RF TEST REPORT

For

Huizhou HuoYing Photoelectric Technology Co., Ltd.
Product Name: Projector
Test Model(s).: P50

Report Reference No.	:	**DACE240819004RF004**
FCC ID	:	**2BLCL-P50**
Applicant's Name	:	Huizhou HuoYing Photoelectric Technology Co., Ltd.
Address	:	2 F, Building 3,8 a, Yuen Fai Road, Chan Kong Street, Chung Kai high-tech development zone, Huizhou, 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 & C63.10-2013** **KDB 789033 D02 General UNII Test Procedures New Rules v02r01**
Date of Receipt	:	August 19, 2024
Date of Test	:	August 19, 2024 to September 24, 2024
Data of Issue	:	September 24, 2024
Result	:	**Pass**

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Revision History Of Report

Version	Description	REPORT No.	Issue Date
V1.0	Original	DACE240819004RF004	September 24, 2024

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

CONTENTS

1 TEST SUMMARY 5

1.1 TEST STANDARDS 5
1.2 SUMMARY OF TEST RESULT 5

2 GENERAL INFORMATION 6

2.1 CLIENT INFORMATION 6
2.2 DESCRIPTION OF DEVICE (EUT)* 6
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 IDENTIFICATION OF TESTING LABORATORY 10
2.8 ANNOUNCEMENT 10

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 EMISSION BANDWIDTH AND OCCUPIED BANDWIDTH 16
4.2.1 E.U.T. Operation: 17
4.2.2 Test Setup Diagram: 17
4.2.3 Test Data: 17
4.3 MAXIMUM CONDUCTED OUTPUT POWER 18
4.3.1 E.U.T. Operation: 18
4.3.2 Test Setup Diagram: 18
4.3.3 Test Data: 18
4.4 POWER SPECTRAL DENSITY 19
4.4.1 E.U.T. Operation: 19
4.4.2 Test Setup Diagram: 19
4.4.3 Test Data: 19
4.5 BAND EDGE EMISSIONS (RADIATED) 20
4.5.1 E.U.T. Operation: 22
4.5.2 Test Setup Diagram: 22
4.5.3 Test Data: 23
4.6 UNDESIRABLE EMISSION LIMITS (BELOW 1GHZ) 27
4.6.1 E.U.T. Operation: 28
4.6.2 Test Setup Diagram: 29
4.6.3 Test Data: 30
4.7 UNDESIRABLE EMISSION LIMITS (ABOVE 1GHZ) 32
4.7.1 E.U.T. Operation: 34
4.7.2 Test Setup Diagram: 34
4.7.3 Test Data: 35

5 TEST SETUP PHOTOS 41
6 PHOTOS OF THE EUT 41

APPENDIX-5.2G 42
1. -26dB and 99% Emission Bandwidth 42
2. Maximum Conducted Output Power 57
3. Power Spectral Density 65
4. Bandedge 73
5. Spurious Emission 79
6. Frequency Stability 87
APPENDIX-5.8G 89
1. -6dB Emission Bandwidth 89
2. -26dB and 99% Emission Bandwidth 97
3. Maximum Conducted Output Power 112
4. Power Spectral Density 120
5. Bandedge 128
6. Spurious Emission 135
7. Frequency Stability 143

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
Antenna requirement	/	47 CFR 15.203	Pass
Conducted Emission at AC power line	ANSI C63.10-2013 section 6.2	47 CFR Part 15.207(a)	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-- Not applicable to the this test clause.
2. The results of all conduction method tests include cable loss.

2 GENERAL INFORMATION

2.1 Client Information

Applicant's Name	:	Huizhou HuoYing Photoelectric Technology Co., Ltd.
Address	:	2 F, Building 3,8 a, Yuen Fai Road, Chan Kong Street, Chung Kai high-tech development zone, Huizhou, China
Manufacturer	:	Huizhou HuoYing Photoelectric Technology Co., Ltd.
Address	:	2 F, Building 3,8 a, Yuen Fai Road, Chan Kong Street, Chung Kai high-tech development zone, Huizhou, China

2.2 Description of Device (EUT)*

Product Name:	Projector
Model/Type reference:	P50
Series Model:	P50+, H95S, H01, H02, H03, H04, H05, H06, H07, H08, H09, H26, H30, H35, H40, H45, Y01, Y02, Y03, Y04, Y05, Y06, Y07, Y08, Y09, Y26, Y30, Y35, Y40, Y45, HY26, HY30, HY35, HY40, HY45, HY50, HY200, HY350, HY400, HY450, S01, S02, S03, S04, S05, S06, S07, S08,S09, S26, S30,S35, S40, S45,M01, M02, M03, M04, M05, M06, M07, M08, M09, M26, M30, M35, M400, M450
Model difference:	There are many models of the product to meet the needs of different customers, ensuring that each customer's model is not duplicated and avoiding unnecessary disputes. The only difference between models is the model name, everything else is the same (such as PCB, BOM, etc.)
Trade Mark:	N/A
Power Supply:	AC120V 50/60Hz 55W
Operation Frequency:	802.11a/n(HT20)/ac(HT20): U-NII Band 1: 5180MHz to 5240MHz; U-NII Band 3: 5745MHz to 5825MHz; 802.11n(HT40)/ac(HT40): U-NII Band 1: 5190MHz to 5230MHz; U-NII Band 3: 5755MHz to 5795MHz; 802.11ac(HT80): U-NII Band 1: 5210MHz; U-NII Band 3: 5775MHz
Number of Channels:	802.11a/n(HT20)/ac(HT20): U-NII Band 1: 4; U-NII Band 3: 5; 802.11n(HT40)/ac(HT40): U-NII Band 1: 2; U-NII Band 3: 2; 802.11ac(HT80): U-NII Band 1: 1; U-NII Band 3: 1
Modulation Type:	802.11a: OFDM(BPSK, QPSK, 16QAM, 64QAM); 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM); 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM);
Antenna Type:	FPC ANT
Antenna Gain:	5.2G:1.94dBi/5.8G:2.02dBi
Hardware Version:	V1.3
Software Version:	V1.0

Operation Frequency each of channel

802.11a/n(HT20)/ac(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

802.11n(HT40)/ac(HT40)

	U-NII Band 1	U-NII Band 3
Channel	Frequency	Frequency
1	5190 MHz	5755 MHz
2	5230 MHz	5795 MHz

802.11ac(HT80)

	U-NII Band 1	U-NII Band 3
Channel	Frequency	Frequency
1	5210 MHz	5775 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)/ac(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

802.11n(HT40)/ac(HT40)		
	U-NII Band 1	U-NII Band 3
Test channel	**Frequency (MHz)**	**Frequency (MHz)**
Lowest channel	5190 MHz	5755 MHz
Highest channel	5230 MHz	5795 MHz

802.11ac(HT80)		
	U-NII Band 1	U-NII Band 3
Test channel	**Frequency (MHz)**	**Frequency (MHz)**
Middle channel	5210 MHz	5775 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.
TM3	802.11ac mode	Keep the EUT in continuously transmitting mode with 802.11ac 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.

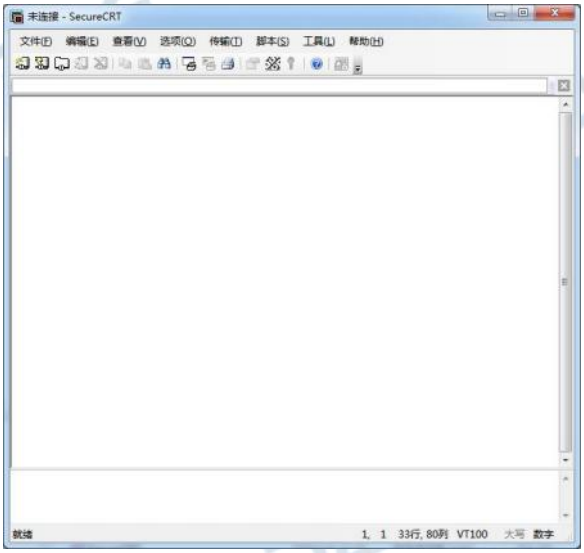
Remark:The eut testing process was performed using the maximum Duty Cycle.Only the data of the worst mode would be recorded in this report.

Description

Eut uses the maximum duty cycle (>98%) for continuous emission

☐ 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

The EUT was tested as an independent device.

2.5 Equipments Used During The Test

Conducted Emission at AC power line					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Cable	SCHWARZ BECK	/	/	2024-03-20	2025-03-19
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	/	2023-09-27	2024-09-26
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	RTS-01	V1.0.0	/	/
RF Sensor Unit	TACHOY	TR1029-2	000001	/	/
Wideband radio communication tester	R&S	CMW500	113410	2024-06-12	2025-06-11
Signal Generator	Keysight	N5181A	MY48180415	2023-11-09	2024-11-08
Signal Generator	Keysight	N5182A	MY50143455	2023-11-09	2024-11-08
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	2023-05-21	2025-05-20

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 Identification of Testing Laboratory

Company Name:	Shenzhen DACE Testing Technology Co., Ltd.
Address:	102 Building H1 & 1/F., Building H, Hongfa Science & Technology Park, Tangtou, Shiyan, Bao′ an District, Shenzhen, Guangdong, 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 & Technology Park, Tangtou, Shiyan, Bao′ an District, Shenzhen, Guangdong, China
Phone Number:	+86-13267178997
Fax Number:	86-755-29113252
FCC Registration Number:	0032847402
Designation Number:	CN1342
Test Firm Registration Number:	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.

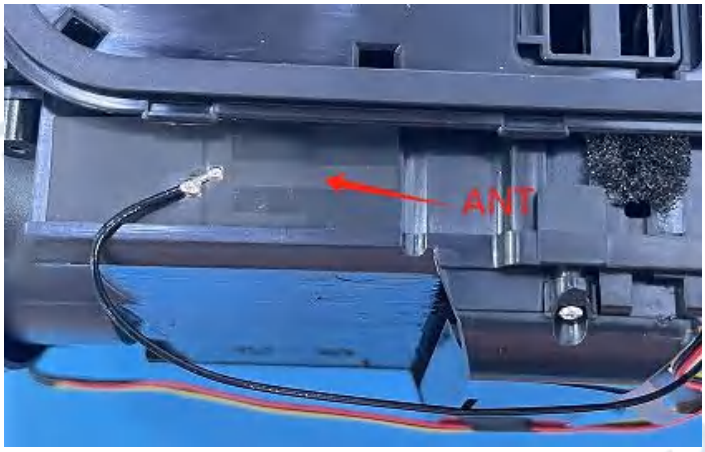
(6) We hereby declare that the laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant(information with "*" provided by applicant). the laboratory is not responsible for the accuracy of the information provided by the client. When the information 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)

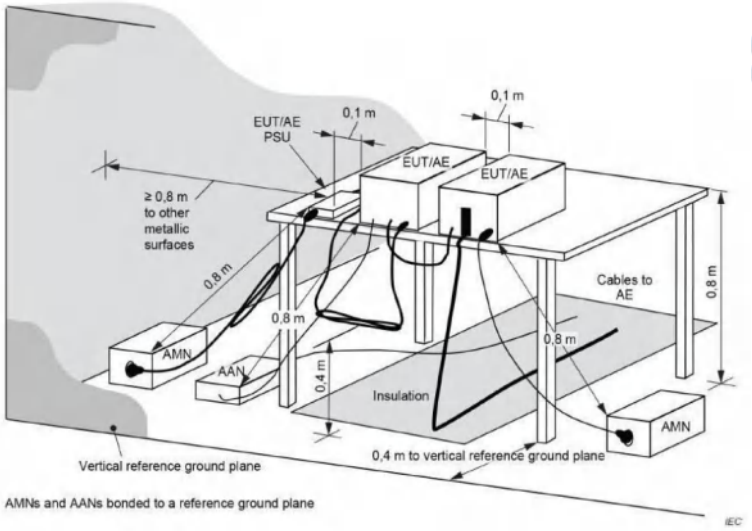
4.1 Conducted Emission at AC power line

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:

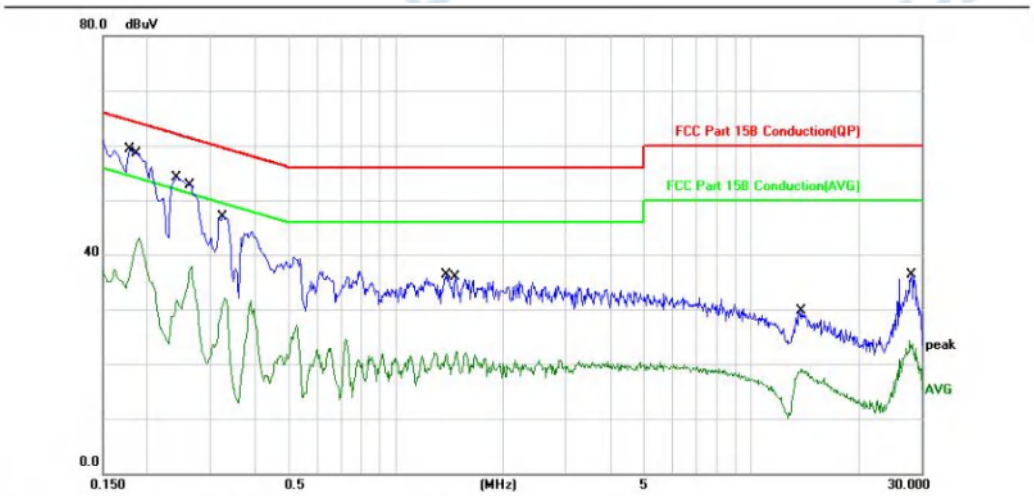
Operating Environment:					
Temperature:	23 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa
Pretest mode:	TM1, TM2, TM3				
Final test mode:	TM1				

4.1.2 Test Setup Diagram:



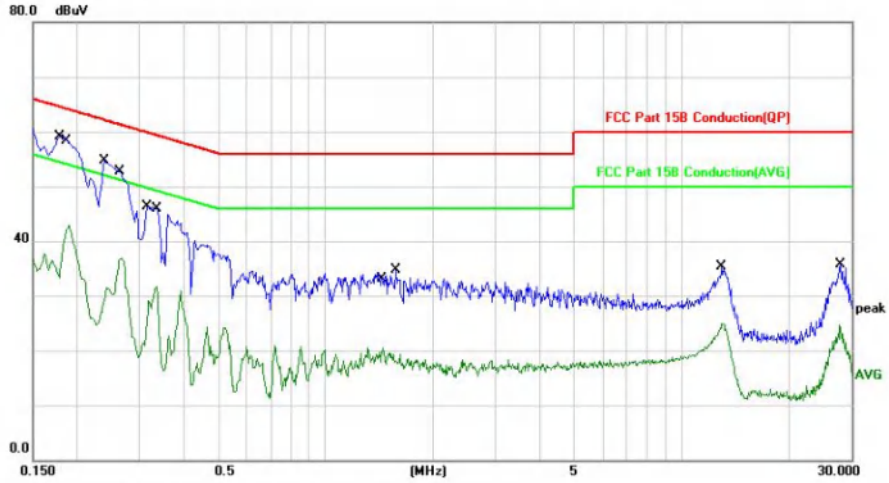
4.1.3 Test Data:

TM1 / Line: Line / Band: 5150-5250 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	*	0.1780	49.27	10.10	59.37	64.57	-5.20	QP	
2		0.1900	33.07	10.10	43.17	54.03	-10.86	AVG	
3		0.2420	44.06	10.09	54.15	62.02	-7.87	QP	
4		0.2660	27.79	10.09	37.88	51.24	-13.36	AVG	
5		0.3260	36.81	10.09	46.90	59.55	-12.65	QP	
6		0.3300	22.01	10.09	32.10	49.45	-17.35	AVG	
7		1.3860	26.28	10.05	36.33	56.00	-19.67	QP	
8		1.4819	12.30	10.04	22.34	46.00	-23.66	AVG	
9		13.7220	19.35	10.42	29.77	60.00	-30.23	QP	
10		13.8100	8.63	10.44	19.07	50.00	-30.93	AVG	
11		27.7300	13.33	11.01	24.34	50.00	-25.66	AVG	
12		28.0340	25.27	11.03	36.30	60.00	-23.70	QP	

TM1 / Line: Neutral / Band: 5150-5250 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	*	0.1780	49.06	10.10	59.16	64.57	-5.41	QP	
2		0.1900	32.79	10.10	42.89	54.03	-11.14	AVG	
3		0.2380	44.54	10.09	54.63	62.16	-7.53	QP	
4		0.2660	26.72	10.09	36.81	51.24	-14.43	AVG	
5		0.3140	36.27	10.09	46.36	59.86	-13.50	QP	
6		0.3339	21.60	10.09	31.69	49.35	-17.66	AVG	
7		1.4460	10.35	10.05	20.40	46.00	-25.60	AVG	
8		1.5740	24.73	10.03	34.76	56.00	-21.24	QP	
9		12.9500	24.86	10.41	35.27	60.00	-24.73	QP	
10		12.9500	14.55	10.41	24.96	50.00	-25.04	AVG	
11		27.7300	13.68	11.01	24.69	50.00	-25.31	AVG	
12		27.9900	24.66	11.02	35.68	60.00	-24.32	QP	

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= Mesurement - Limit

4.2 Emission bandwidth and occupied bandwidth

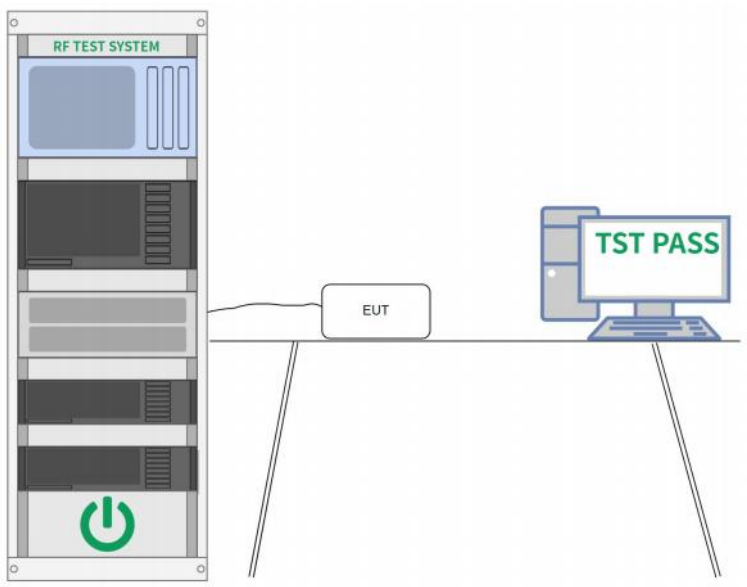
Test Requirement:	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use. U-NII 3, U-NII 4: 47 CFR Part 15.407(e)
Test Limit:	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use. U-NII 3, U-NII 4: Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices 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 measurement as 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. The frequency 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 the applicable requirement. c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 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.

4.2.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa
Pretest mode:	TM1, TM2, TM3				
Final test mode:	TM1, TM2, TM3				

4.2.2 Test Setup Diagram:



4.2.3 Test Data:

Please Refer to Appendix for Details.

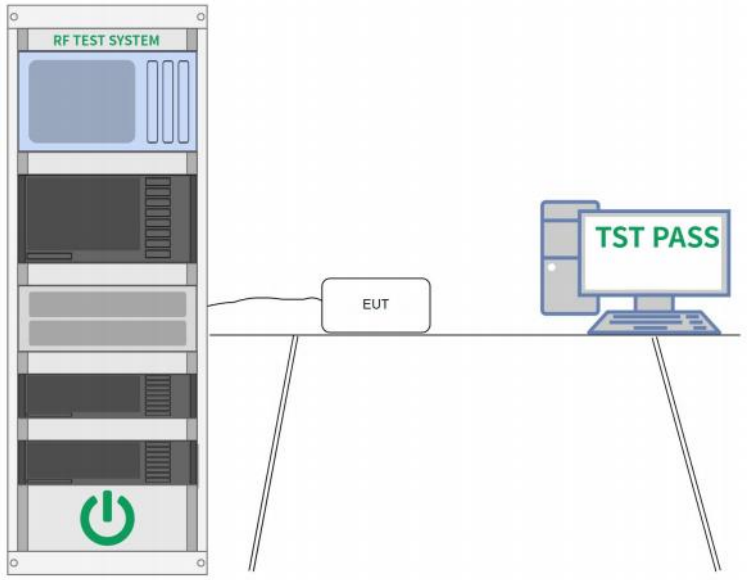
4.3 Maximum conducted output power

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

4.3.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa
Pretest mode:	TM1, TM2, TM3				
Final test mode:	TM1, TM2, TM3				

4.3.2 Test Setup Diagram:



4.3.3 Test Data:

Please Refer to Appendix for Details.

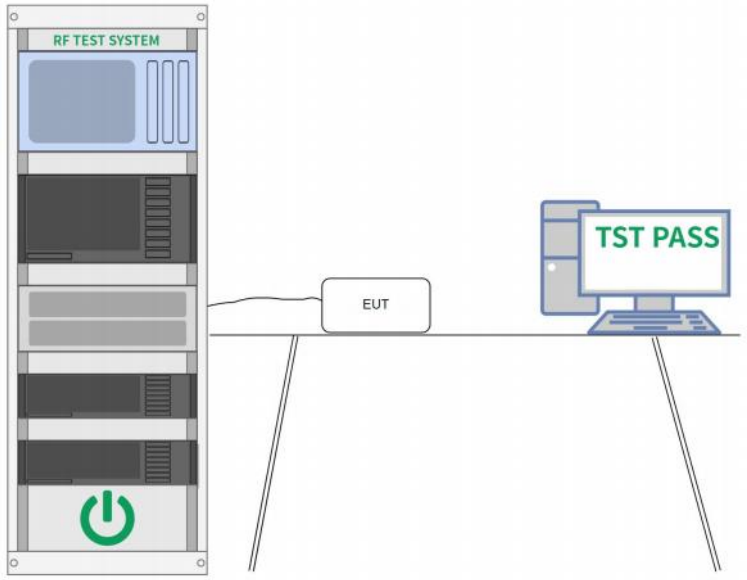
4.4 Power spectral density

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

4.4.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa
Pretest mode:	TM1, TM2, TM3				
Final test mode:	TM1, TM2, TM3				

4.4.2 Test Setup Diagram:



4.4.3 Test Data:

Please Refer to Appendix for Details.

4.5 Band edge emissions (Radiated)

Test Requirement:	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:

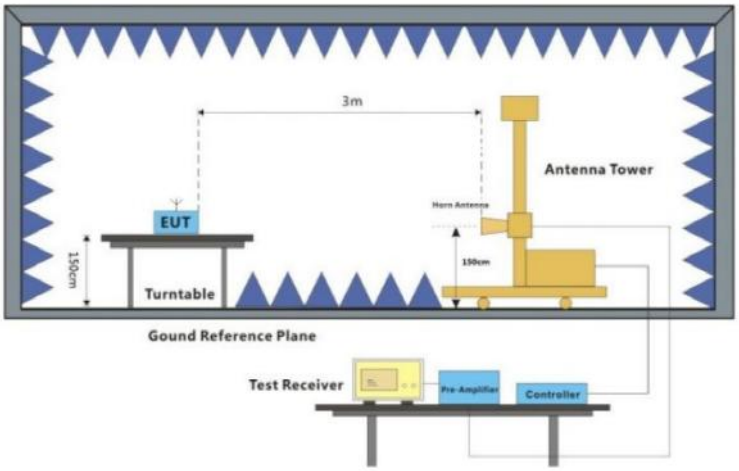
Above 1GHz:
a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, 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.

4.5.1 E.U.T. Operation:

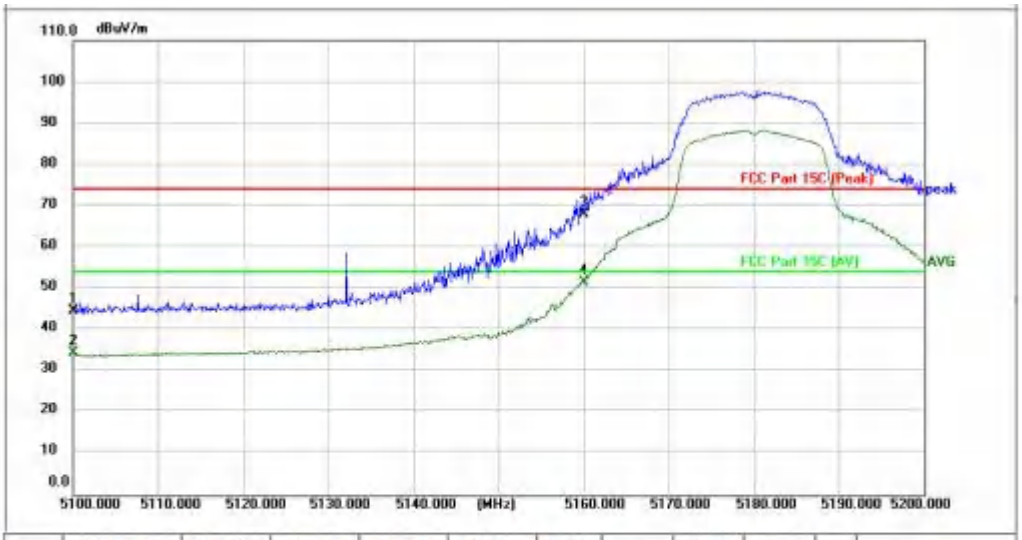
Operating Environment:					
Temperature:	23 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa
Pretest mode:	TM1, TM2, TM3				
Final test mode:	TM1, TM2, TM3				

4.5.2 Test Setup Diagram:



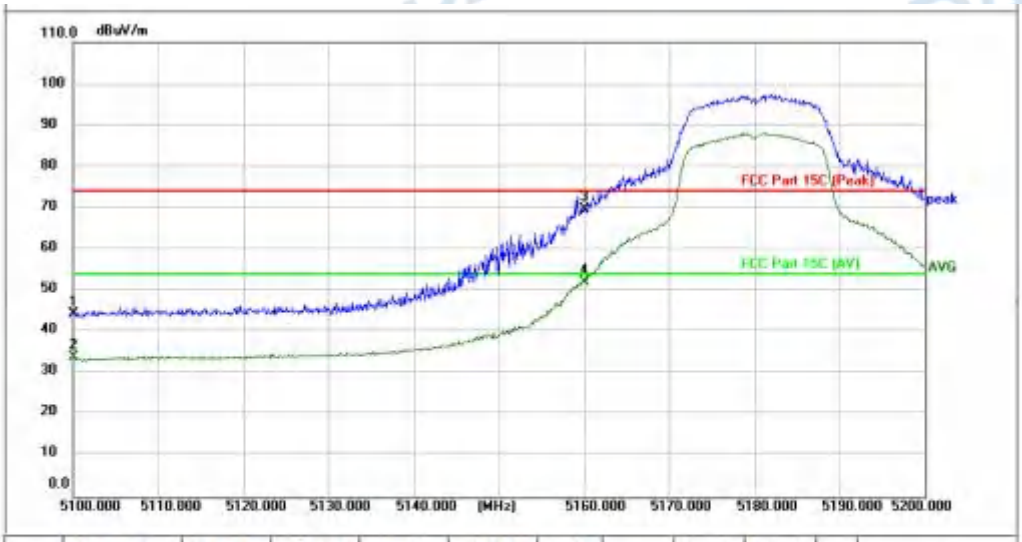
4.5.3 Test Data:

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



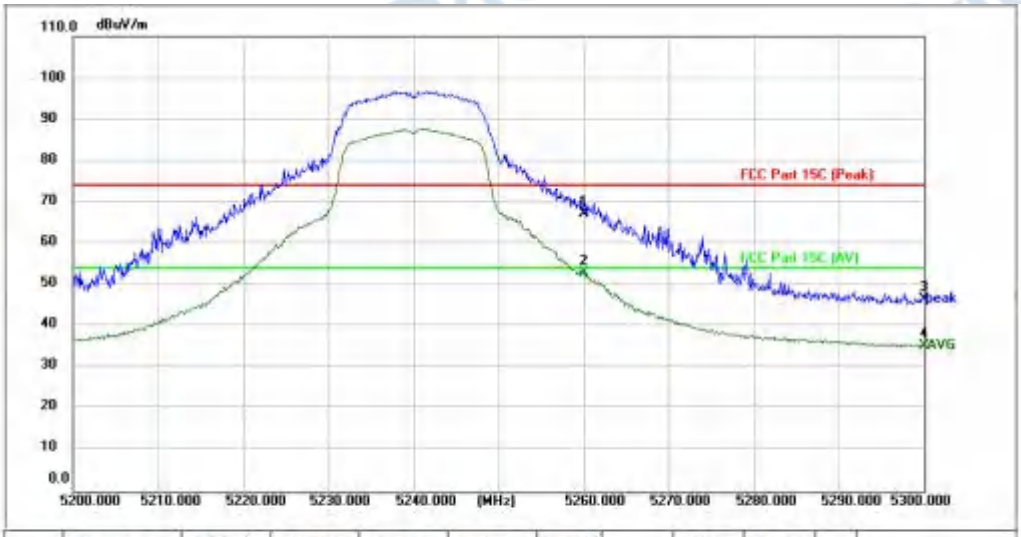
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5100.000	44.58	0.16	44.74	74.00	-29.26	peak			P	
2	5100.000	34.48	0.16	34.64	54.00	-19.36	AVG			P	
3	5160.000	67.79	0.27	68.06	74.00	-5.94	peak			P	
4 *	5160.000	51.38	0.27	51.65	54.00	-2.35	AVG			P	

