RF TEST REPORT

For

Shenzhen Weihejia Electronic Technology Co.,LTD

Product Name: BHWW Laptop

Model(s).: BaseBook

Report Reference No.	:	**POCE230918001RF004**
FCC ID	:	**2AXKI-WH160BP**
Applicant's Name	:	Shenzhen Weihejia Electronic Technology Co.,LTD
Address	:	Block 102, Building 9, Xihu Industrial park, Xikeng community, Yuanshan street, Longgang district, Shenzhen, China
Testing Laboratory	:	Shenzhen DACE Testing Technology Co., Ltd.
Address	:	H1 Building 102, H Building 1/F, Hongfa Science & Technology Park, Tangtou, Shiyan, Bao'an District, Shenzhen, Guangdong, China
Test Specification Standard	:	**47 CFR Part 15E** **ANSI C63.10-2013 & KDB 789033 D02 General UNII Test Procedures New Rules v02r01**
Date of Receipt	:	September 18, 2023
Date of Test	:	September 18, 2023 to October 8, 2023
Data of Issue	:	October 8, 2023
Result	:	**Pass**

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Revision History Of Report

Version	Description	REPORT No.	Issue Date
V1.0	Original	POCE230918001RF004	October 8, 2023

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:
Stone Yin / File administrators	Tom Chen / Technique principal	Machael Mo/ Manager

CONTENTS

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	/	Part 15.203	Pass
Conducted Emission at AC power line	ANSI C63.10-2013 section 6.2	47 CFR Part 15.207(a)	Pass
Duty Cycle	ANSI C63.10-2013 section 12.2 (b)	/	Pass
Maximum conducted output power	ANSI C63.10-2013, section 12.3	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 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)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)	Pass
Emission bandwidth and occupied bandwidth	ANSI C63.10-2013, section 6.9.3 & 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
Band edge emissions (Radiated)	ANSI C63.10-2013, section 12.7.4, 12.7.5, 12.7.6	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, 12.7.6	47 CFR Part 15.407(b)(9)	Pass
Undesirable emission limits (above 1GHz)	ANSI C63.10-2013, section 12.7.4, 12.7.5, 12.7.6	47 CFR Part 15.407(b)(1) 47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)	Pass

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

2 GENERAL INFORMATION

2.1 Client Information

Applicant's Name	:	Shenzhen Weihejia Electronic Technology Co.,LTD
Address	:	Block 102, Building 9, Xihu Industrial park, Xikeng community, Yuanshan street, Longgang district, Shenzhen, China
Manufacturer	:	Shenzhen Weihejia Electronic Technology Co.,LTD
Address	:	Block 102, Building 9, Xihu Industrial park, Xikeng community, Yuanshan street, Longgang district, Shenzhen, China

2.2 Description of Device (EUT)

Product Name:	BHWW Laptops
Model/Type reference:	BaseBook
Model Difference:	N/A
Trade Mark:	N/A
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);
Hardware Version:	94-0
Software Version:	V1.0
Antenna Type:	FPC ANTENNA
Antenna Gain:	ANT1: 2.20dBi ; ANT2:2.87dBi MIMO: 2.55 dBi

Note: According to KDB662911 D01 Multiple Transmitter Output v02r01, the MIMO antenna is increased to Direct gain=10 log $[(10^{G1/10}+10^{G2/10}+...+10^{GN/10})/N_{ANT}]$ dBi=2.55dBi< 6dBi.

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:

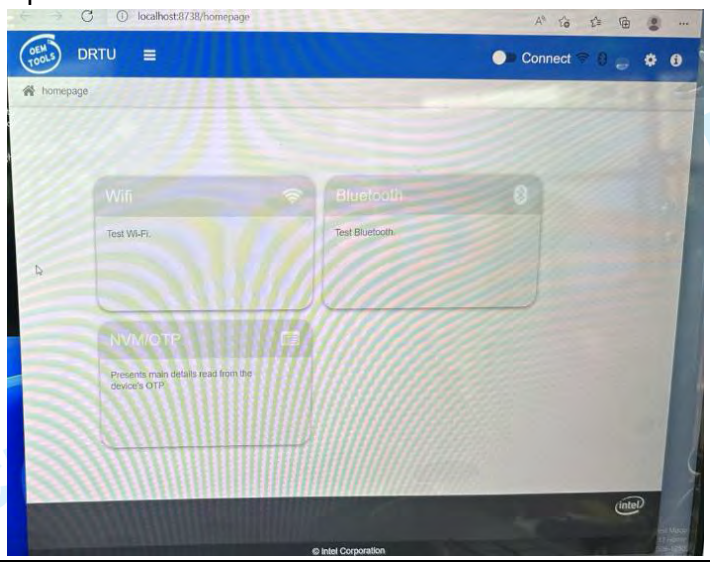
802.11a/n(HT20)/ac(HT20)		
	U-NII Band 1	U-NII Band 3
Test channel	**Frequency (MHz)**	**Frequency (MHz)**
Lowest channel	5180 MHz	5745 MHz
Middle channel	5200 MHz	5785 MHz
Highest channel	5240 MHz	5825 MHz

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. 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. 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. 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.
TM4	802.11ax mode	Keep the EUT in continuously transmitting mode with 802.11ax modulation type. 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.
TM5	802.11n MIMO mode	Keep the EUT in continuously transmitting mode with 802.11n MIMO modulation type. 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.
TM6	802.11ac MIMO mode	Keep the EUT in continuously transmitting mode with 802.11ac MIMO modulation type. 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.
TM7	802.11ax MIMO mode	Keep the EUT in continuously transmitting mode with 802.11ax MIMO modulation type. 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.
Description		
Keep the EUT works in continuously transmitting mode (100%duty cycle or max duty cycle)with GFSK modulation.		
☒Special software is used. ☐Through engineering command into the engineering mode. engineering command: *#*#3646633#*#* ☐Other method:		
	Special software: 	

2.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Description	Manufacturer	Model No.	Remark	Certification
1	ADAPTER	SHENZHEN BAOCHANGTONG TECHNOLOGY CO.,LTD	BCT190342-105DZ	Provide by client	SDOC
2					

2.5 Equipments Used During The Test

Conducted Emission at AC power line					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal. Due Date**
Shielding room	CY	8*4*3	20160102	2023/1/26	2025/1/25
Pulse Limiter	Schwarzbeck	VTSD 9561	561-G071	2023/2/27	2024/2/26
Cable	Schwarzbeck	/	/	2023/2/27	2024/2/26
Test Receiver	Rohde & Schwarz	ESPI	1164.6607K03-102109-MH	2023/6/13	2024/6/12
L.I.S.N	R&S	ESH3-Z5	831.5518.52	2022/12/29	2023/12/28
L.I.S.N	Schwarzbeck	NSLK 8126	NSLK 8126	2023/8/8	2024/8/7
50ΩCoaxial Switch	Anritsu	MP59B	M20531	/	/
EMI Testsoftware	Farad	EZ -EMC	V1.1.42	/	/

Emissions in restricted frequency bands and RF					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Test Receiver	R&S	ESCI	102109	2023/6/13	2024/6/12
Spectrum Analyzer	R&S	FSP30	1321.3008K40-101729-jR	2023/6/14	2024/6/13
966 Chamber	CY	9*6*6	20160101	2023/1/26	2025/1/25
Bore-sighting Antenna rack	PBB	1308503	16033	/	/
Loop antenna	ZHINAN	ZN30900C	ZN30900C	2021/7/5	2024/7/4
Broadband Antenna	Sunol Sciences	JB6 Antenna	A090414	2023/5-21	2025/5-20
Horn Antenna	Sunol Sciences	DRH-118	A091114	2023/5/13	2025/5/12
Horn antenna	COM-POWER	AH-1840(40G)	10100008	2023/4/5	2025/4/4
Power APM(LF)	Schwarzbeck	BBV9743	9743-151	2023/6/13	2024/6/12
Power APM(HF)	Schwarzbeck	BBV9718	9718-282	2023/6/13	2024/6/12
Cable(LF)#2	Schwarzbeck	/	/	2023/2/27	2024/2/26
Cable(LF)#1	Schwarzbeck	/	/	2023/2/27	2024/2/26
Cable(HF)#2	Schwarzbeck	AK9515E	96250	2023/2/28	2024/2/27
Cable(HF)#1	Schwarzbeck	SYV-50-3-1	/	2023/2/27	2024/2/26
Power divider	MIDEWEST	PWD-2533	SMA-79	2023/5/11	2026/5/10
signal generator	Keysight	N5181A	MY48180415	2022/12/10	2023/12/9
signal generator	Keysight	N5182A	MY50143455	2022/12/29	2023/12/28
Spectrum Analyzer	Keysight	N9020A	MY53420323	2022/12/29	2023/12/28
Power meter	Agilent	E4417A	MY45102835	2022/12/29	2023/12/28
RF Sensor Unit	TACHOY	TR1029-2	000001	/	/
RF Control Unit	TACHOY	TR1029-1	000001	/	/
Position Controller	MF	MF-7802	/	/	/
EMI Testsoftware	Farad	EZ -EMC	V1.1.42	/	/
RF TestSoftware	TACHOY	RTS-01	V2.0.0.0	/	/

2.6 Statement Of The Measurement Uncertainty

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

2.7 Authorizations

Company Name:	Shenzhen POCE Technology Co., Ltd.
Address:	101-102 Building H5 & 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 POCE Technology Co., Ltd.
Address:	101-102 Building H5 & 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 No.:	778666
A2LA Certificate Number:	6270.01

2.8 Announcement

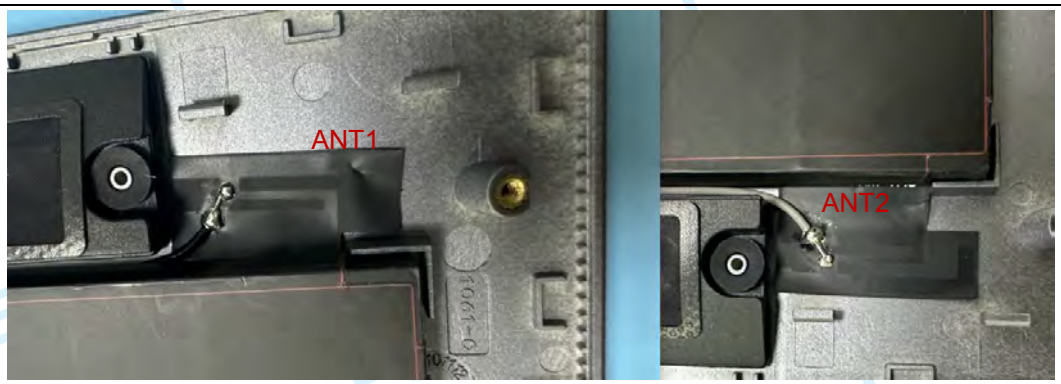
(1) The test report reference to the report template version v0.
(2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.
(3) The test report is invalid if there is any evidence and/or falsification.
(4) This document may not be altered or revised in any way unless done so by POCE 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. 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)

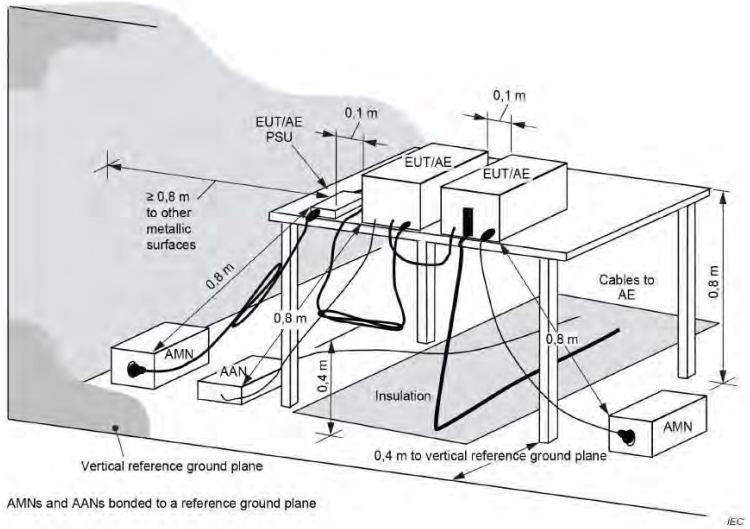
4.1 Conducted Emission at AC power line

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

4.1.1 E.U.T. Operation:

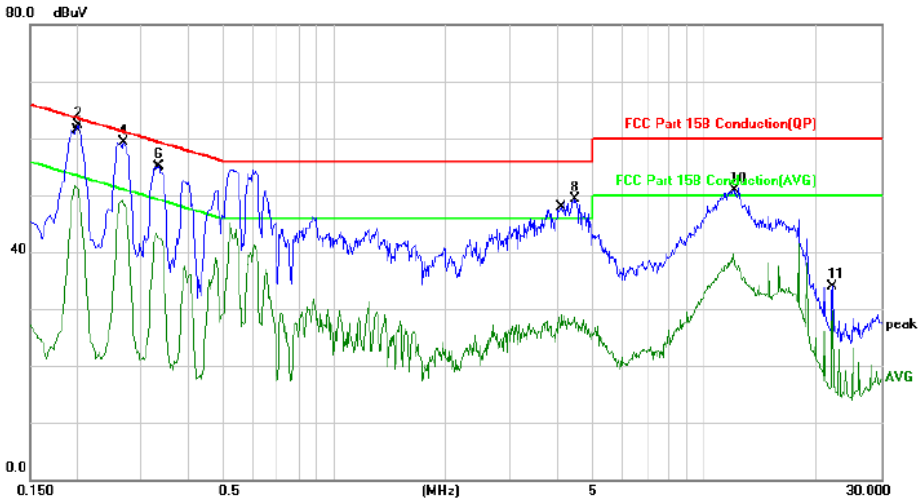
Operating Environment:					
Temperature:	23.1 °C	Humidity:	50.3 %	Atmospheric Pressure:	101 kPa
Pre test mode:	TM1				
Final test mode:	TM1				

4.1.2 Test Setup Diagram:



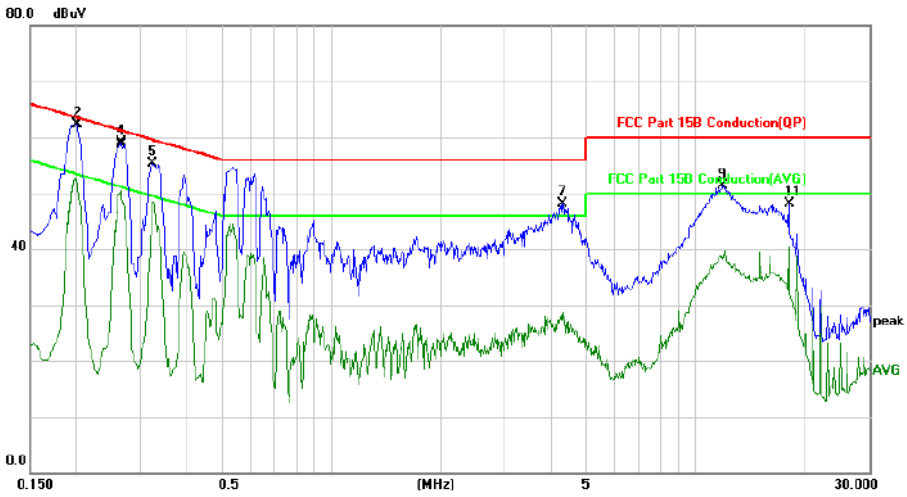
4.1.3 Test Data:

TM5 / Line: Line / Band: 5150-5250 MHz / BW: 20 / CH: H



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1980	41.58	10.03	51.61	53.69	-2.08	AVG	
2	*	0.2020	52.23	10.04	62.27	63.52	-1.25	peak	
3		0.2660	39.13	10.02	49.15	51.24	-2.09	AVG	
4		0.2700	49.36	10.02	59.38	61.12	-1.74	peak	
5		0.3300	33.39	10.01	43.40	49.45	-6.05	AVG	
6		0.3339	45.10	10.01	55.11	59.35	-4.24	peak	
7		4.1339	18.88	10.09	28.97	46.00	-17.03	AVG	
8		4.4699	39.25	10.11	49.36	56.00	-6.64	peak	
9		12.0379	29.22	10.44	39.66	50.00	-10.34	AVG	
10		12.1419	40.47	10.44	50.91	60.00	-9.09	peak	
11		22.0660	23.49	10.50	33.99	60.00	-26.01	peak	
12		22.0660	19.16	10.50	29.66	50.00	-20.34	AVG	

TM5 / Line: Neutral / Band: 5150-5250 MHz / BW: 20 / CH: H



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1980	44.70	10.03	53.03	53.69	-0.66	AVG	
2		0.2020	52.32	10.04	62.36	63.52	-1.16	peak	
3		0.2620	42.01	10.02	50.13	51.36	-1.23	AVG	
4		0.2660	49.03	10.02	59.05	61.24	-2.19	peak	
5		0.3260	45.28	10.01	55.29	59.55	-4.26	peak	
6		0.3260	39.35	10.01	46.36	49.55	-3.19	AVG	
7		4.3299	37.91	10.10	48.01	56.00	-7.99	peak	
8		4.3299	18.70	10.10	28.80	46.00	-17.20	AVG	
9		11.9259	40.87	10.44	51.31	60.00	-8.69	peak	
10		12.0379	29.29	10.44	39.73	50.00	-10.27	AVG	
11		18.0539	37.69	10.46	48.15	60.00	-11.85	peak	
12		18.0539	30.13	10.46	40.59	50.00	-9.41	AVG	

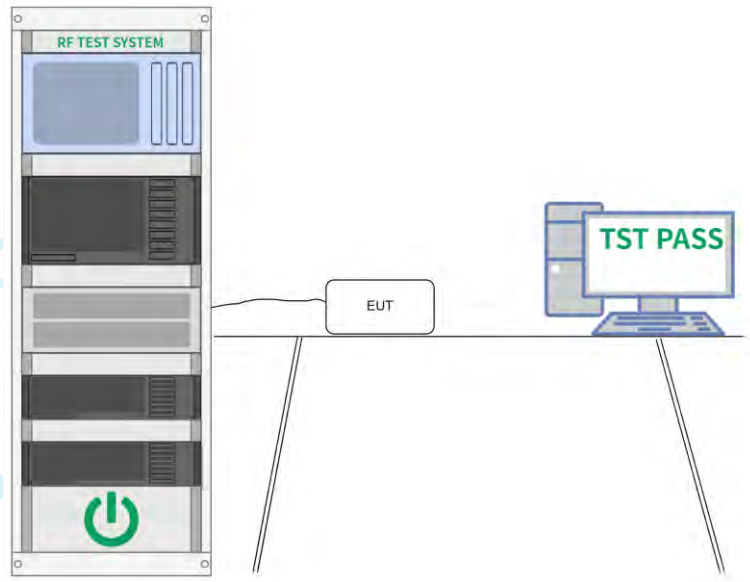
4.2 Duty Cycle

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

4.2.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.1 °C	Humidity:	50.3 %	Atmospheric Pressure:	101 kPa
Pre test mode:	TM1, TM2, TM3, TM4				
Final test mode:	TM1, TM2, TM3, TM4				

4.2.2 Test Setup Diagram:



4.2.3 Test Data:

Please Refer to Appendix for Details.

4.3 Maximum conducted output power

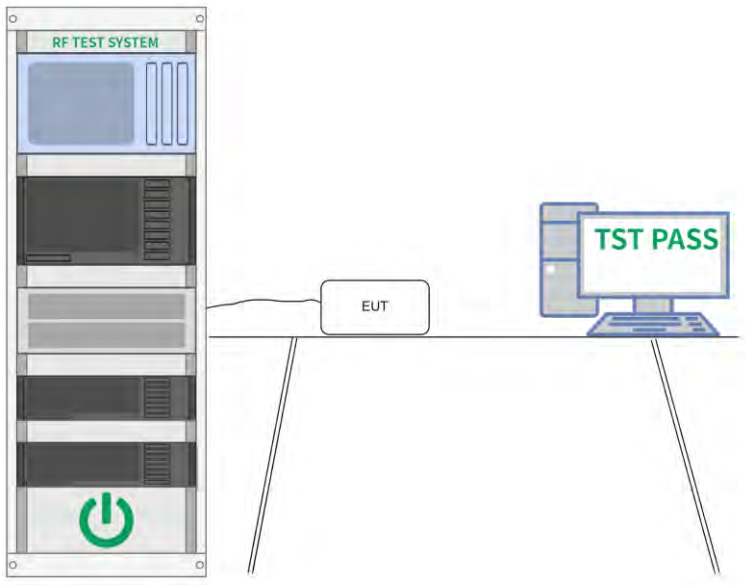
Test Requirement:	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)
Test Limit:	For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm). For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W 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 fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power is required for each 1 dB of antenna gain in excess of 23 dBi. 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. 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:	Method SA-1 a) Set span to encompass the entire 26 dB EBW or 99% OBW of the signal. b) Set RBW = 1 MHz. c) Set VBW >= 3 MHz. d) Number of points in sweep >= [2 × span / RBW]. (This gives bin-to-bin spacing <= RBW / 2, so that narrowband signals are not lost between frequency bins.) e) Sweep time = auto. f) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode. g) If transmit duty cycle < 98%, use a video trigger with the trigger level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no OFF intervals) or at duty cycle >= 98%, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run.” h) Trace average at least 100 traces in power averaging (rms) mode. i) Compute power by integrating the spectrum across the 26 dB EBW or 99% OBW of the signal using the instrument’s band power measurement function, with band limits set equal to the EBW or OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at 1 MHz intervals extending across the 26 dB EBW or 99% OBW of the spectrum.

4.3.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.1 °C	Humidity:	50.3 %	Atmospheric Pressure:	101 kPa
Pre test mode:	TM1, TM2, TM3, TM4, TM5, TM6, TM7				
Final test mode:	TM1, TM2, TM3, TM4, TM5, TM6, TM7				

4.3.2 Test Setup Diagram:



4.3.3 Test Data:

Please Refer to Appendix for Details.

