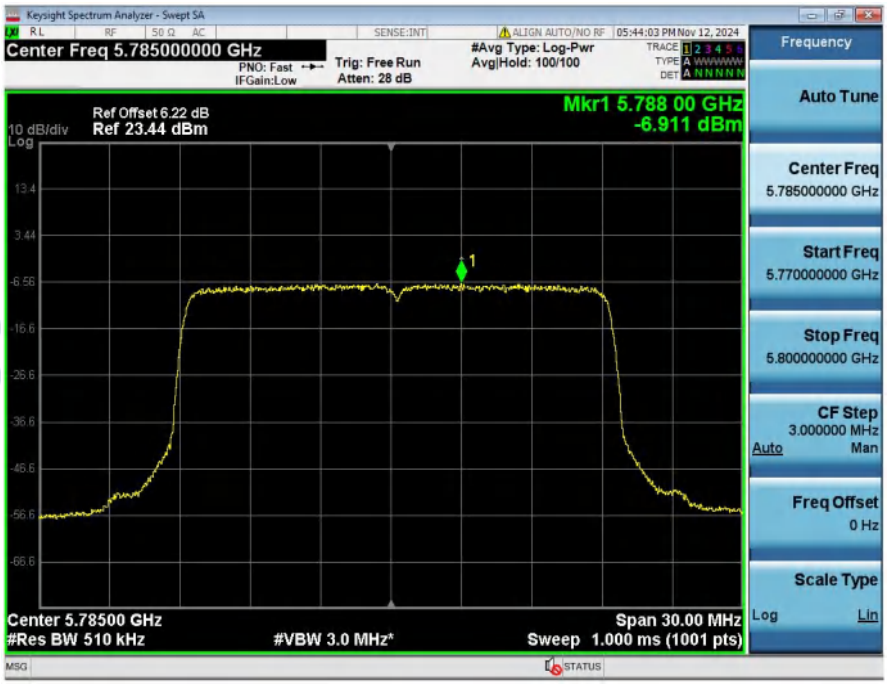


Power_Spectral_Density_NVNT_ANT1_802_11a_5825

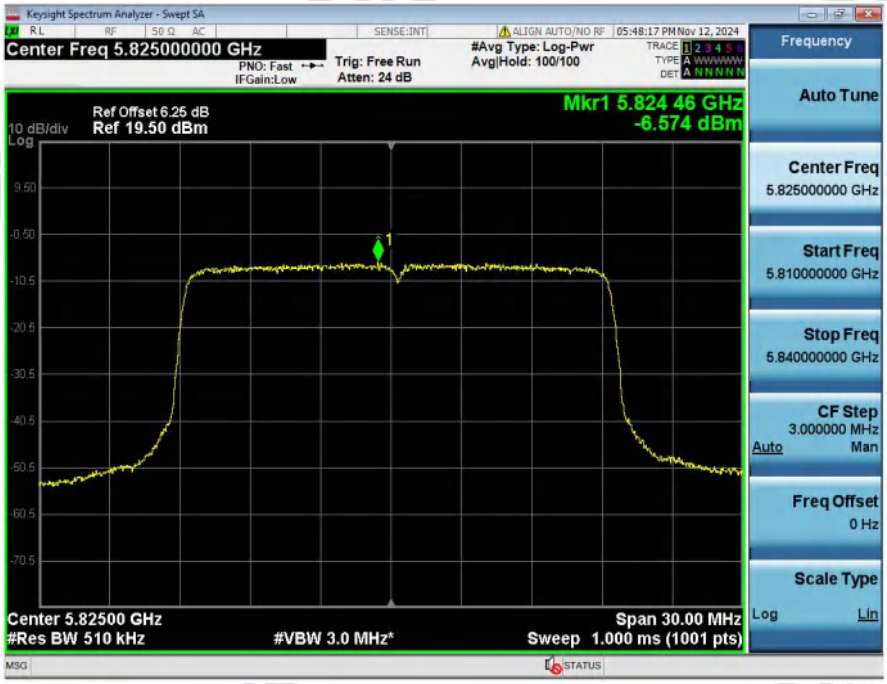
Power_Spectral_Density_NVNT_ANT1_802_11n(HT20)_5745