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



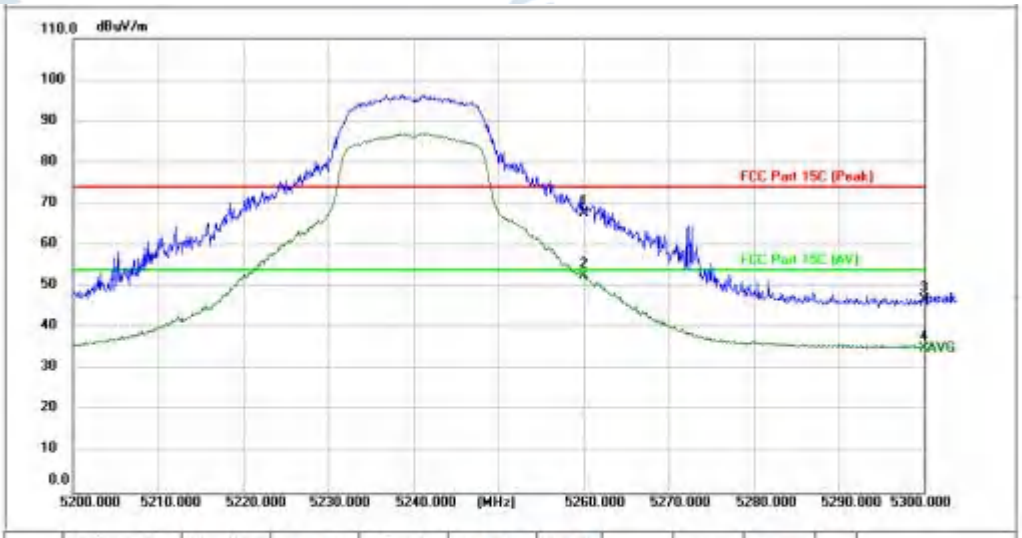
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5100.000	44.12	0.16	44.28	74.00	-29.72	peak	150		P	
2	5100.000	33.77	0.16	33.93	54.00	-20.07	AVG	150		P	
3	5160.000	69.43	0.27	69.70	74.00	-4.30	peak	150		P	
4 *	5160.000	51.93	0.27	52.20	54.00	-1.80	AVG	150		P	

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



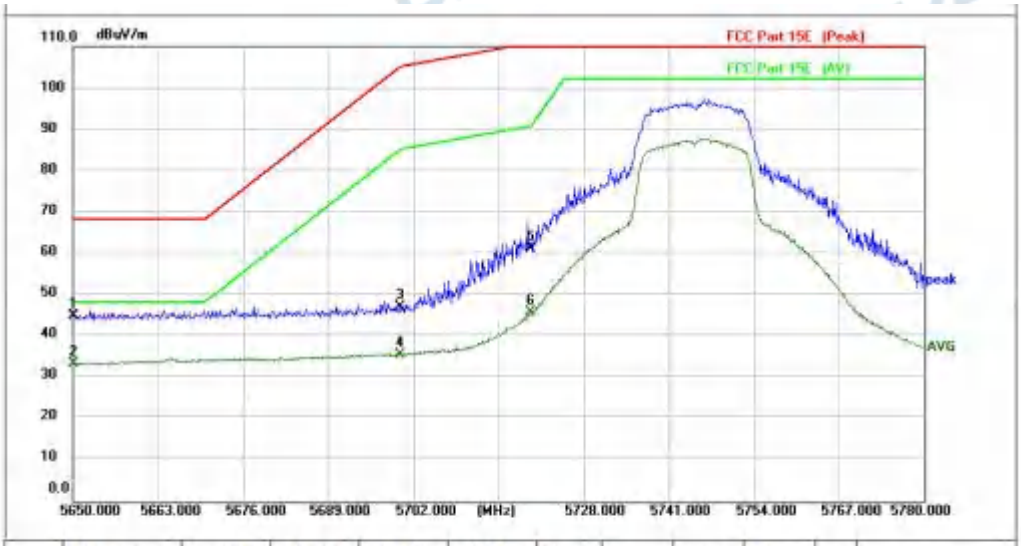
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5260.000	66.69	0.47	67.16	74.00	-6.84	peak	150		P	
2 *	5260.000	52.41	0.47	52.88	54.00	-1.12	AVG	150		P	
3	5300.000	46.20	0.55	46.75	74.00	-27.25	peak	150		P	
4	5300.000	34.80	0.55	35.35	54.00	-18.65	AVG	150		P	

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



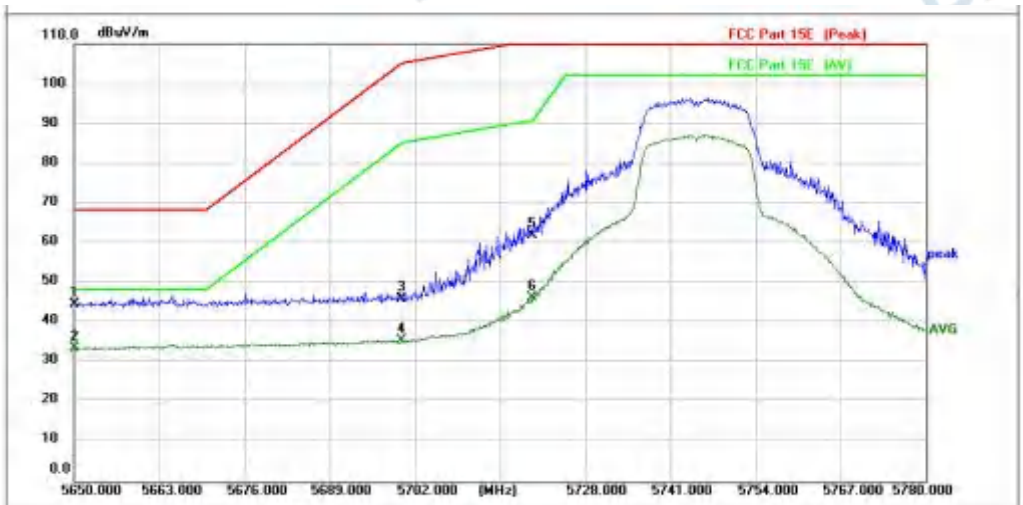
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5260.000	67.19	0.47	67.66	74.00	-6.34	peak	150		P	
2 *	5260.000	52.29	0.47	52.76	54.00	-1.24	AVG	150		P	
3	5300.000	46.34	0.55	46.89	74.00	-27.11	peak	150		P	
4	5300.000	34.58	0.55	35.13	54.00	-18.87	AVG	150		P	

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



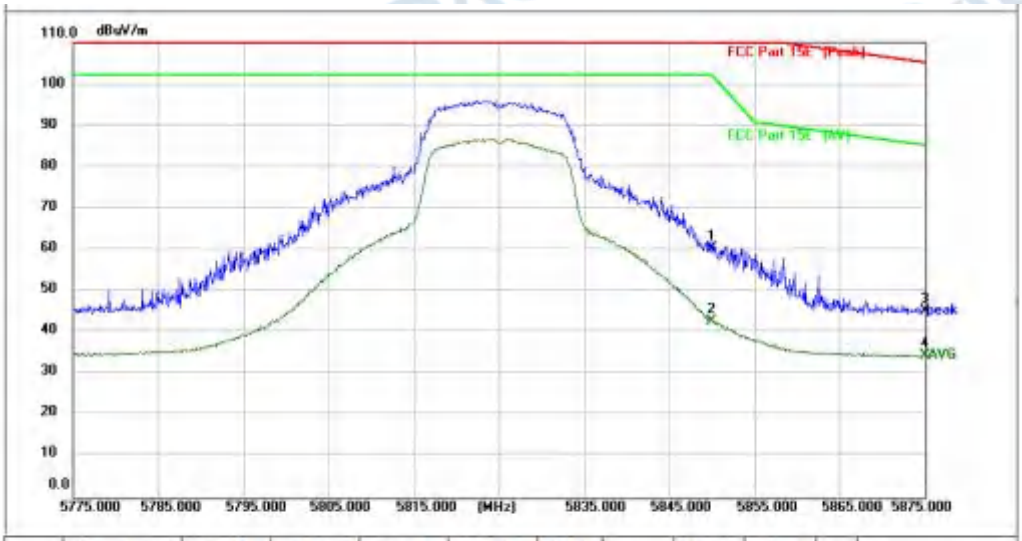
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5650.000	43.88	1.09	44.97	68.20	-23.23	peak	150		P	
2 *	5650.000	32.45	1.09	33.54	48.20	-14.66	AVG	150		P	
3	5700.000	45.88	1.15	47.03	105.20	-58.17	peak	150		P	
4	5700.000	34.43	1.15	35.58	85.20	-49.62	AVG	150		P	
5	5720.000	60.11	1.17	61.28	110.80	-49.52	peak	150		P	
6	5720.000	44.60	1.17	45.77	90.80	-45.03	AVG	150		P	

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



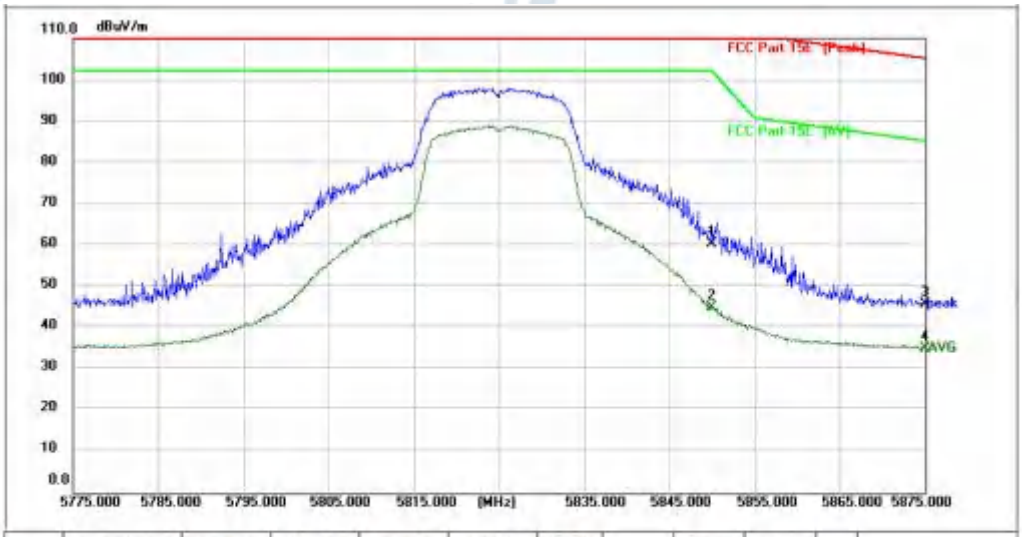
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5650.000	43.49	1.09	44.58	68.20	-23.62	peak	150		P	
2 *	5650.000	32.60	1.09	33.69	48.20	-14.51	AVG	150		P	
3	5700.000	44.84	1.15	45.99	105.20	-59.21	peak	150		P	
4	5700.000	34.35	1.15	35.50	85.20	-49.70	AVG	150		P	
5	5720.000	60.89	1.17	62.06	110.80	-48.74	peak	150		P	
6	5720.000	45.06	1.17	46.23	90.80	-44.57	AVG	150		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	59.16	1.33	60.49	122.20	-61.71	peak	150		P	
2	5850.000	41.45	1.33	42.78	102.20	-59.42	AVG	150		P	
3	5875.000	43.84	1.35	45.19	105.20	-60.01	peak	150		P	
4 *	5875.000	33.10	1.35	34.45	85.20	-50.75	AVG	150		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	58.99	1.33	60.32	122.20	-61.88	peak	150		P	
2	5850.000	43.58	1.33	44.91	102.20	-57.29	AVG	150		P	
3	5875.000	44.52	1.35	45.87	105.20	-59.33	peak	150		P	
4 *	5875.000	33.74	1.35	35.09	85.20	-50.11	AVG	150		P	

Note: The test software only records the worst height and cannot record the worst angle. Only the worst situation is displayed in the test report.

4.6 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.

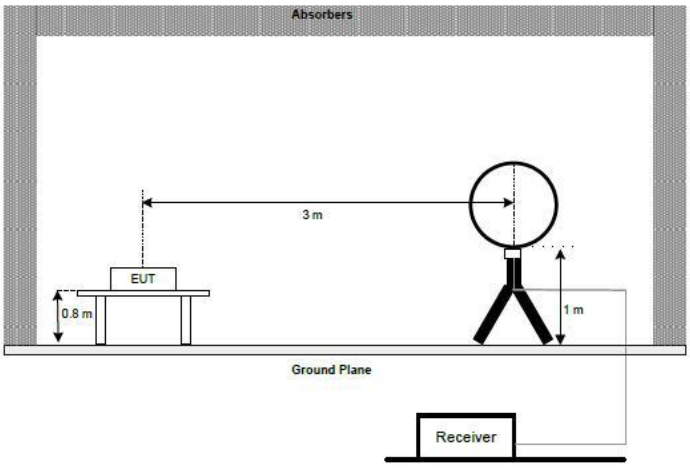
Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:
<table>
<tr><td>Frequency (MHz)</td><td>Field strength (microvolts/meter)</td><td>Measurement distance (meters)</td></tr>
<tr><td>0.009-0.490</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</td></tr>
</table>

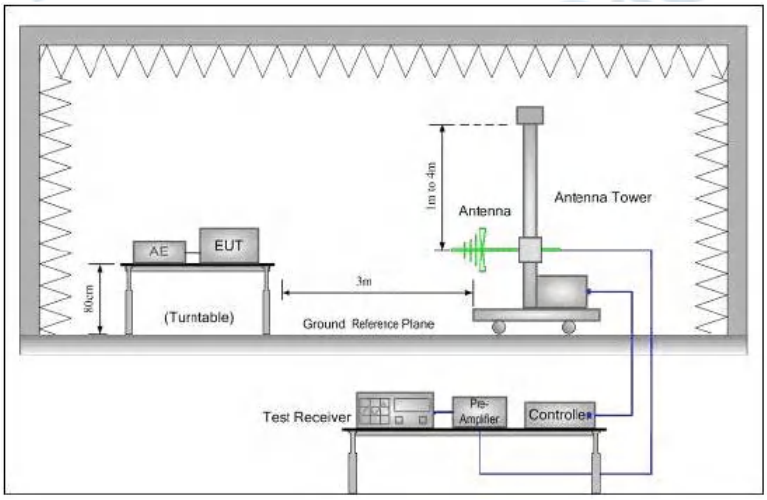
	2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. 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. 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:	46 %	Atmospheric Pressure:	101 kPa
Pretest mode:	TM1, TM2, TM3				
Final test mode:	TM1				

4.6.2 Test Setup Diagram:





4.6.3 Test Data:

TM1 / Polarization: Horizontal / Band: 2400-2483.5 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	140.8350	39.99	-6.00	33.99	43.50	-9.51	peak			P	
2 *	392.0950	43.79	-3.92	39.87	46.00	-6.13	peak			P	
3	434.0650	39.94	-2.14	37.80	46.00	-8.20	peak			P	
4	528.2458	37.30	-1.08	36.22	46.00	-9.78	peak			P	
5	651.9415	38.16	0.94	39.10	46.00	-6.90	peak			P	
6	869.1300	30.34	4.51	34.85	46.00	-11.15	peak			P	

TM1 / Polarization: Vertical / Band: 2400-2483.5 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 *	106.5200	45.44	-6.53	38.91	43.50	-4.59	peak			P	
2	130.1133	42.01	-5.42	36.59	43.50	-6.91	peak			P	
3	259.7940	38.14	-7.25	30.89	46.00	-15.11	peak			P	
4 !	394.4873	44.78	-3.86	40.92	46.00	-5.08	peak			P	
5	529.7644	39.30	-1.01	38.29	46.00	-7.71	peak			P	
6	935.4840	32.81	5.77	38.58	46.00	-7.42	peak			P	

4.7 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:

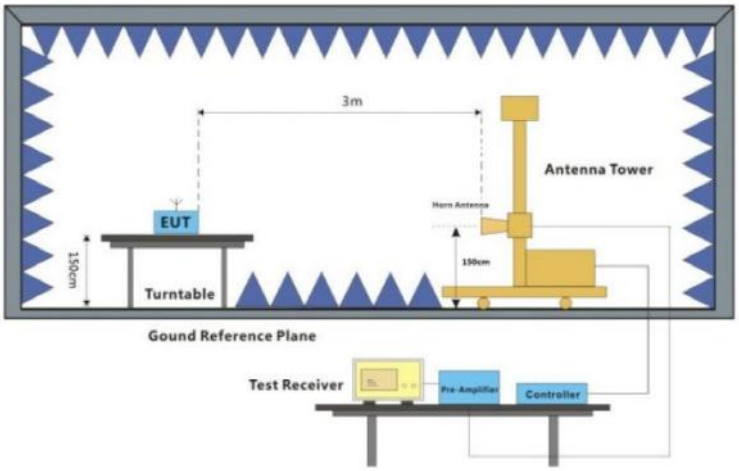
Above 1GHz:
a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, 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.

4.7.1 E.U.T. Operation:

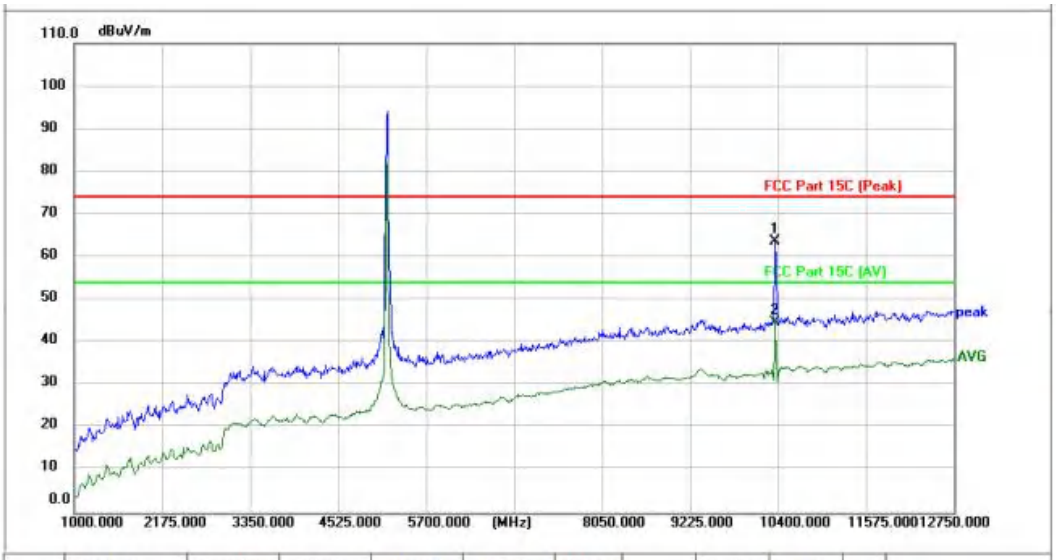
Operating Environment:					
Temperature:	23 °C	Humidity:	46 %	Atmospheric Pressure:	101 kPa
Pretest mode:	TM1, TM2, TM3				
Final test mode:	TM1, TM2, TM3				

4.7.2 Test Setup Diagram:



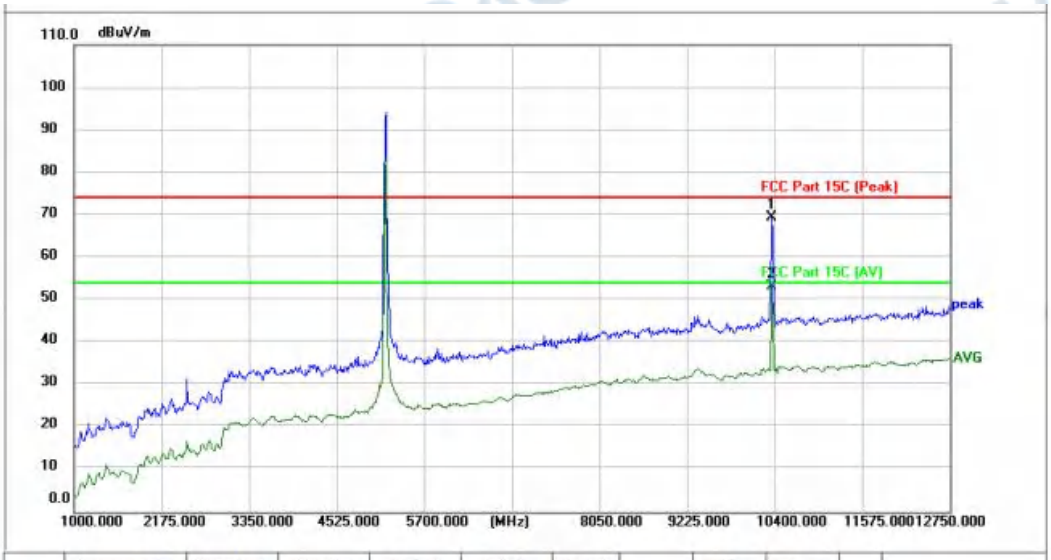
4.7.3 Test Data:

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



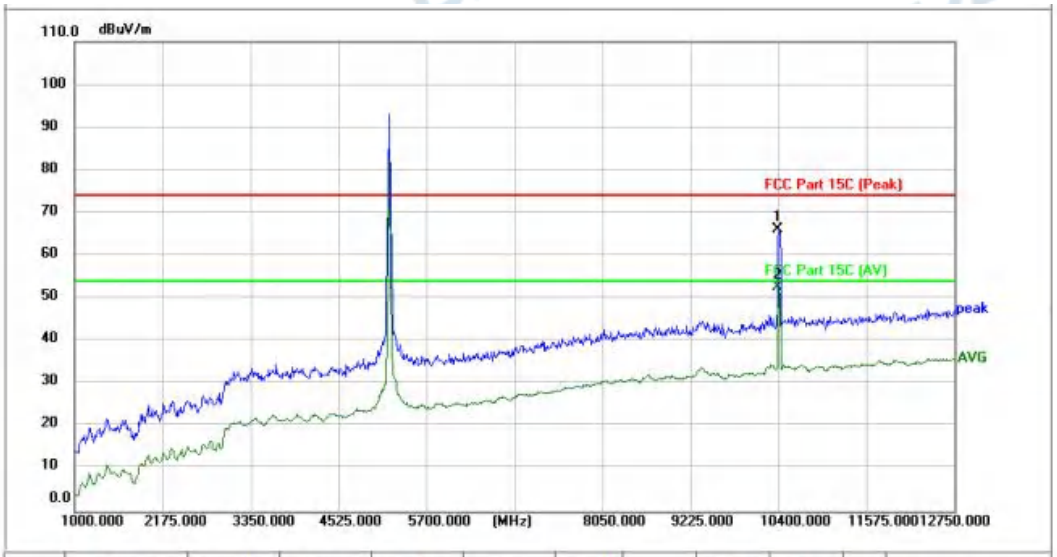
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	10364.750	55.04	8.76	63.80	74.00	-10.20	peak	150		P	
2 *	10364.750	35.99	8.76	44.75	54.00	-9.25	AVG	150		P	

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



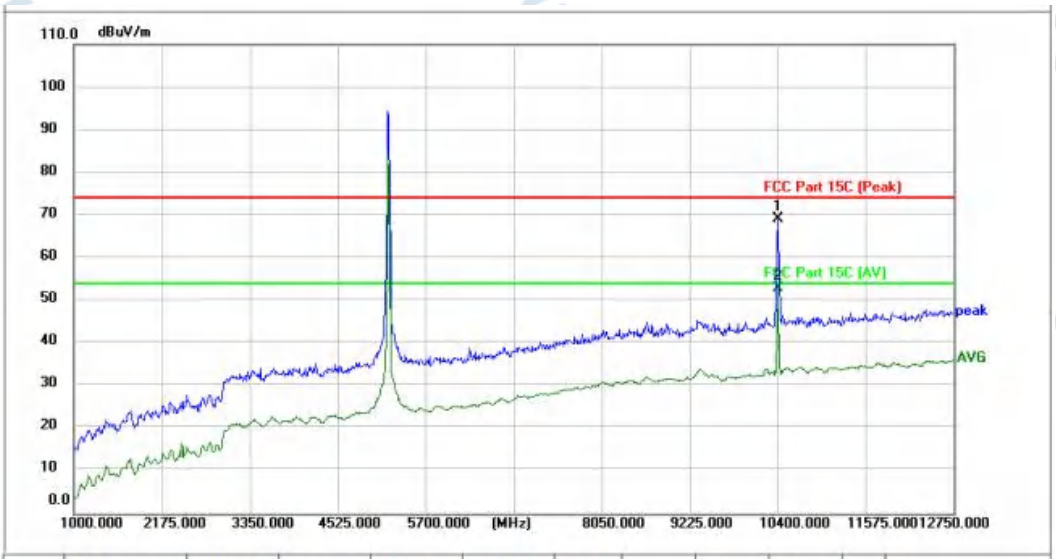
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	10364.750	60.78	8.76	69.54	74.00	-4.46	peak	150		P	
2 *	10364.750	44.35	8.76	53.11	54.00	-0.89	AVG	150		P	

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



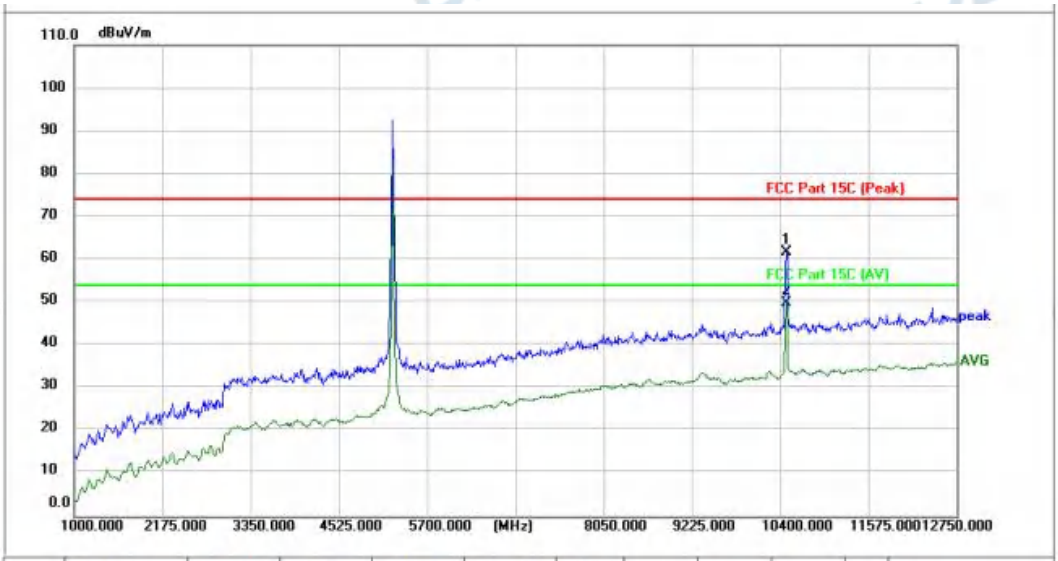
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	10409.409	57.25	8.83	66.08	74.00	-7.92	peak	150		P	
2 *	10409.409	43.92	8.83	52.75	54.00	-1.25	AVG	150		P	