4.4 Power spectral density

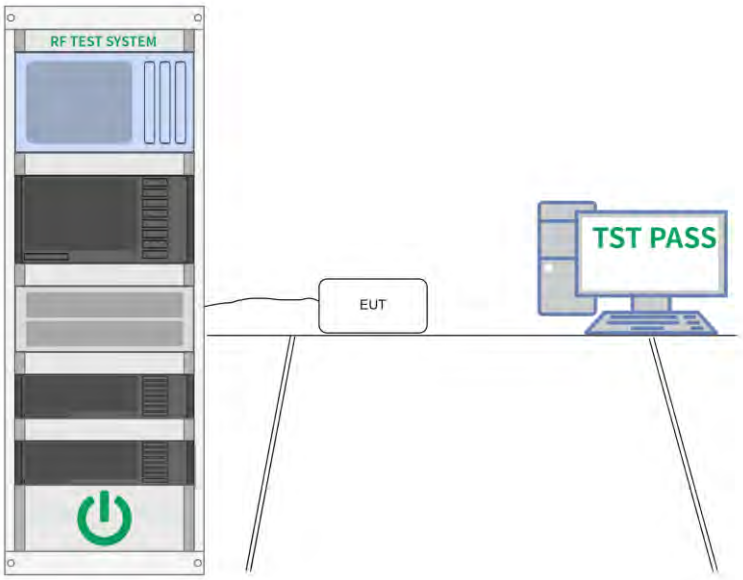
Test Requirement:	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(3)(i)
Test Limit:	For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in 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 an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 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 fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. 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. 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:	a) Create an average power spectrum for the EUT operating mode being tested by following the instructions in 12.3.2 for measuring maximum conducted output power using a spectrum analyzer or EMI receiver; that is, select the appropriate test method (SA-1, SA-2,

	SA-3, or their respective alternatives) and apply it up to, but not including, the step labeled, “Compute power….” (This procedure is required even if the maximum conducted output power measurement was performed using the power meter method PM.) b) Use the peak search function on the instrument to find the peak of the spectrum. c) Make the following adjustments to the peak value of the spectrum, if applicable: 1) If method SA-2 or SA-2A was used, then add [10 log (1 / D)], where D is the duty cycle, to the peak of the spectrum. 2) If method SA-3A was used and the linear mode was used in step h) of 12.3.2.7, add 1 dB to the final result to compensate for the difference between linear averaging and power averaging. d) The result is the PPSD. e) The procedure in item a) through item c) requires the use of 1 MHz resolution bandwidth to satisfy the 1 MHz measurement bandwidth specified by some regulatory authorities.This requirement also permits use of resolution bandwidths less than 1 MHz “provided that the measured power is integrated to show the total power over the measurement bandwidth” (i.e., 1 MHz). If measurements are performed using a reduced resolution bandwidth and integrated over 1 MHz bandwidth, the following adjustments to the procedures apply: 1) Set RBW >= 1 / T, where T is defined in 12.2 a). 2) Set VBW >= [3 × RBW]. 3) Care shall be taken such that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

4.4.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.1 °C	Humidity:	50.3 %	Atmospheric Pressure:	101 kPa
Pre test mode:	TM1, TM2, TM3, TM4, TM5, TM6, TM7				
Final test mode:	TM1, TM2, TM3, TM4, TM5, TM6, TM7				

4.4.2 Test Setup Diagram:



4.4.3 Test Data:

Please Refer to Appendix for Details.

4.5 Emission bandwidth and occupied bandwidth

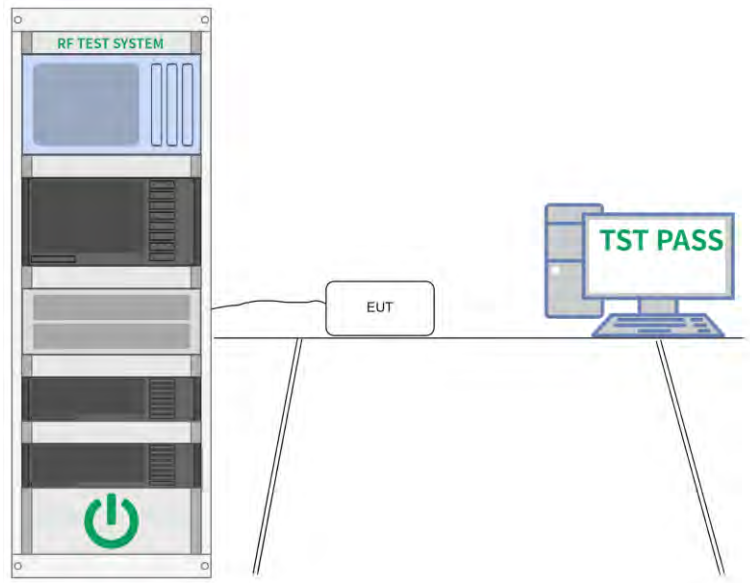
Test Requirement:	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use. U-NII 3, U-NII 4: 47 CFR Part 15.407(e)
Test Limit:	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use. U-NII 3, U-NII 4: Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.
Test Method:	ANSI C63.10-2013, section 6.9.3 & 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.

4.5.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.1 °C	Humidity:	50.3 %	Atmospheric Pressure:	101 kPa
Pre test mode:	TM1, TM2, TM3, TM4				
Final test mode:	TM1, TM2, TM3, TM4				

4.5.2 Test Setup Diagram:



4.5.3 Test Data:

Please Refer to Appendix for Details.

4.6 Band edge emissions (Radiated)

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

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

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

[2]Above 38.6

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

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

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3

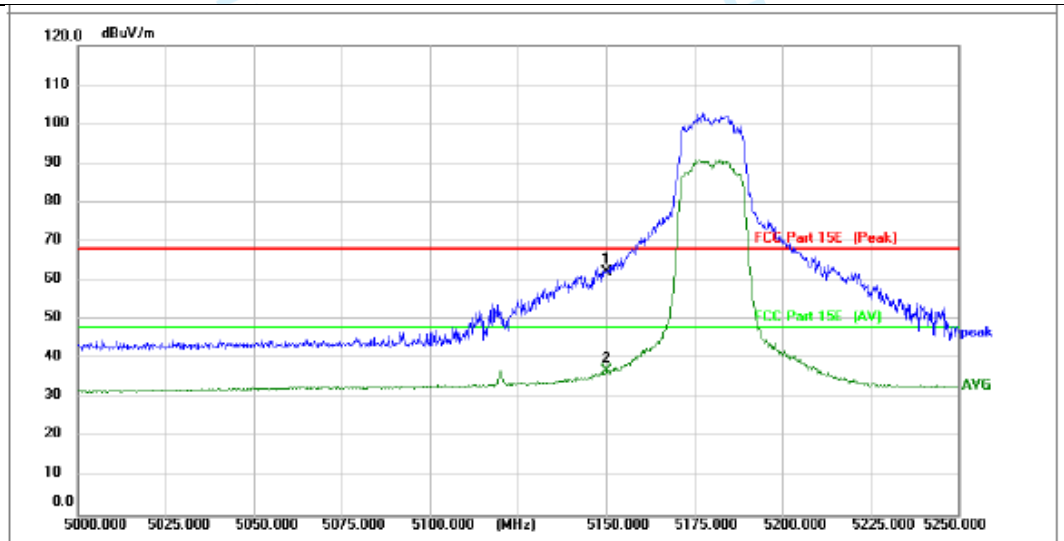
	216-960	200 **	3
	Above 960	500	3
Test Method:	ANSI C63.10-2013, section 12.7.4, 12.7.5, 12.7.6		
Procedure:	Above 1GHz: a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel. h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete. Remark: 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor 2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. 3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report. 4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.		

4.6.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.1 °C	Humidity:	50.3 %	Atmospheric Pressure:	101 kPa
Pre test mode:	TM1, TM2, TM3, TM4, TM5, TM6 , TM7				
Final test mode:	TM5				

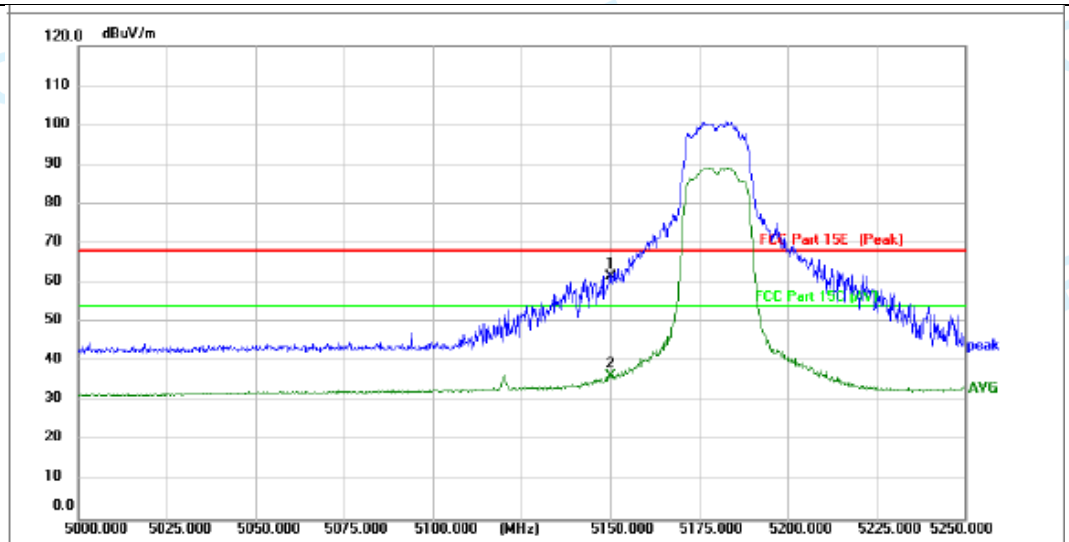
4.6.2 Test Data:

TM5 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 20 / CH: L



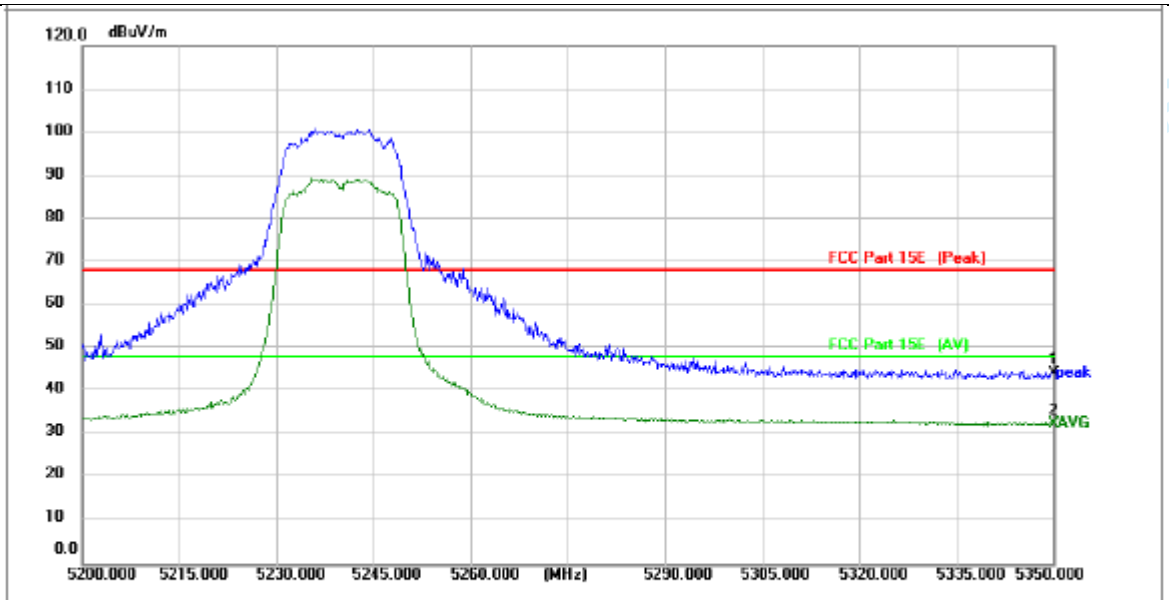
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	5150.000	62.28	0.05	62.33	68.20	-5.87	peak	149		P	
2	5150.000	36.98	0.05	37.03	48.20	-11.17	AVG	149		P	

TM5 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: L



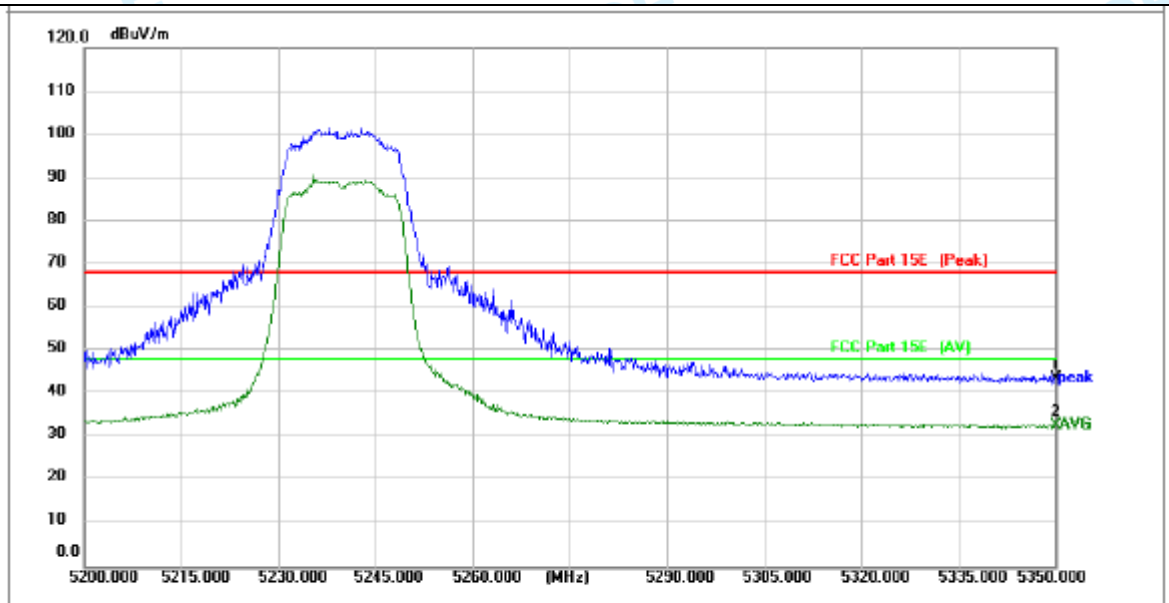
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	5150.000	61.10	0.46	61.56	68.20	-6.64	peak	149		P	
2	5150.000	36.07	0.46	36.53	54.00	-17.47	AVG	149		P	

TM5 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 20 / CH: H



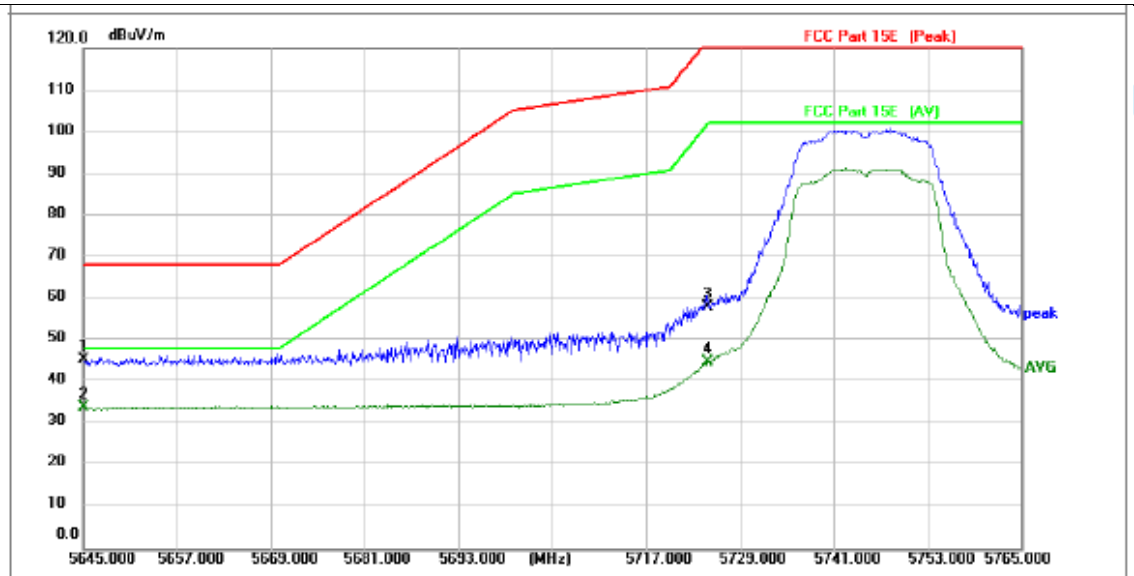
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5350.000	43.68	0.45	44.13	68.20	-24.07	peak	149		P	
2 *	5350.000	32.22	0.45	32.67	48.20	-15.53	AVG	149		P	

TM5 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: H



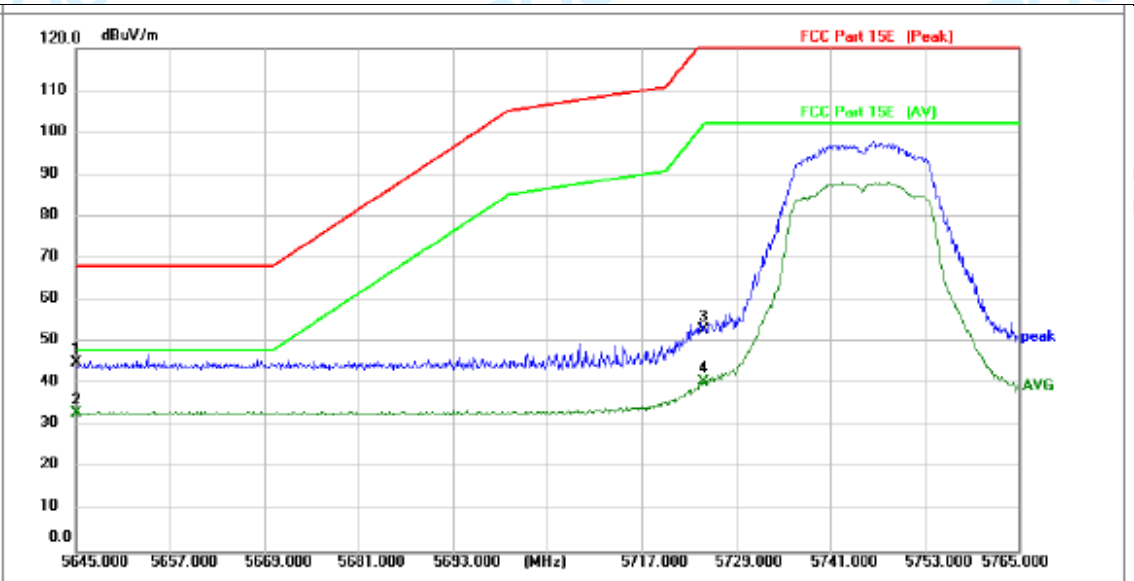
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5350.000	43.20	0.60	43.80	68.20	-24.40	peak	149		P	
2 *	5350.000	32.16	0.60	32.76	48.20	-15.44	AVG	149		P	

TM5 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: L



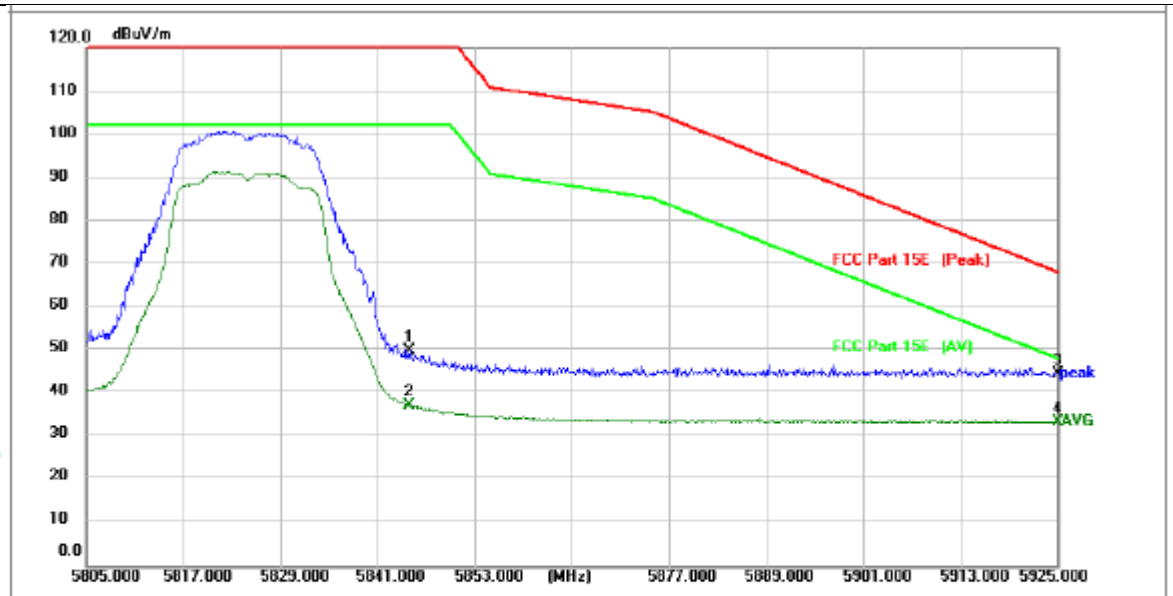
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5645.000	44.46	0.89	45.35	68.20	-22.85	peak	149		P	
2 *	5645.000	33.04	0.89	33.93	48.20	-14.27	AVG	149		P	
3	5725.000	57.20	0.97	58.17	122.20	-64.03	peak	149		P	
4	5725.000	43.92	0.97	44.89	102.20	-57.31	AVG	149		P	

TM5 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: L



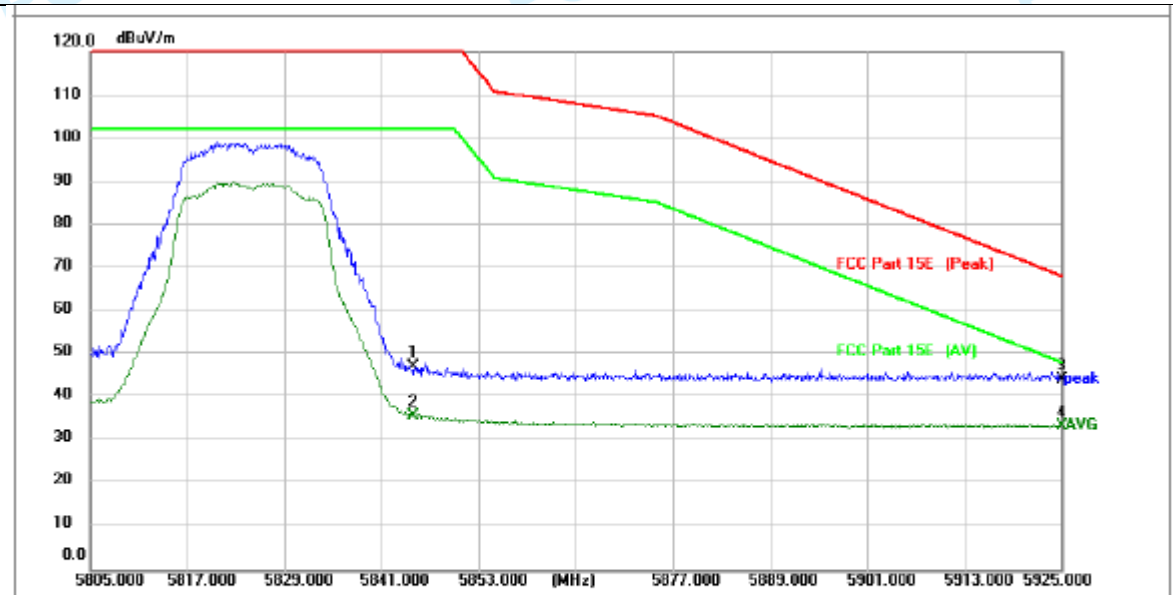
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5645.000	44.43	0.77	45.20	68.20	-23.00	peak	149		P	
2 *	5645.000	32.50	0.77	33.27	48.20	-14.93	AVG	149		P	
3	5725.000	52.08	0.81	52.89	122.20	-69.31	peak	149		P	
4	5725.000	39.92	0.81	40.73	102.20	-61.47	AVG	149		P	

TM5 / 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	5845.000	48.92	1.12	50.04	122.20	-72.16	peak	149		P	
2	5845.000	36.16	1.12	37.28	102.20	-64.92	AVG	149		P	
3	5925.000	43.30	1.20	44.50	68.20	-23.70	peak	149		P	
4 *	5925.000	32.17	1.20	33.37	48.20	-14.83	AVG	149		P	

TM5 / 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	5845.000	46.37	0.90	47.27	122.20	-74.93	peak	149		P	
2	5845.000	34.97	0.90	35.87	102.20	-66.33	AVG	149		P	
3	5925.000	43.30	0.94	44.24	68.20	-23.96	peak	149		P	
4 *	5925.000	32.61	0.94	33.55	48.20	-14.65	AVG	149		P	

Mesurement Level = Reading level + Correct Factor, Margin=Limit- Mesurement

Note:

Per ANSI C63.10-2013, if there are two or more antnnas, the conducted powers at Core 0, Core 1,…, Core i were first measured separately, as shown in the section above(this product olny have one antenna). The measured values were then summed in linear power units then converted back to dBm.