Power_Spectral_Density_NVNT_ANT1_802_11n(HT20)_5785



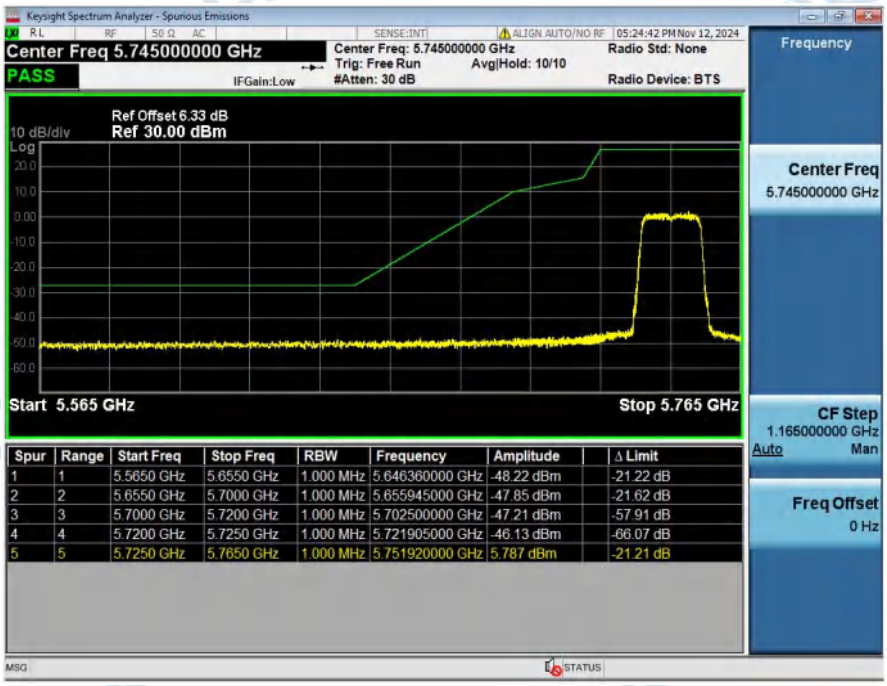
Power_Spectral_Density_NVNT_ANT1_802_11n(HT20)_5825



6. Bandedge

Condition	Antenna	Modulation	TX_Frequency (MHz)	Frequency Area(MHz)	Frequency(MHz)	Amplitude(dBm)	Limit(dBm)	Result
NVNT	ANT1	802.11a	LCH	5565-5655	5646.360	-48.22	-27.00	Pass
NVNT	ANT1	802.11a	LCH	5655-5700	5655.945	-47.85	-26.22	Pass
NVNT	ANT1	802.11a	LCH	5700-5720	5702.500	-47.21	10.70	Pass
NVNT	ANT1	802.11a	LCH	5720-5725	5721.905	-46.13	19.94	Pass
NVNT	ANT1	802.11a	HCH	5850-5855	5854.670	-45.59	16.35	Pass
NVNT	ANT1	802.11a	HCH	5855-5875	5872.760	-46.74	10.63	Pass
NVNT	ANT1	802.11a	HCH	5875-5920	5915.185	-47.20	-23.04	Pass
NVNT	ANT1	802.11a	HCH	5920-6005	6004.915	-42.15	-27.00	Pass
NVNT	ANT1	802.11n(HT20)	LCH	5565-5655	5619.990	-48.04	-27.00	Pass
NVNT	ANT1	802.11n(HT20)	LCH	5655-5700	5672.415	-48.05	-12.68	Pass
NVNT	ANT1	802.11n(HT20)	LCH	5700-5720	5703.860	-47.64	11.08	Pass
NVNT	ANT1	802.11n(HT20)	LCH	5720-5725	5720.290	-46.97	16.26	Pass
NVNT	ANT1	802.11n(HT20)	HCH	5850-5855	5854.675	-46.61	16.34	Pass
NVNT	ANT1	802.11n(HT20)	HCH	5855-5875	5874.980	-46.54	10.01	Pass
NVNT	ANT1	802.11n(HT20)	HCH	5875-5920	5917.255	-47.47	-24.74	Pass
NVNT	ANT1	802.11n(HT20)	HCH	5920-6005	5995.990	-42.61	-27.00	Pass