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



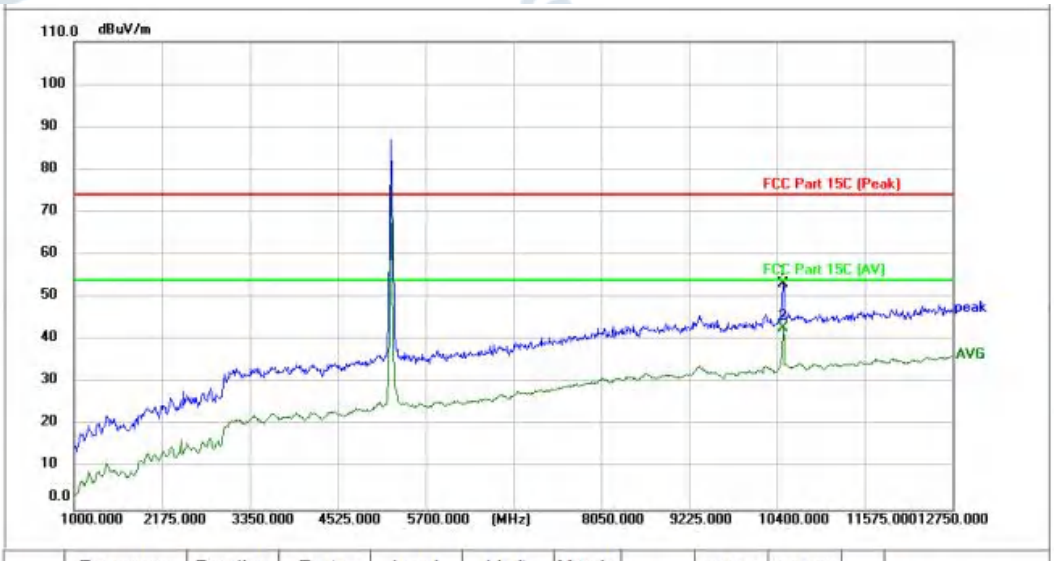
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	10400.000	60.37	8.82	69.19	74.00	-4.81	peak	150		P	
2 *	10400.000	44.09	8.82	52.91	54.00	-1.09	AVG	150		P	

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



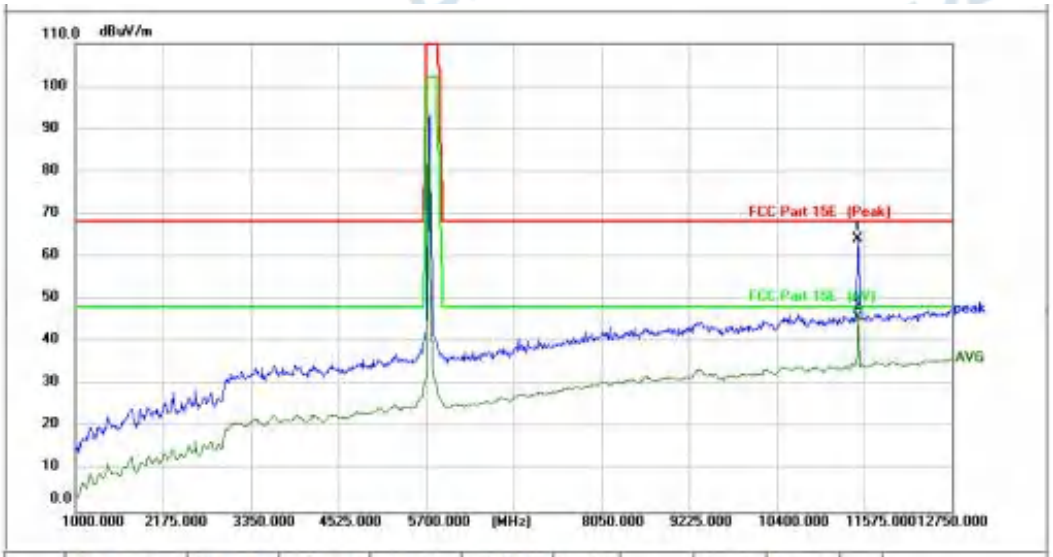
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	10482.250	52.67	8.97	61.64	74.00	-12.36	peak	150		P	
2 *	10482.250	40.98	8.97	49.95	54.00	-4.05	AVG	150		P	

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



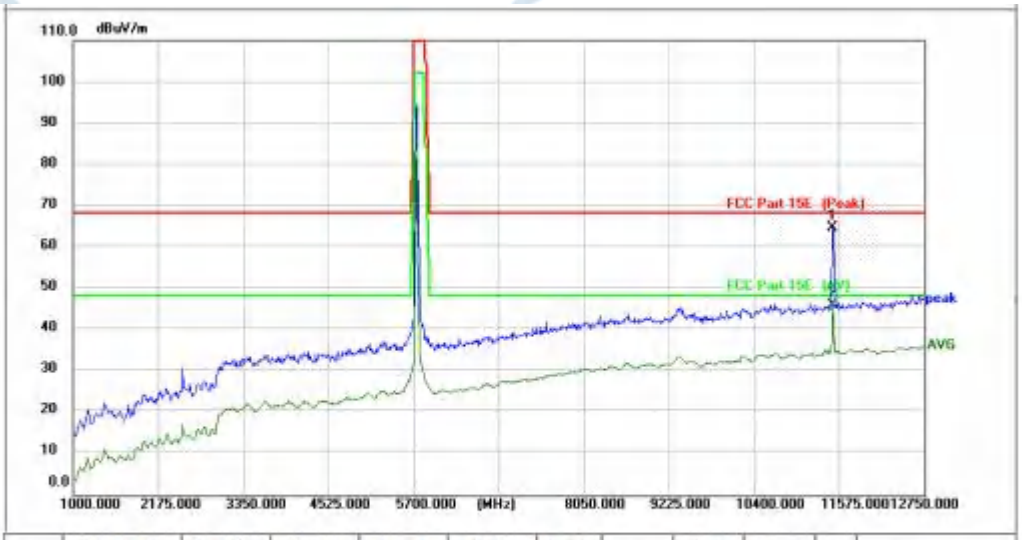
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	10482.250	44.12	8.97	53.09	74.00	-20.91	peak	150		P	
2 *	10482.250	33.88	8.97	42.85	54.00	-11.15	AVG	150		P	

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



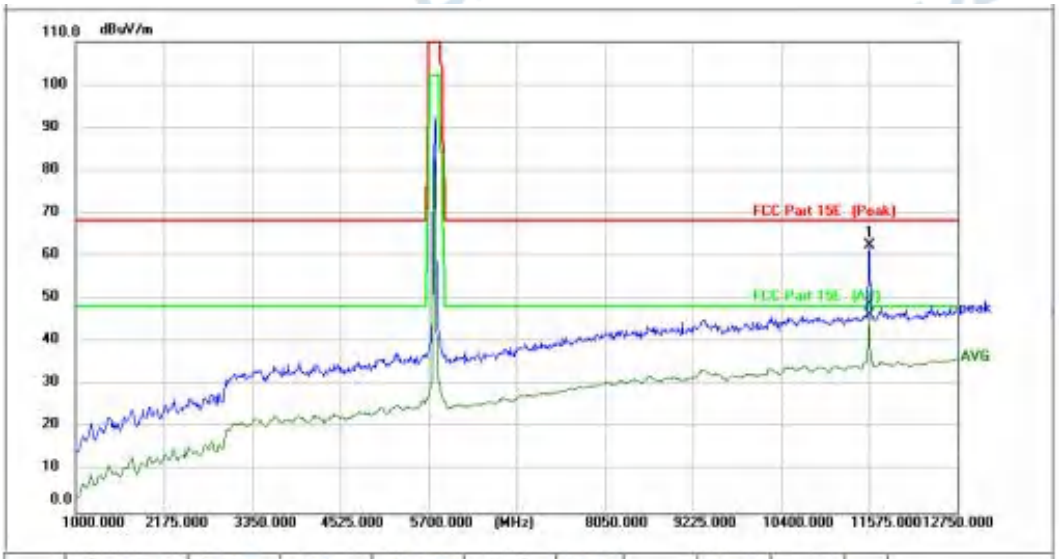
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	11492.750	54.51	9.66	64.17	68.20	-4.03	peak	150		P	
2 *	11492.750	36.22	9.66	45.88	48.20	-2.32	AVG	150		P	

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



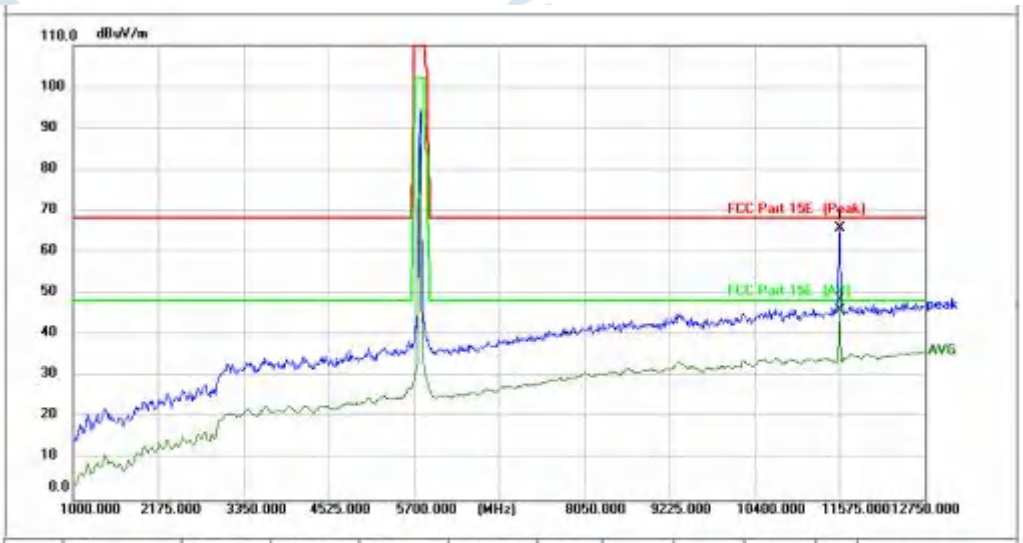
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	11492.750	55.13	9.66	64.79	68.20	-3.41	peak	150		P	
2 *	11492.750	36.37	9.66	46.03	48.20	-2.17	AVG	150		P	

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



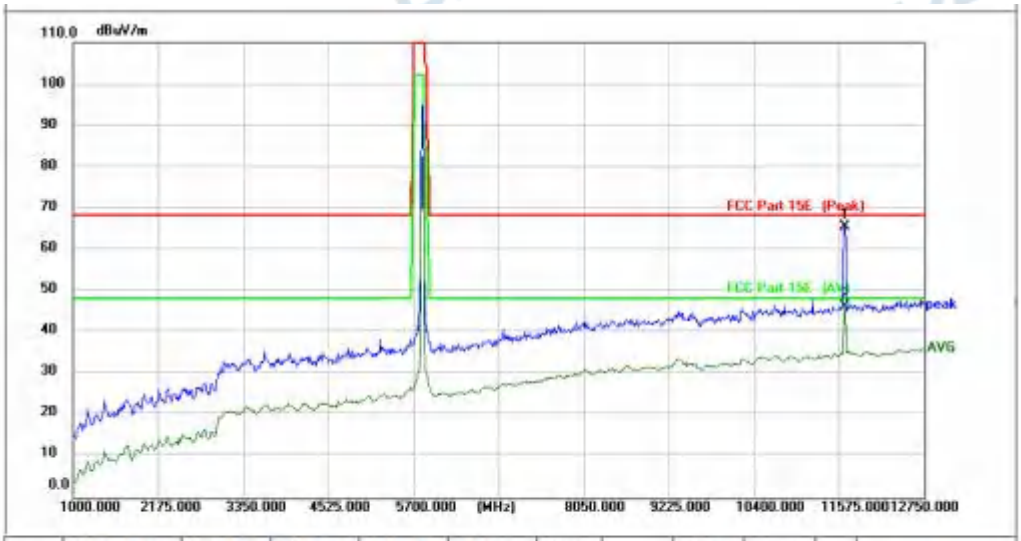
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	11575.000	52.94	9.72	62.66	68.20	-5.54	peak	150		P	
2 *	11575.000	36.51	9.72	46.23	48.20	-1.97	AVG	150		P	

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



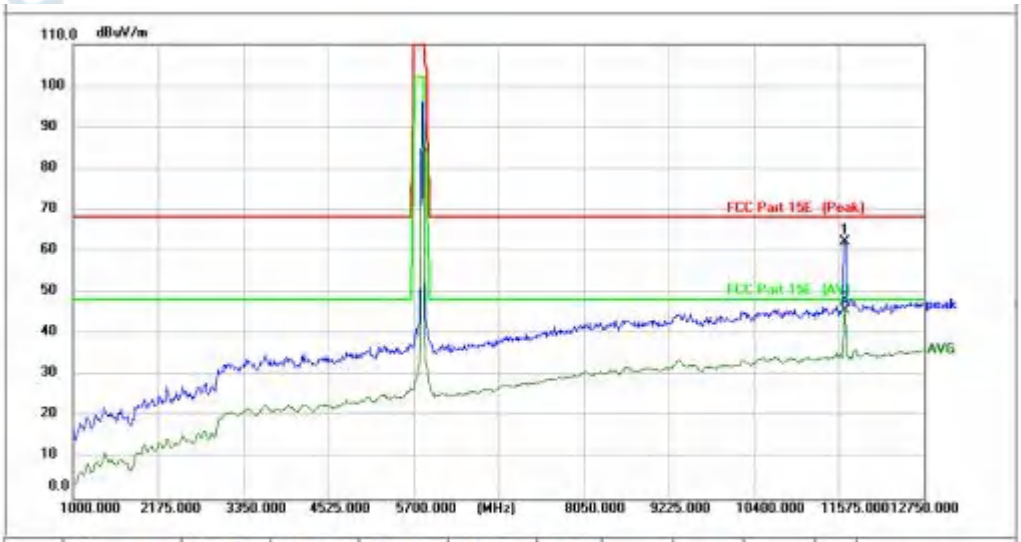
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	11575.000	56.13	9.72	65.85	68.20	-2.35	peak	150		P	
2 *	11575.000	36.31	9.72	46.03	48.20	-2.17	AVG	150		P	

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	11657.250	55.92	9.77	65.69	68.20	-2.51	peak	150		P	
2 *	11657.250	36.70	9.77	46.47	48.20	-1.73	AVG	150		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	11657.250	52.40	9.77	62.17	68.20	-6.03	peak	150		P	
2 *	11657.250	36.10	9.77	45.87	48.20	-2.33	AVG	150		P	

Remark: 1.Margin= Level – Limit; Level=Test receiver reading + correction factor

2. 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

Please Refer to DACE240819004RF001 for Details.

6 PHOTOS OF THE EUT

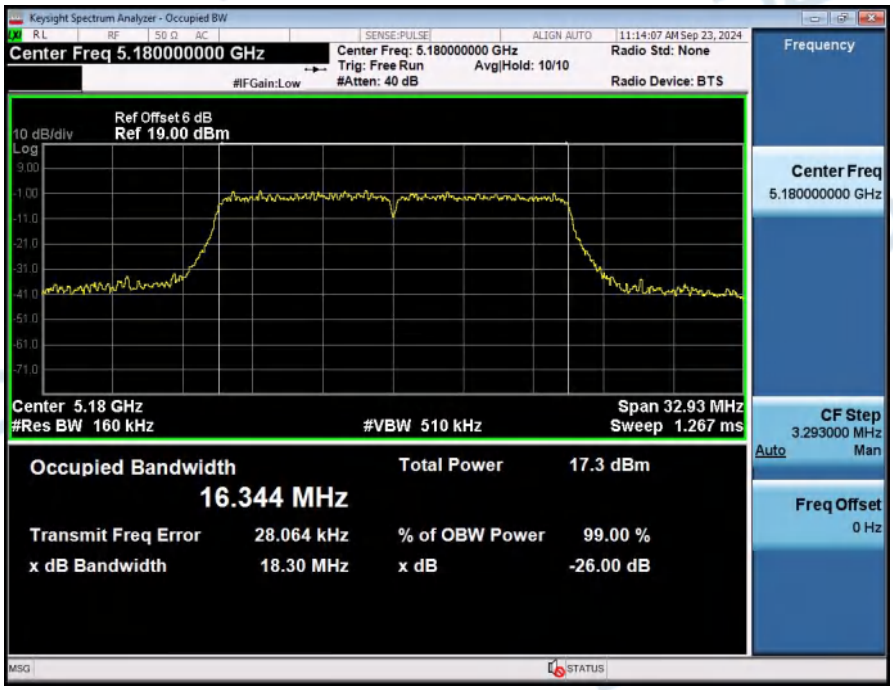
Please Refer to DACE240819004RF001 for Details.

Appendix-5.2G

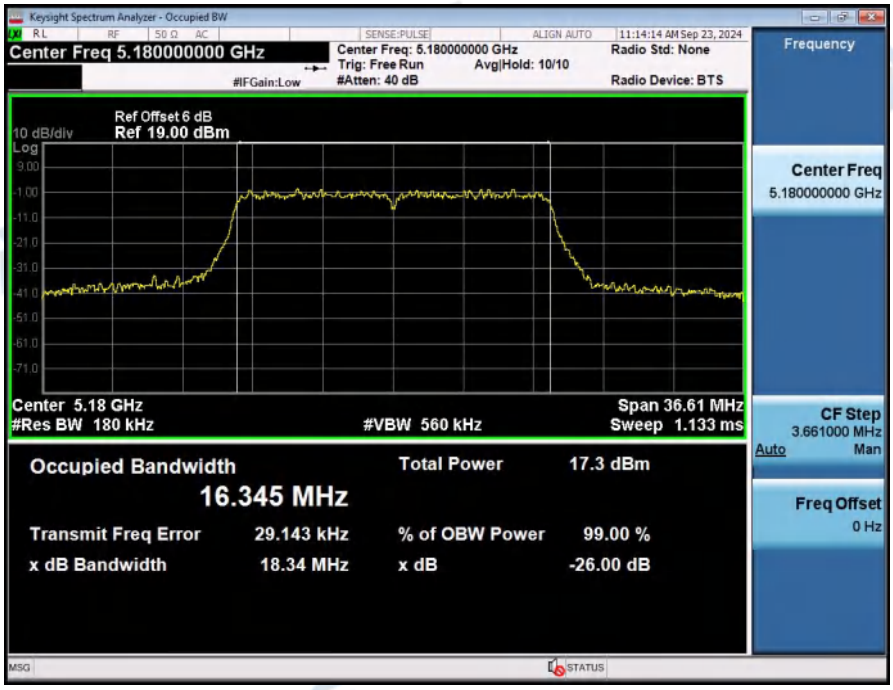
1. -26dB and 99% Emission Bandwidth

Condition	Antenna	Modulation	Frequency(MHz)	-26dB_Emission_Bandwidth (MHz)	Occupied Bandwidth(MHz)
NVNT	ANT1	802.11a	5180.00	18.34	16.34
NVNT	ANT1	802.11a	5200.00	18.23	16.33
NVNT	ANT1	802.11a	5240.00	18.35	16.34
NVNT	ANT1	802.11n(HT20)	5180.00	19.36	17.53
NVNT	ANT1	802.11n(HT20)	5200.00	19.21	17.53
NVNT	ANT1	802.11n(HT20)	5240.00	19.29	17.53
NVNT	ANT1	802.11ac(VHT20)	5180.00	19.22	17.55
NVNT	ANT1	802.11ac(VHT20)	5200.00	19.21	17.53
NVNT	ANT1	802.11ac(VHT20)	5240.00	19.43	17.56
NVNT	ANT1	802.11n(HT40)	5190.00	41.18	36.12
NVNT	ANT1	802.11n(HT40)	5230.00	40.97	36.05
NVNT	ANT1	802.11ac(VHT40)	5190.00	40.63	36.07
NVNT	ANT1	802.11ac(VHT40)	5230.00	40.85	36.06
NVNT	ANT1	802.11ac(VHT80)	5210.00	80.59	74.52

99%_OCB_NVNT_ANT1_802_11a_5180



-26BW_NVNT_ANT1_802_11a_5180



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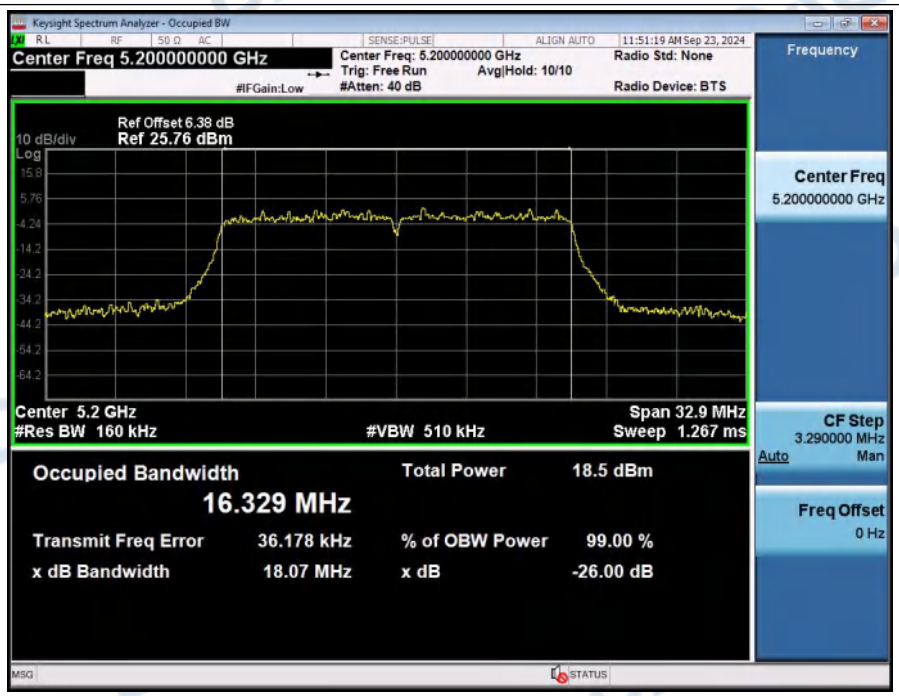

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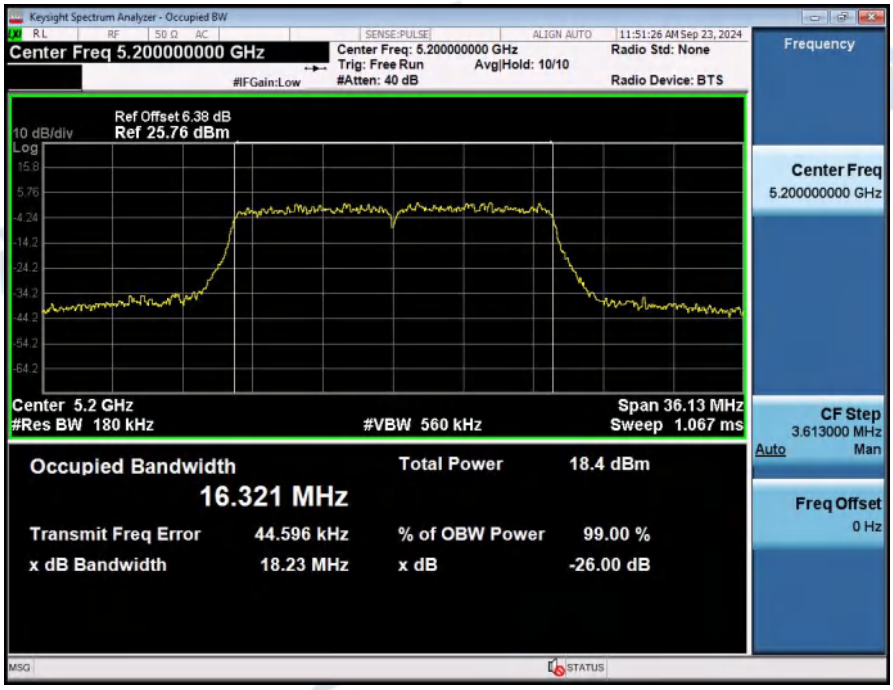

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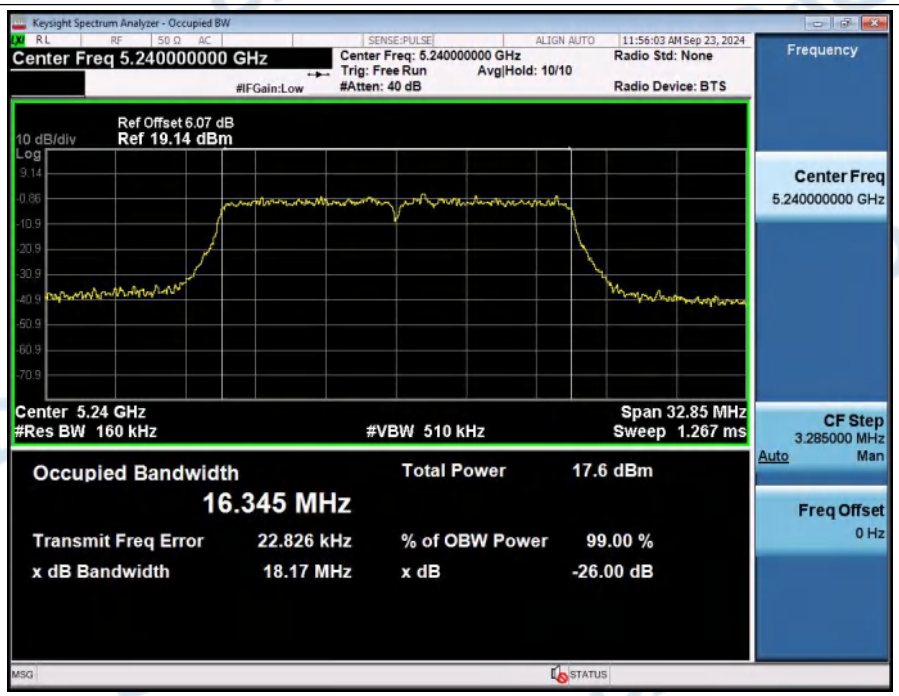

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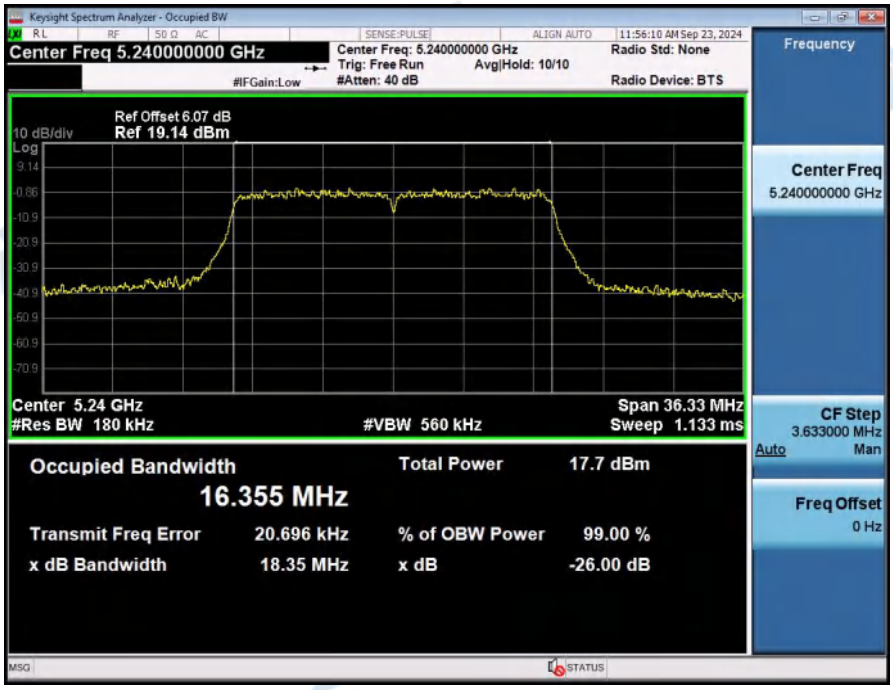
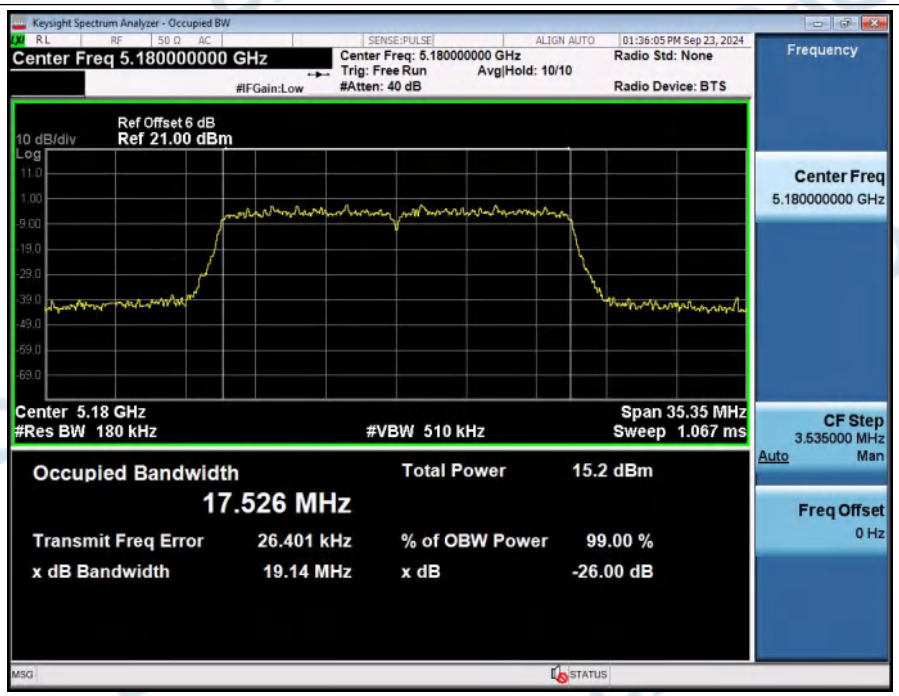