Per ANSI C63.10-2013 Section 14.4.3.2.3, the directional gain is calculated using the following formula, where GN is the gain of the nth antenna and NANT, the total number of antennas used.

For correlated unequal antenna gain

Directional gain = 10*log[(10G1/20 + 10G2/20 + … + 10GN/20)2 / NANT] dBi

For completely uncorrelated unequal antenna gain

Directional gain = 10*log[(10G1/10 + 10G2/10 + … + 10GN/10)/ NANT] dBi

Sample Multiple antennas Calculation: Core 0 + Core 1 +…Core i. = MIMO/CDD

(i is the number of antennas)

(#VALUE! mW + mW) = #VALUE! mW = dBm

Sample e.i.r.p. Calculation:

e.i.r.p. (dBm) = Conducted Power (dBm) + Ant gain (dBi)

4.7 Undesirable emission limits (below 1GHz)

Test Requirement:	47 CFR Part 15.407(b)(9)
Test Limit:	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:

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

Test Method:	ANSI C63.10-2013, section 12.7.4, 12.7.5, 12.7.6
Procedure:	Below 1GHz: a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel. h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete. Remark: 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor 2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The 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.

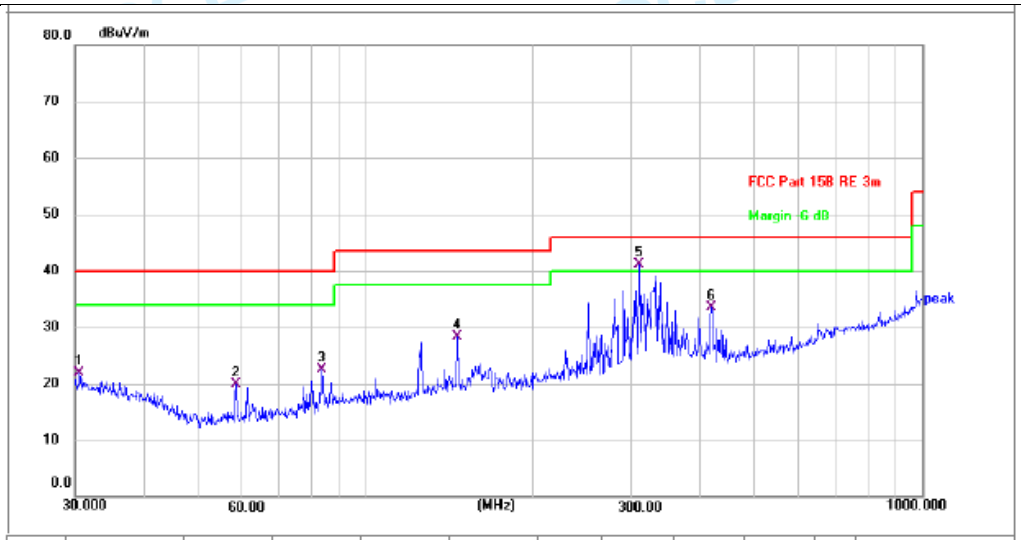
	c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then 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.

4.7.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.1 °C	Humidity:	50.3 %	Atmospheric Pressure:	101 kPa
Pre test mode:	TM5				
Final test mode:	TM5				

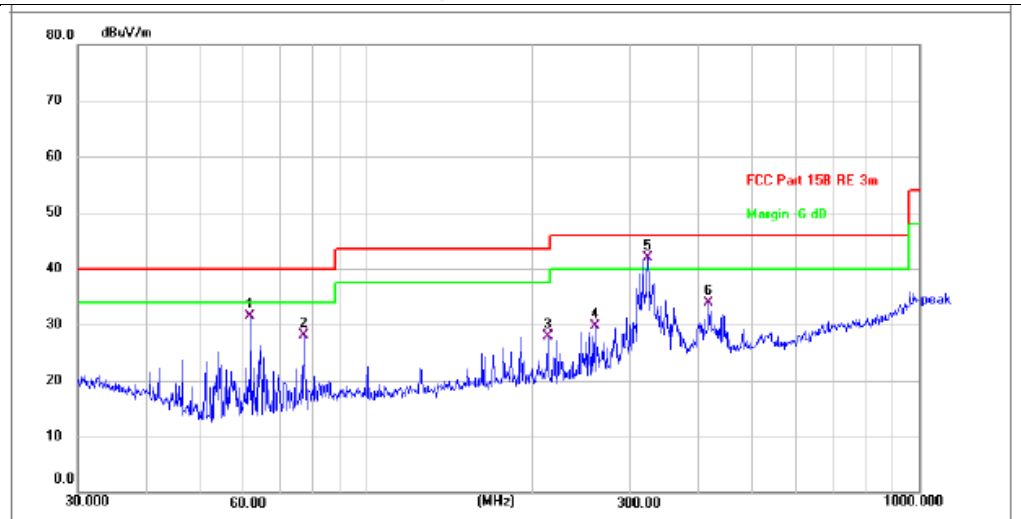
4.7.2 Test Data:

TM5 / 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	30.5306	24.89	-3.00	21.89	40.00	-18.11	QP	100		P	
2	58.4074	29.15	-9.16	19.99	40.00	-20.01	QP	100		P	
3	83.2298	29.56	-7.15	22.41	40.00	-17.59	QP	100		P	
4	145.8611	32.29	-3.91	28.38	43.50	-15.12	QP	100		P	
5 *	309.9977	40.10	0.91	41.01	46.00	-4.99	QP	100		P	
6	417.6411	32.13	1.30	33.43	46.00	-12.57	QP	100		P	

TM5 / 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	61.5617	40.48	-8.96	31.52	40.00	-8.48	QP	100		P	
2	76.7807	36.18	-8.00	28.18	40.00	-11.82	QP	100		P	
3	213.0150	30.61	-2.73	27.88	43.50	-15.62	QP	100		P	
4	259.2337	31.45	-1.76	29.69	46.00	-16.31	QP	100		P	
5 *	323.3202	41.69	0.30	41.99	46.00	-4.01	QP	100		P	
6	416.1791	32.51	1.30	33.81	46.00	-12.19	QP	100		P	

4.8 Undesirable emission limits (above 1GHz)

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

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

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

[2]Above 38.6

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

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

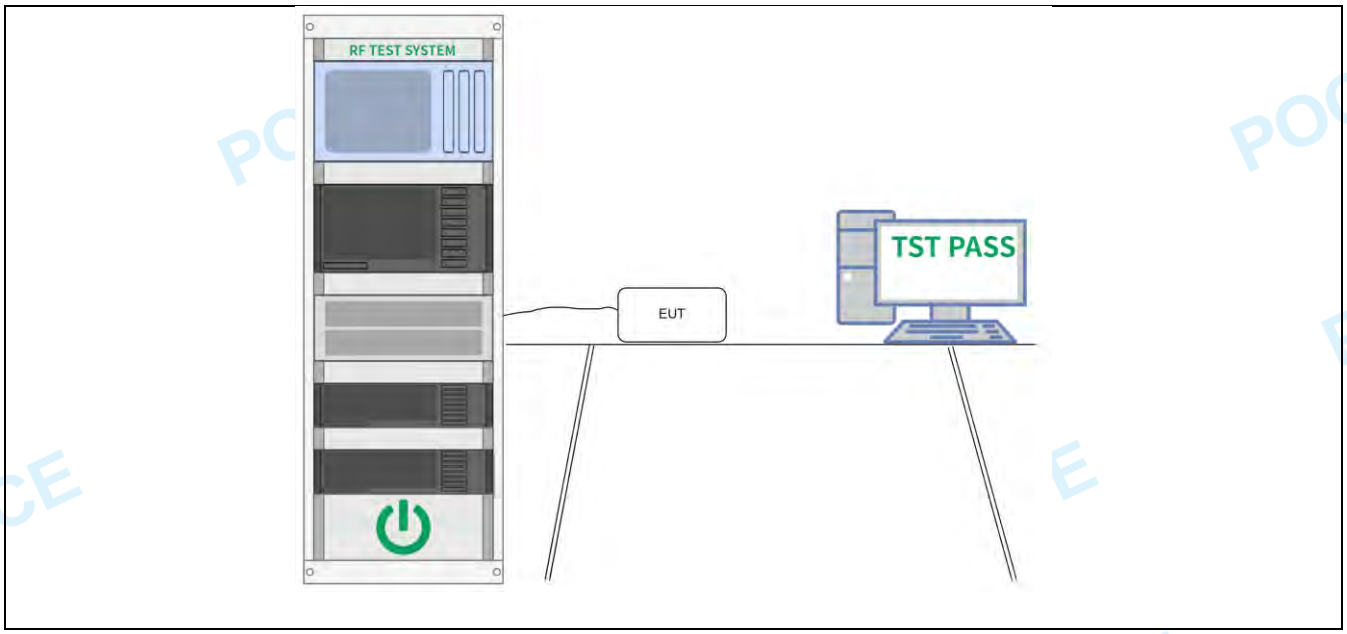
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3

	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
Test Method:	ANSI C63.10-2013, section 12.7.4, 12.7.5, 12.7.6		
Procedure:	Above 1GHz: a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel. h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete. Remark: 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor 2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. 3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report. 4. The disturbance above 18GHz were very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.		

4.8.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.1 °C	Humidity:	50.3 %	Atmospheric Pressure:	101 kPa
Pre test mode:	TM1, TM2, TM3, TM4, TM5, TM6 , TM7				
Final test mode:	TM5				

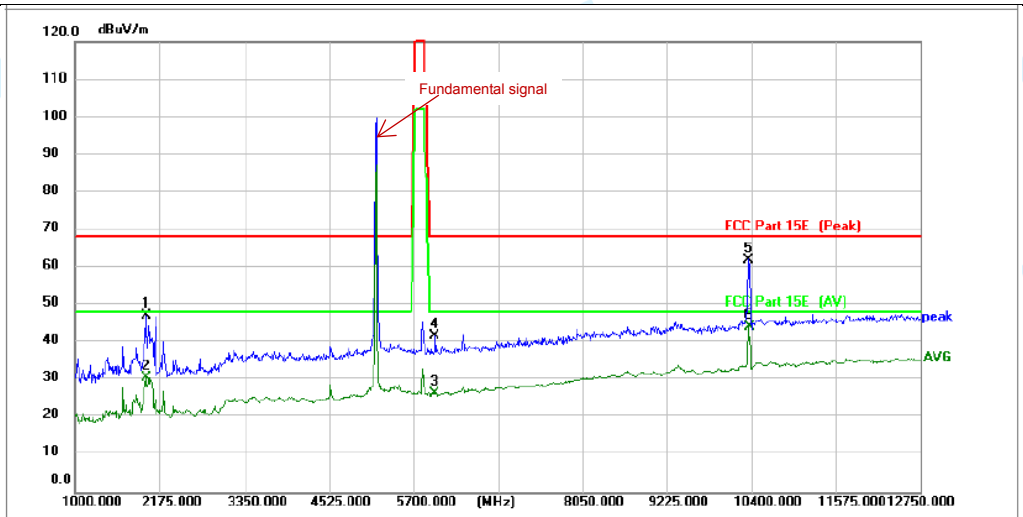
4.8.2 Test Setup Diagram:



4.8.3 Test Data:

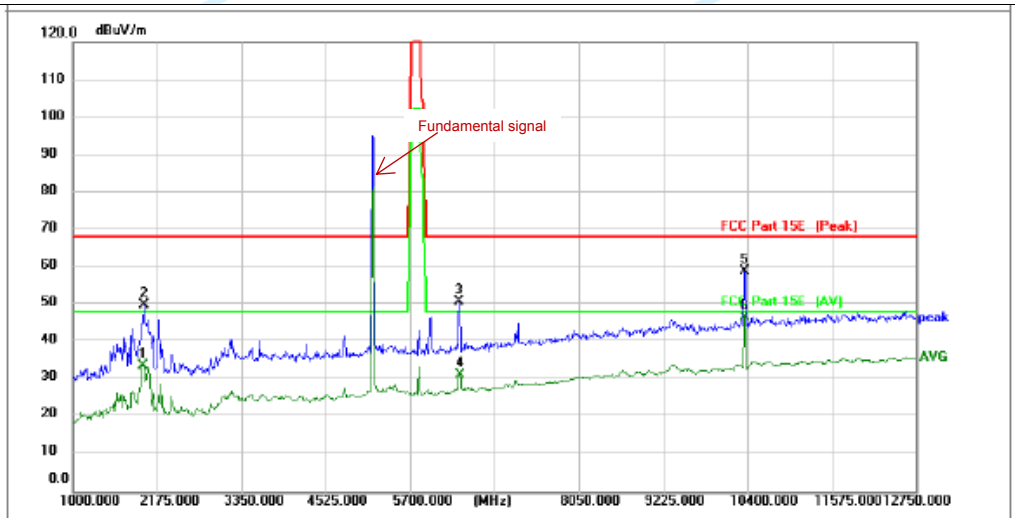
Only the worst mode and channel are recorded, The testing frequency reach up to 25GHz, but 12GHz-25GHz has no waveform except for background noise, so it was not recorded in the report.

TM5 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 20 / CH: L



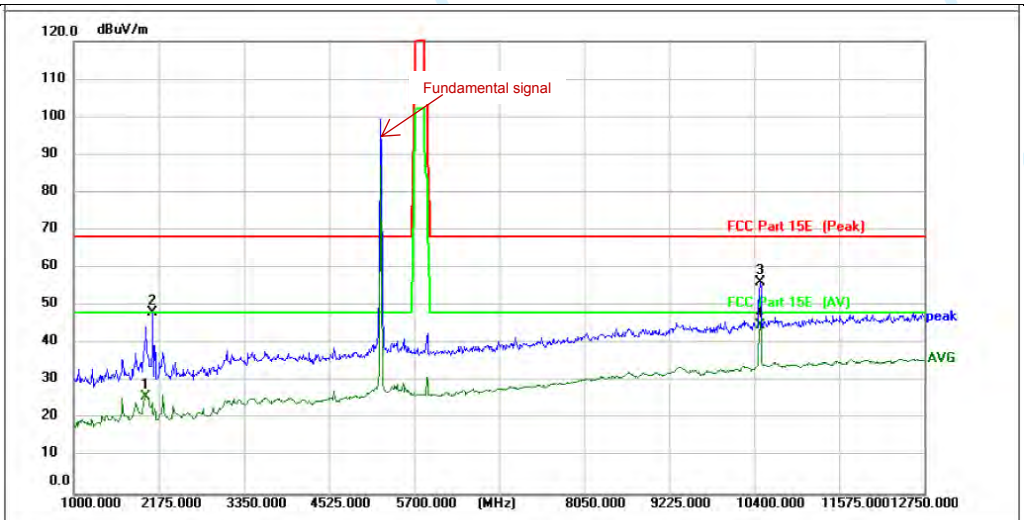
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1987.000	55.12	-7.79	47.33	68.20	-20.87	peak	149		P	
2	1987.000	38.62	-7.79	30.83	48.20	-17.37	AVG	149		P	
3	5982.000	25.43	1.27	26.70	48.20	-21.50	AVG	149		P	
4	5993.750	40.58	1.28	41.86	68.20	-26.34	peak	149		P	
5	10364.750	59.44	8.76	63.20	68.20	-5.00	peak	149		P	
6 *	10364.750	45.49	8.76	45.25	48.20	-2.95	AVG	149		P	

TM5 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: L



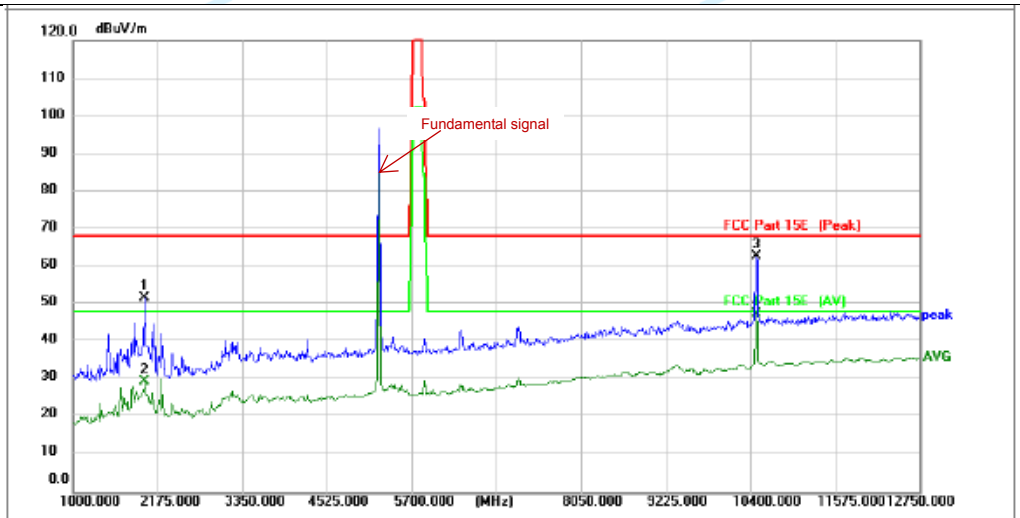
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1975.250	43.35	-9.54	33.81	48.20	-14.39	AVG	149		P	
2	1987.000	59.45	-9.50	49.95	68.20	-18.25	peak	149		P	
3	6381.500	48.85	1.99	50.84	68.20	-17.36	peak	149		P	
4	6393.250	29.43	2.01	31.44	48.20	-16.76	AVG	149		P	
5	10364.750	50.30	8.56	58.86	68.20	-9.34	peak	149		P	
6 *	10364.750	37.96	8.56	46.52	48.20	-1.68	AVG	149		P	

TM5 / Polarization: Horizontal / Band: 5150-5250 MHz / BW: 20 / CH: H



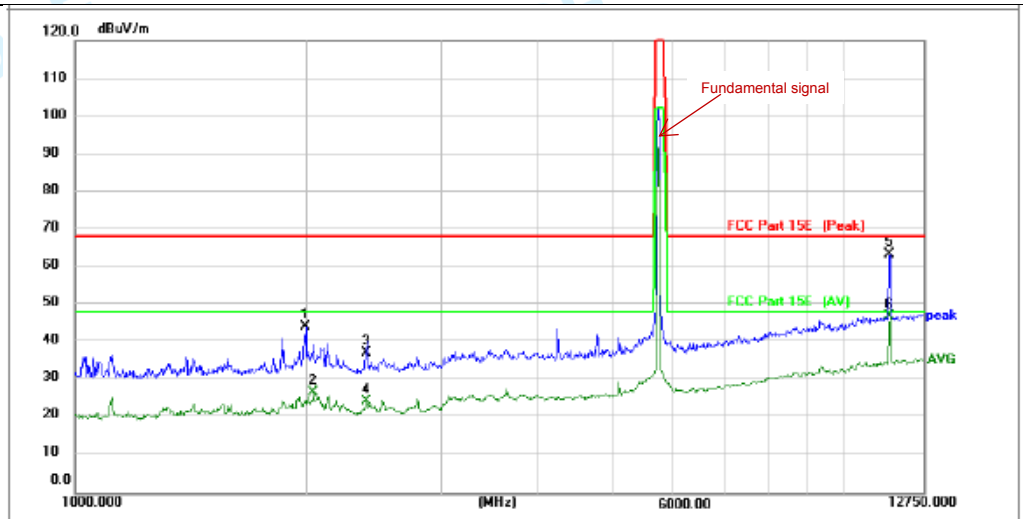
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1987.000	33.86	-7.79	26.07	48.20	-22.13	AVG	149		P	
2	2092.750	55.62	-7.50	48.12	68.20	-20.08	peak	149		P	
3	10482.250	47.20	8.97	56.17	68.20	-12.03	peak	149		P	
4 *	10482.250	36.30	8.97	45.27	48.20	-2.93	AVG	149		P	