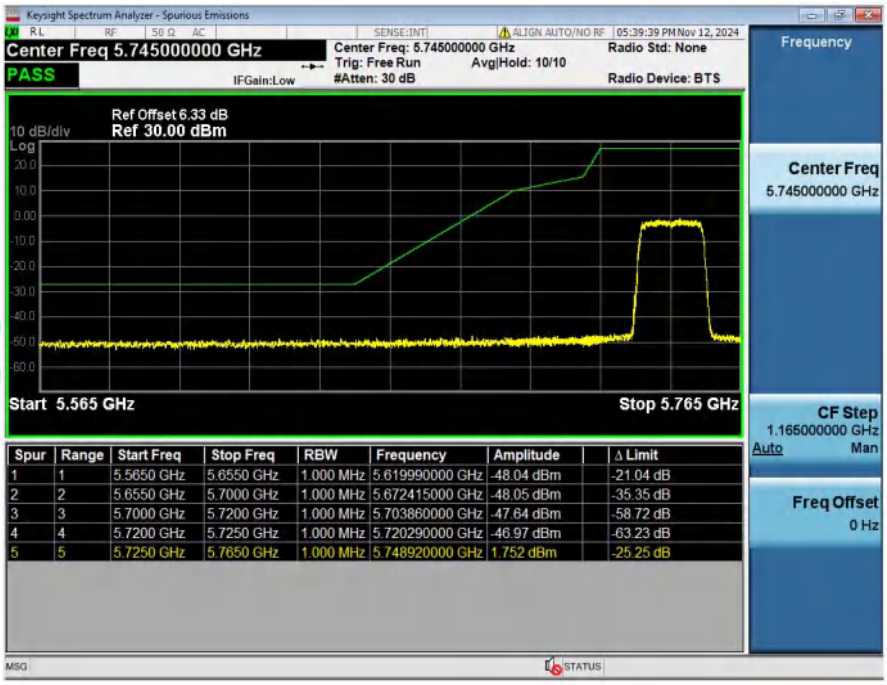
Bandedge_NVNT_ANT1_802_11a_5745



Bandedge_NVNT_ANT1_802_11a_5825

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	5.8050 GHz	5.8500 GHz	1.000 MHz	5.829705000 GHz	3.799 dBm	-23.20 dB
2	2	5.8500 GHz	5.8550 GHz	1.000 MHz	5.854670000 GHz	-45.59 dBm	-61.95 dB
3	3	5.8550 GHz	5.8750 GHz	1.000 MHz	5.872760000 GHz	-46.74 dBm	-57.37 dB
4	4	5.8750 GHz	5.9200 GHz	1.000 MHz	5.915185000 GHz	-47.20 dBm	-24.20 dB
5	5	5.9200 GHz	6.0050 GHz	1.000 MHz	6.004915000 GHz	-42.15 dBm	-15.15 dB

Bandedge_NVNT_ANT1_802_11n(HT20)_5745



Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	5.5650 GHz	5.6550 GHz	1.000 MHz	5.619990000 GHz	-48.04 dBm	-21.04 dB
2	2	5.6550 GHz	5.7000 GHz	1.000 MHz	5.672415000 GHz	-48.05 dBm	-35.35 dB
3	3	5.7000 GHz	5.7200 GHz	1.000 MHz	5.703860000 GHz	-47.64 dBm	-58.72 dB
4	4	5.7200 GHz	5.7250 GHz	1.000 MHz	5.720290000 GHz	-46.97 dBm	-63.23 dB
5	5	5.7250 GHz	5.7650 GHz	1.000 MHz	5.748920000 GHz	1.752 dBm	-25.25 dB