99%_OCB_NVNT_ANT1_802_11n(HT20)_5180



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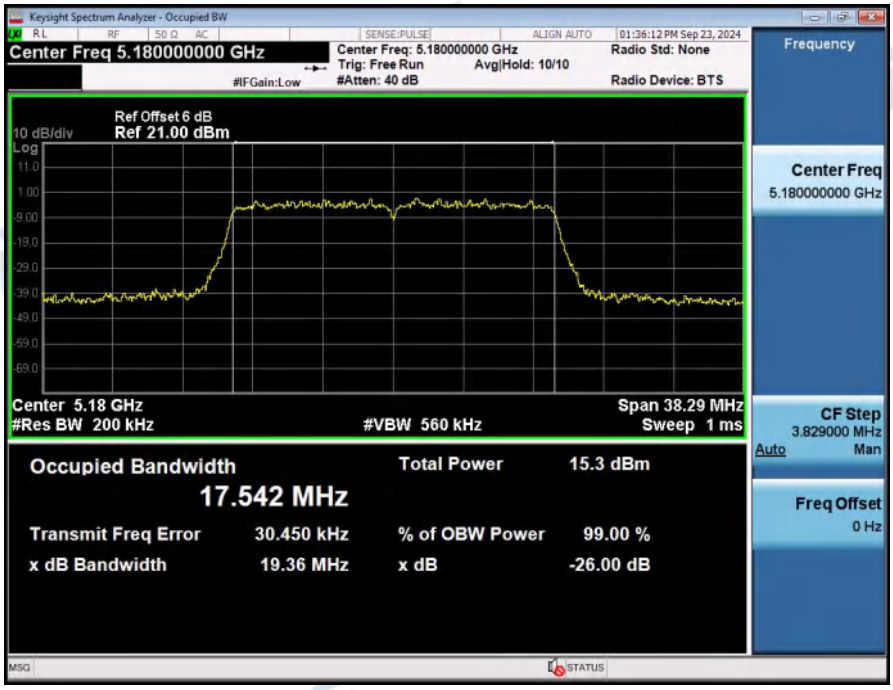
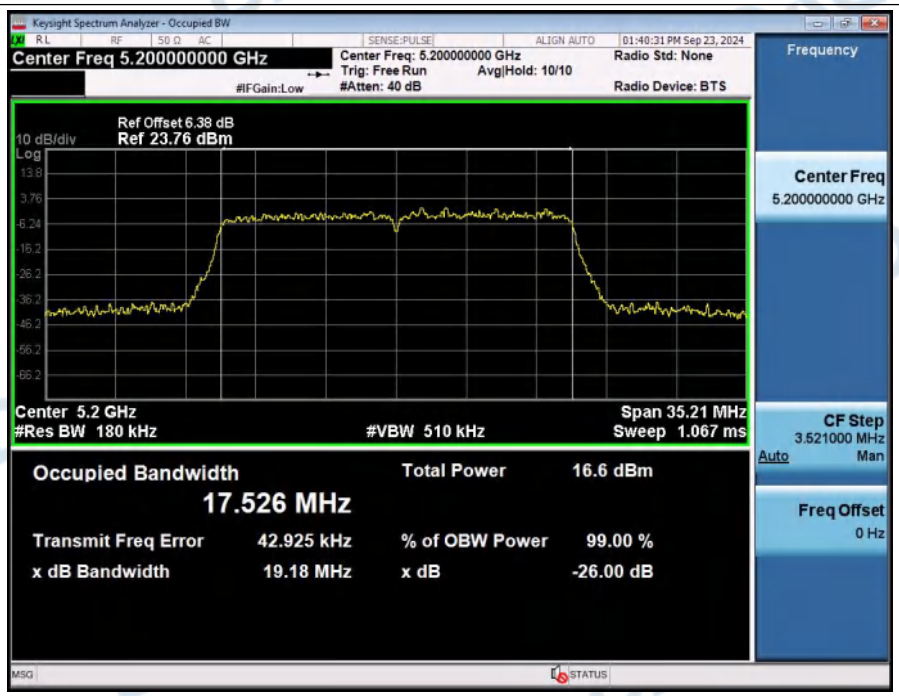


99%_OCB_NVNT_ANT1_802_11n(HT20)_5200



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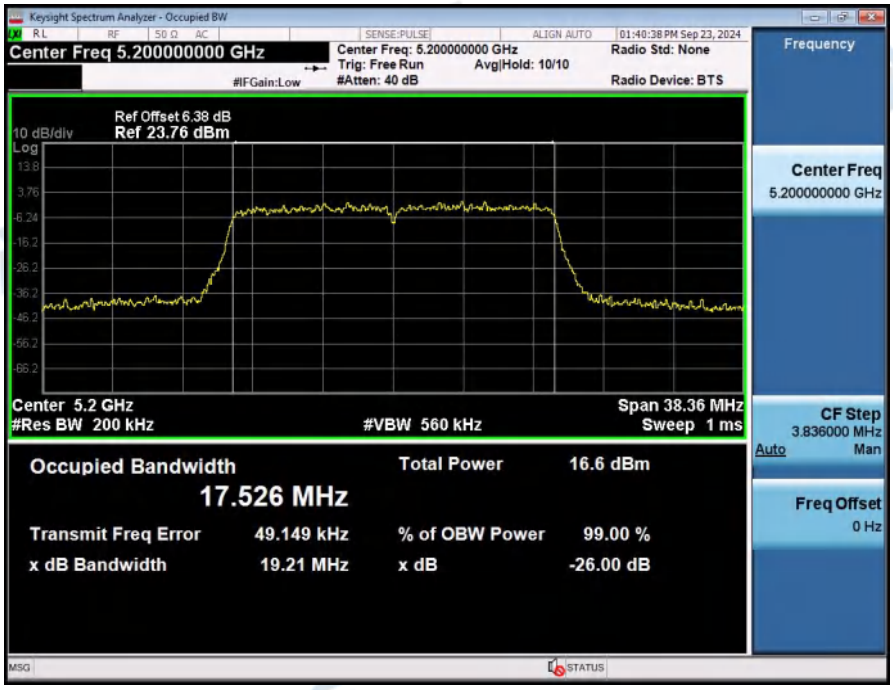

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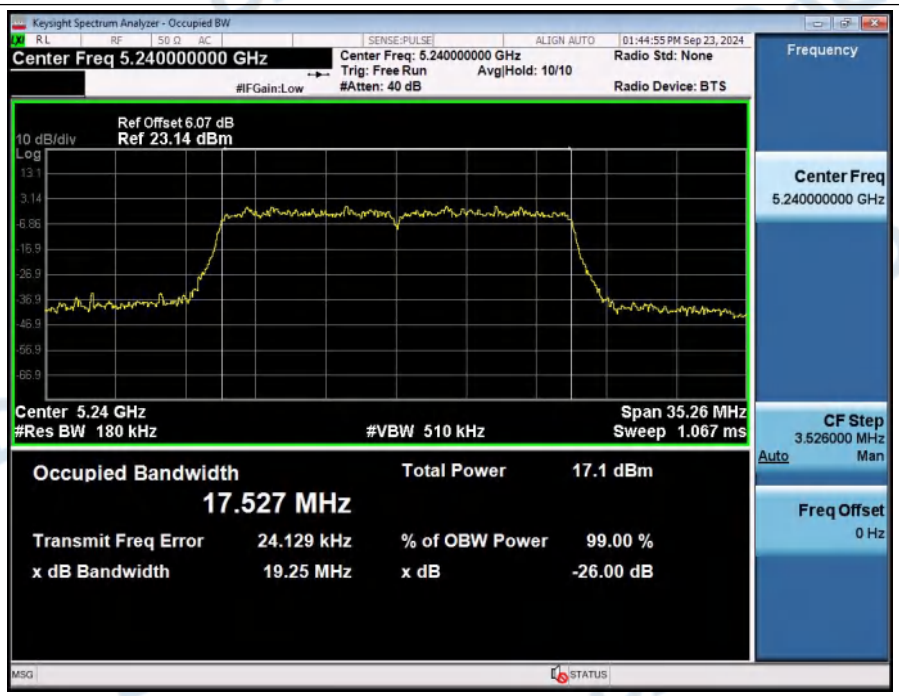

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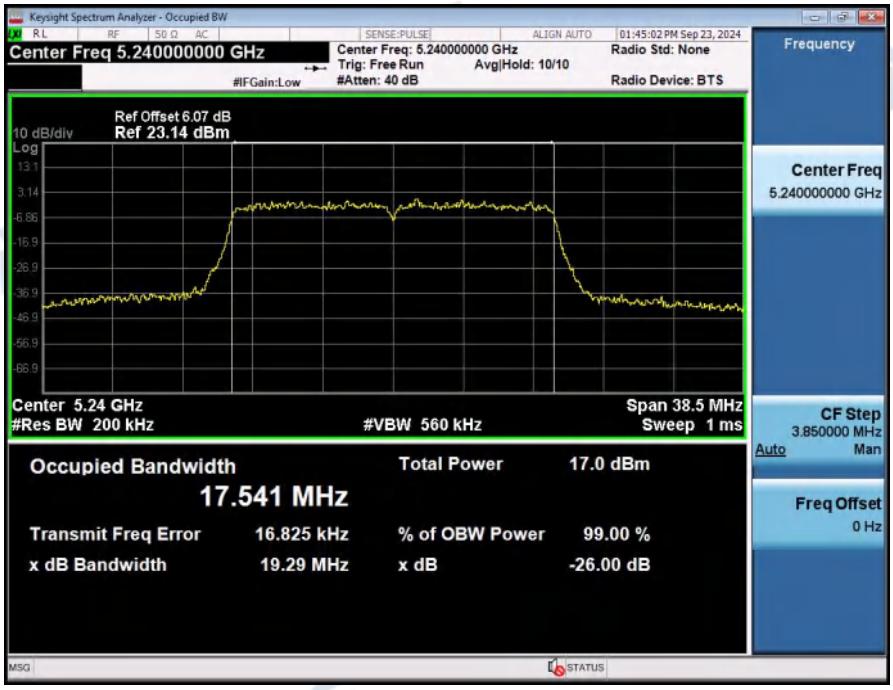
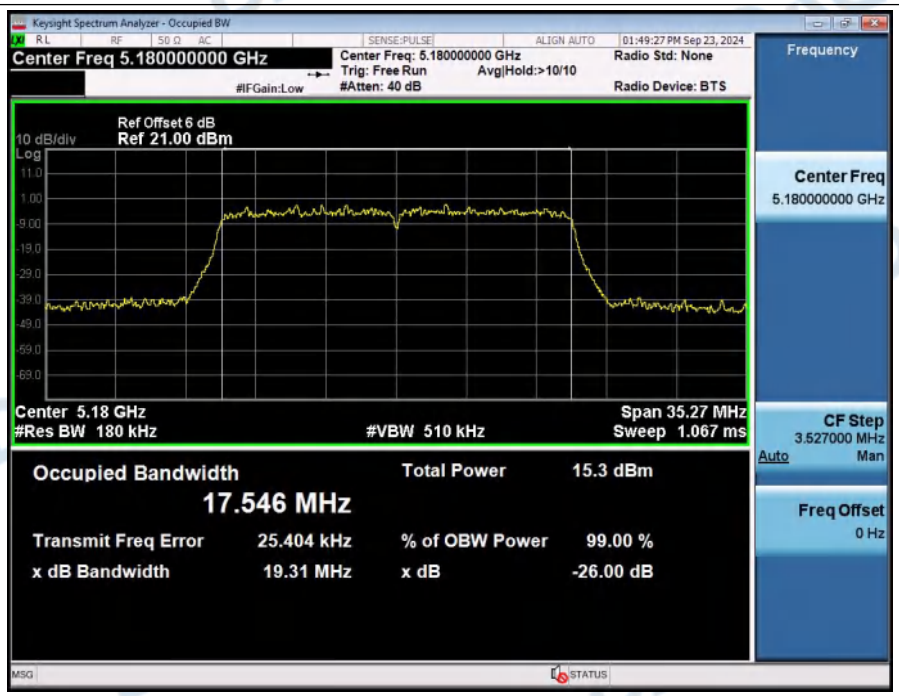


99%_OCB_NVNT_ANT1_802_11ac(VHT20)_5180



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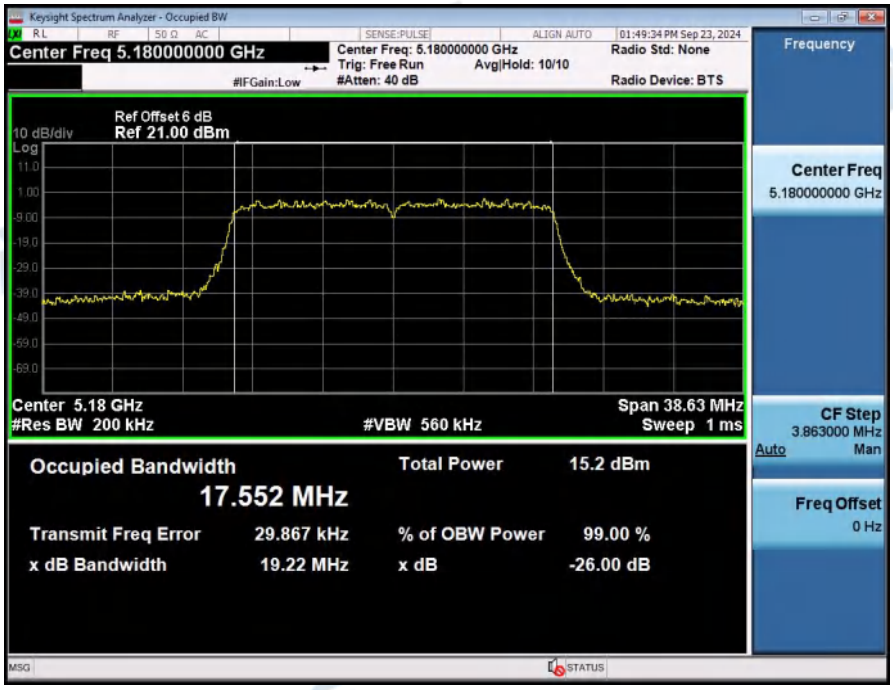
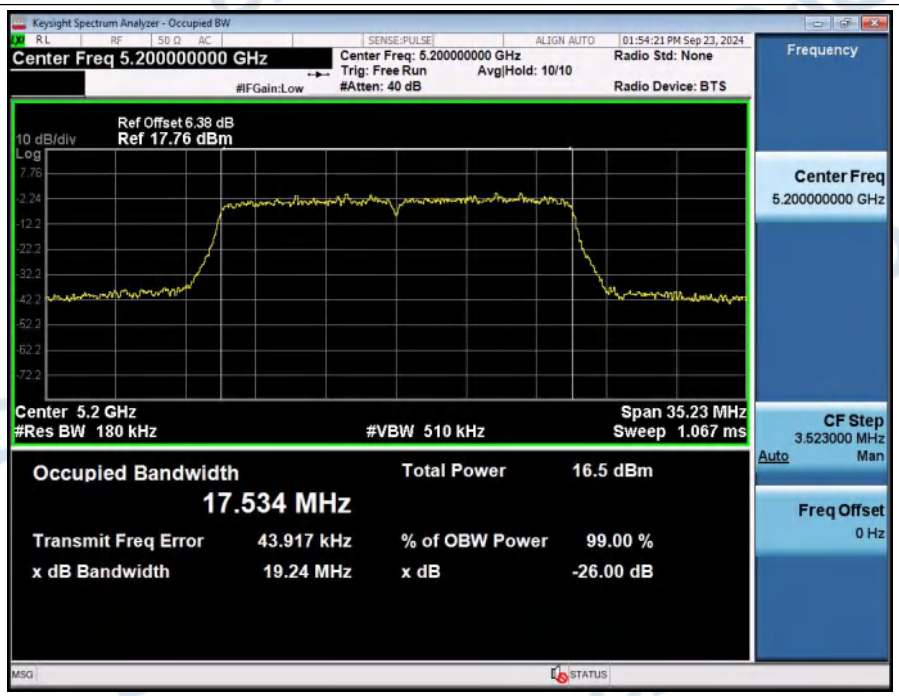


99%_OCB_NVNT_ANT1_802_11ac(VHT20)_5200



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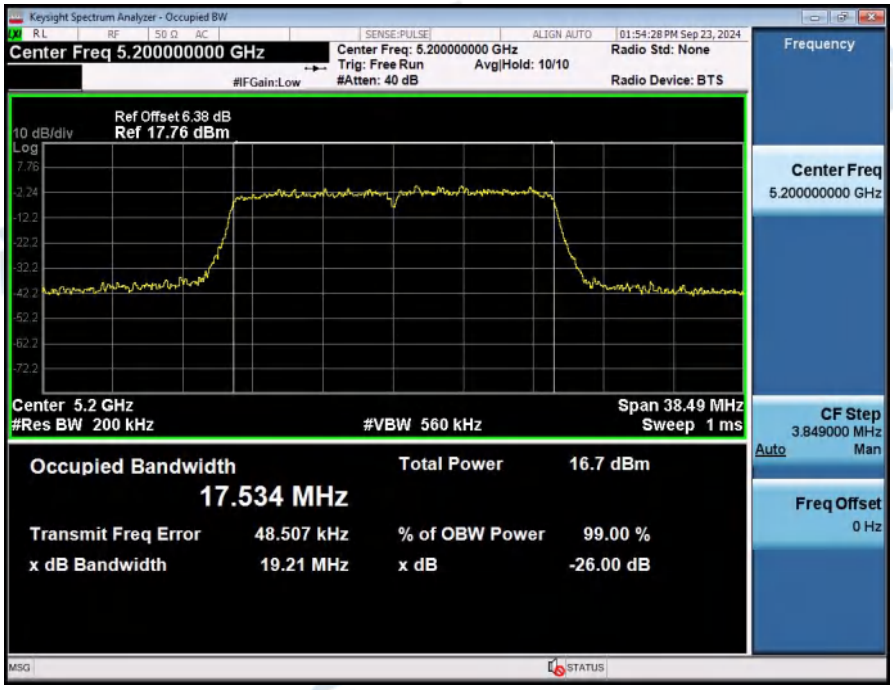

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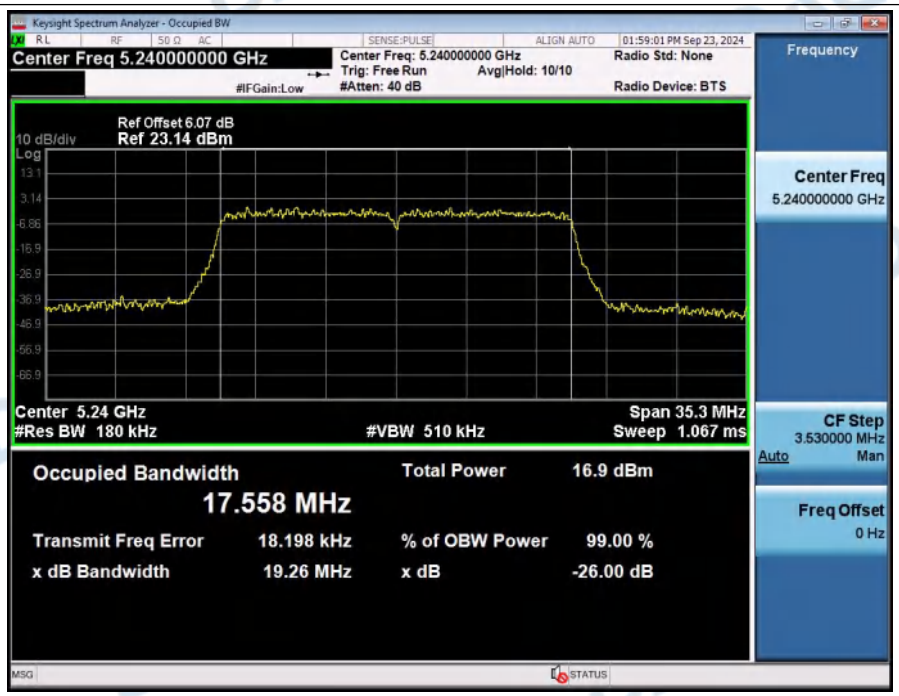

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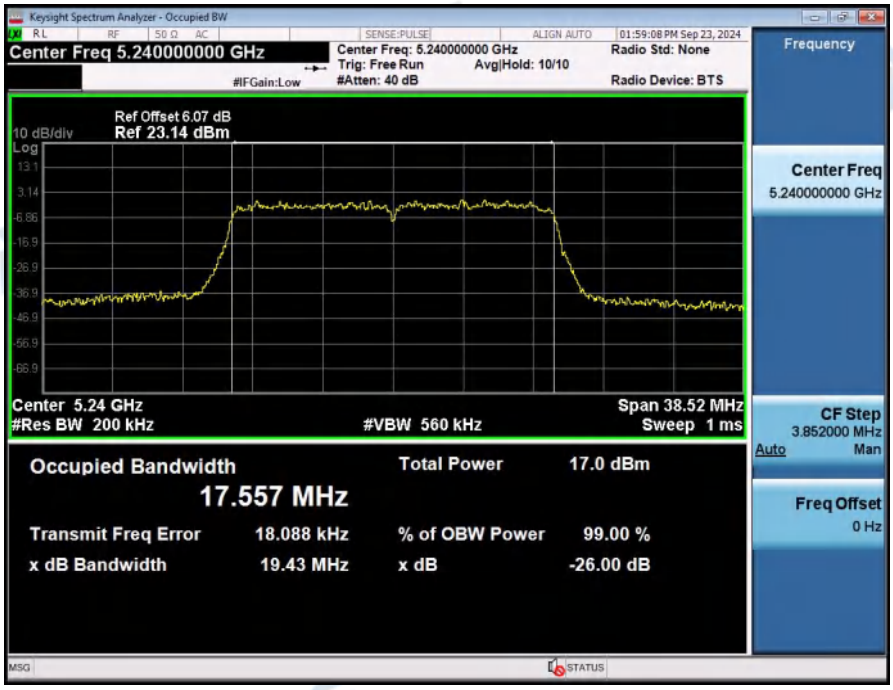
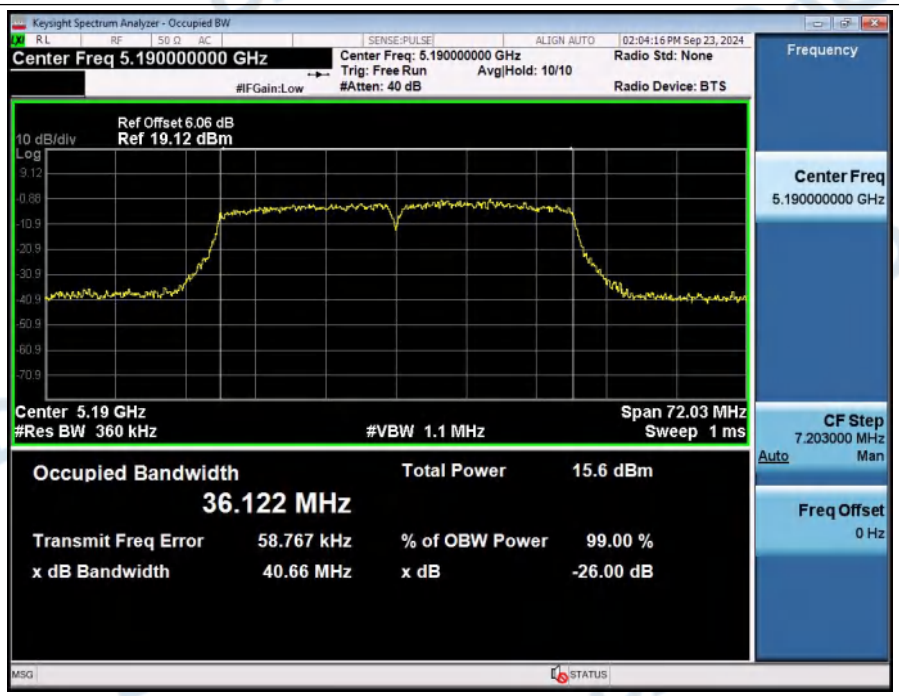
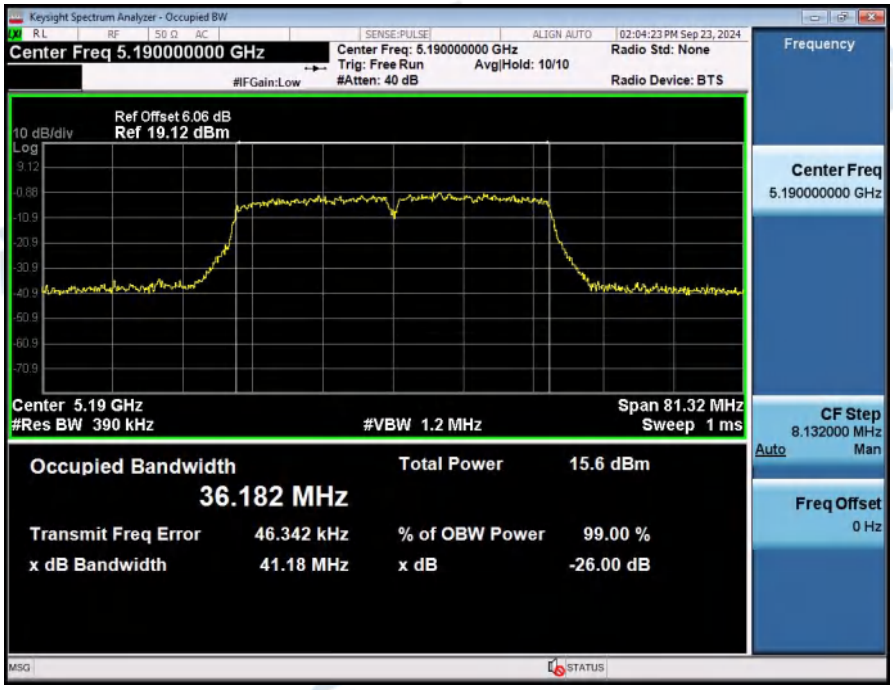