TM5 / Polarization: Vertical / Band: 5150-5250 MHz / BW: 20 / CH: H



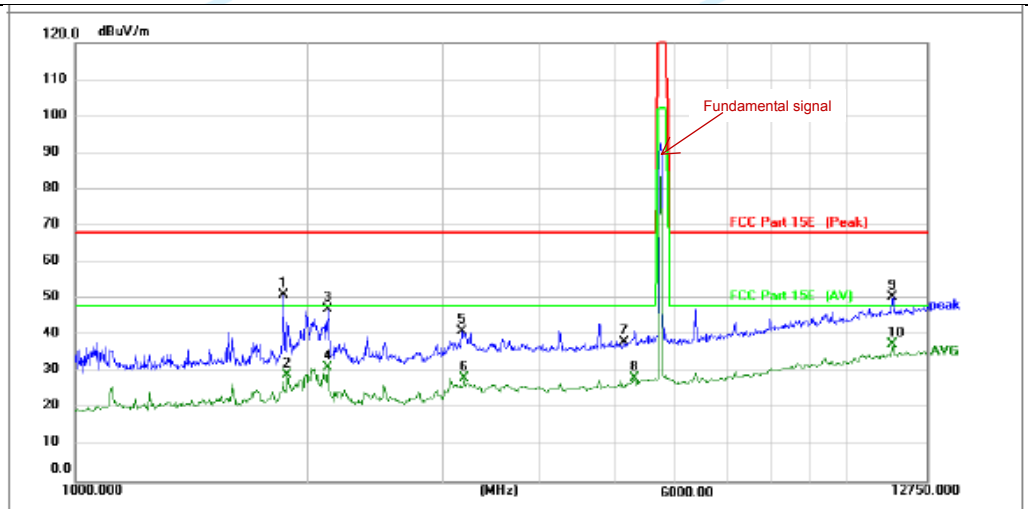
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1998.750	61.09	-9.45	51.64	68.20	-16.56	peak	149		P	
2	1998.750	38.94	-9.45	29.49	48.20	-18.71	AVG	149		P	
3	10482.250	54.11	8.63	62.74	68.20	-5.46	peak	149		P	
4 *	10482.250	39.05	8.63	47.68	48.20	-0.52	AVG	149		P	

TM5 / Polarization: Horizontal / Band: 5725-5850 MHz / BW: 20 / CH: L



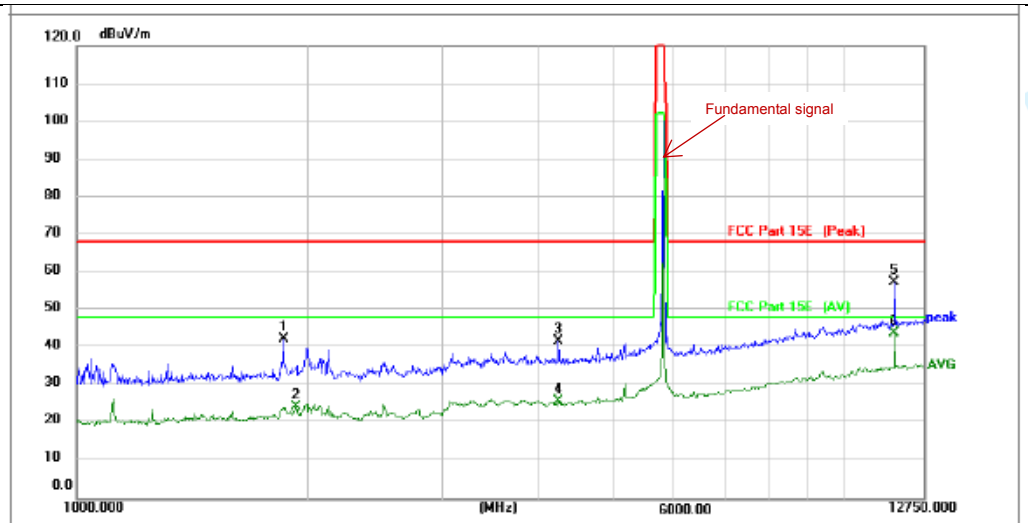
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1998.475	51.89	-7.75	44.14	68.20	-24.06	peak	149		P	
2	2044.788	34.43	-7.63	26.80	48.20	-21.40	AVG	149		P	
3	2394.363	44.11	-6.71	37.40	68.20	-30.80	peak	149		P	
4	2394.363	31.14	-6.71	24.43	48.20	-23.77	AVG	149		P	
5	11515.685	53.81	9.68	63.49	68.20	-4.71	peak	149		P	
6 *	11515.685	37.30	9.68	46.98	48.20	-1.22	AVG	149		P	

TM5 / Polarization: Vertical / Band: 5725-5850 MHz / BW: 20 / CH: L



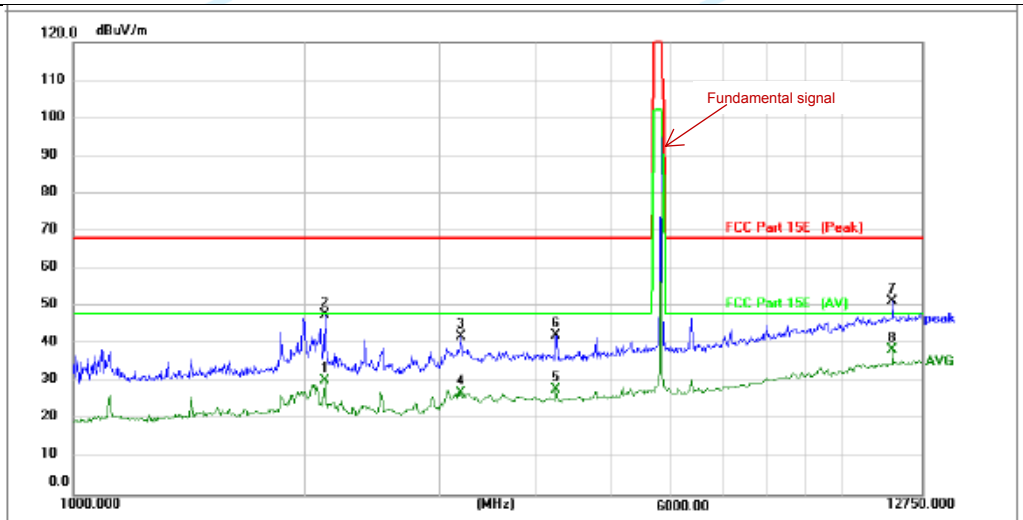
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1860.992	60.99	-9.96	51.03	68.20	-17.17	peak	149		P	
2	1884.829	39.09	-9.86	29.23	48.20	-18.97	AVG	149		P	
3	2129.789	56.11	-8.94	47.17	68.20	-21.03	peak	149		P	
4	2129.789	40.28	-8.94	31.34	48.20	-16.86	AVG	149		P	
5	3176.155	46.37	-5.06	41.31	68.20	-26.89	peak	149		P	
6	3192.366	33.36	-5.02	28.34	48.20	-19.86	AVG	149		P	
7	5164.807	37.78	0.47	38.25	68.20	-29.95	peak	149		P	
8	5325.007	27.80	0.57	28.37	48.20	-19.83	AVG	149		P	
9	11515.685	40.80	9.69	50.49	68.20	-17.71	peak	149		P	
10 *	11515.685	28.07	9.69	37.76	48.20	-10.44	AVG	149		P	

TM5 / 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	1860.992	50.63	-8.18	42.45	68.20	-25.75	peak	149		P	
2	1933.424	32.34	-7.95	24.39	48.20	-23.81	AVG	149		P	
3	4256.330	44.16	-2.39	41.77	68.20	-26.43	peak	149		P	
4	4256.330	28.42	-2.39	26.03	48.20	-22.17	AVG	149		P	
5	11663.189	47.70	9.78	57.48	68.20	-10.72	peak	149		P	
6 *	11663.189	34.26	9.78	44.04	48.20	-4.16	AVG	149		P	

TM5 / 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	2124.374	39.52	-8.96	30.56	48.20	-17.64	AVG	149		P	
2	2129.789	56.64	-8.94	47.70	68.20	-20.50	peak	149		P	
3	3192.366	47.14	-5.02	42.12	68.20	-26.08	peak	149		P	
4	3192.366	32.25	-5.02	27.23	48.20	-20.97	AVG	149		P	
5	4256.330	30.19	-2.10	28.09	48.20	-20.11	AVG	149		P	
6	4267.178	44.45	-2.07	42.38	68.20	-25.82	peak	149		P	
7	11663.189	41.62	9.87	51.49	68.20	-16.71	peak	149		P	
8 *	11663.189	28.82	9.87	38.69	48.20	-9.51	AVG	149		P	

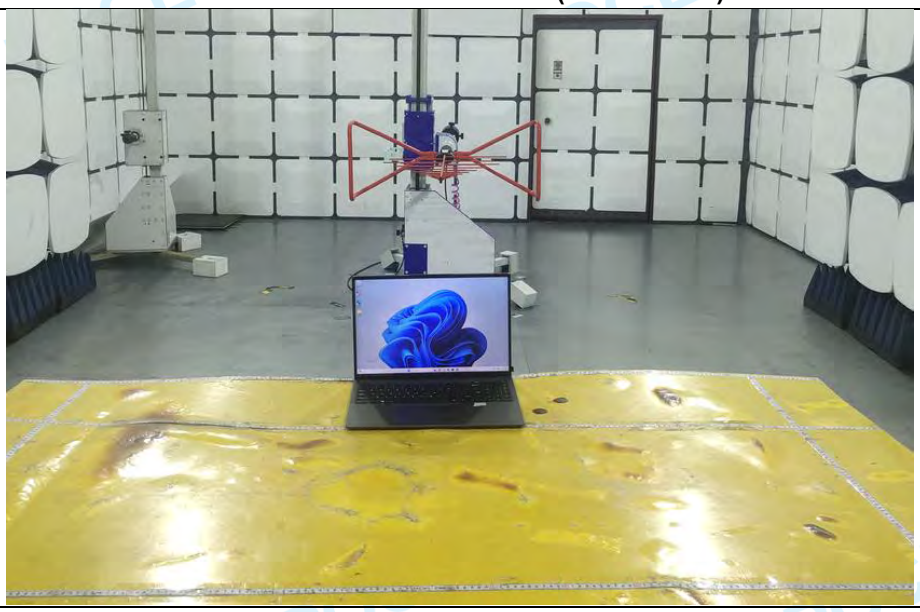
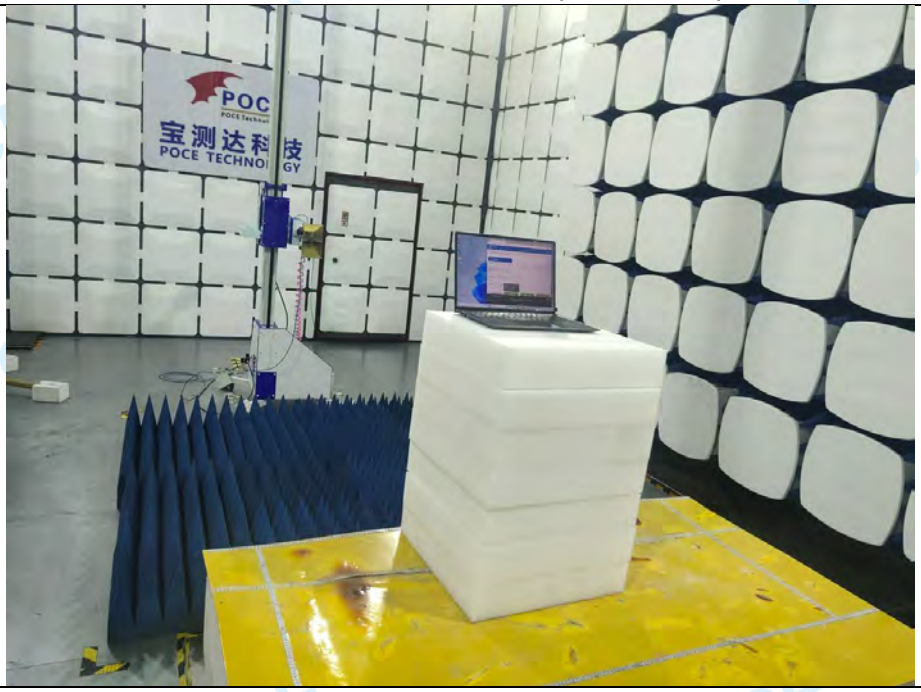
Remark: Margin = Limit – Level
Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
Level=Test receiver reading + correction factor

Note:
Per ANSI C63.10-2013, if there are two or more antnnas, the conducted powers at Core 0, Core 1,…, Core i were first measured separately, as shown in the section above(this product olny have one antenna). The measured values were then summed in linear power units then converted back to dBm.

Sample Multiple antennas Calculation: Core 0 + Core 1 +…Core i. = MIMO/CDD
(i is the number of antennas)

(#VALUE! mW + XX mW) = #VALUE! mW = XX dBm
Sample e.i.r.p. Calculation:
XX dBm= Conducted Power (dBm) + Ant gain (dBi)

5 TEST SETUP PHOTOS

Undesirable emission limits (below 1GHz)

Undesirable emission limits (above 1GHz)


Conducted Emission at AC power line


6 PHOTOS OF THE EUT

Please refer to report No.: POCE230918001RF001

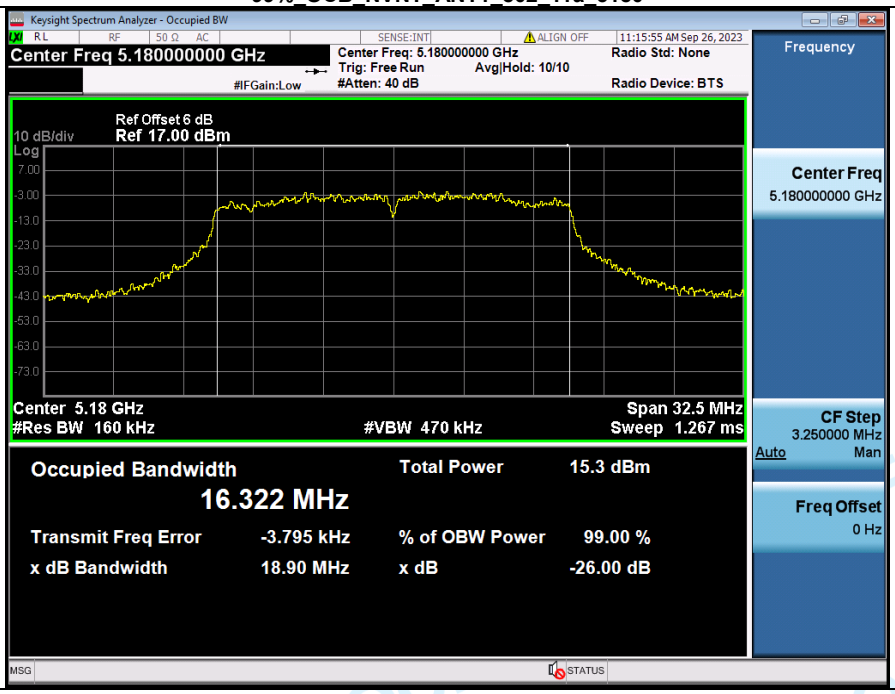
Appendix-5.2G

FCC_5.2G_WIFI (Part15.407) Test Data

1. -26dB and 99% Emission Bandwidth

Condition	Antenna	Modulation	Frequency(MHz)	-26dB_Emission_Bandwidth(MHz)	Occupied Bandwidth(MHz)
NVNT	ANT1	802.11a	5180.00	20.27	16.32
NVNT	ANT2	802.11a	5180.00	19.96	16.34
NVNT	ANT1	802.11a	5200.00	19.96	16.35
NVNT	ANT2	802.11a	5200.00	19.96	16.32
NVNT	ANT1	802.11a	5240.00	20.62	16.35
NVNT	ANT2	802.11a	5240.00	19.94	16.35
NVNT	ANT1	802.11n(HT20)	5180.00	23.31	17.66
NVNT	ANT2	802.11n(HT20)	5180.00	23.81	17.66
NVNT	ANT1	802.11n(HT20)	5200.00	23.52	17.65
NVNT	ANT2	802.11n(HT20)	5200.00	23.73	17.65
NVNT	ANT1	802.11n(HT20)	5240.00	24.23	17.66
NVNT	ANT2	802.11n(HT20)	5240.00	24.27	17.69
NVNT	ANT1	802.11ac(VHT20)	5180.00	20.99	17.58
NVNT	ANT2	802.11ac(VHT20)	5180.00	21.06	17.58
NVNT	ANT1	802.11ac(VHT20)	5200.00	21.14	17.60
NVNT	ANT2	802.11ac(VHT20)	5200.00	21.38	17.58
NVNT	ANT1	802.11ac(VHT20)	5240.00	20.94	17.59
NVNT	ANT2	802.11ac(VHT20)	5240.00	21.21	17.61
NVNT	ANT1	802.11n(HT40)	5190.00	43.80	36.01
NVNT	ANT2	802.11n(HT40)	5190.00	43.98	36.03
NVNT	ANT1	802.11n(HT40)	5230.00	42.92	36.08
NVNT	ANT2	802.11n(HT40)	5230.00	43.98	36.07
NVNT	ANT1	802.11ac(VHT40)	5190.00	40.13	35.89
NVNT	ANT2	802.11ac(VHT40)	5190.00	41.21	35.88
NVNT	ANT1	802.11ac(VHT40)	5230.00	40.89	35.99
NVNT	ANT2	802.11ac(VHT40)	5230.00	40.76	35.99
NVNT	ANT1	802.11ac(VHT80)	5210.00	83.59	75.11
NVNT	ANT2	802.11ac(VHT80)	5210.00	85.76	75.14

99%_OCB_NVNT_ANT1_802_11a_5180



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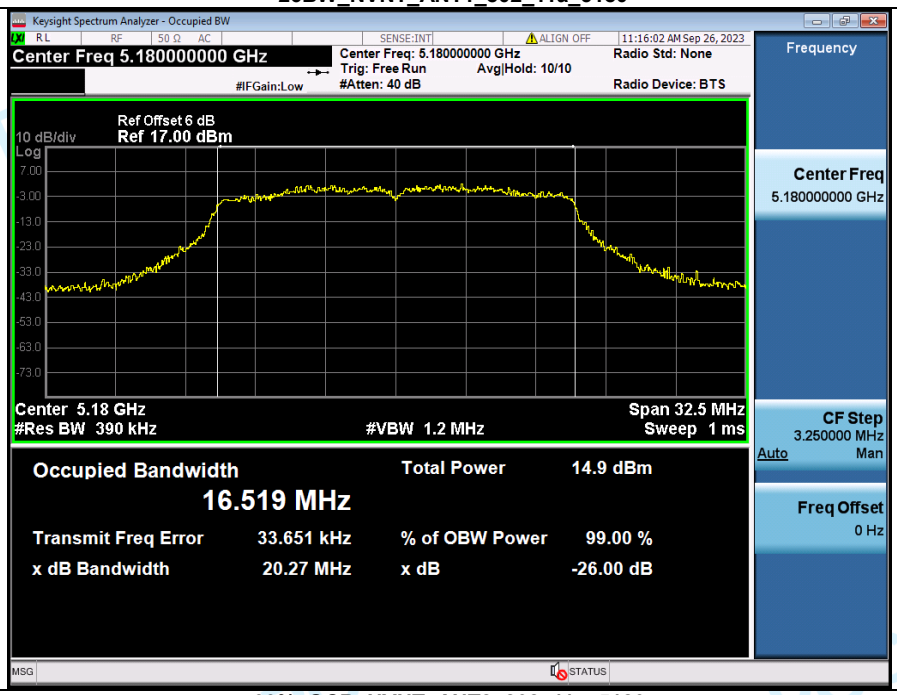

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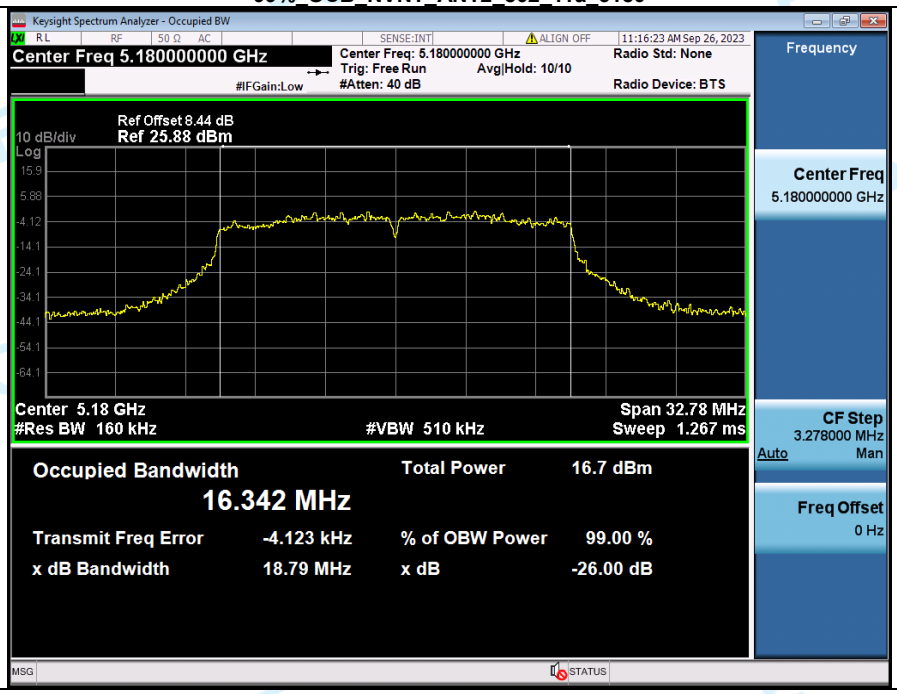