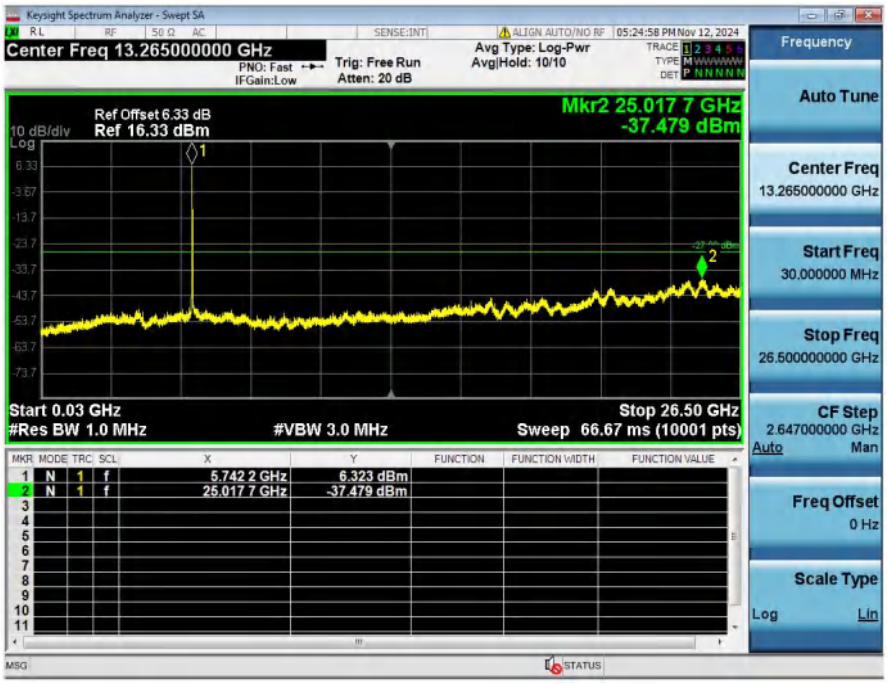
Bandedge_NVNT_ANT1_802_11n(HT20)_5825

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	5.8050 GHz	5.8500 GHz	1.000 MHz	5.830920000 GHz	2.103 dBm	-24.90 dB
2	2	5.8500 GHz	5.8550 GHz	1.000 MHz	5.854675000 GHz	-46.61 dBm	-62.96 dB
3	3	5.8550 GHz	5.8750 GHz	1.000 MHz	5.874980000 GHz	-46.54 dBm	-56.55 dB
4	4	5.8750 GHz	5.9200 GHz	1.000 MHz	5.917255000 GHz	-47.47 dBm	-22.76 dB
5	5	5.9200 GHz	6.0050 GHz	1.000 MHz	5.995990000 GHz	-42.61 dBm	-15.61 dB