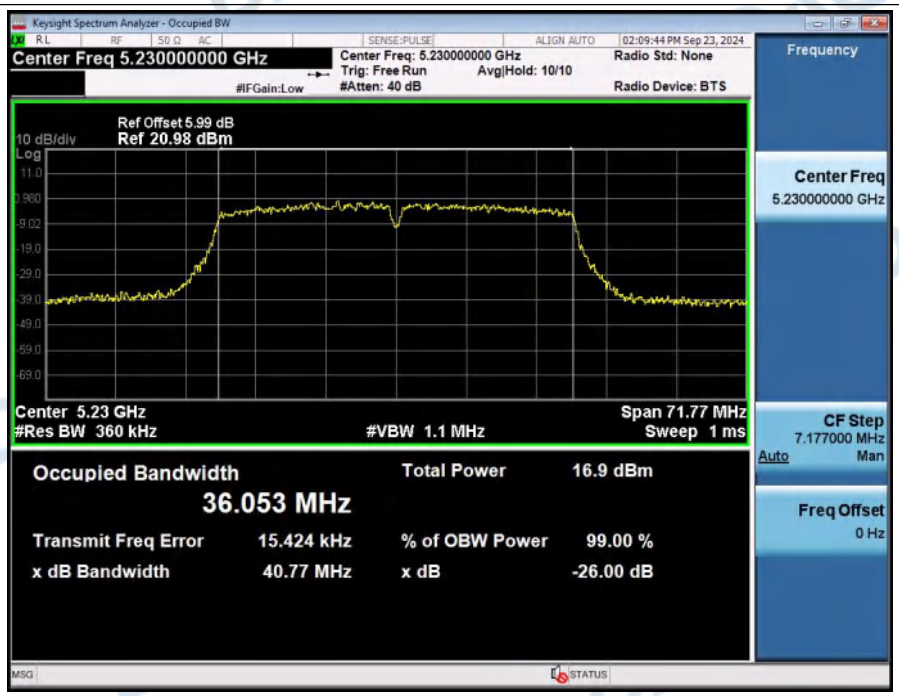
99%_OCB_NVNT_ANT1_802_11n(HT40)_5190



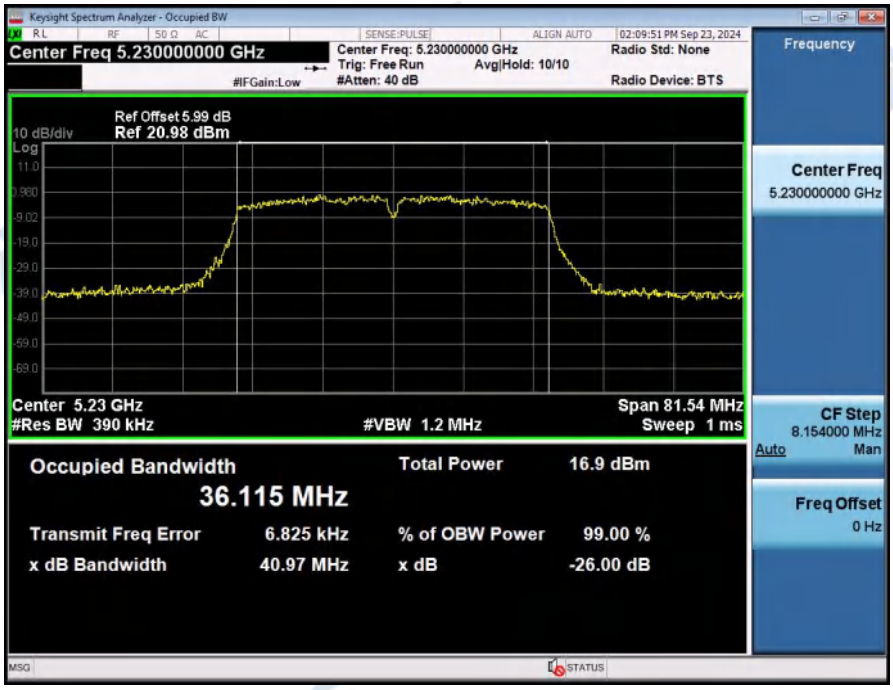
-26BW_NVNT_ANT1_802_11n(HT40)_5190



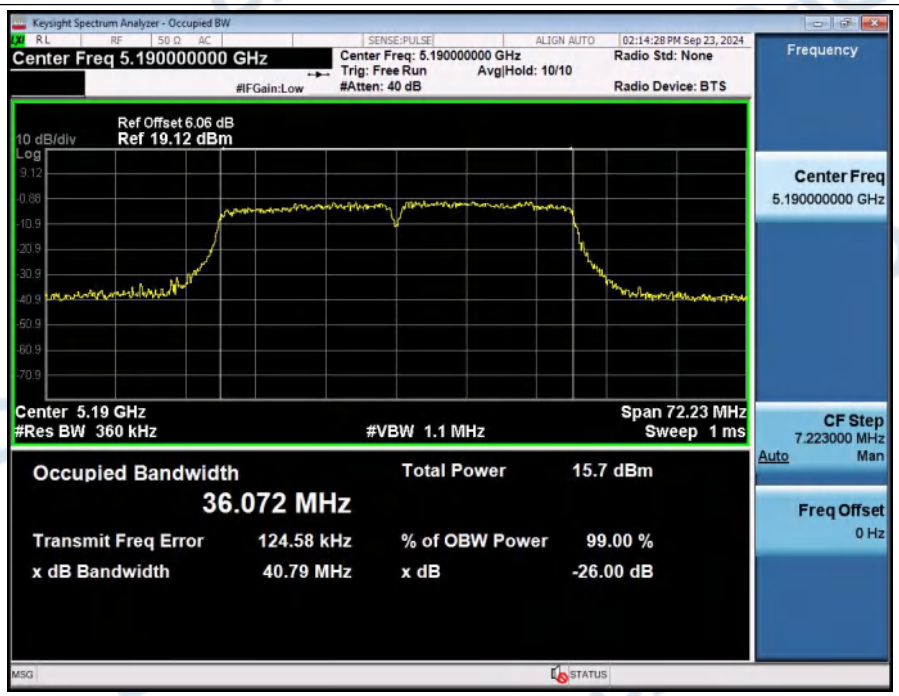
99%_OCB_NVNT_ANT1_802_11n(HT40)_5230



-26BW_NVNT_ANT1_802_11n(HT40)_5230



99%_OCB_NVNT_ANT1_802_11ac(VHT40)_5190



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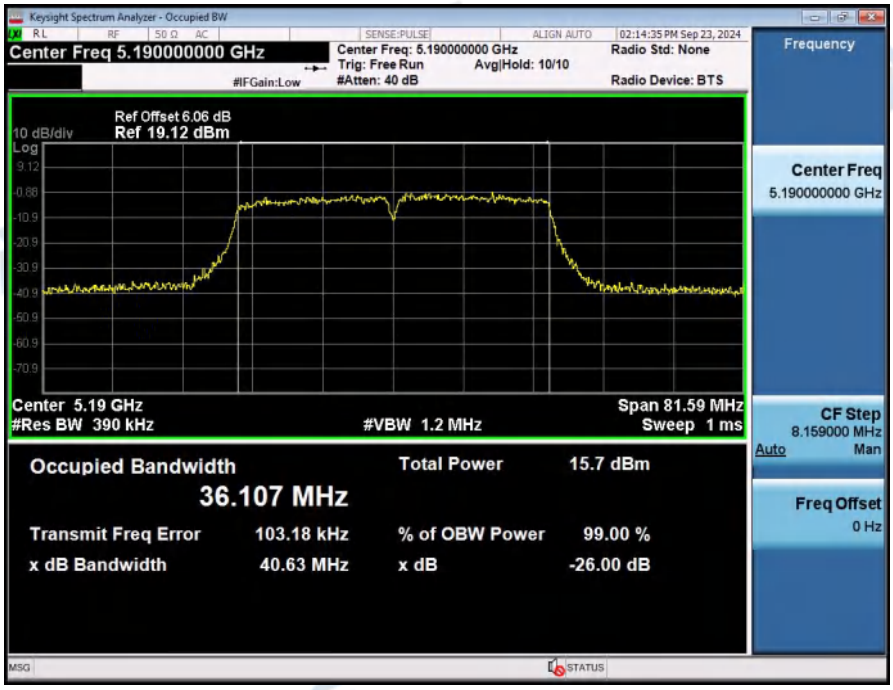
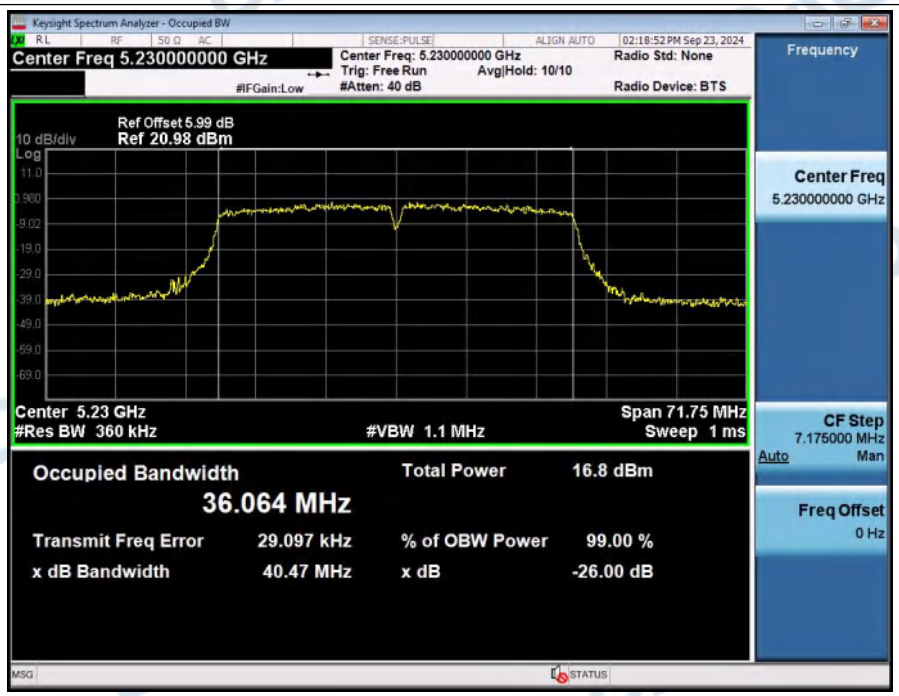


99%_OCB_NVNT_ANT1_802_11ac(VHT40)_5230



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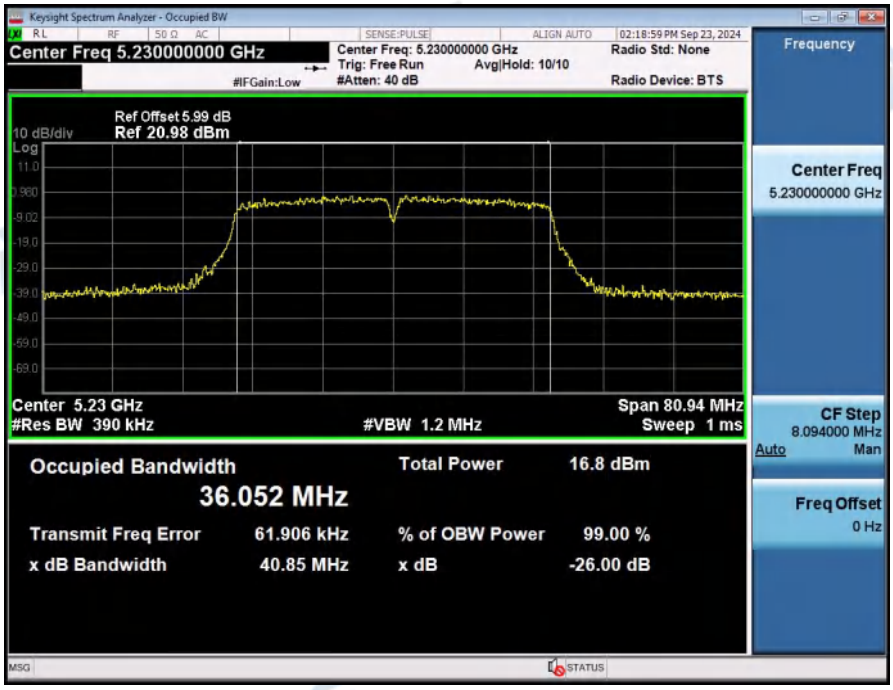
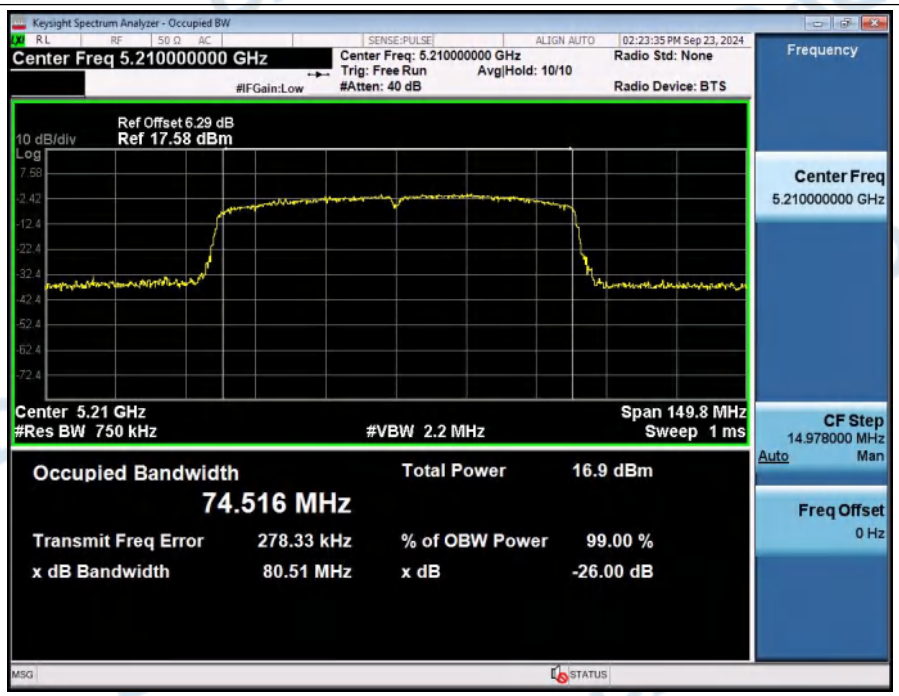
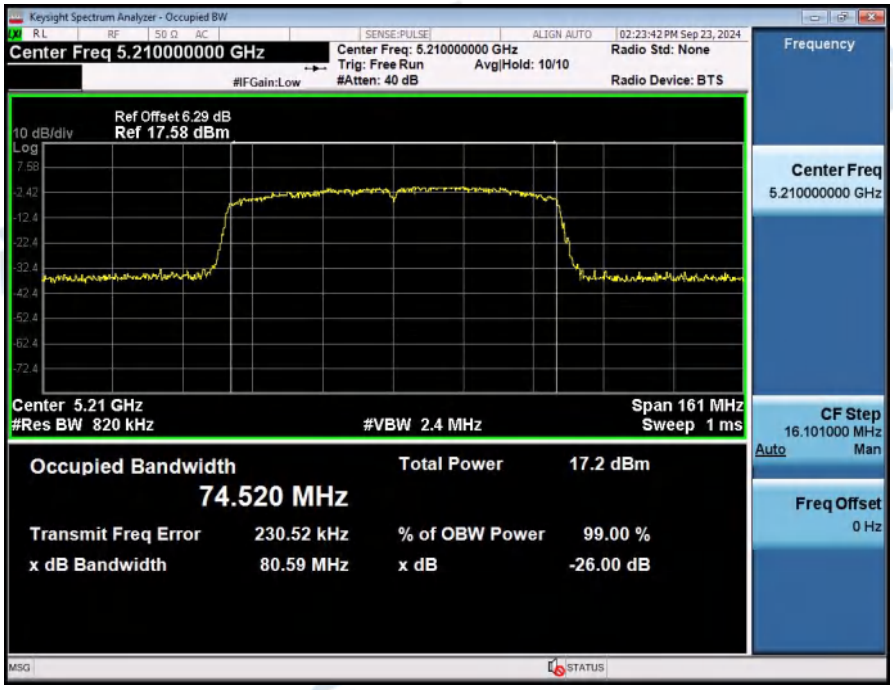


99%_OCB_NVNT_ANT1_802_11ac(VHT80)_5210



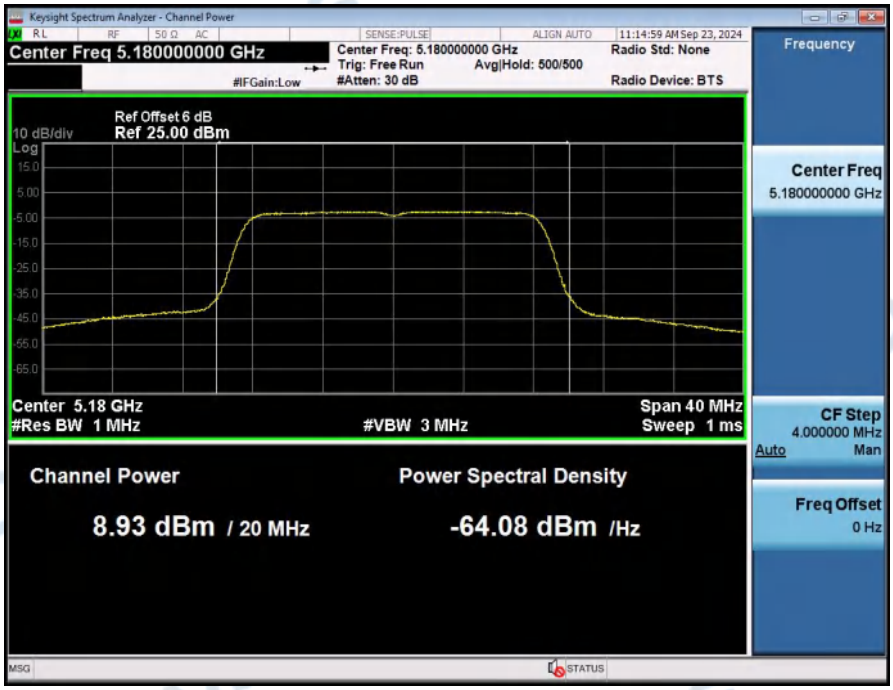
-26BW_NVNT_ANT1_802_11ac(VHT80)_5210


Keysight Spectrum Analyzer - Occupied BW
Center Freq 5.210000000 GHz
Center Freq: 5.210000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
02:23:42 PM Sep 23, 2024
Frequency
Ref Offset 6.29 dB
10 dB/div
Ref 17.58 dBm
Center Freq
5.210000000 GHz
Center 5.21 GHz
#Res BW 820 kHz
#VBW 2.4 MHz
Span 161 MHz
Sweep 1 ms
CF Step
16.101000 MHz
Auto
Man
Occupied Bandwidth
74.520 MHz
Total Power 17.2 dBm
Transmit Freq Error 230.52 kHz
% of OBW Power 99.00 %
x dB Bandwidth 80.59 MHz
x dB -26.00 dB
Freq Offset
0 Hz
MSG
STATUS

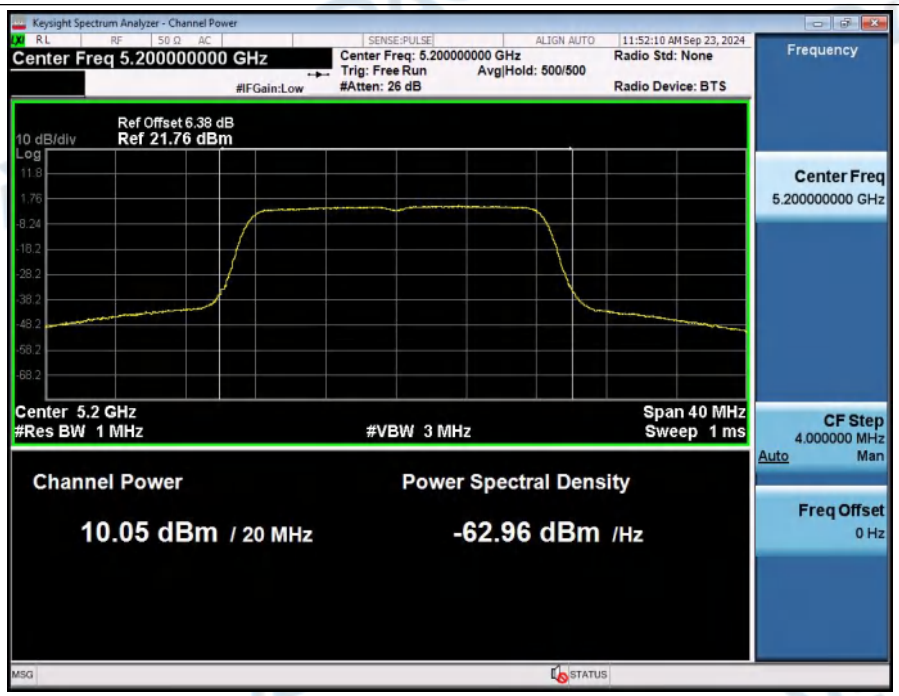
2. Maximum Conducted Output Power

Condition	Antenna	Modulation	Frequency (MHz)	Conducted Power(dBm)	limit(dBm)	Result
NVNT	ANT1	802.11a	5180.00	8.93	24	Pass
NVNT	ANT1	802.11a	5200.00	10.05	24	Pass
NVNT	ANT1	802.11a	5240.00	9.85	24	Pass
NVNT	ANT1	802.11n(HT20)	5180.00	7.31	24	Pass
NVNT	ANT1	802.11n(HT20)	5200.00	8.84	24	Pass
NVNT	ANT1	802.11n(HT20)	5240.00	9.16	24	Pass
NVNT	ANT1	802.11ac(VHT20)	5180.00	7.39	24	Pass
NVNT	ANT1	802.11ac(VHT20)	5200.00	8.93	24	Pass
NVNT	ANT1	802.11ac(VHT20)	5240.00	9.22	24	Pass
NVNT	ANT1	802.11n(HT40)	5190.00	6.94	24	Pass
NVNT	ANT1	802.11n(HT40)	5230.00	7.77	24	Pass
NVNT	ANT1	802.11ac(VHT40)	5190.00	6.89	24	Pass
NVNT	ANT1	802.11ac(VHT40)	5230.00	7.77	24	Pass
NVNT	ANT1	802.11ac(VHT80)	5210.00	6.34	24	Pass

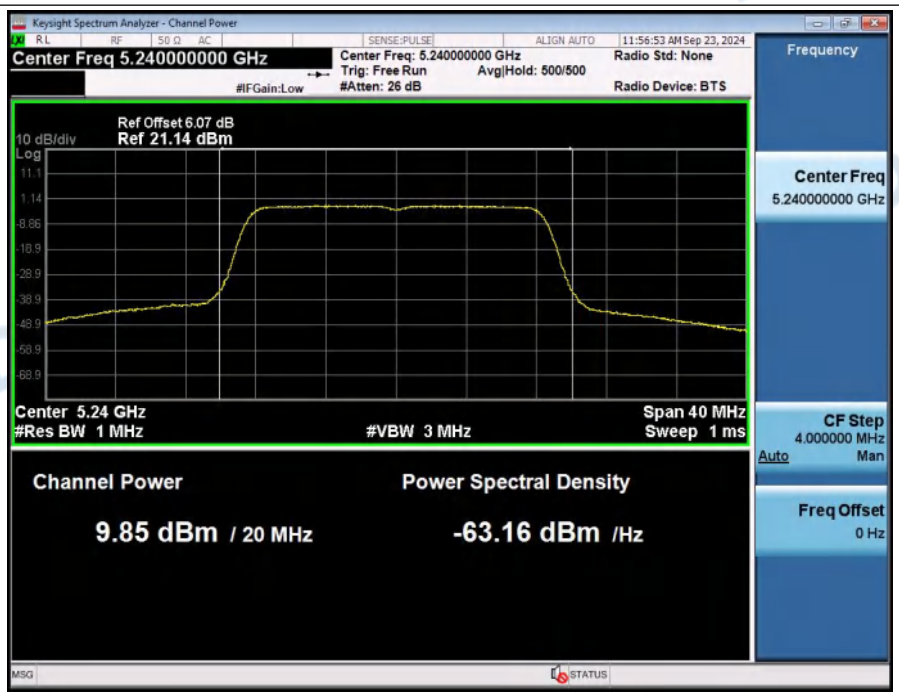
Maximum_Conducted_Output_Power_NVNT_ANT1_802_11a_5180_20M



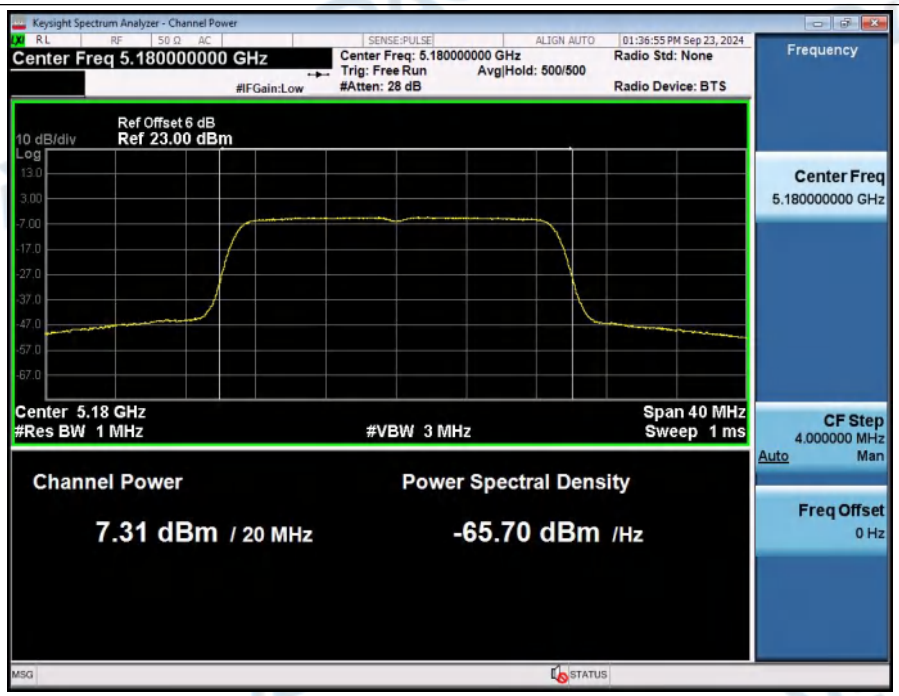
Maximum_Conducted_Output_Power_NVNT_ANT1_802_11a_5200_20M



Maximum_Conducted_Output_Power_NVNT_ANT1_802_11a_5240_20M

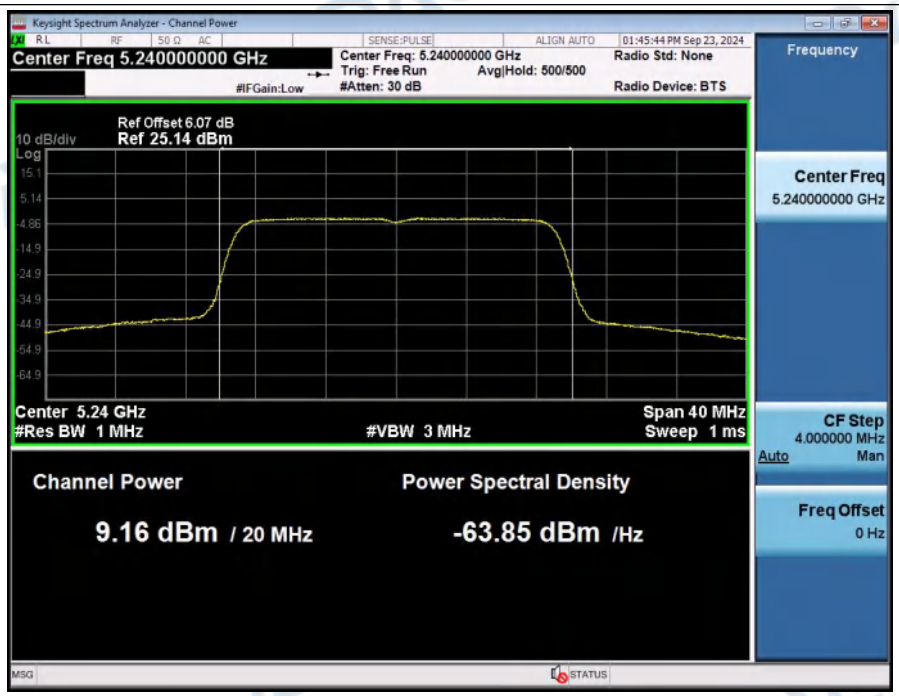


Maximum_Conducted_Output_Power_NVNT_ANT1_802_11n(HT20)_5180_20M

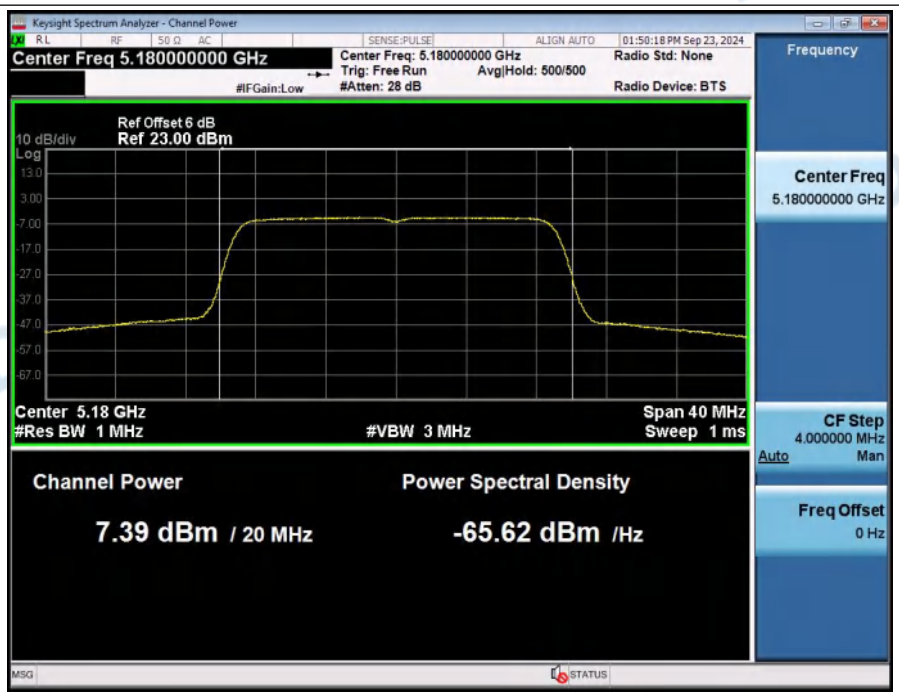


Maximum_Conducted_Output_Power_NVNT_ANT1_802_11n(HT20)_5200_20M

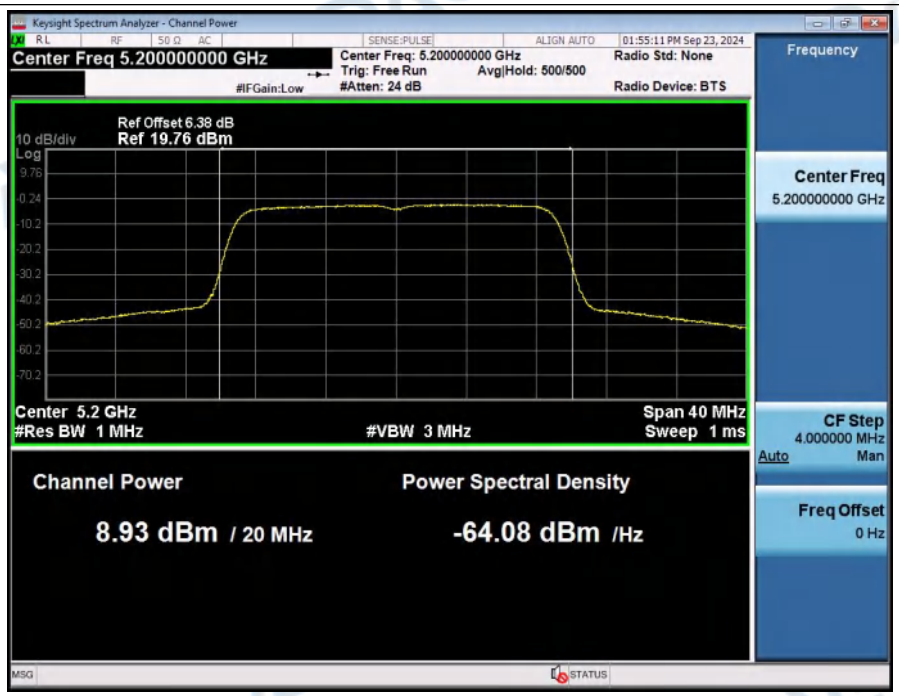
Maximum_Conducted_Output_Power_NVNT_ANT1_802_11n(HT20)_5240_20M