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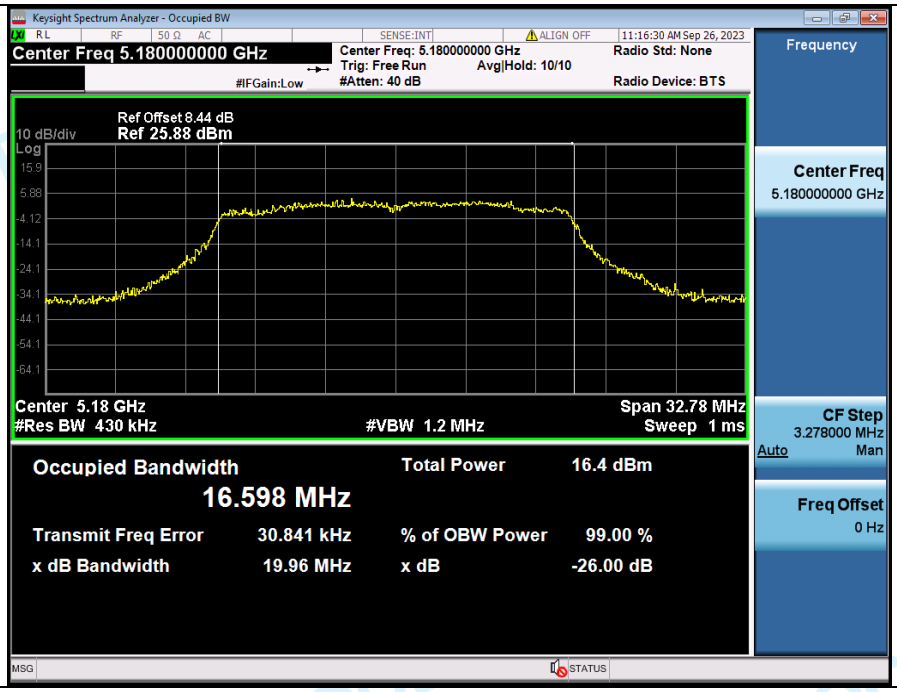

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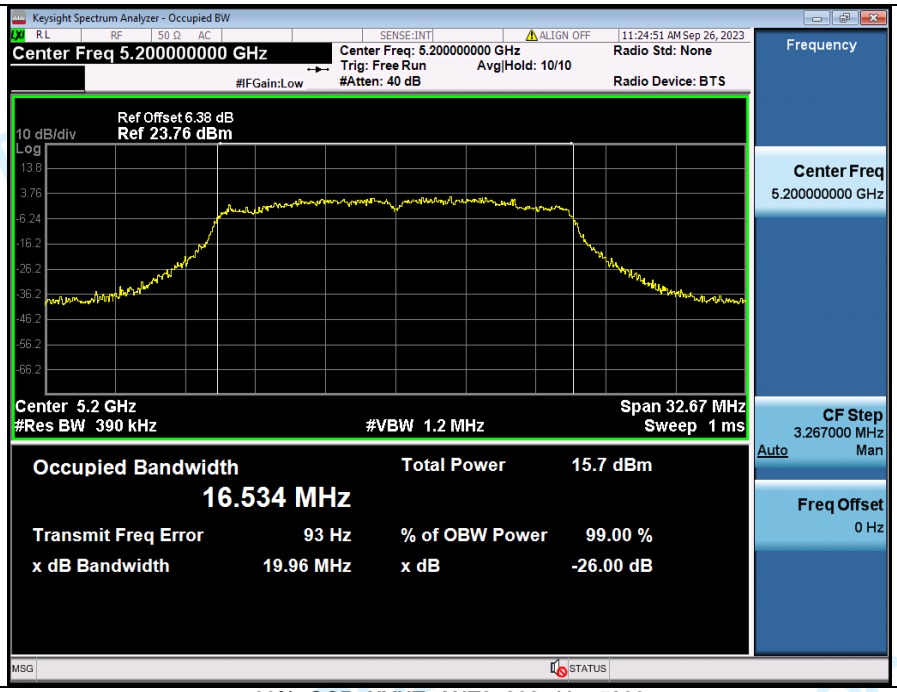

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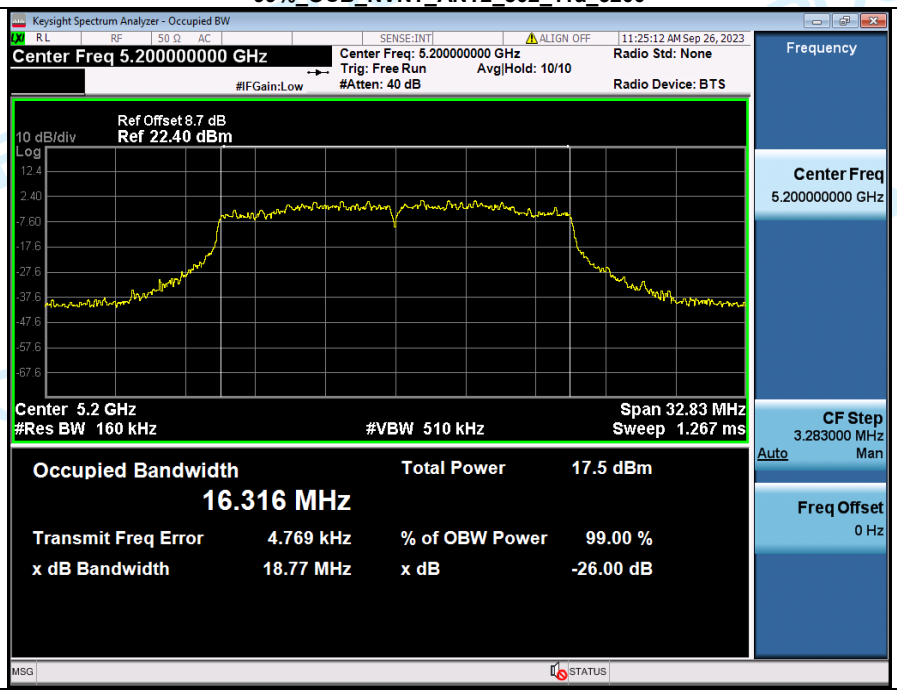

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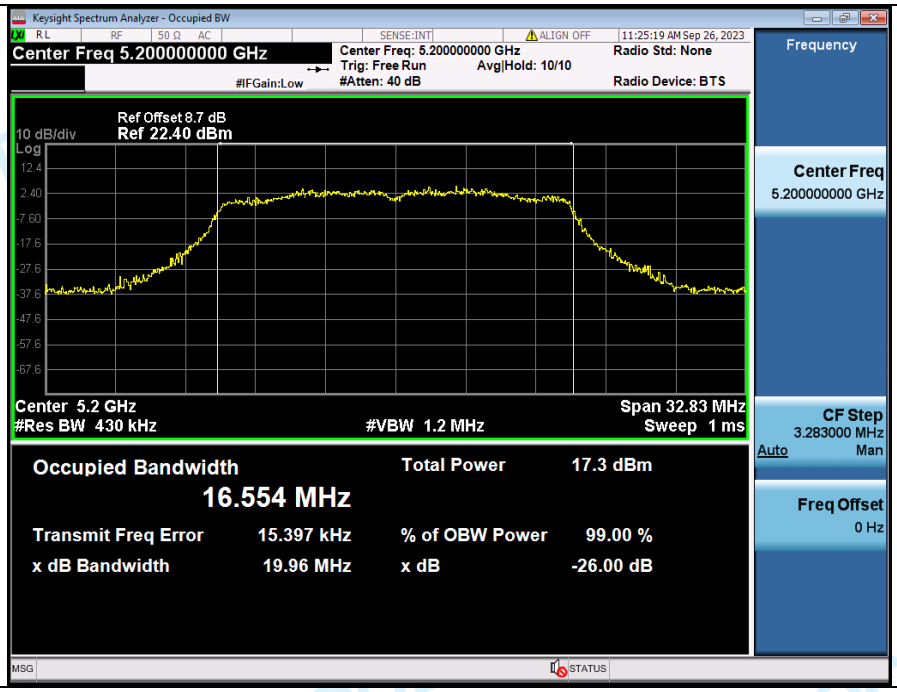

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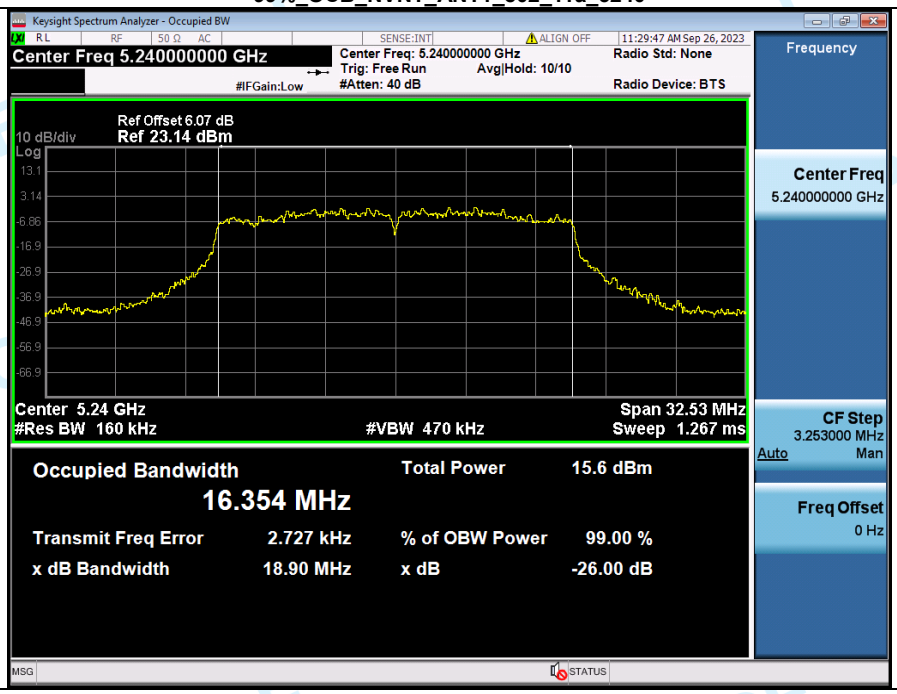

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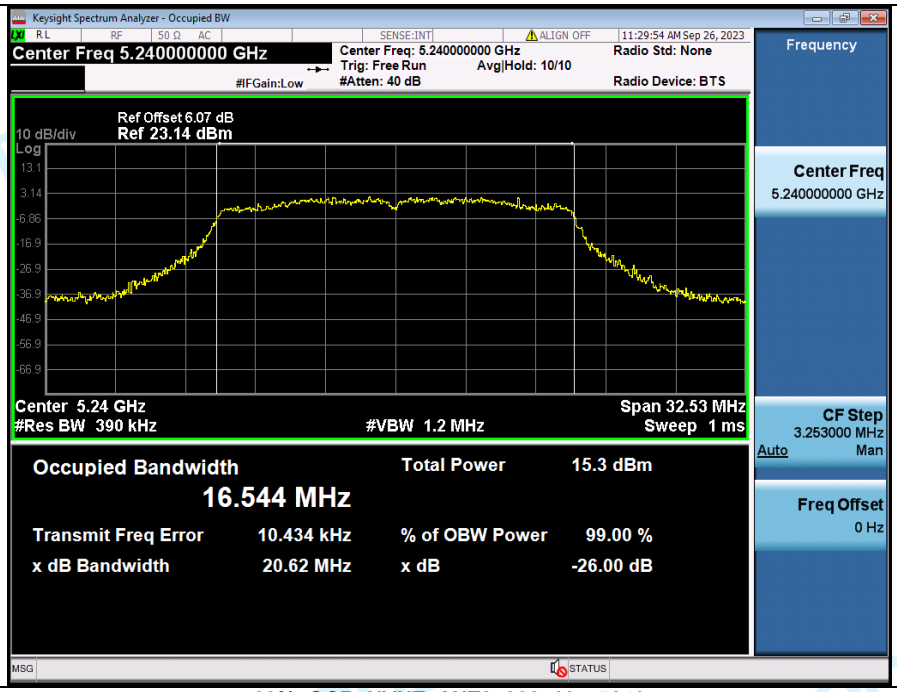

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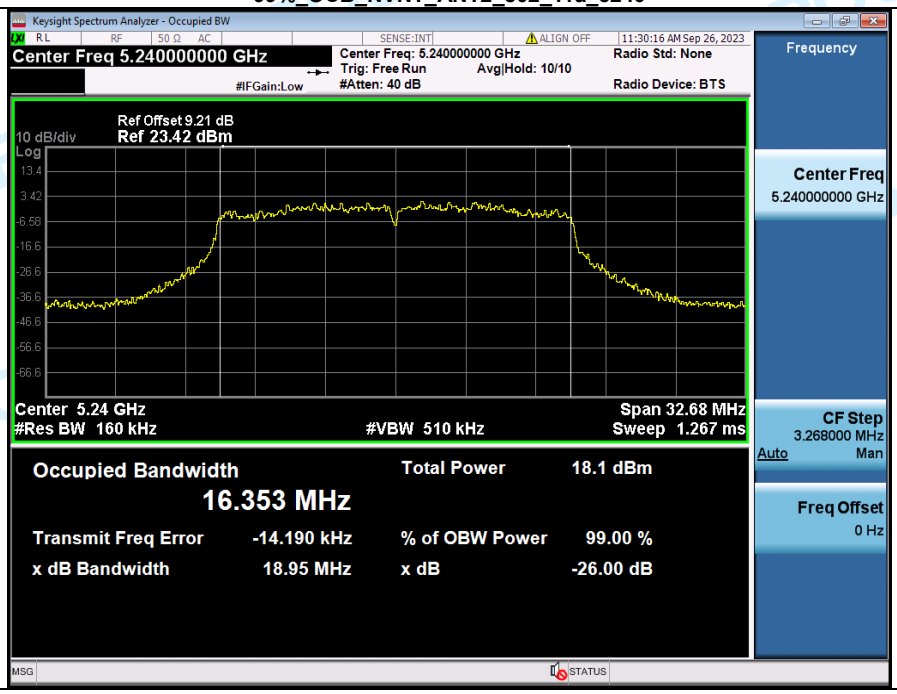

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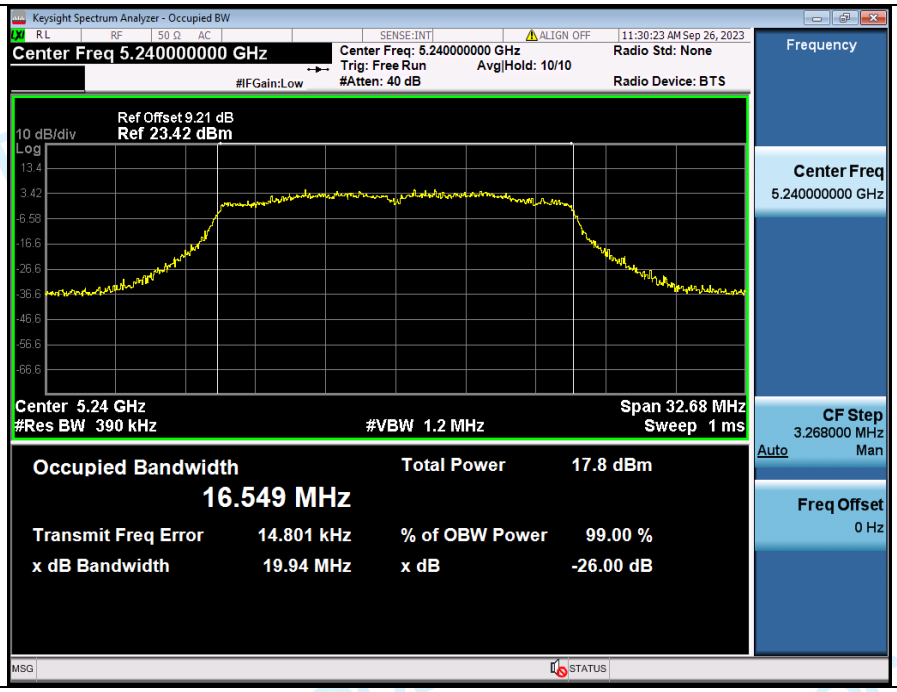

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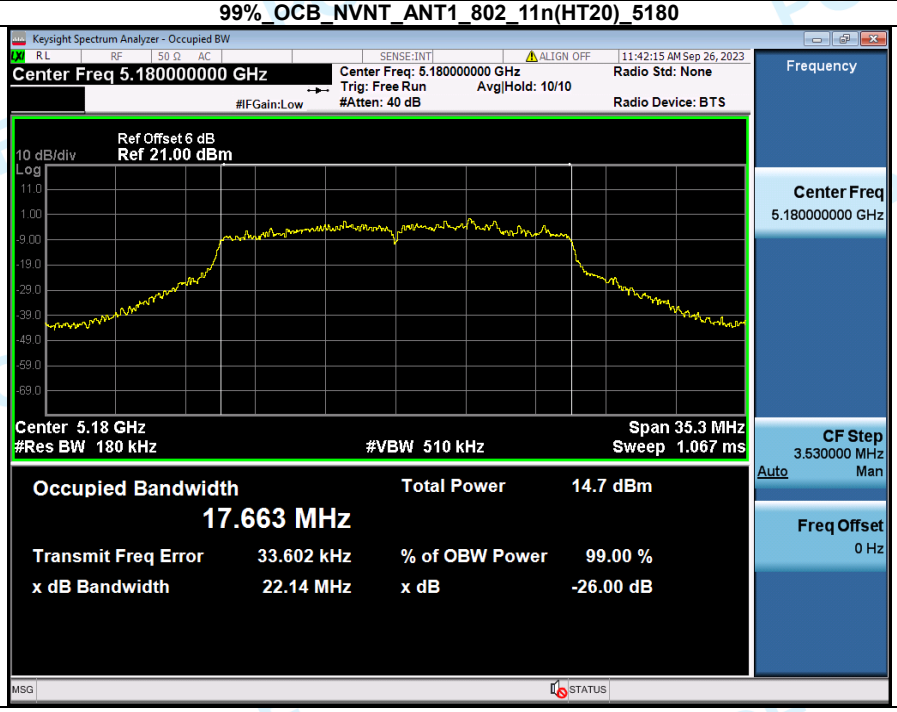

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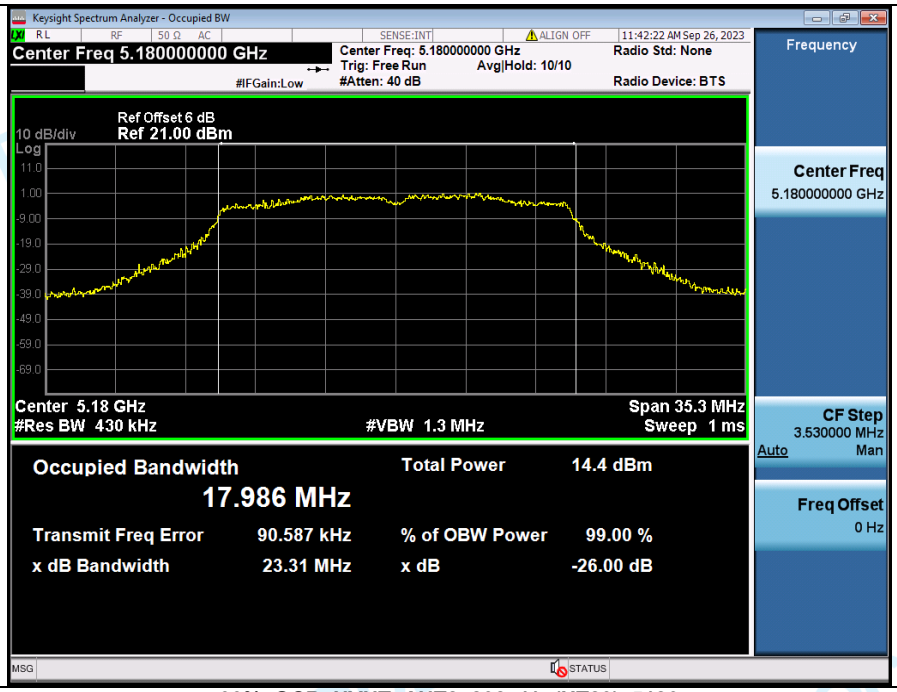

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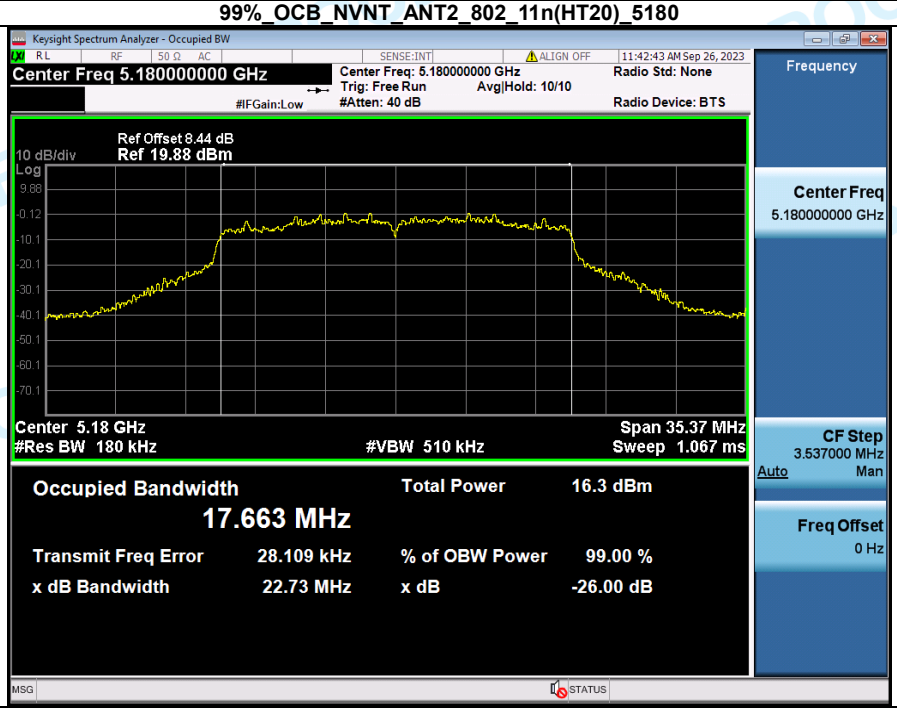