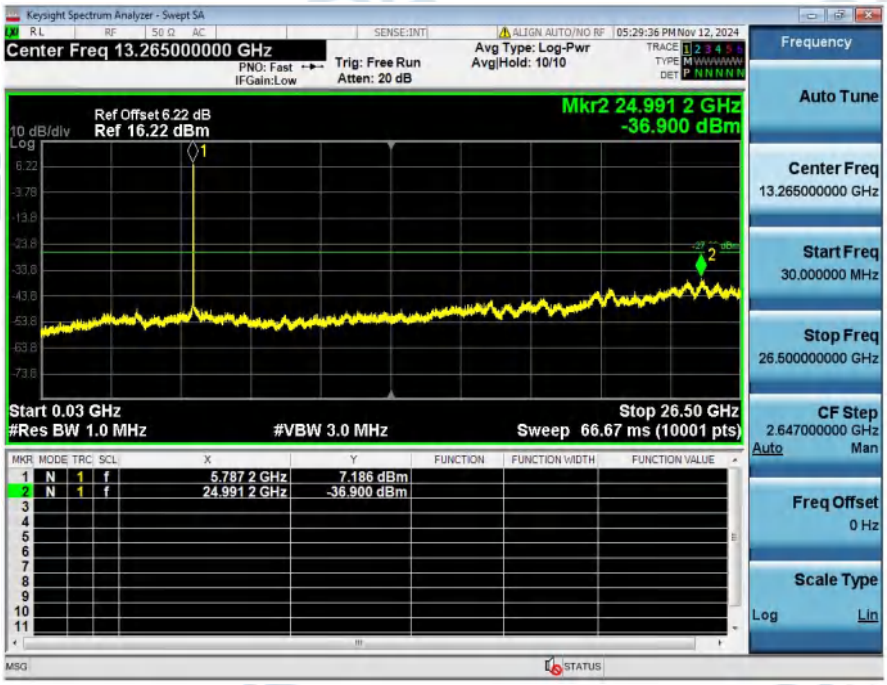
7. Spurious Emission

Condition	Antenna	Modulation	TX_Frequency (MHz)	Max. Mark Frequency(MHz)	Spurious level(dBm)	limit(dBm)	Result
NVNT	ANT1	802.11a	5745.00	25017.68	-37.48	-27	Pass
NVNT	ANT1	802.11a	5785.00	24991.21	-36.90	-27	Pass
NVNT	ANT1	802.11a	5825.00	25062.68	-36.62	-27	Pass
NVNT	ANT1	802.11n(HT20)	5745.00	25001.80	-37.72	-27	Pass
NVNT	ANT1	802.11n(HT20)	5785.00	24485.63	-36.58	-27	Pass
NVNT	ANT1	802.11n(HT20)	5825.00	25015.03	-37.12	-27	Pass

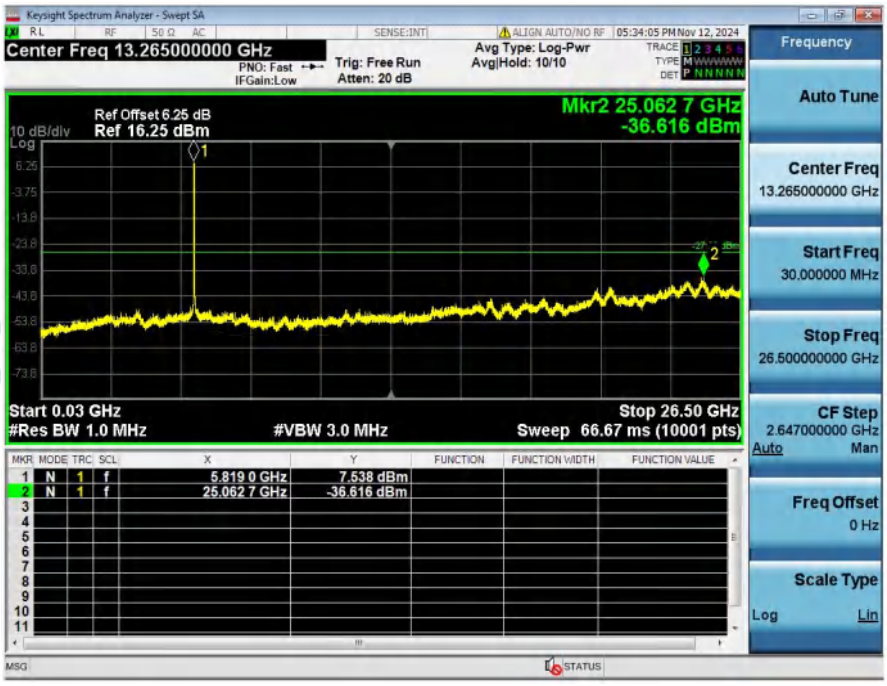
Spurious_Emission_NVNT_ANT1_802_11a_5745