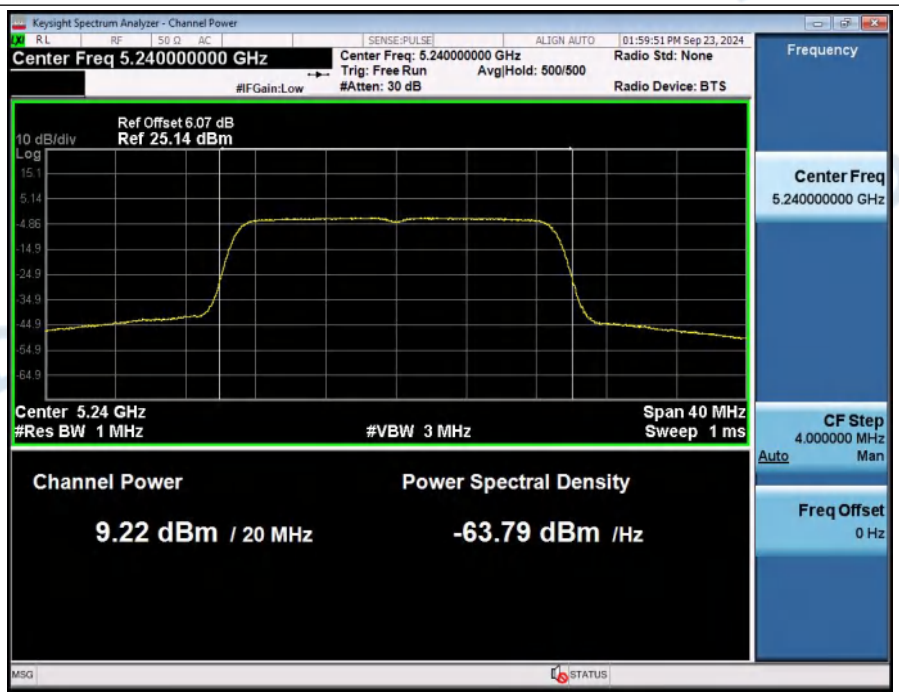
Maximum_Conducted_Output_Power_NVNT_ANT1_802_11ac(VHT20)_5180_20M



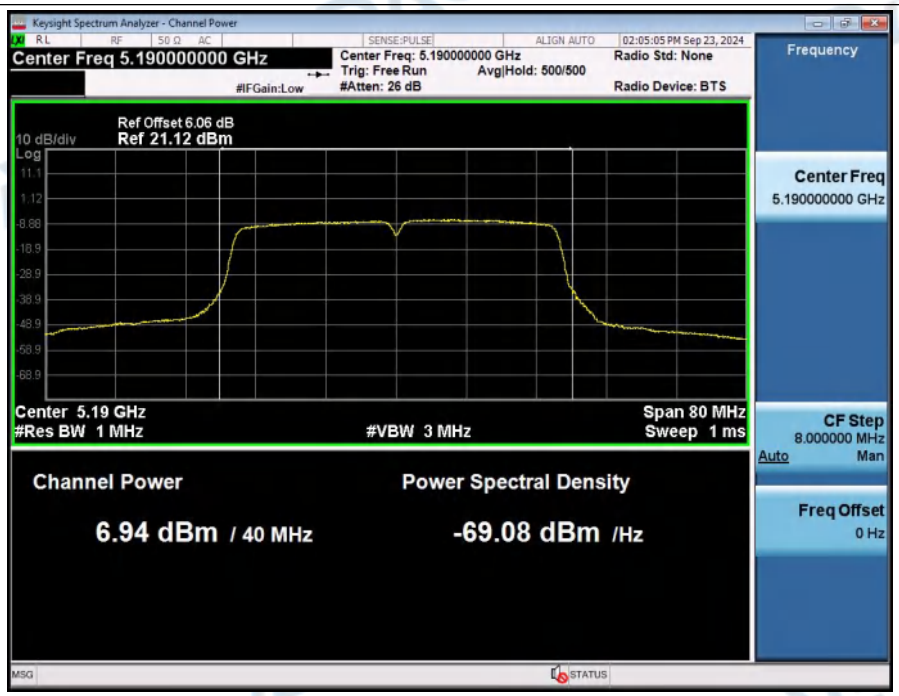
Maximum_Conducted_Output_Power_NVNT_ANT1_802_11ac(VHT20)_5200_20M



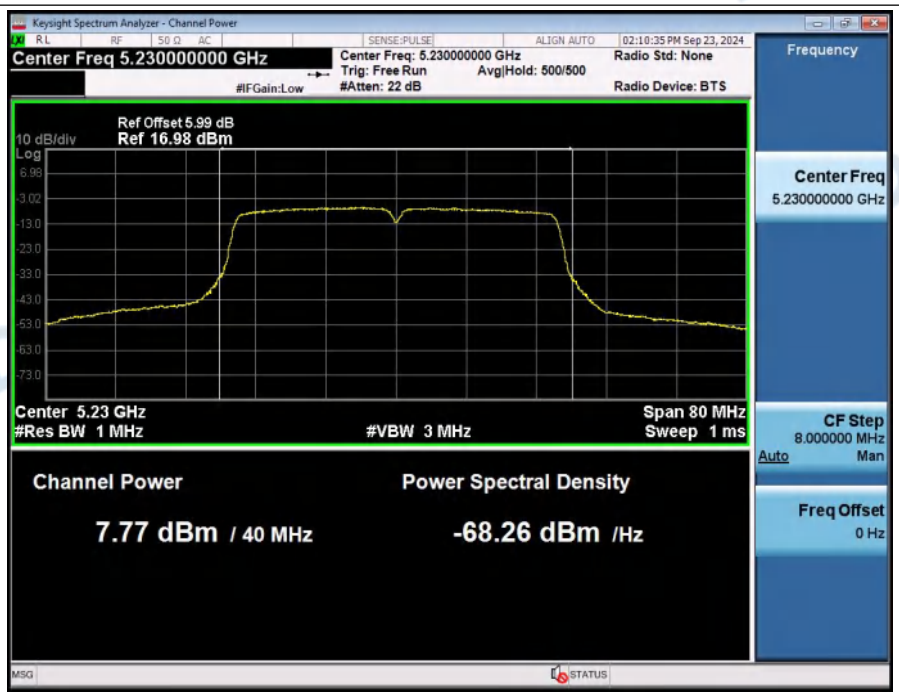
Maximum_Conducted_Output_Power_NVNT_ANT1_802_11ac(VHT20)_5240_20M



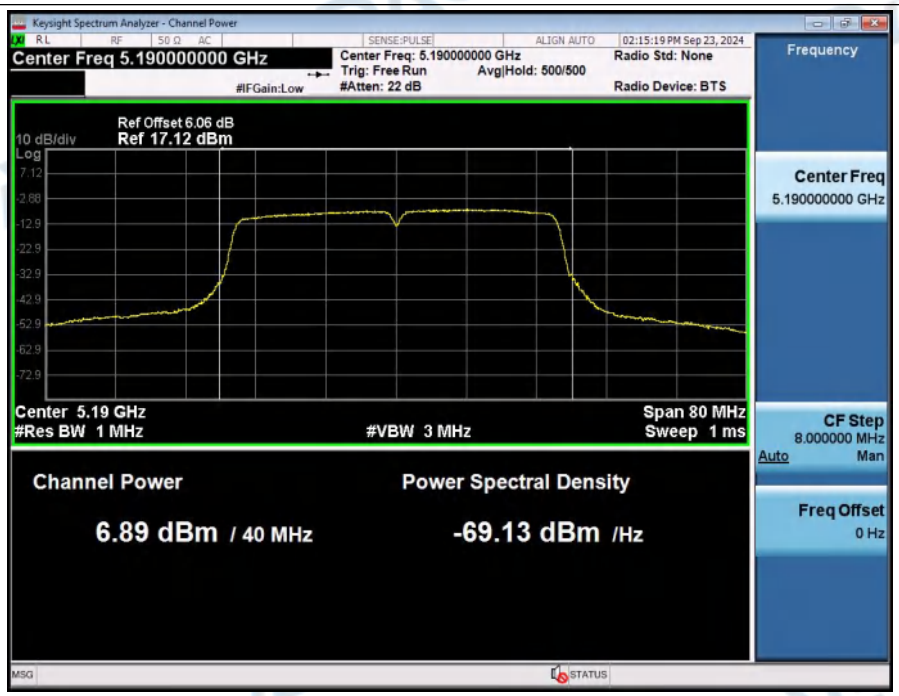
Maximum_Conducted_Output_Power_NVNT_ANT1_802_11n(HT40)_5190_40M



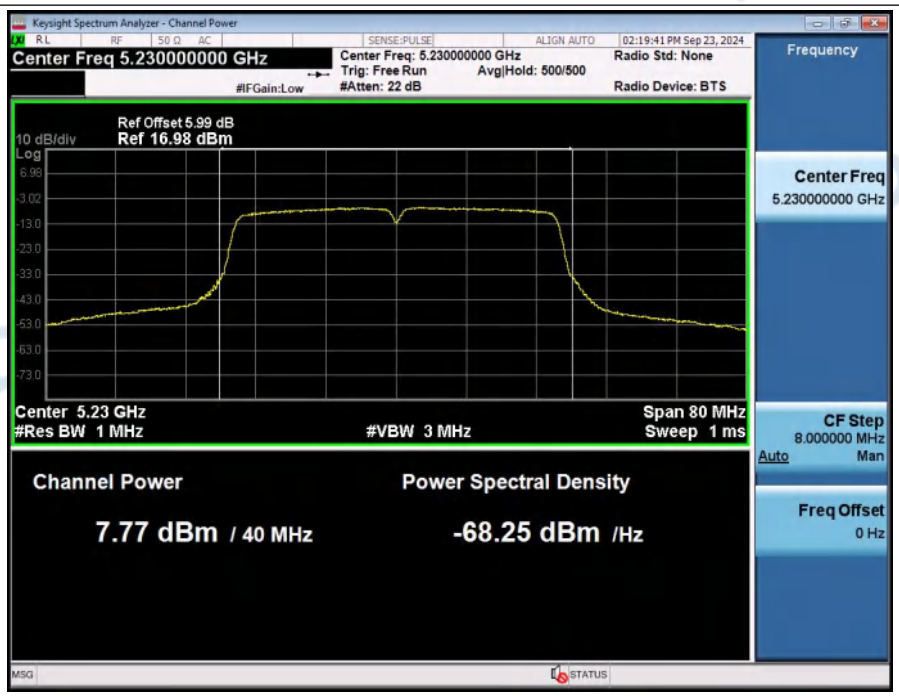
Maximum_Conducted_Output_Power_NVNT_ANT1_802_11n(HT40)_5230_40M



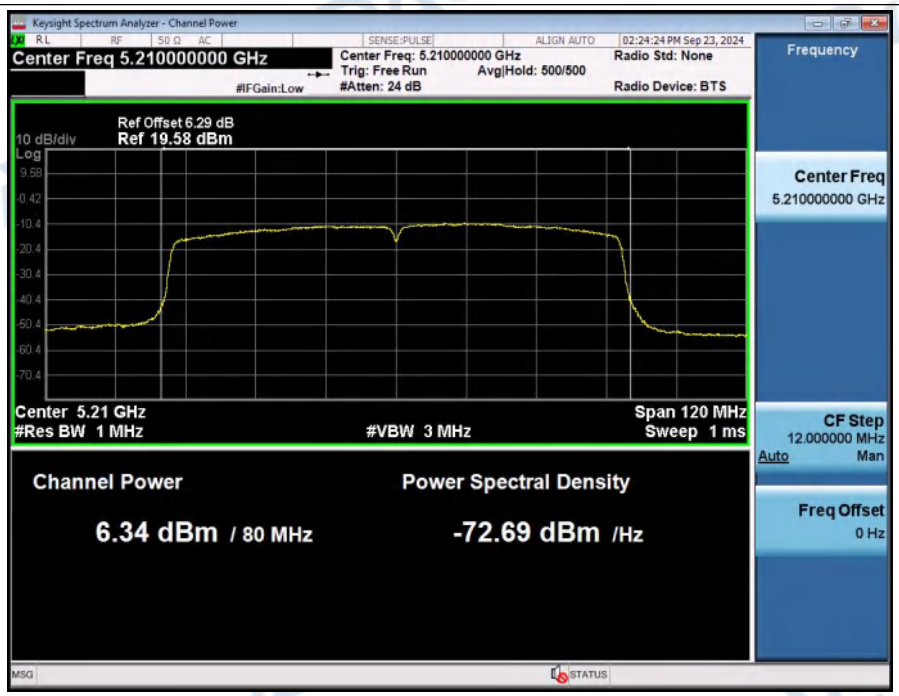
Maximum_Conducted_Output_Power_NVNT_ANT1_802_11ac(VHT40)_5190_40M



Maximum_Conducted_Output_Power_NVNT_ANT1_802_11ac(VHT40)_5230_40M



Maximum_Conducted_Output_Power_NVNT_ANT1_802_11ac(VHT80)_5210_80M



3. Power Spectral Density

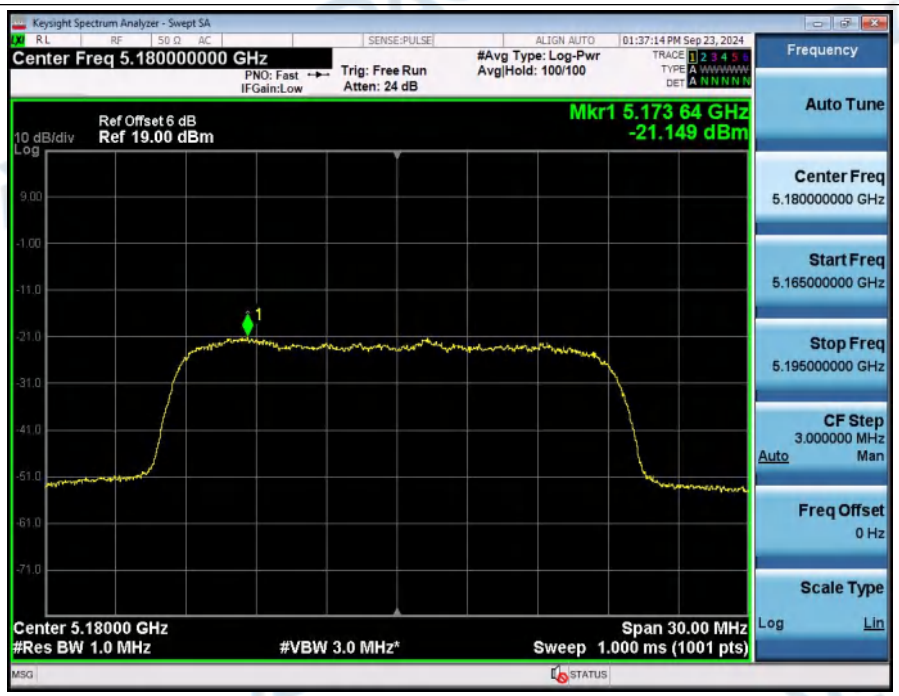
Condition	Antenna	Modulation	Frequency (MHz)	PSD (dBm/MHz)	Duty factor (dB)	Total PSD(dBm/MHz)	limit(dBm)	Result
NVNT	ANT1	802.11a	5180.00	-13.24	1.41	-11.83	11	Pass
NVNT	ANT1	802.11a	5200.00	-11.94	1.36	-10.58	11	Pass
NVNT	ANT1	802.11a	5240.00	-12.72	1.36	-11.36	11	Pass
NVNT	ANT1	802.11n(HT20)	5180.00	-21.15	1.43	-19.72	11	Pass
NVNT	ANT1	802.11n(HT20)	5200.00	-16.21	1.45	-14.76	11	Pass
NVNT	ANT1	802.11n(HT20)	5240.00	-16.93	1.43	-15.50	11	Pass
NVNT	ANT1	802.11ac(VHT20)	5180.00	-17.98	1.43	-16.55	11	Pass
NVNT	ANT1	802.11ac(VHT20)	5200.00	-18.70	1.43	-17.27	11	Pass
NVNT	ANT1	802.11ac(VHT20)	5240.00	-17.29	1.43	-15.86	11	Pass
NVNT	ANT1	802.11n(HT40)	5190.00	-30.50	2.57	-27.93	11	Pass
NVNT	ANT1	802.11n(HT40)	5230.00	-29.62	2.51	-27.11	11	Pass
NVNT	ANT1	802.11ac(VHT40)	5190.00	-29.14	2.51	-26.63	11	Pass
NVNT	ANT1	802.11ac(VHT40)	5230.00	-28.84	2.65	-26.19	11	Pass
NVNT	ANT1	802.11ac(VHT80)	5210.00	-38.16	4.26	-33.91	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

Power_Spectral_Density_NVNT_ANT1_802_11ac(VHT20)_5180

Power_Spectral_Density_NVNT_ANT1_802_11ac(VHT20)_5200

Power_Spectral_Density_NVNT_ANT1_802_11ac(VHT20)_5240

Power_Spectral_Density_NVNT_ANT1_802_11n(HT40)_5190

Power_Spectral_Density_NVNT_ANT1_802_11n(HT40)_5230

Power_Spectral_Density_NVNT_ANT1_802_11ac(VHT40)_5190

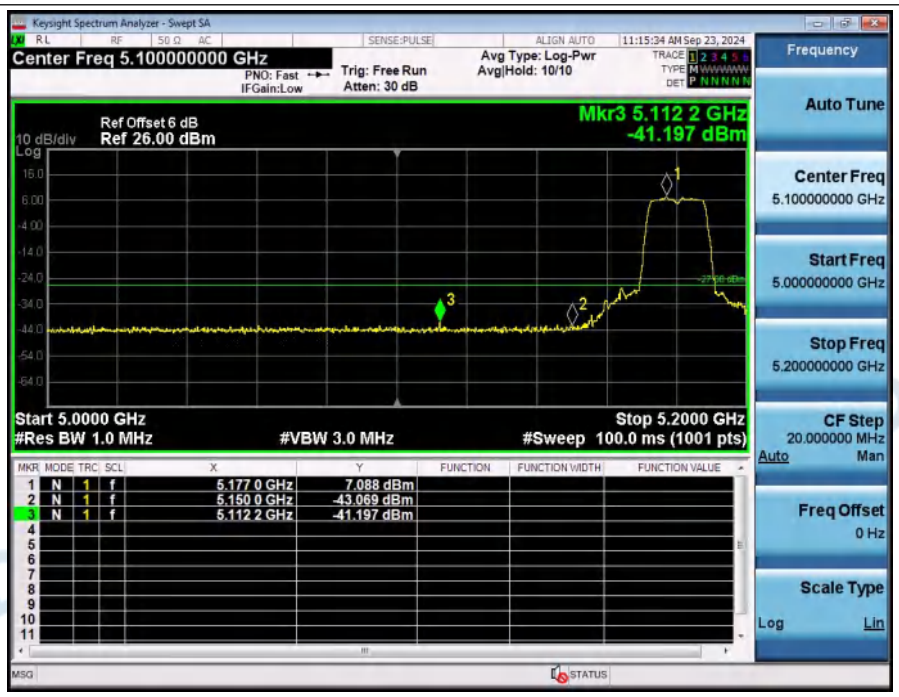
Power_Spectral_Density_NVNT_ANT1_802_11ac(VHT40)_5230

Power_Spectral_Density_NVNT_ANT1_802_11ac(VHT80)_5210

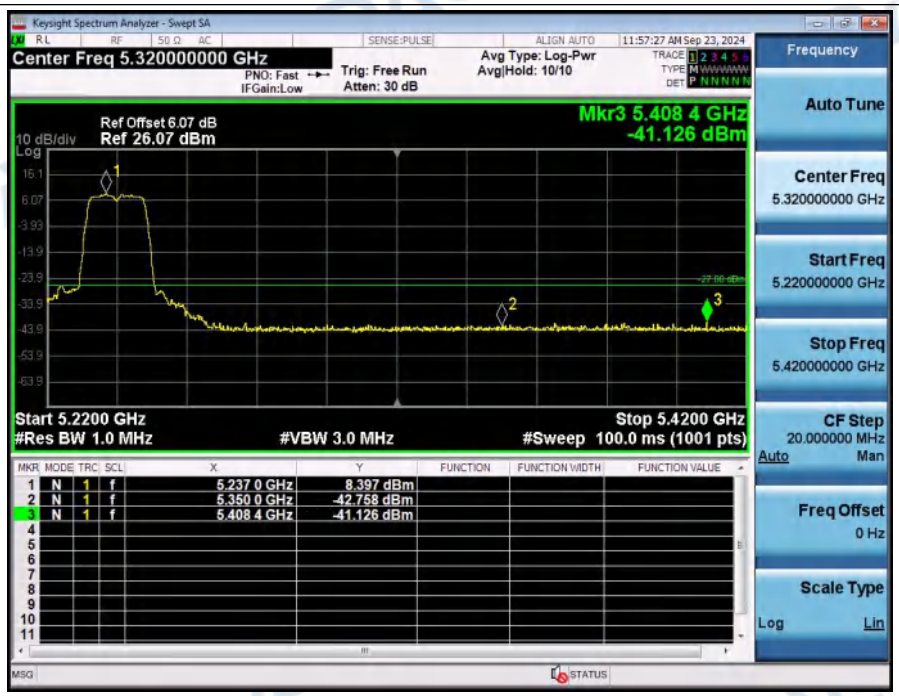
4. Bandedge

Condition	Antenna	Modulation	TX_Frequency (MHz)	Max. Mark Frequency(MHz)	Spurious level(dBm)	limit(dBm)	Result
NVNT	ANT1	802.11a	5180.00	5112.20	-41.20	-27	Pass
NVNT	ANT1	802.11a	5240.00	5408.40	-41.13	-27	Pass
NVNT	ANT1	802.11n(HT20)	5180.00	5030.80	-42.29	-27	Pass
NVNT	ANT1	802.11n(HT20)	5240.00	5371.60	-41.88	-27	Pass
NVNT	ANT1	802.11ac(VHT20)	5180.00	5104.80	-42.37	-27	Pass
NVNT	ANT1	802.11ac(VHT20)	5240.00	5374.40	-41.57	-27	Pass
NVNT	ANT1	802.11n(HT40)	5190.00	5147.00	-34.80	-27	Pass
NVNT	ANT1	802.11n(HT40)	5230.00	5359.73	-41.46	-27	Pass
NVNT	ANT1	802.11ac(VHT40)	5190.00	5148.47	-35.91	-27	Pass
NVNT	ANT1	802.11ac(VHT40)	5230.00	5356.79	-41.04	-27	Pass
NVNT	ANT1	802.11ac(VHT80)	5210.00	5148.26	-35.51	-27	Pass
NVNT	ANT1	802.11ac(VHT80)	5210.00	5350.70	-40.83	-27	Pass