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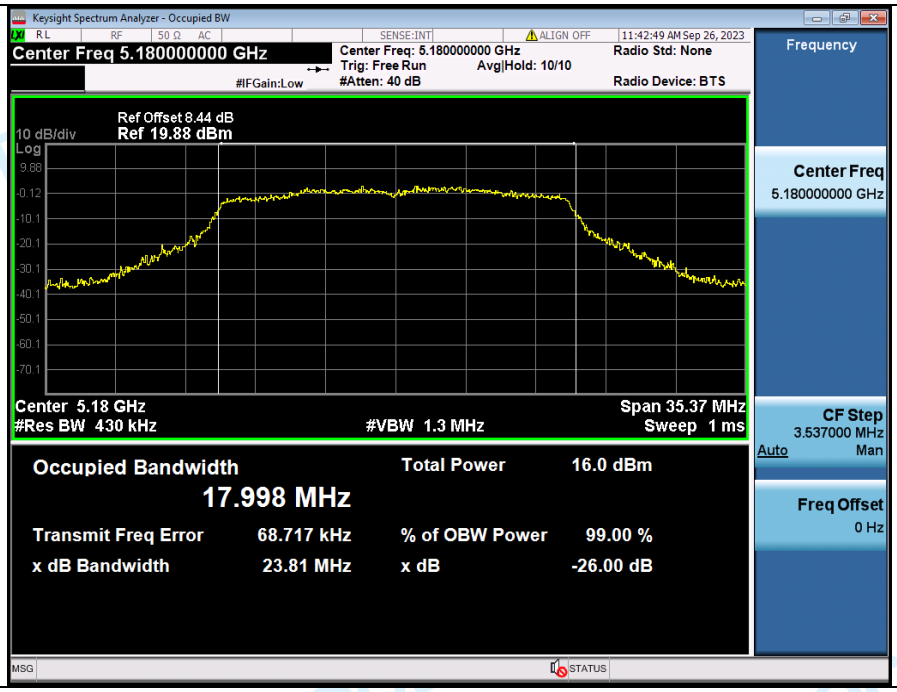

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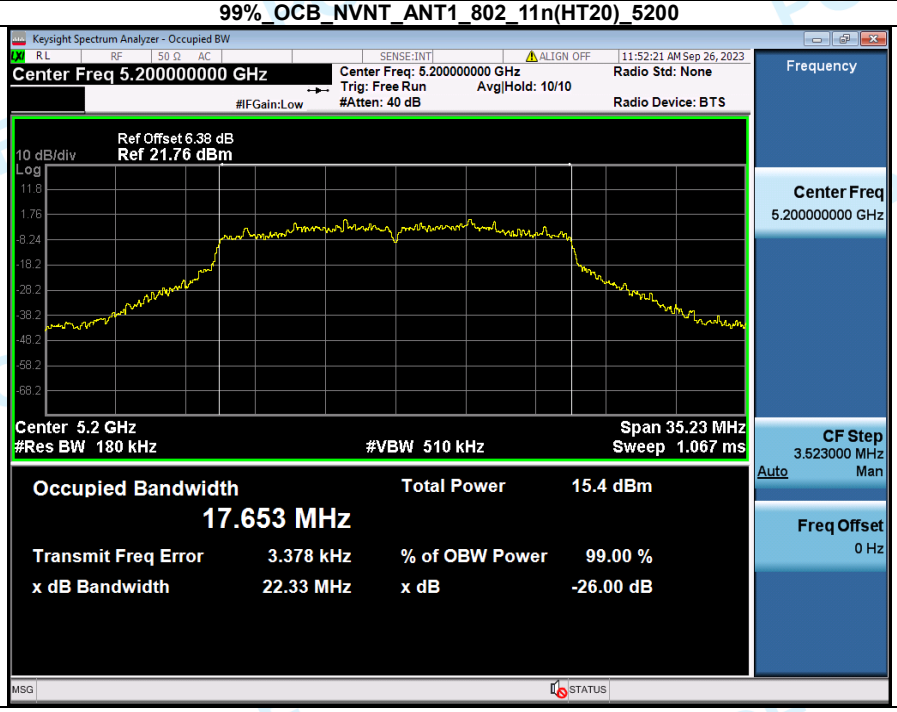

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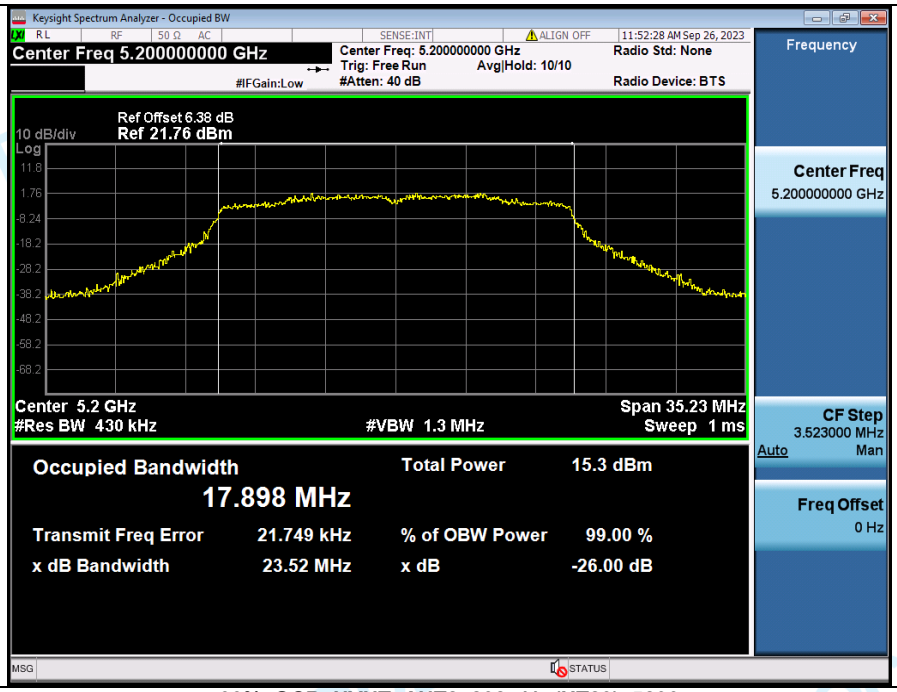

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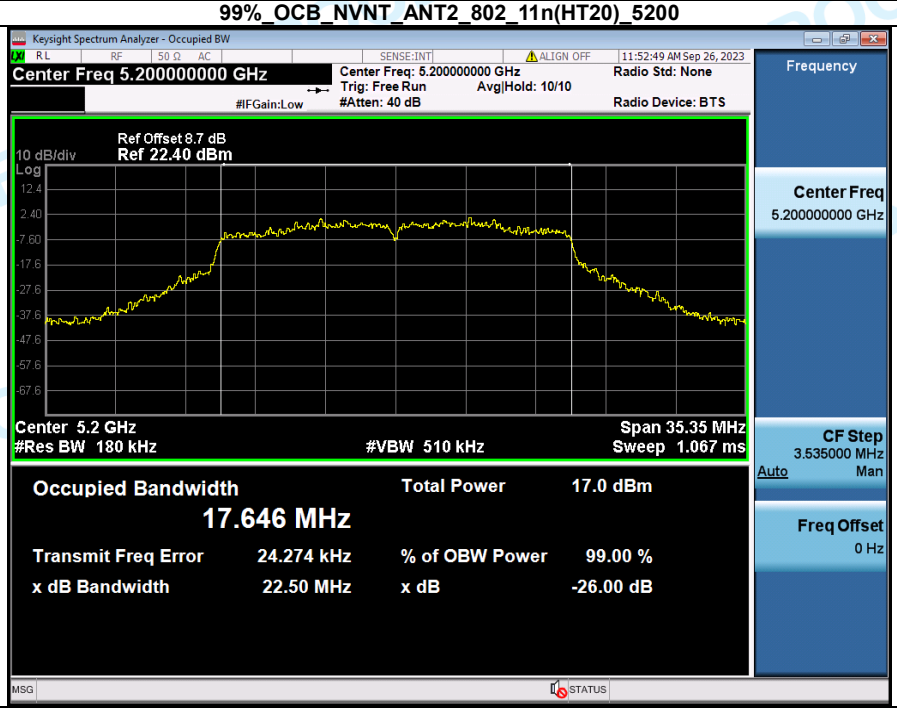

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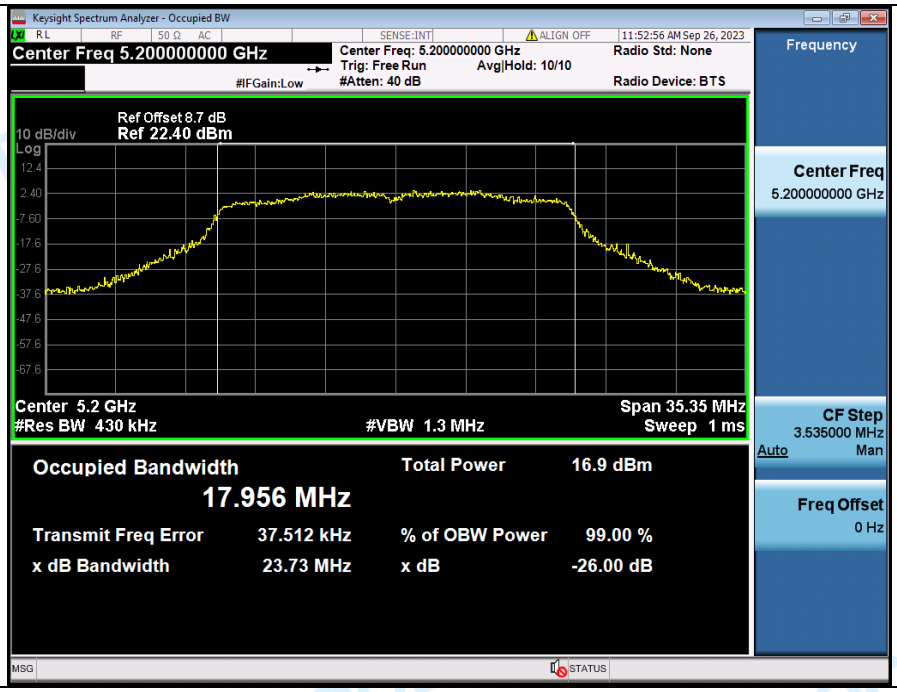

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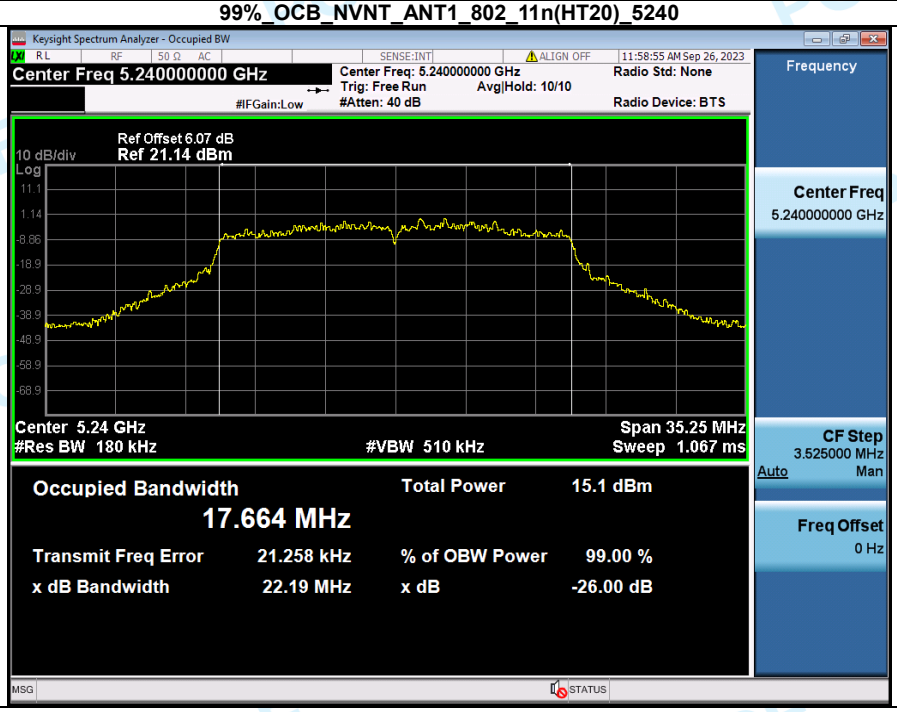

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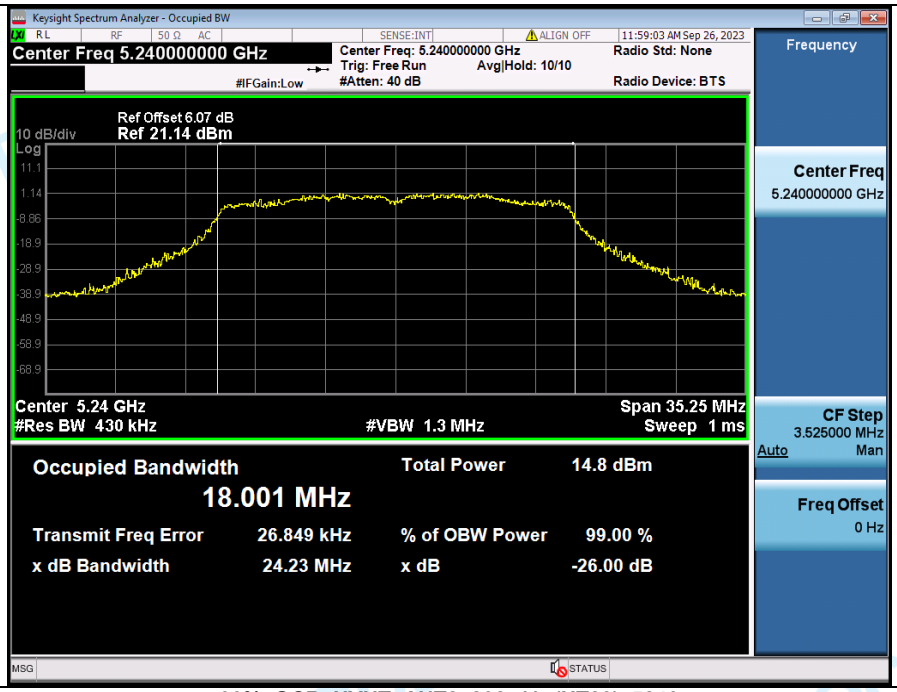

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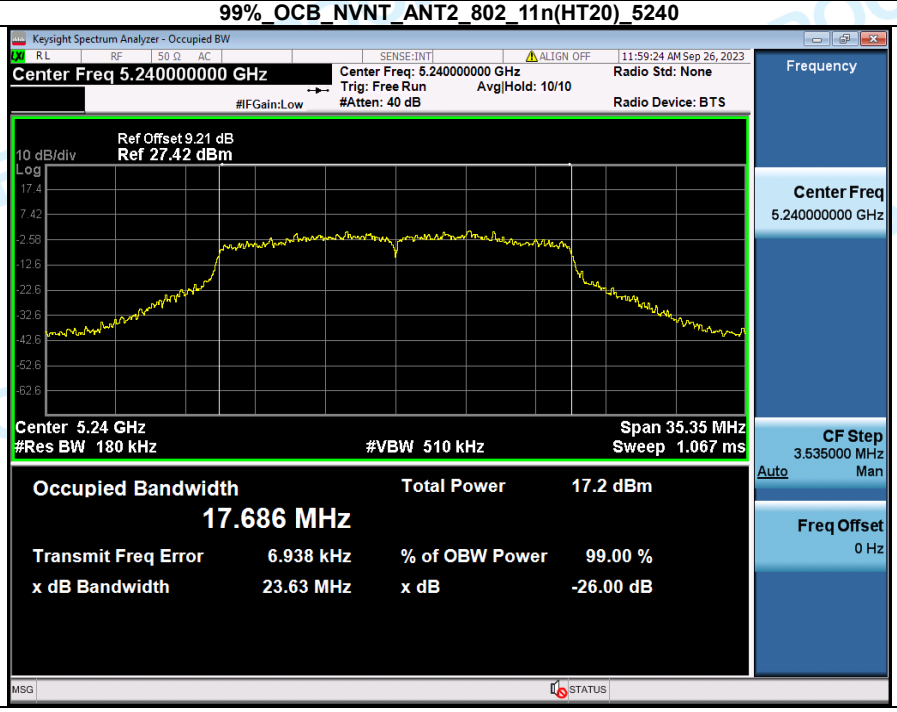

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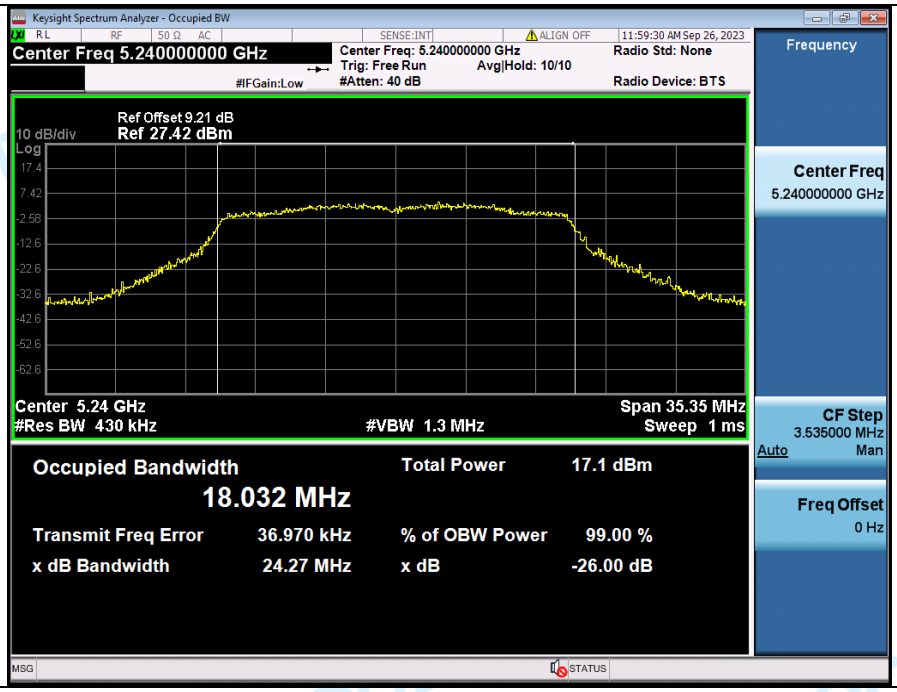

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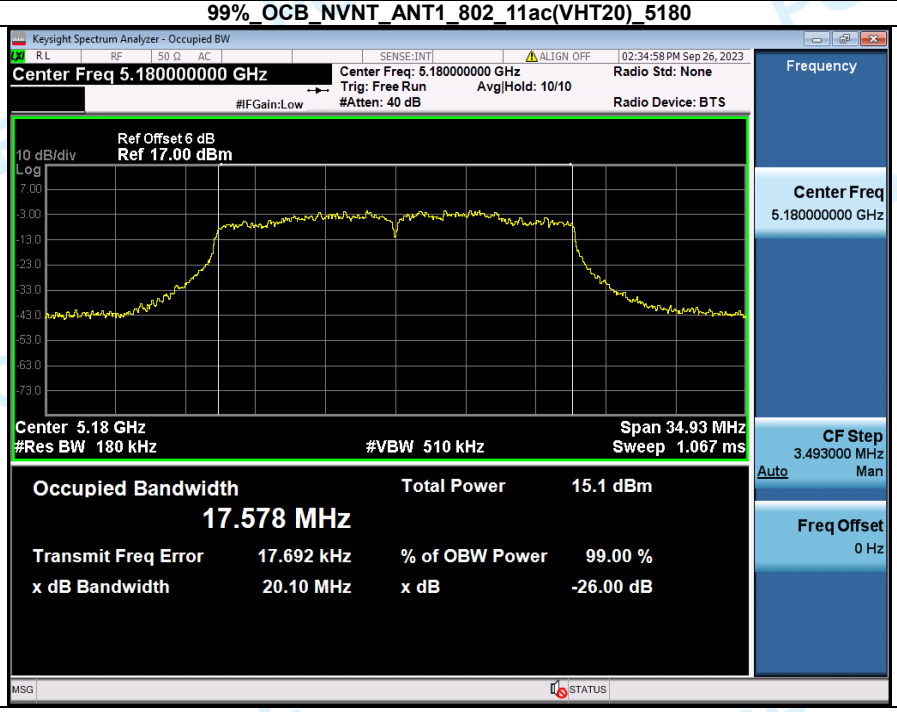

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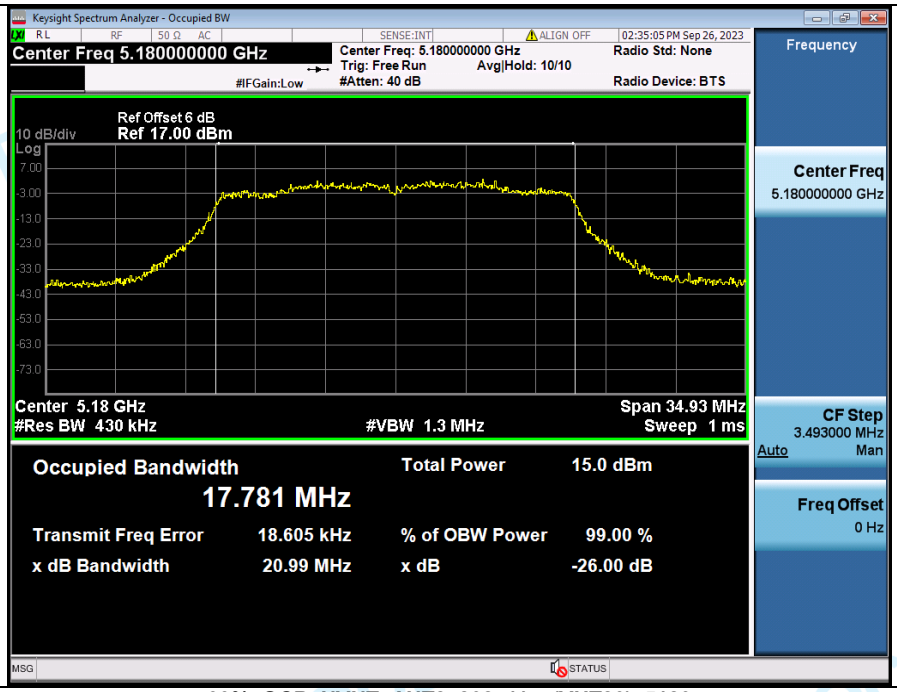