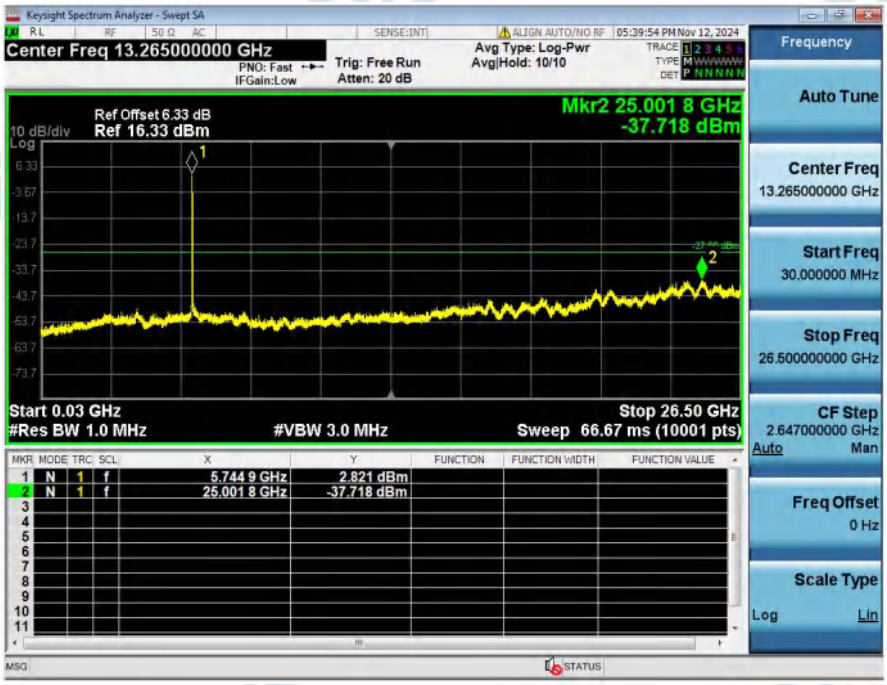
Spurious_Emission_NVNT_ANT1_802_11a_5785