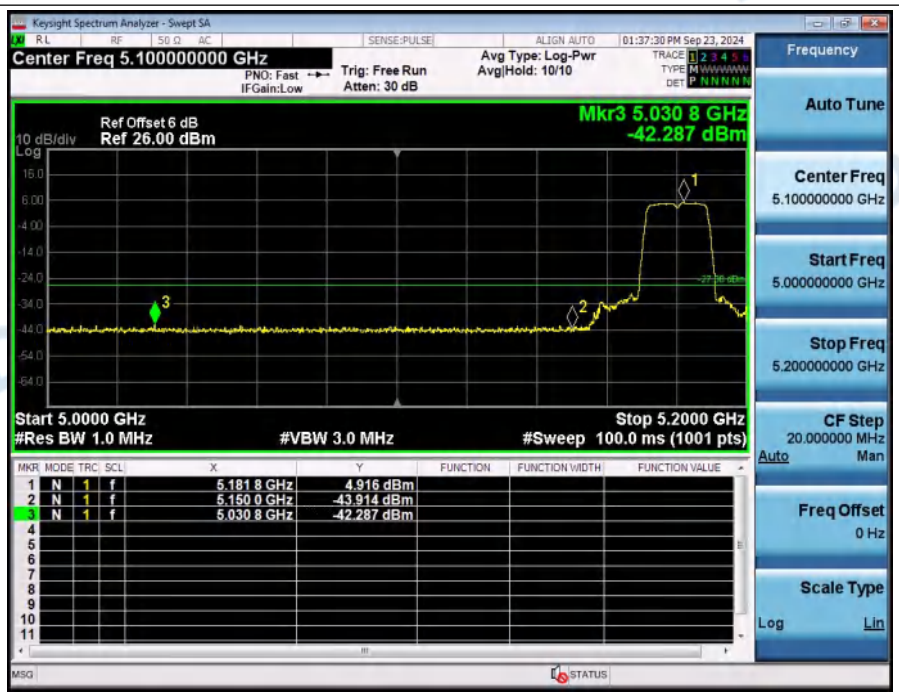
Bandedge_NVNT_ANT1_802_11a_5180



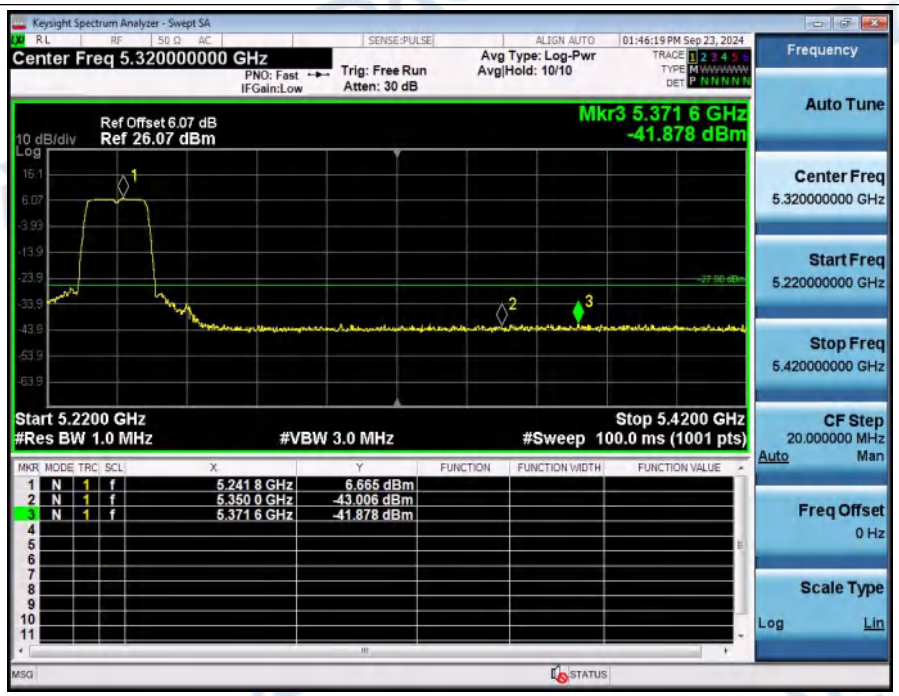
Bandedge_NVNT_ANT1_802_11a_5240



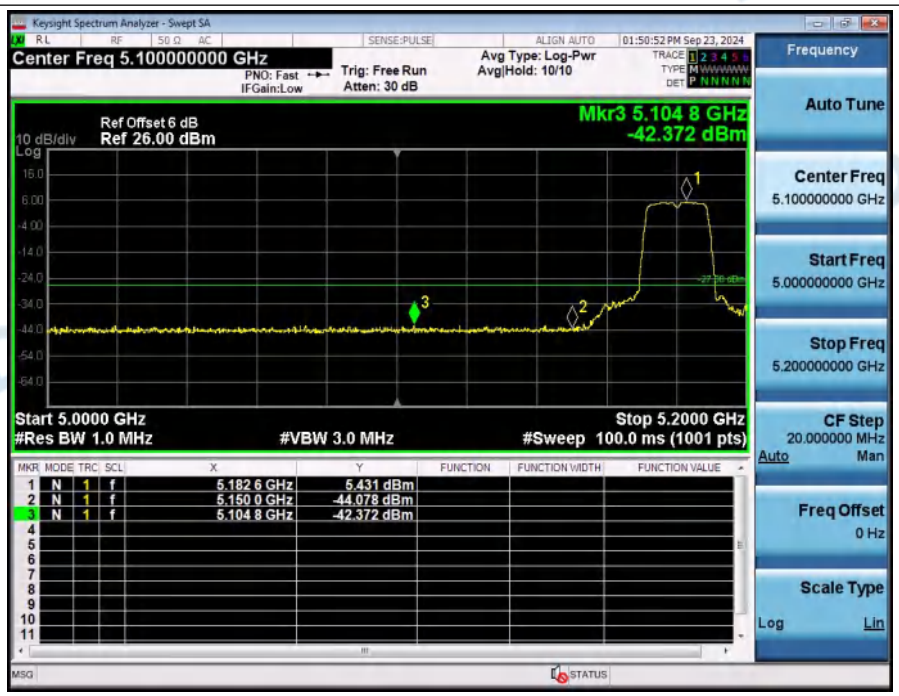
Bandedge_NVNT_ANT1_802_11n(HT20)_5180



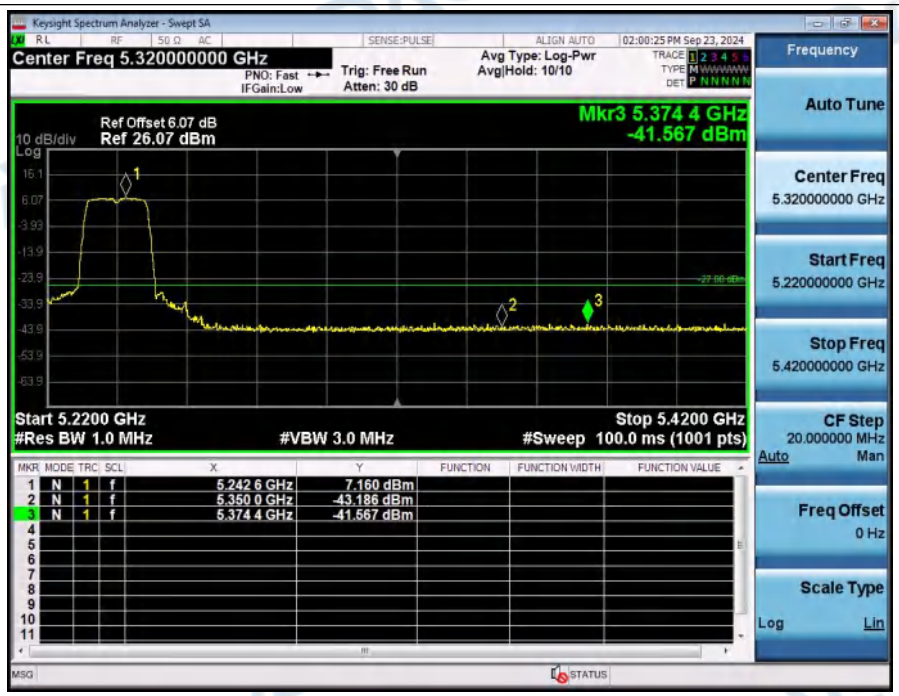
Bandedge_NVNT_ANT1_802_11n(HT20)_5240



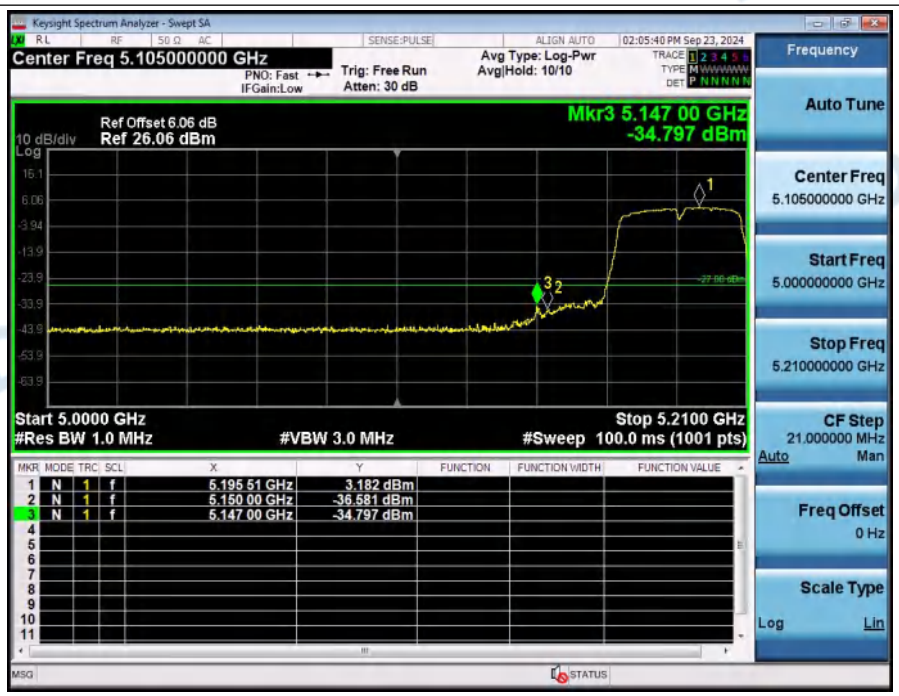
Bandedge_NVNT_ANT1_802_11ac(VHT20)_5180



Bandedge_NVNT_ANT1_802_11ac(VHT20)_5240

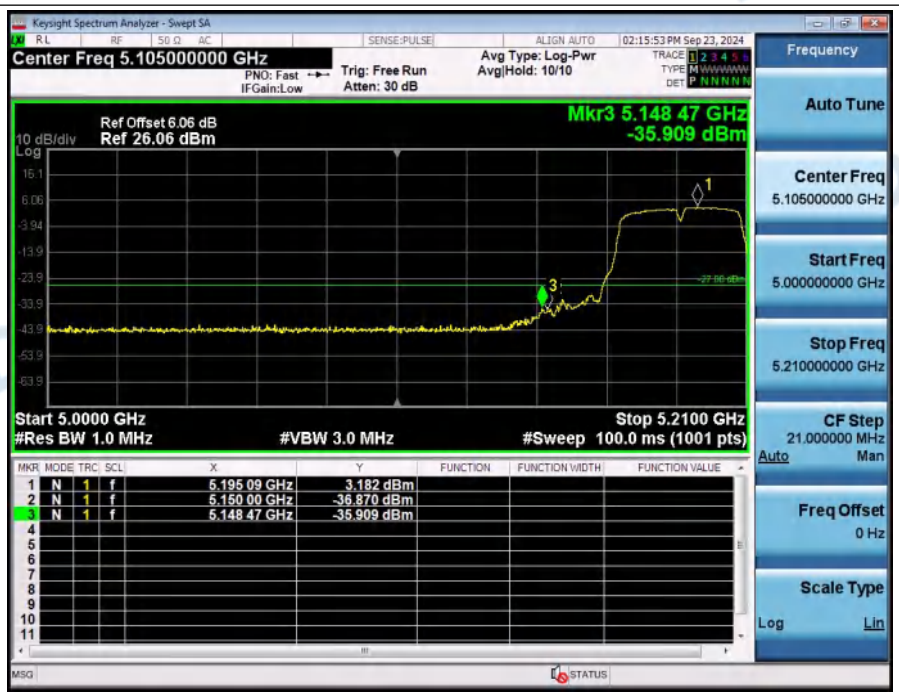


Bandedge_NVNT_ANT1_802_11n(HT40)_5190

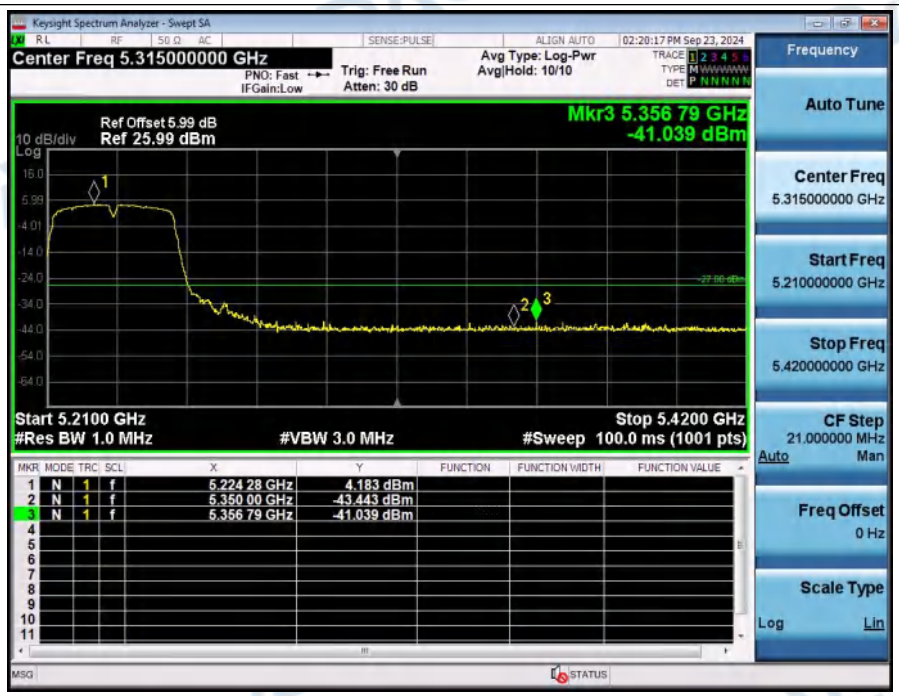


Bandedge_NVNT_ANT1_802_11n(HT40)_5230

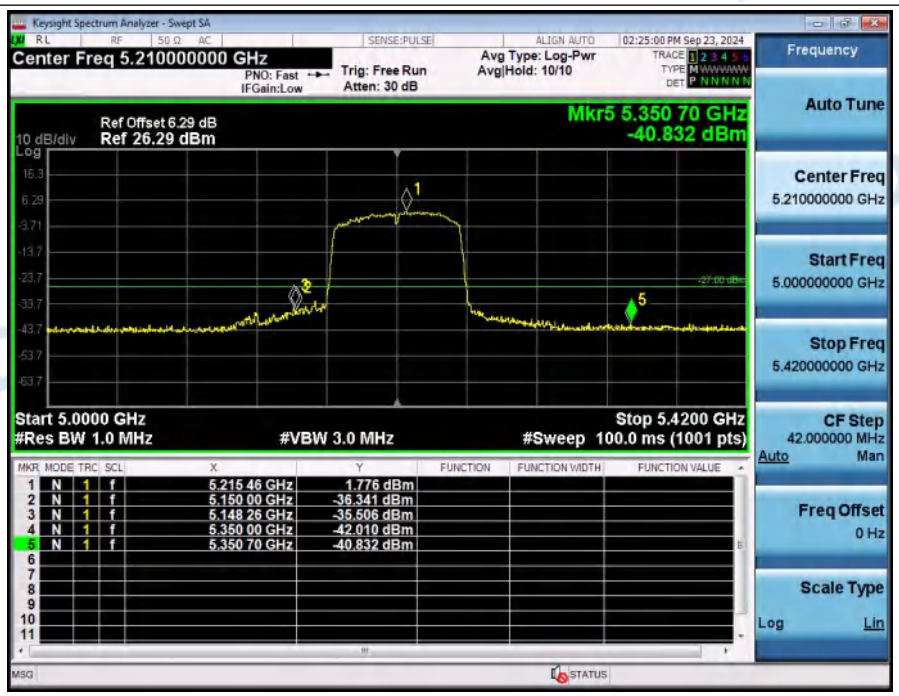
Bandedge_NVNT_ANT1_802_11ac(VHT40)_5190



Bandedge_NVNT_ANT1_802_11ac(VHT40)_5230



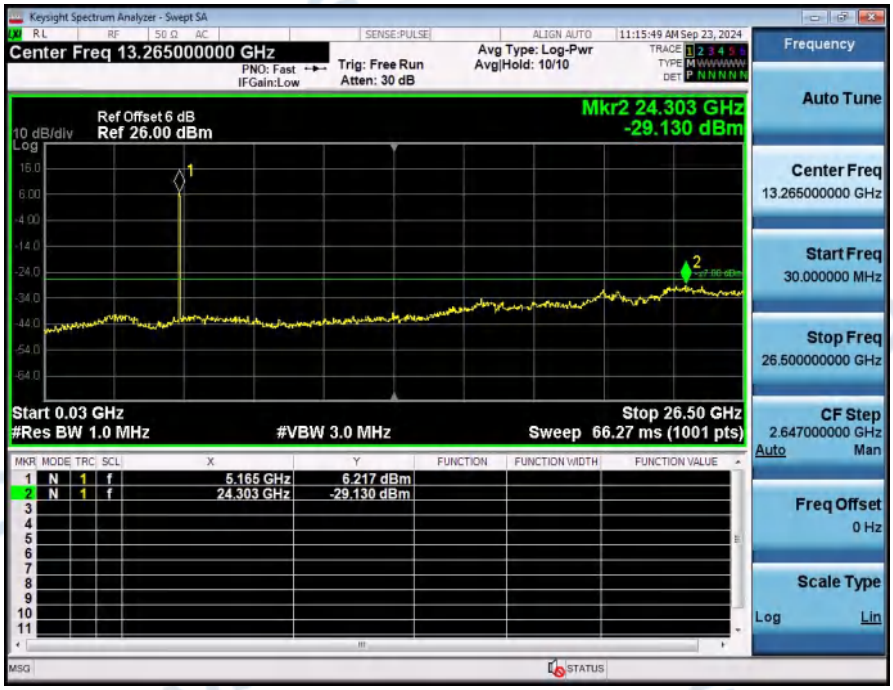
Bandedge_NVNT_ANT1_802_11ac(VHT80)_5210



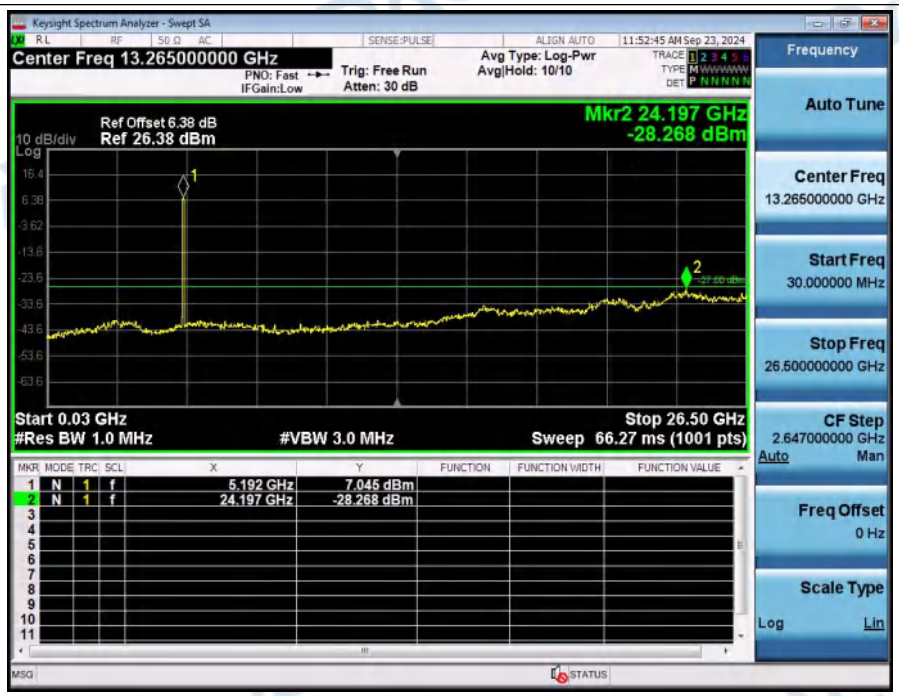
5. Spurious Emission

Condition	Antenna	Modulation	TX_Frequency (MHz)	Max. Mark Frequency(MHz)	Spurious level(dBm)	limit(dBm)	Result
NVNT	ANT1	802.11a	5180.00	24302.99	-29.13	-27	Pass
NVNT	ANT1	802.11a	5200.00	24197.11	-28.27	-27	Pass
NVNT	ANT1	802.11a	5240.00	24197.11	-29.06	-27	Pass
NVNT	ANT1	802.11n(HT20)	5180.00	24355.93	-28.64	-27	Pass
NVNT	ANT1	802.11n(HT20)	5200.00	24276.52	-28.16	-27	Pass
NVNT	ANT1	802.11n(HT20)	5240.00	24170.64	-28.45	-27	Pass
NVNT	ANT1	802.11ac(VHT20)	5180.00	24144.17	-28.53	-27	Pass
NVNT	ANT1	802.11ac(VHT20)	5200.00	24435.34	-27.34	-27	Pass
NVNT	ANT1	802.11ac(VHT20)	5240.00	24541.22	-29.07	-27	Pass
NVNT	ANT1	802.11n(HT40)	5190.00	24805.92	-29.28	-27	Pass
NVNT	ANT1	802.11n(HT40)	5230.00	24197.11	-28.78	-27	Pass
NVNT	ANT1	802.11ac(VHT40)	5190.00	23720.65	-29.26	-27	Pass
NVNT	ANT1	802.11ac(VHT40)	5230.00	24144.17	-28.78	-27	Pass
NVNT	ANT1	802.11ac(VHT80)	5210.00	24223.58	-28.43	-27	Pass

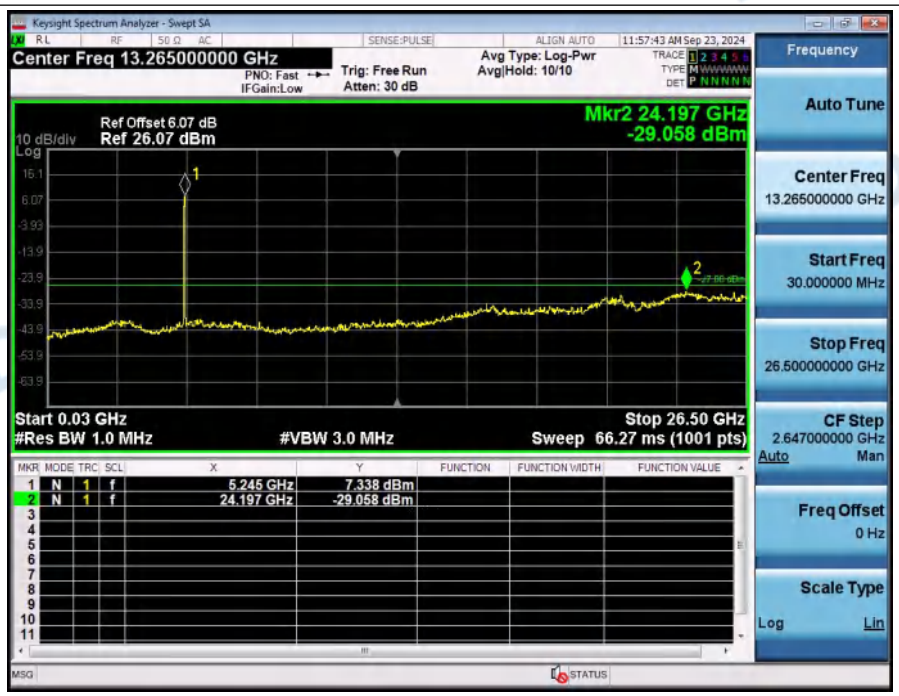
Spurious_Emission_NVNT_ANT1_802_11a_5180_20M



Spurious_Emission_NVNT_ANT1_802_11a_5200_20M

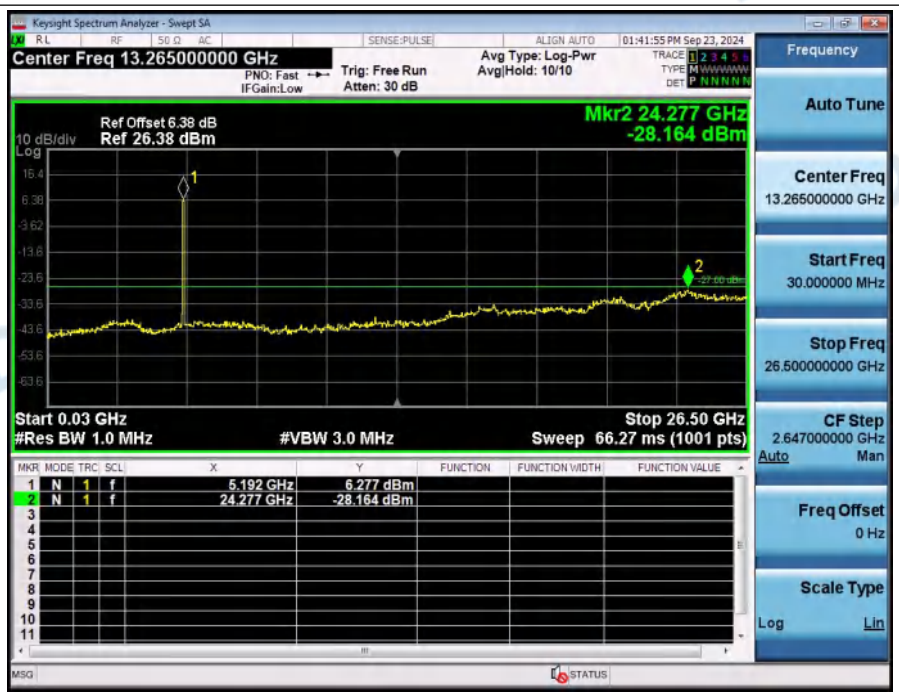


Spurious_Emission_NVNT_ANT1_802_11a_5240_20M

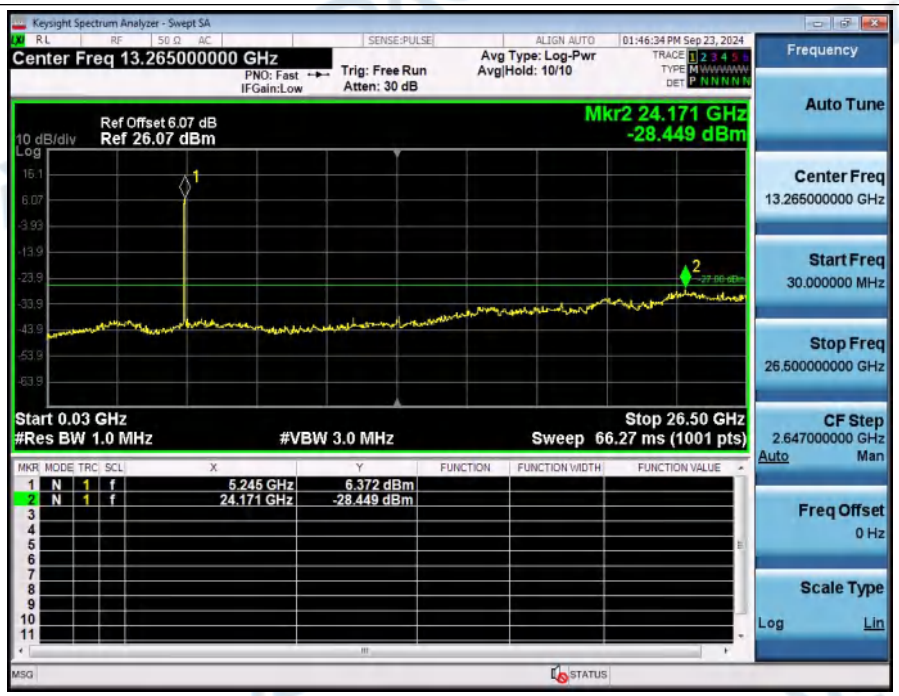


Spurious_Emission_NVNT_ANT1_802_11n(HT20)_5180_20M

Spurious_Emission_NVNT_ANT1_802_11n(HT20)_5200_20M

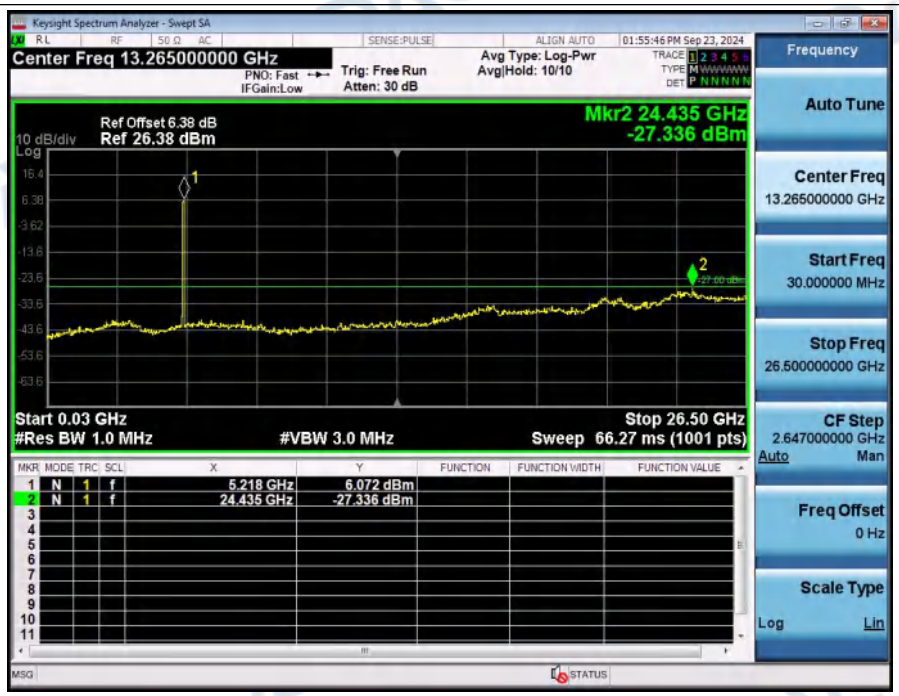


Spurious_Emission_NVNT_ANT1_802_11n(HT20)_5240_20M

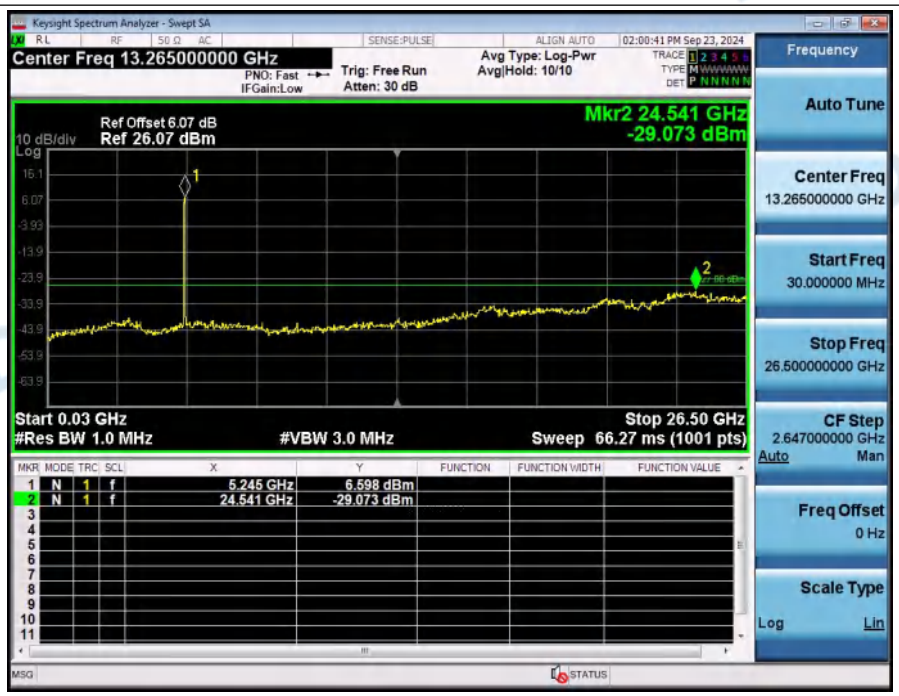


Spurious_Emission_NVNT_ANT1_802_11ac(VHT20)_5180_20M

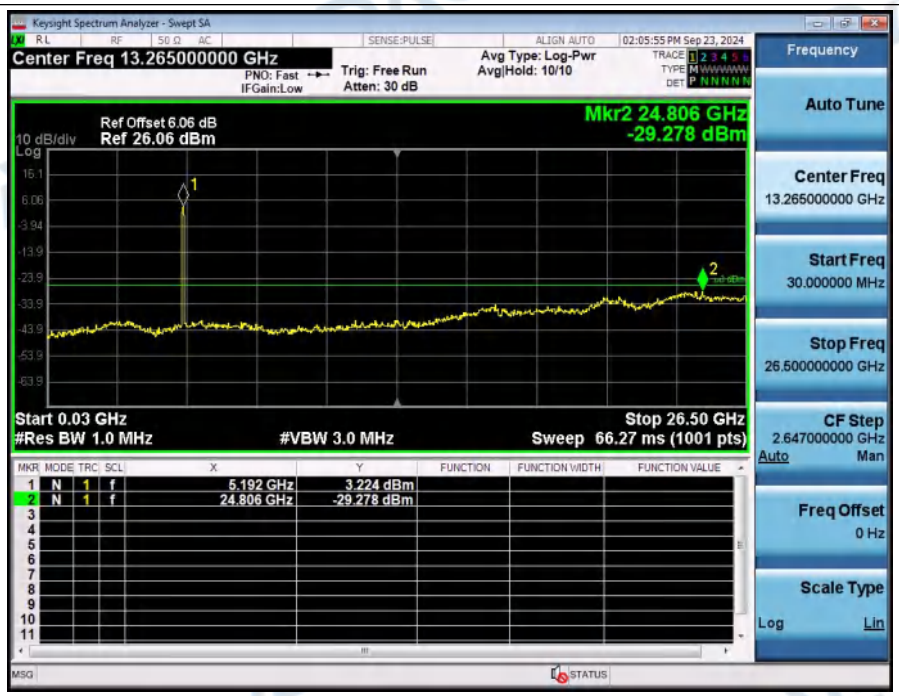
Spurious_Emission_NVNT_ANT1_802_11ac(VHT20)_5200_20M