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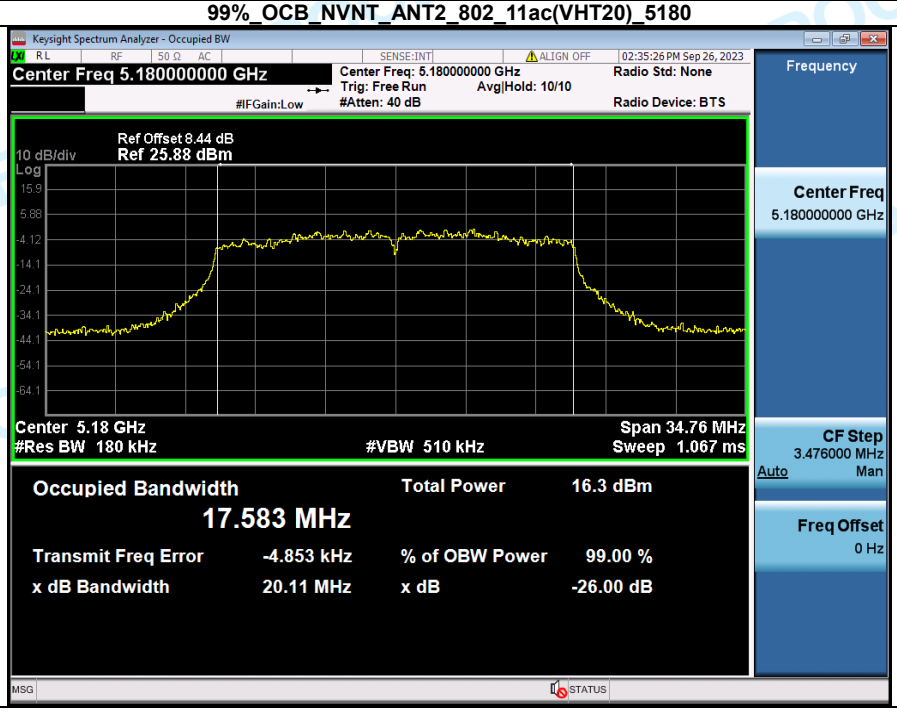

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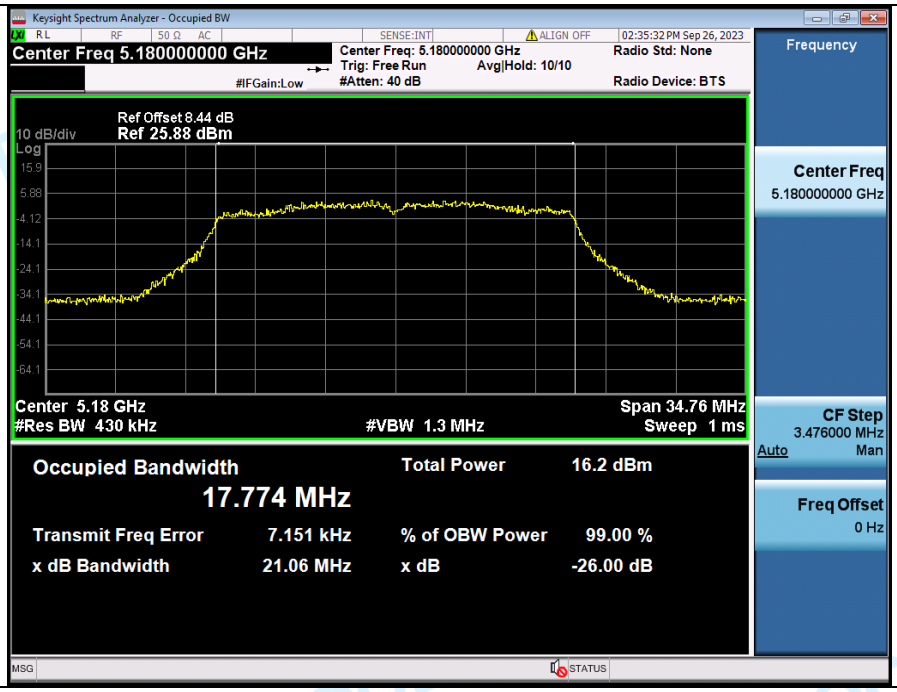

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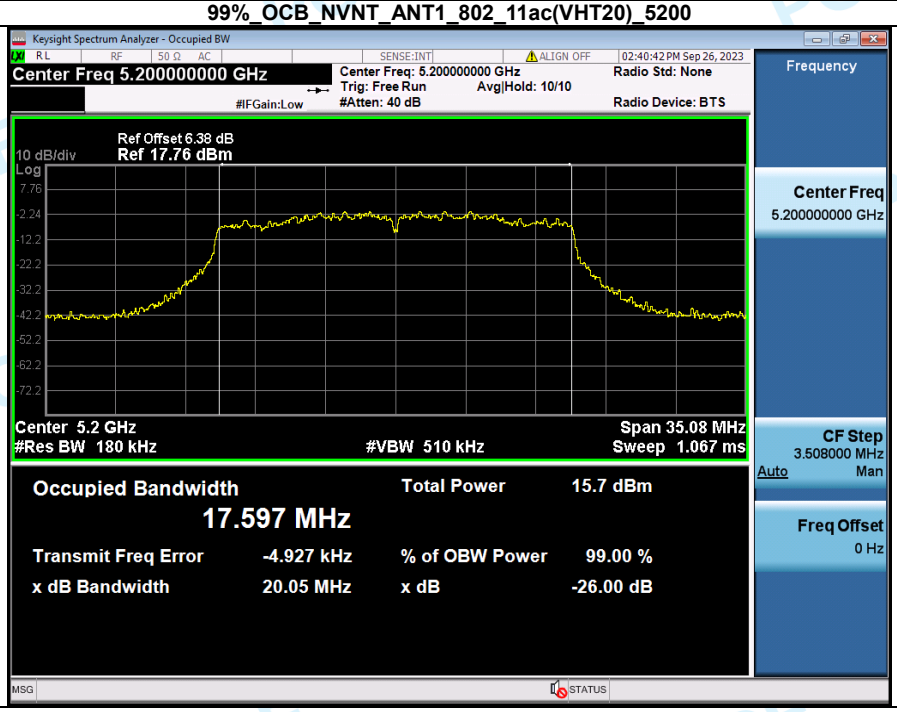

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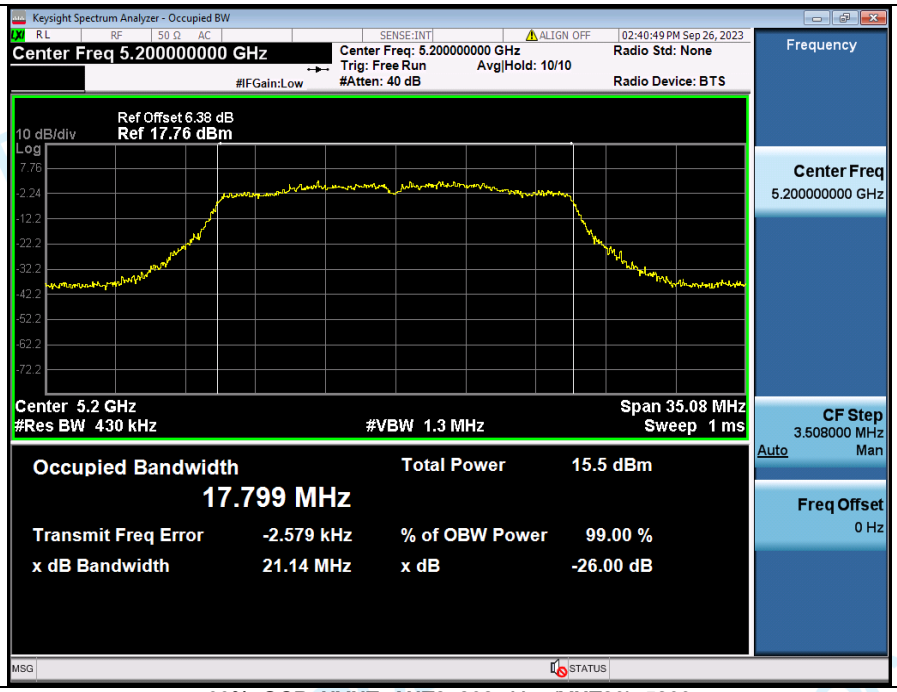

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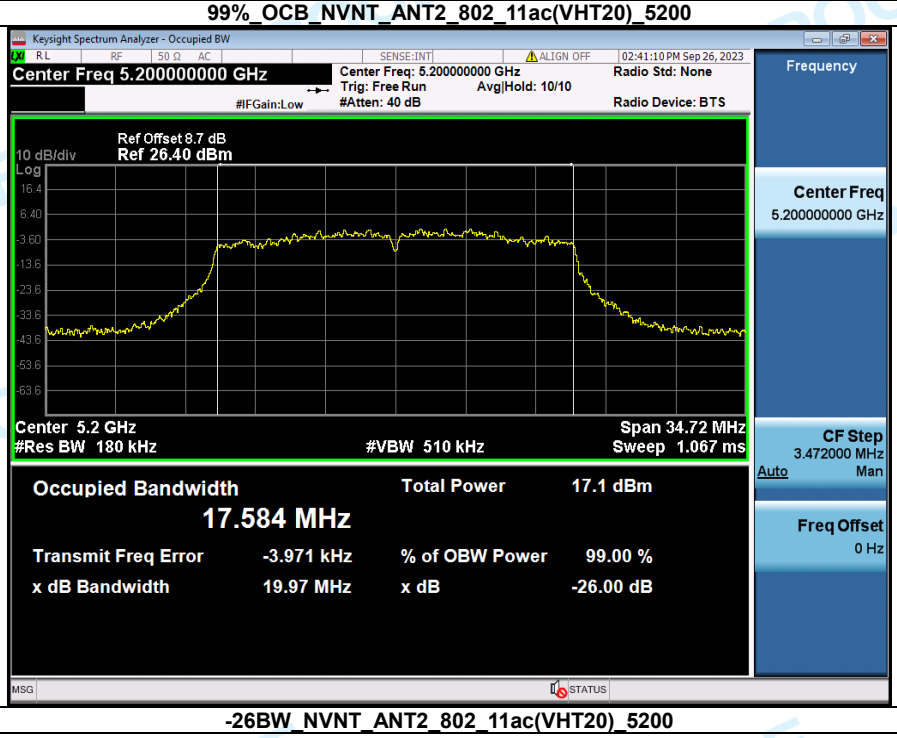

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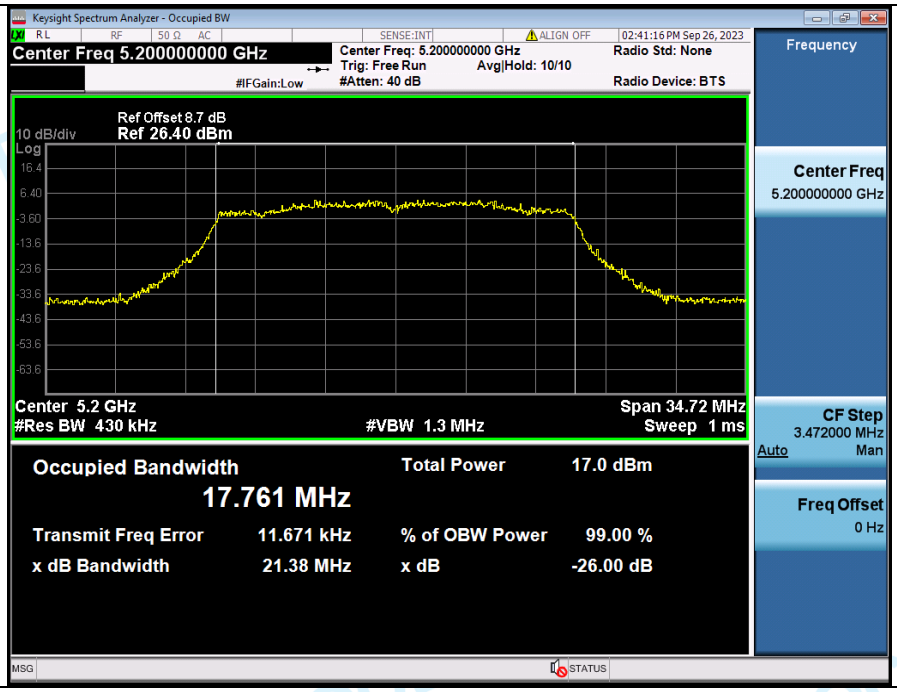

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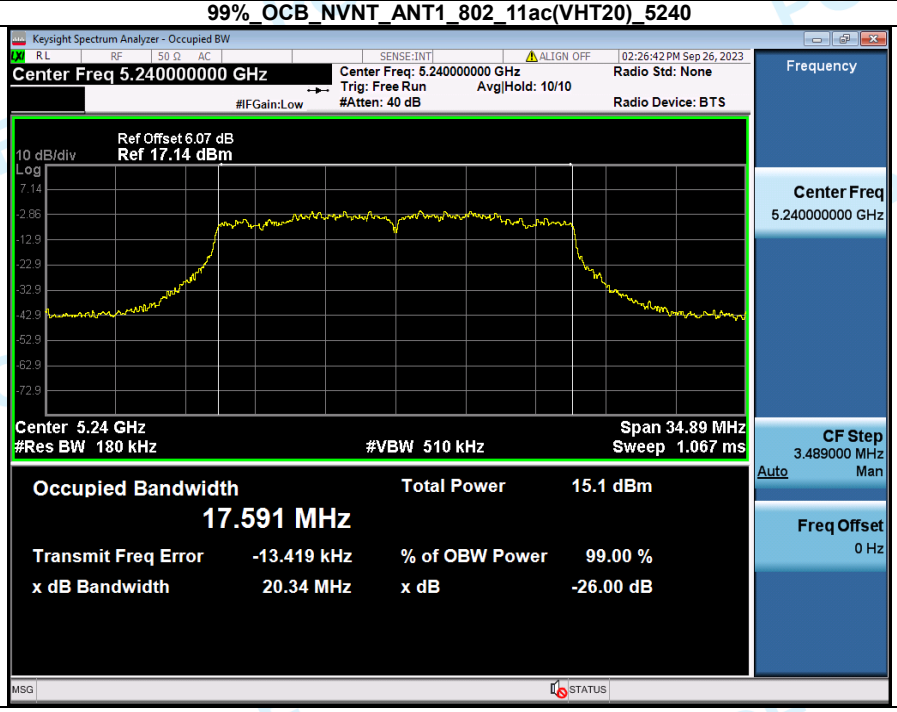

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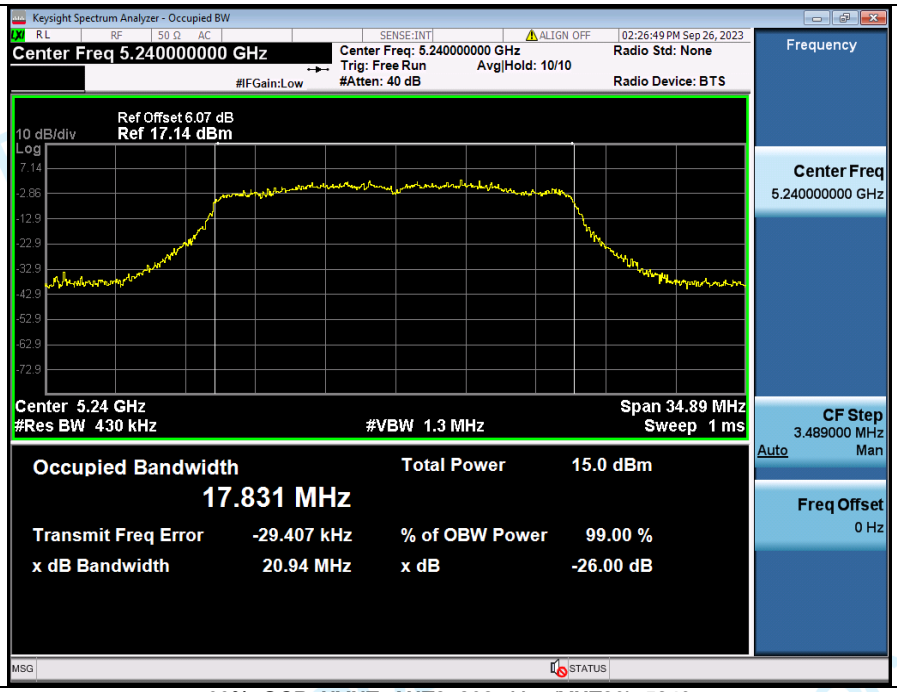

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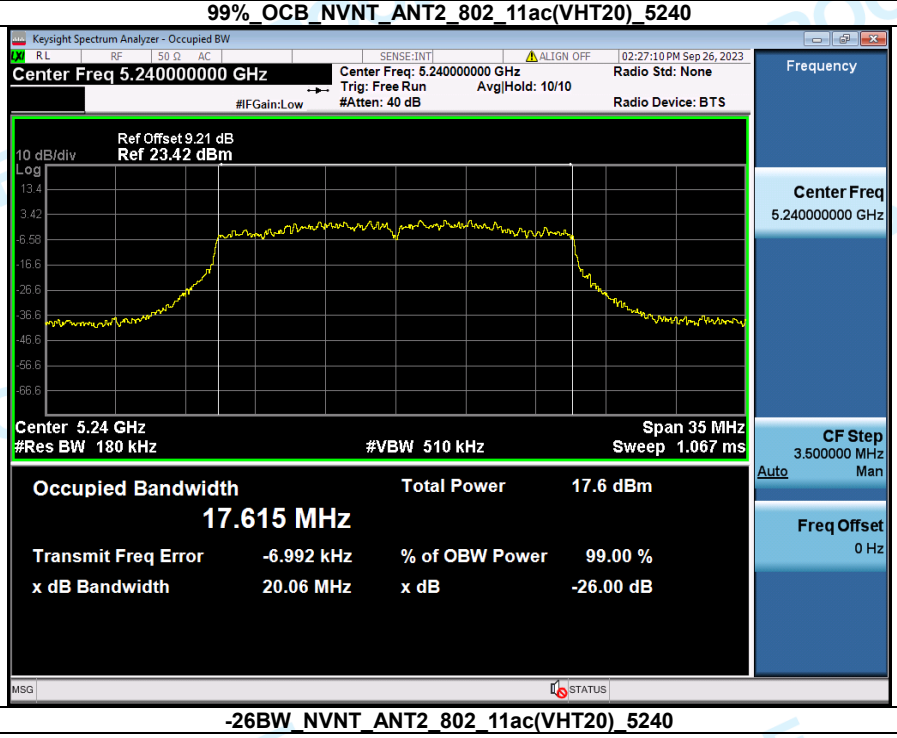

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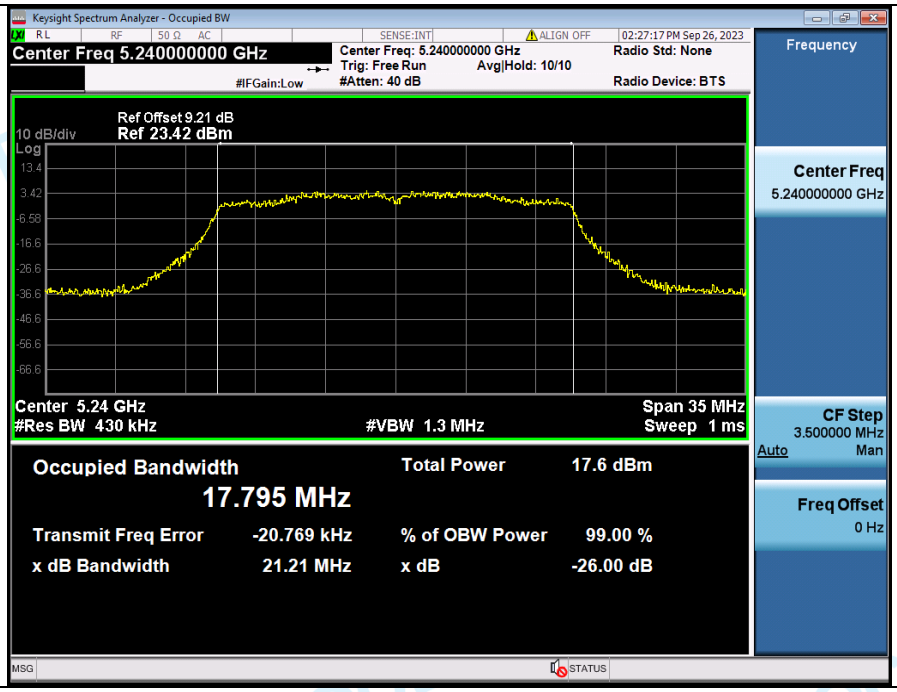