Spurious_Emission_NVNT_ANT1_802_11a_5825

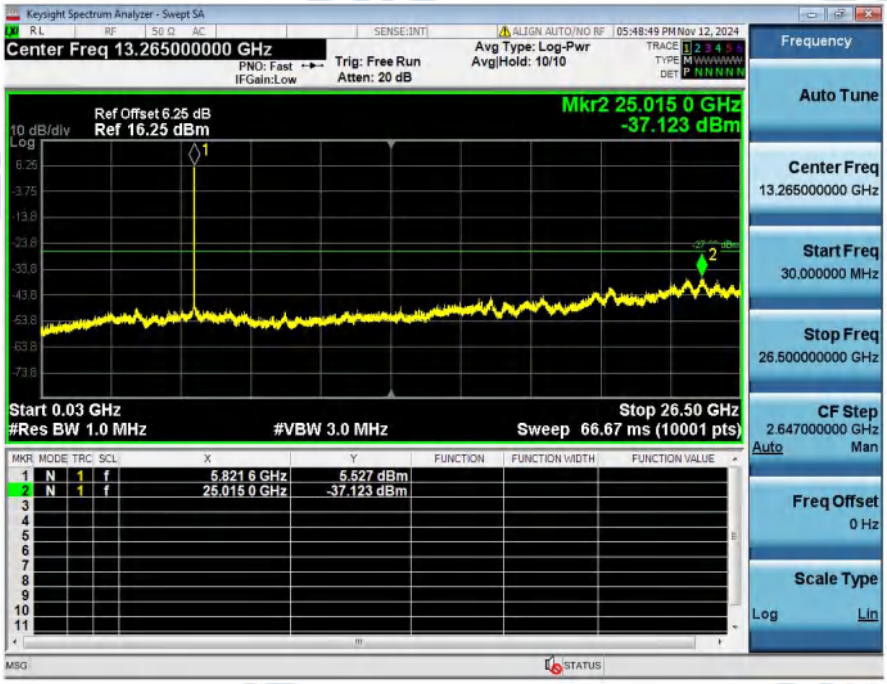


Spurious_Emission_NVNT_ANT1_802_11n(HT20)_5745



Spurious_Emission_NVNT_ANT1_802_11n(HT20)_5785

Spurious_Emission_NVNT_ANT1_802_11n(HT20)_5825



8. Frequency Stability

Condition	Antenna	Modulation	Frequency (MHz)	Fc(MHz)	Fl(MHz)	Fh(MHz)	Limit(MHz)	Result
NVHT	ANT1	802.11a	5745.00	5745.068	5736.724	5753.412	5725~5850	Pass
NVNT	ANT1	802.11a	5745.00	5745.072	5736.836	5753.308	5725~5850	Pass
NVLT	ANT1	802.11a	5745.00	5745.060	5736.908	5753.212	5725~5850	Pass
HVNT	ANT1	802.11a	5745.00	5745.060	5736.960	5753.160	5725~5850	Pass
LVNT	ANT1	802.11a	5745.00	5745.064	5737.024	5753.104	5725~5850	Pass
NVHT	ANT1	802.11a	5785.00	5785.058	5776.708	5793.408	5725~5850	Pass
NVNT	ANT1	802.11a	5785.00	5785.050	5776.824	5793.276	5725~5850	Pass
NVLT	ANT1	802.11a	5785.00	5785.066	5776.904	5793.228	5725~5850	Pass
HVNT	ANT1	802.11a	5785.00	5785.058	5776.972	5793.144	5725~5850	Pass
LVNT	ANT1	802.11a	5785.00	5785.056	5777.012	5793.100	5725~5850	Pass
NVHT	ANT1	802.11a	5825.00	5825.066	5816.716	5833.416	5725~5850	Pass
NVNT	ANT1	802.11a	5825.00	5825.072	5816.836	5833.308	5725~5850	Pass
NVLT	ANT1	802.11a	5825.00	5825.056	5816.900	5833.212	5725~5850	Pass
HVNT	ANT1	802.11a	5825.00	5825.068	5816.964	5833.172	5725~5850	Pass
LVNT	ANT1	802.11a	5825.00	5825.060	5817.008	5833.112	5725~5850	Pass
NVHT	ANT1	802.11n(HT20)	5745.00	5745.228	5736.316	5754.140	5725~5850	Pass
NVNT	ANT1	802.11n(HT20)	5745.00	5745.228	5736.432	5754.024	5725~5850	Pass
NVLT	ANT1	802.11n(HT20)	5745.00	5745.226	5736.508	5753.944	5725~5850	Pass
HVNT	ANT1	802.11n(HT20)	5745.00	5745.226	5736.576	5753.876	5725~5850	Pass
LVNT	ANT1	802.11n(HT20)	5745.00	5745.240	5736.644	5753.836	5725~5850	Pass
NVHT	ANT1	802.11n(HT20)	5785.00	5785.318	5776.400	5794.236	5725~5850	Pass
NVNT	ANT1	802.11n(HT20)	5785.00	5785.312	5776.528	5794.096	5725~5850	Pass
NVLT	ANT1	802.11n(HT20)	5785.00	5785.314	5776.608	5794.020	5725~5850	Pass
HVNT	ANT1	802.11n(HT20)	5785.00	5785.314	5776.680	5793.948	5725~5850	Pass
LVNT	ANT1	802.11n(HT20)	5785.00	5785.330	5776.748	5793.912	5725~5850	Pass
NVHT	ANT1	802.11n(HT20)	5825.00	5825.310	5816.400	5834.220	5725~5850	Pass
NVNT	ANT1	802.11n(HT20)	5825.00	5825.310	5816.520	5834.100	5725~5850	Pass
NVLT	ANT1	802.11n(HT20)	5825.00	5825.314	5816.600	5834.028	5725~5850	Pass
HVNT	ANT1	802.11n(HT20)	5825.00	5825.322	5816.680	5833.964	5725~5850	Pass
LVNT	ANT1	802.11n(HT20)	5825.00	5825.320	5816.744	5833.896	5725~5850	Pass

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