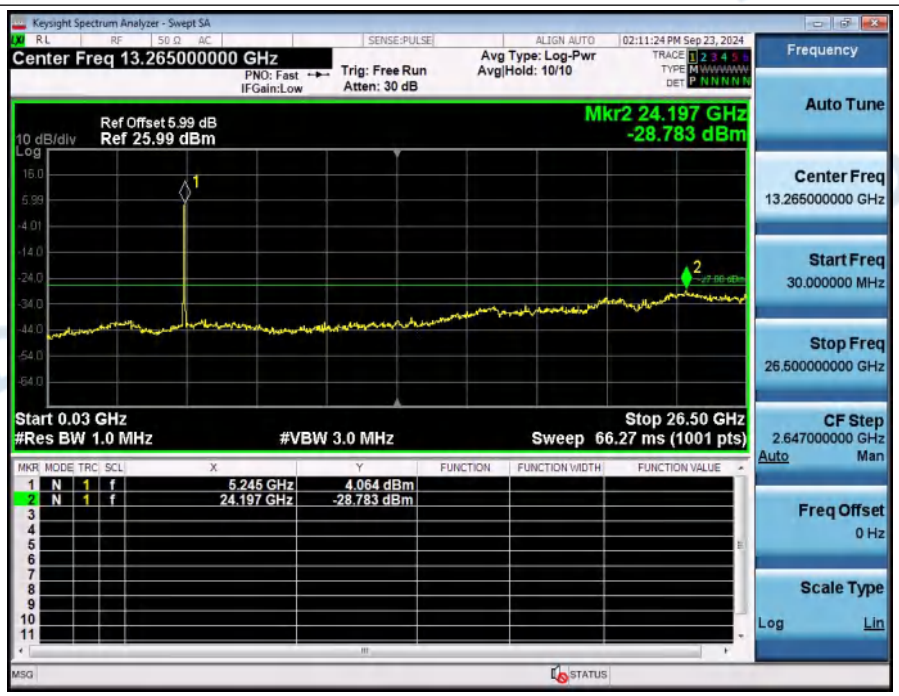
Spurious_Emission_NVNT_ANT1_802_11ac(VHT20)_5240_20M



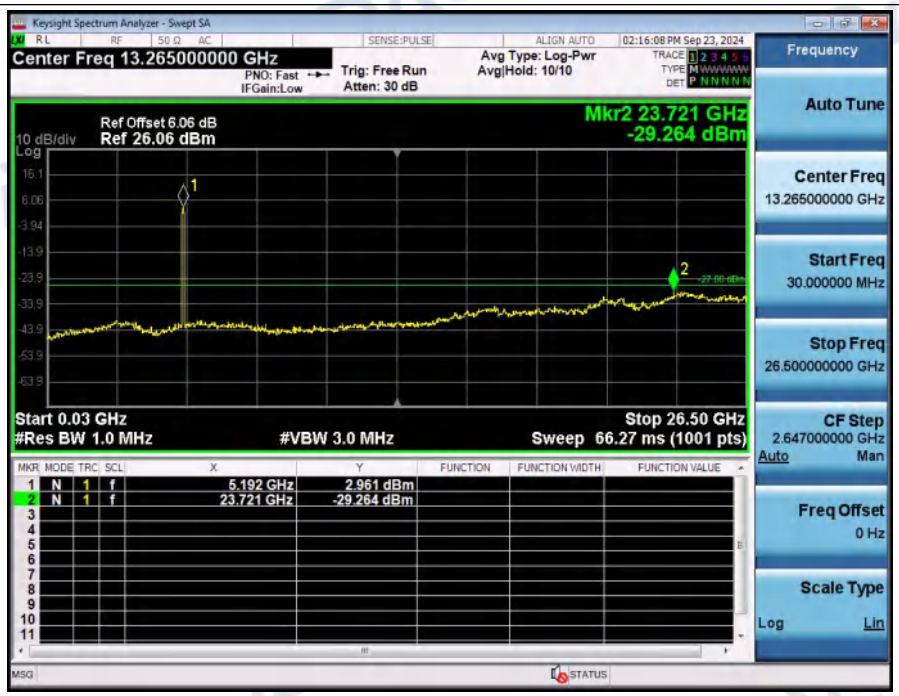
Spurious_Emission_NVNT_ANT1_802_11n(HT40)_5190_40M



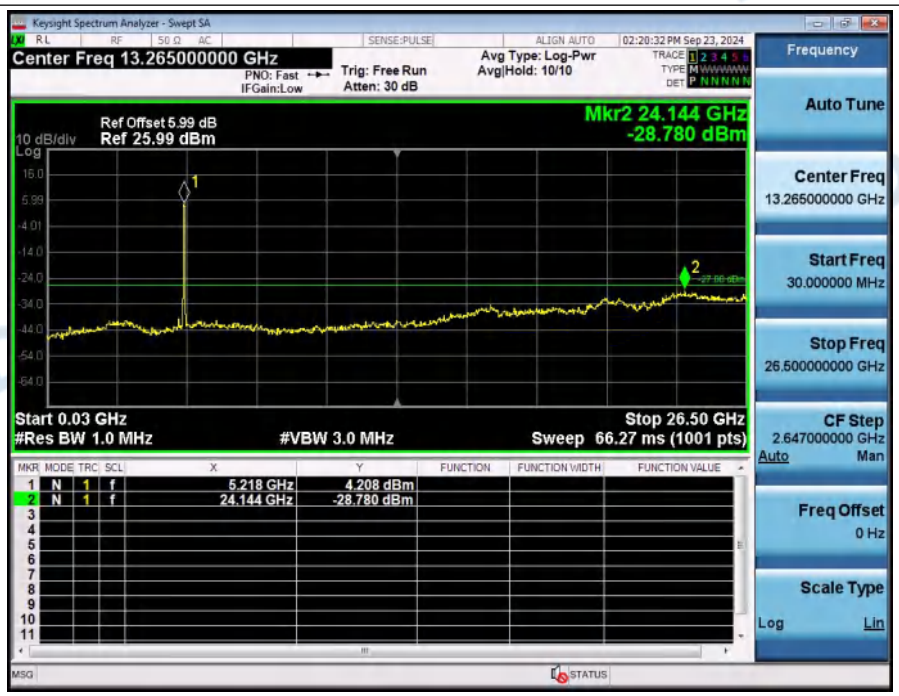
Spurious_Emission_NVNT_ANT1_802_11n(HT40)_5230_40M



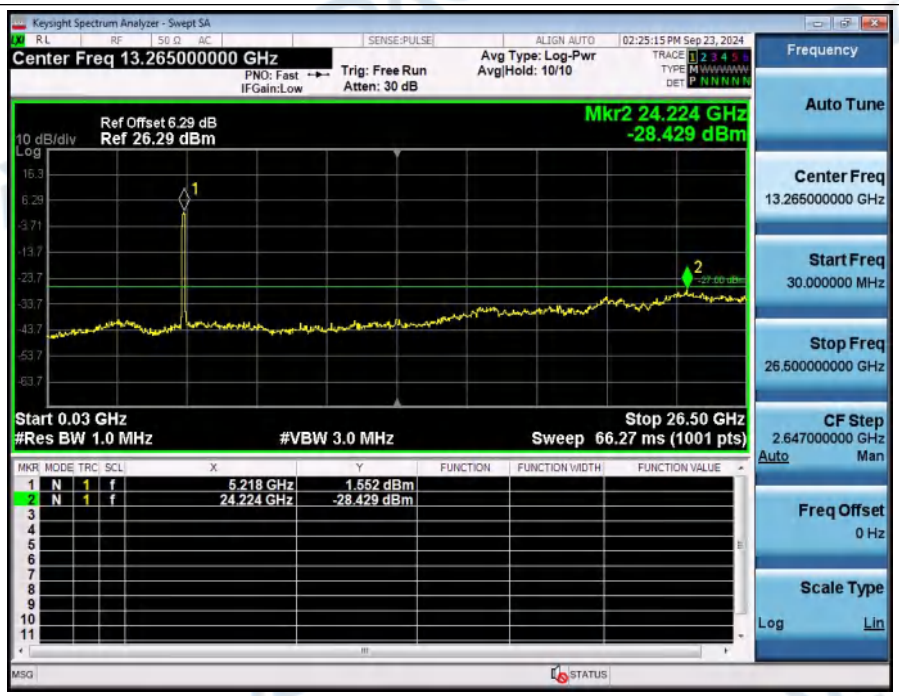
Spurious_Emission_NVNT_ANT1_802_11ac(VHT40)_5190_40M



Spurious_Emission_NVNT_ANT1_802_11ac(VHT40)_5230_40M



Spurious_Emission_NVNT_ANT1_802_11ac(VHT80)_5210_80M



6. Frequency Stability

Condition	Antenna	Modulation	Frequency (MHz)	Fc(MHz)	Fl(MHz)	Fh(MHz)	Limit(MHz)	Result
NVHT	ANT1	802.11a	5180.00	5180.020	5171.656	5188.384	5150~5250	Pass
NVLT	ANT1	802.11a	5180.00	5180.020	5171.960	5188.080	5150~5250	Pass
NVNT	ANT1	802.11a	5180.00	5180.012	5172.116	5187.908	5150~5250	Pass
HVNT	ANT1	802.11a	5180.00	5180.006	5172.204	5187.808	5150~5250	Pass
LVNT	ANT1	802.11a	5180.00	5180.022	5172.304	5187.740	5150~5250	Pass
NVHT	ANT1	802.11a	5200.00	5200.042	5191.852	5208.232	5150~5250	Pass
NVLT	ANT1	802.11a	5200.00	5200.040	5191.932	5208.148	5150~5250	Pass
NVNT	ANT1	802.11a	5200.00	5200.050	5192.008	5208.092	5150~5250	Pass
HVNT	ANT1	802.11a	5200.00	5200.044	5192.068	5208.020	5150~5250	Pass
LVNT	ANT1	802.11a	5200.00	5200.042	5192.124	5207.960	5150~5250	Pass
NVHT	ANT1	802.11a	5240.00	5240.038	5231.680	5248.396	5150~5250	Pass
NVLT	ANT1	802.11a	5240.00	5240.022	5231.832	5248.212	5150~5250	Pass
NVNT	ANT1	802.11a	5240.00	5240.022	5231.912	5248.132	5150~5250	Pass
HVNT	ANT1	802.11a	5240.00	5240.022	5231.976	5248.068	5150~5250	Pass
LVNT	ANT1	802.11a	5240.00	5240.024	5232.036	5248.012	5150~5250	Pass
NVHT	ANT1	802.11n(HT20)	5180.00	5180.020	5171.504	5188.536	5150~5250	Pass
NVLT	ANT1	802.11n(HT20)	5180.00	5180.026	5171.560	5188.492	5150~5250	Pass
NVNT	ANT1	802.11n(HT20)	5180.00	5180.026	5171.616	5188.436	5150~5250	Pass
HVNT	ANT1	802.11n(HT20)	5180.00	5180.040	5171.680	5188.400	5150~5250	Pass
LVNT	ANT1	802.11n(HT20)	5180.00	5180.034	5171.724	5188.344	5150~5250	Pass
NVHT	ANT1	802.11n(HT20)	5200.00	5200.030	5191.116	5208.944	5150~5250	Pass
NVLT	ANT1	802.11n(HT20)	5200.00	5200.040	5191.264	5208.816	5150~5250	Pass
NVNT	ANT1	802.11n(HT20)	5200.00	5200.044	5191.348	5208.740	5150~5250	Pass
HVNT	ANT1	802.11n(HT20)	5200.00	5200.052	5191.432	5208.672	5150~5250	Pass
LVNT	ANT1	802.11n(HT20)	5200.00	5200.052	5191.496	5208.608	5150~5250	Pass
NVHT	ANT1	802.11n(HT20)	5240.00	5240.022	5231.504	5248.540	5150~5250	Pass
NVLT	ANT1	802.11n(HT20)	5240.00	5240.014	5231.560	5248.468	5150~5250	Pass
NVNT	ANT1	802.11n(HT20)	5240.00	5240.028	5231.616	5248.440	5150~5250	Pass
HVNT	ANT1	802.11n(HT20)	5240.00	5240.026	5231.664	5248.388	5150~5250	Pass
LVNT	ANT1	802.11n(HT20)	5240.00	5240.022	5231.716	5248.328	5150~5250	Pass
NVHT	ANT1	802.11ac(VHT20)	5180.00	5180.026	5171.096	5188.956	5150~5250	Pass
NVLT	ANT1	802.11ac(VHT20)	5180.00	5180.028	5171.240	5188.816	5150~5250	Pass
NVNT	ANT1	802.11ac(VHT20)	5180.00	5180.022	5171.324	5188.720	5150~5250	Pass
HVNT	ANT1	802.11ac(VHT20)	5180.00	5180.026	5171.396	5188.656	5150~5250	Pass
LVNT	ANT1	802.11ac(VHT20)	5180.00	5180.026	5171.456	5188.596	5150~5250	Pass
NVHT	ANT1	802.11ac(VHT20)	5200.00	5200.022	5191.104	5208.940	5150~5250	Pass
NVLT	ANT1	802.11ac(VHT20)	5200.00	5200.038	5191.260	5208.816	5150~5250	Pass
NVNT	ANT1	802.11ac(VHT20)	5200.00	5200.036	5191.344	5208.728	5150~5250	Pass
HVNT	ANT1	802.11ac(VHT20)	5200.00	5200.046	5191.424	5208.668	5150~5250	Pass
LVNT	ANT1	802.11ac(VHT20)	5200.00	5200.048	5191.496	5208.600	5150~5250	Pass
NVHT	ANT1	802.11ac(VHT20)	5240.00	5240.002	5231.060	5248.944	5150~5250	Pass
NVLT	ANT1	802.11ac(VHT20)	5240.00	5240.010	5231.220	5248.800	5150~5250	Pass
NVNT	ANT1	802.11ac(VHT20)	5240.00	5240.012	5231.308	5248.716	5150~5250	Pass
HVNT	ANT1	802.11ac(VHT20)	5240.00	5240.014	5231.380	5248.648	5150~5250	Pass
LVNT	ANT1	802.11ac(VHT20)	5240.00	5240.016	5231.448	5248.584	5150~5250	Pass
NVHT	ANT1	802.11n(HT40)	5190.00	5190.012	5171.800	5208.224	5150~5250	Pass
NVLT	ANT1	802.11n(HT40)	5190.00	5190.060	5172.040	5208.080	5150~5250	Pass

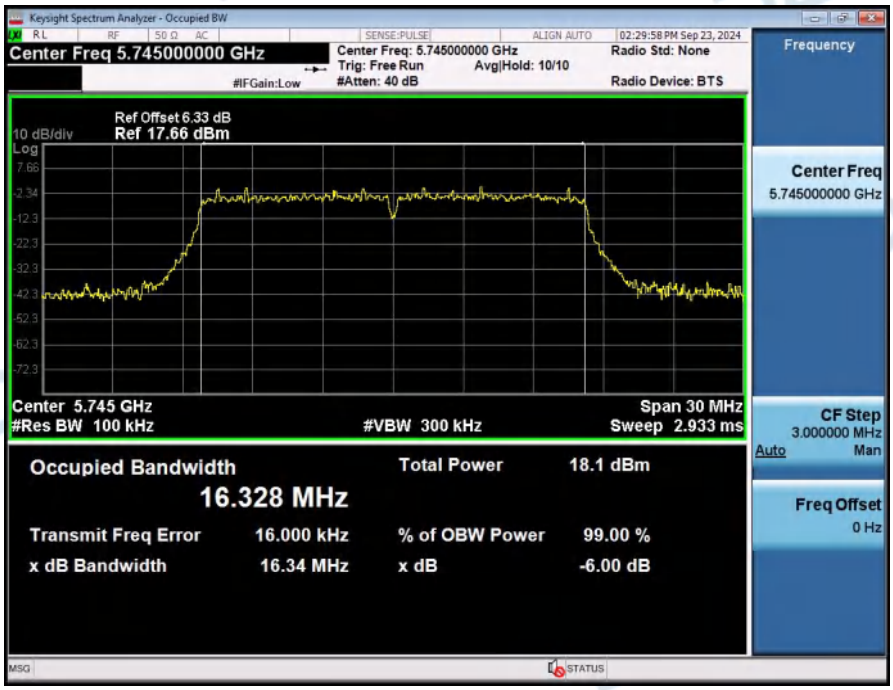
NVNT	ANT1	802.11n(HT40)	5190.00	5190.052	5172.176	5207.928	5150~5250	Pass
HVNT	ANT1	802.11n(HT40)	5190.00	5190.108	5172.392	5207.824	5150~5250	Pass
LVNT	ANT1	802.11n(HT40)	5190.00	5190.096	5172.512	5207.680	5150~5250	Pass
NVHT	ANT1	802.11n(HT40)	5230.00	5230.028	5211.848	5248.208	5150~5250	Pass
NVLT	ANT1	802.11n(HT40)	5230.00	5230.012	5212.016	5248.008	5150~5250	Pass
NVNT	ANT1	802.11n(HT40)	5230.00	5229.996	5212.160	5247.832	5150~5250	Pass
HVNT	ANT1	802.11n(HT40)	5230.00	5230.016	5212.328	5247.704	5150~5250	Pass
LVNT	ANT1	802.11n(HT40)	5230.00	5230.016	5212.472	5247.560	5150~5250	Pass
NVHT	ANT1	802.11ac(VHT40)	5190.00	5190.040	5171.824	5208.256	5150~5250	Pass
NVLT	ANT1	802.11ac(VHT40)	5190.00	5190.092	5172.080	5208.104	5150~5250	Pass
NVNT	ANT1	802.11ac(VHT40)	5190.00	5190.084	5172.224	5207.944	5150~5250	Pass
HVNT	ANT1	802.11ac(VHT40)	5190.00	5190.136	5172.416	5207.856	5150~5250	Pass
LVNT	ANT1	802.11ac(VHT40)	5190.00	5190.096	5172.536	5207.656	5150~5250	Pass
NVHT	ANT1	802.11ac(VHT40)	5230.00	5230.032	5211.840	5248.224	5150~5250	Pass
NVLT	ANT1	802.11ac(VHT40)	5230.00	5230.032	5212.024	5248.040	5150~5250	Pass
NVNT	ANT1	802.11ac(VHT40)	5230.00	5230.040	5212.216	5247.864	5150~5250	Pass
HVNT	ANT1	802.11ac(VHT40)	5230.00	5230.064	5212.376	5247.752	5150~5250	Pass
LVNT	ANT1	802.11ac(VHT40)	5230.00	5230.048	5212.504	5247.592	5150~5250	Pass
NVHT	ANT1	802.11ac(VHT80)	5210.00	5210.084	5172.320	5247.848	5150~5250	Pass
NVLT	ANT1	802.11ac(VHT80)	5210.00	5210.252	5172.956	5247.548	5150~5250	Pass
NVNT	ANT1	802.11ac(VHT80)	5210.00	5210.306	5173.448	5247.164	5150~5250	Pass
HVNT	ANT1	802.11ac(VHT80)	5210.00	5210.384	5173.976	5246.792	5150~5250	Pass
LVNT	ANT1	802.11ac(VHT80)	5210.00	5210.528	5174.516	5246.540	5150~5250	Pass

Appendix-5.8G

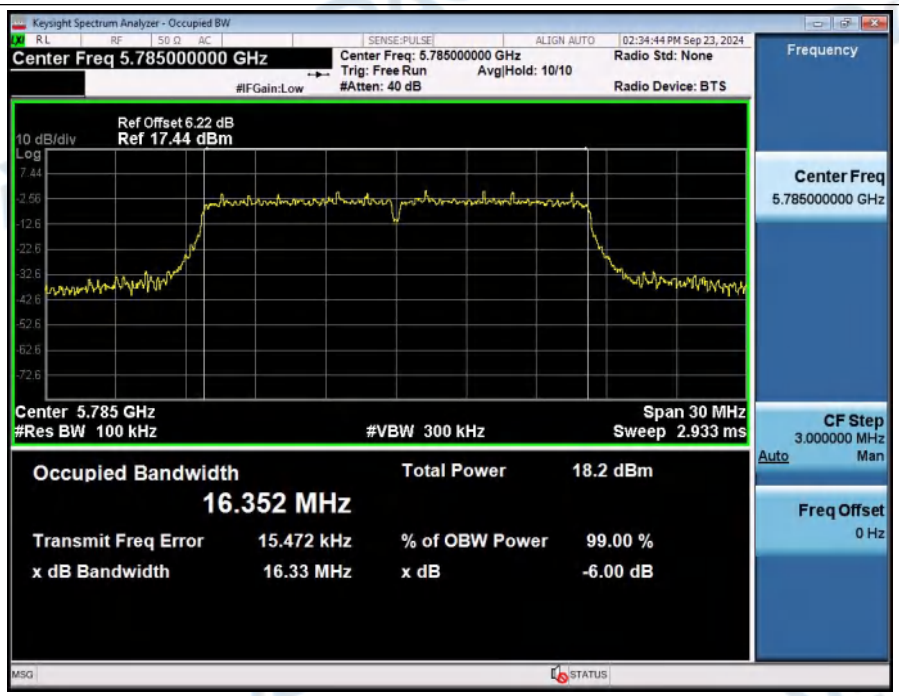
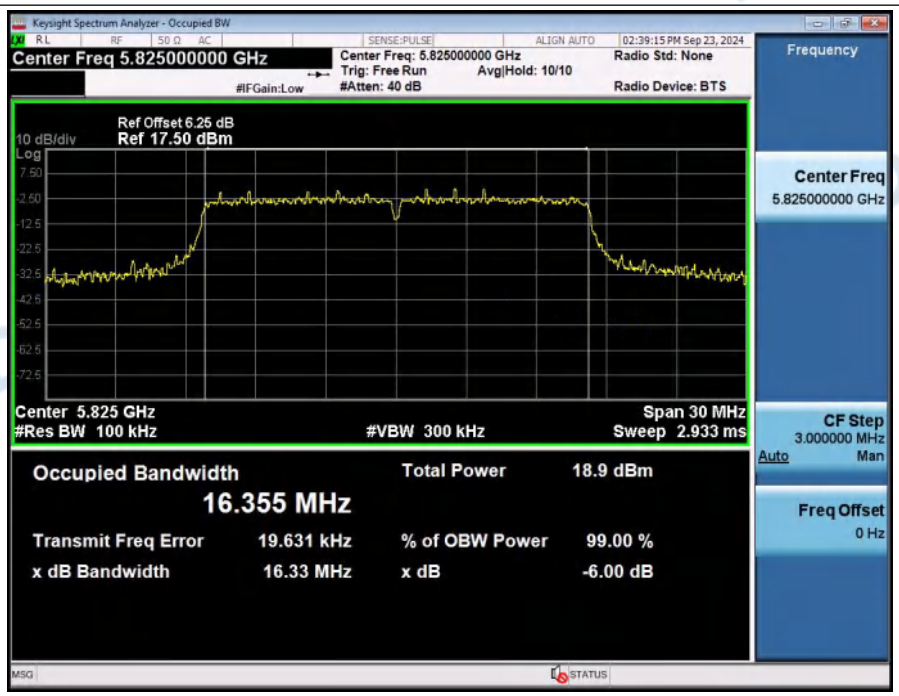
1. -6dB Emission Bandwidth

Condition	Antenna	Mode	Frequency(MHz)	-6dB_Emission_Bandwidth (MHz)	Limit(MHz)	Result
NVNT	ANT1	802.11a	5745.00	16.340	0.500	Pass
NVNT	ANT1	802.11a	5785.00	16.327	0.500	Pass
NVNT	ANT1	802.11a	5825.00	16.328	0.500	Pass
NVNT	ANT1	802.11n(HT20)	5745.00	17.351	0.500	Pass
NVNT	ANT1	802.11n(HT20)	5785.00	17.587	0.500	Pass
NVNT	ANT1	802.11n(HT20)	5825.00	17.302	0.500	Pass
NVNT	ANT1	802.11ac(VHT20)	5745.00	17.570	0.500	Pass
NVNT	ANT1	802.11ac(VHT20)	5785.00	17.579	0.500	Pass
NVNT	ANT1	802.11ac(VHT20)	5825.00	17.291	0.500	Pass
NVNT	ANT1	802.11n(HT40)	5755.00	33.941	0.500	Pass
NVNT	ANT1	802.11n(HT40)	5795.00	35.177	0.500	Pass
NVNT	ANT1	802.11ac(VHT40)	5755.00	35.213	0.500	Pass
NVNT	ANT1	802.11ac(VHT40)	5795.00	35.189	0.500	Pass
NVNT	ANT1	802.11ac(VHT80)	5775.00	75.188	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