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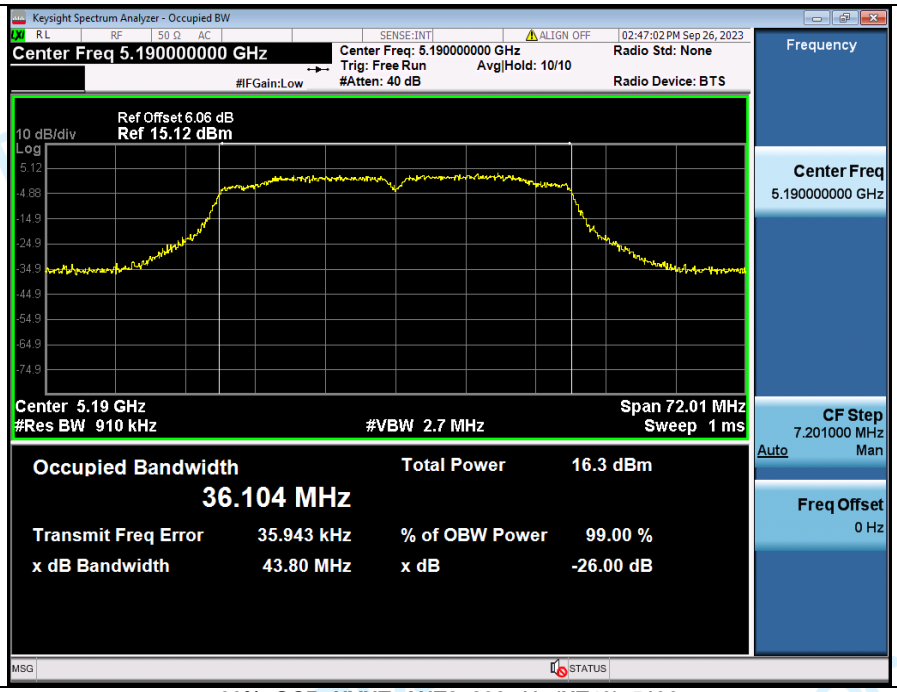

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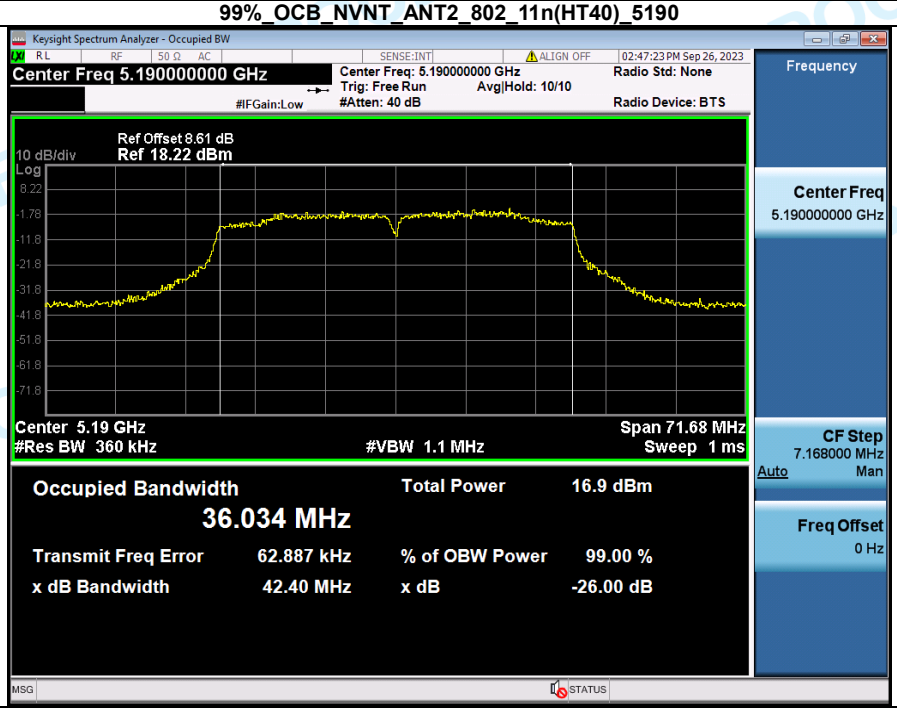

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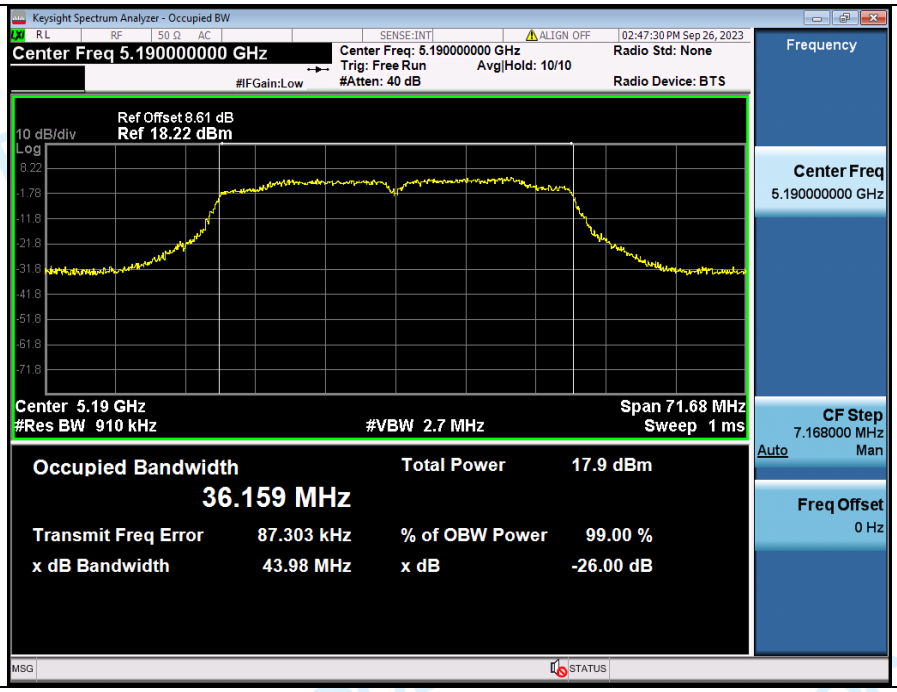

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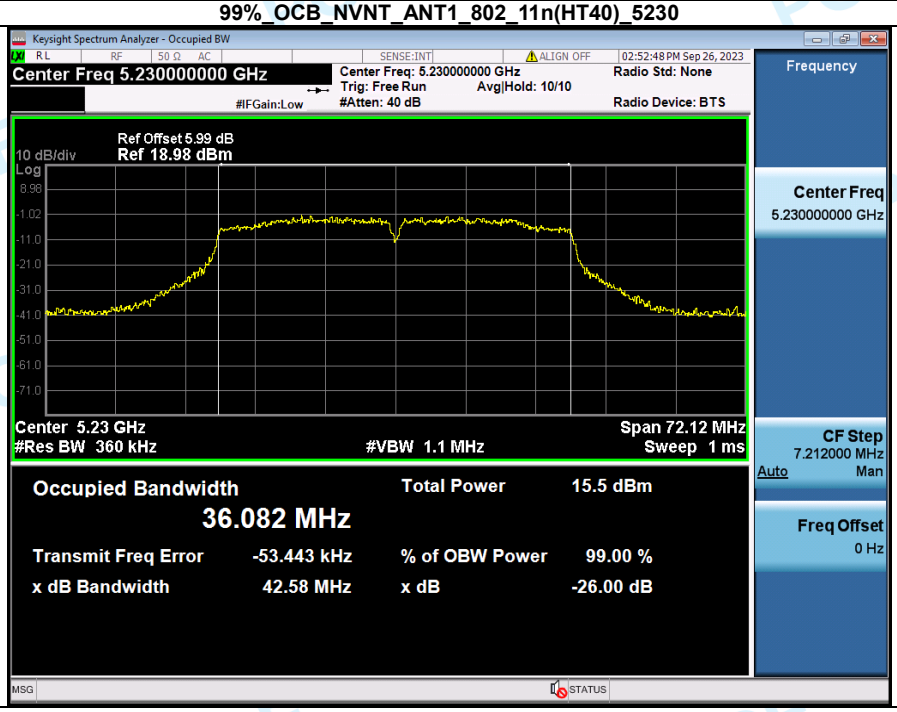

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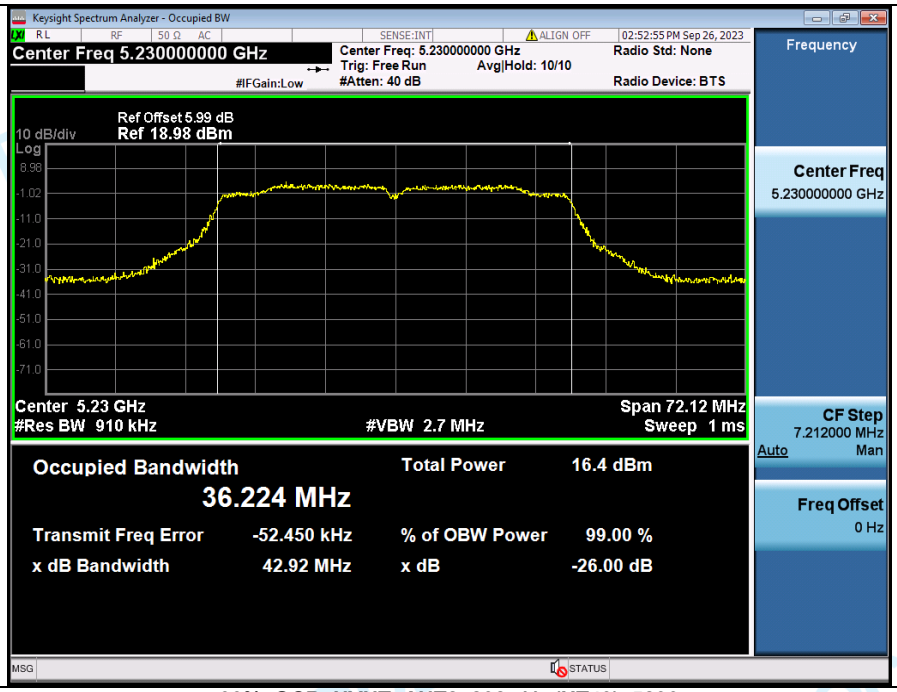

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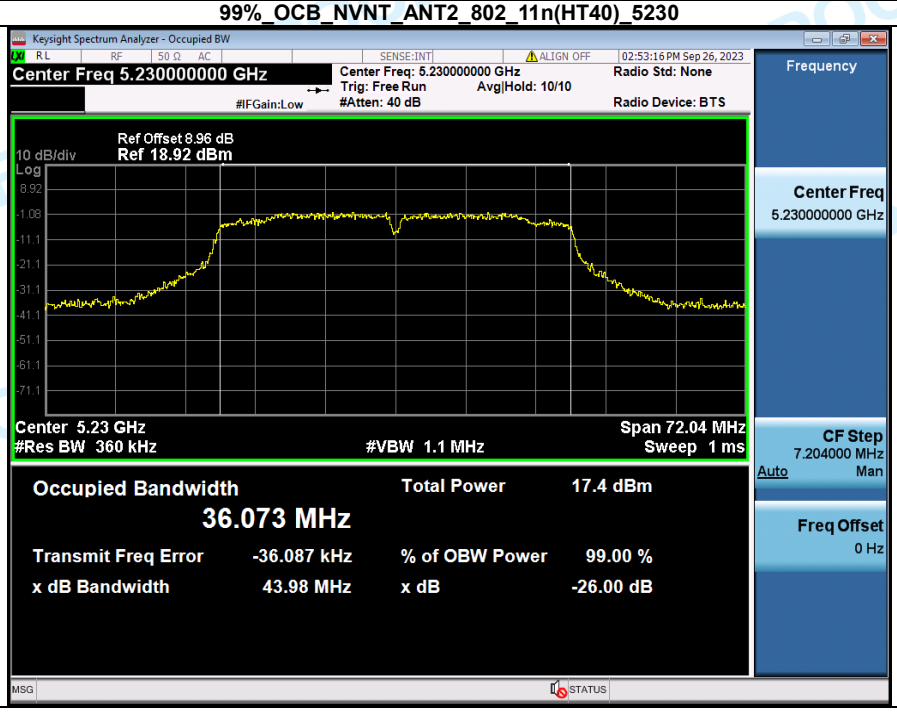

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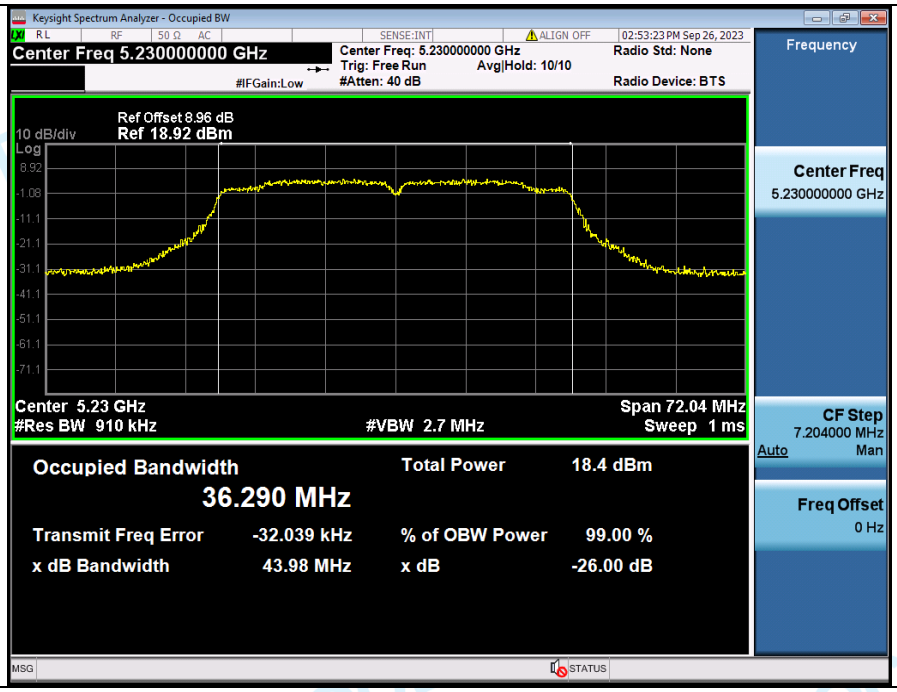
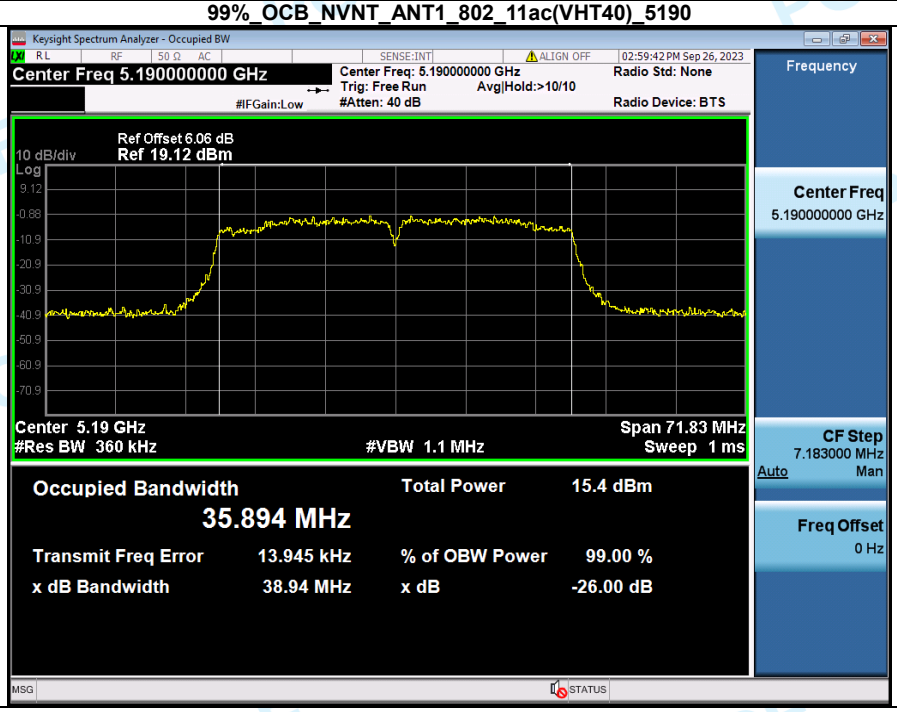


99%_OCB_NVNT_ANT1_802_11ac(VHT40)_5190



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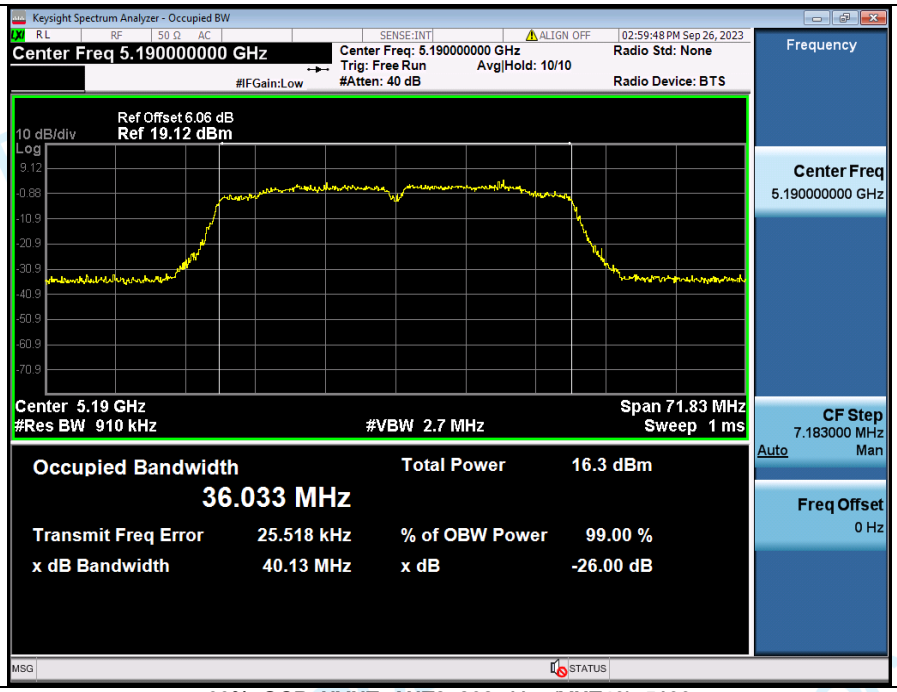

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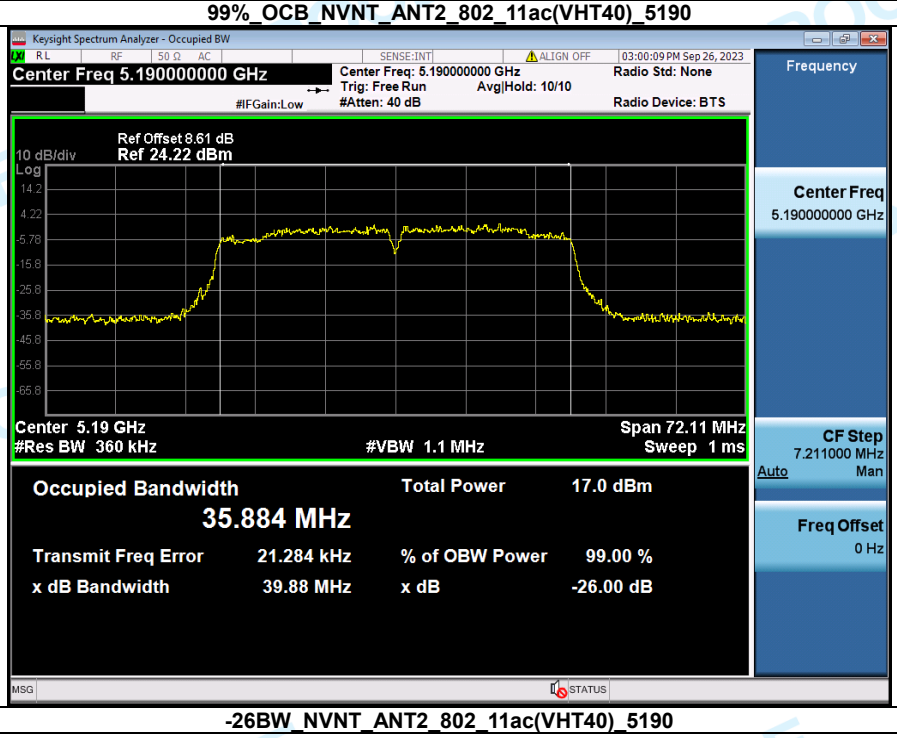

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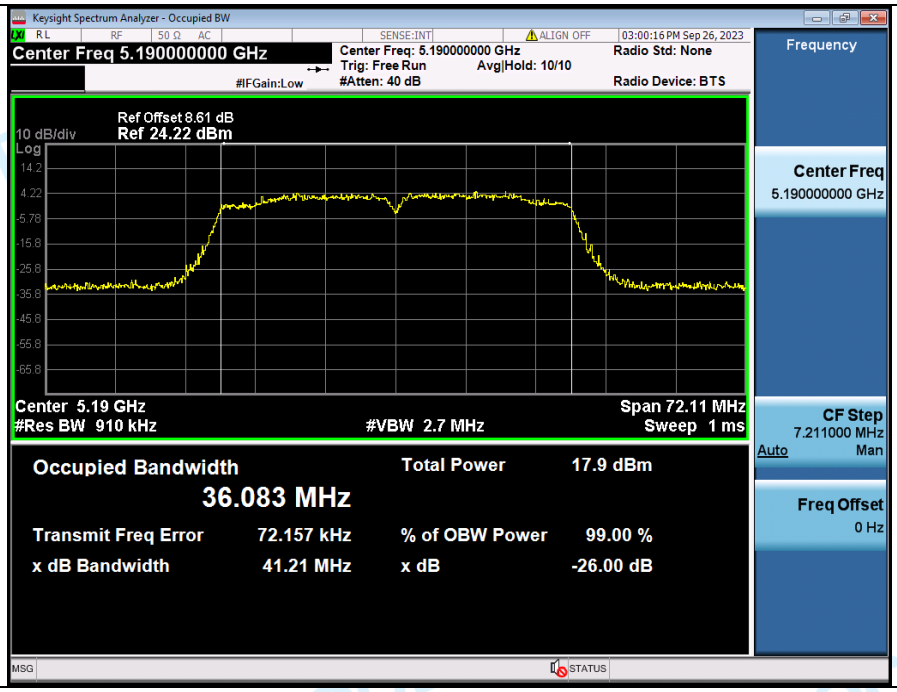

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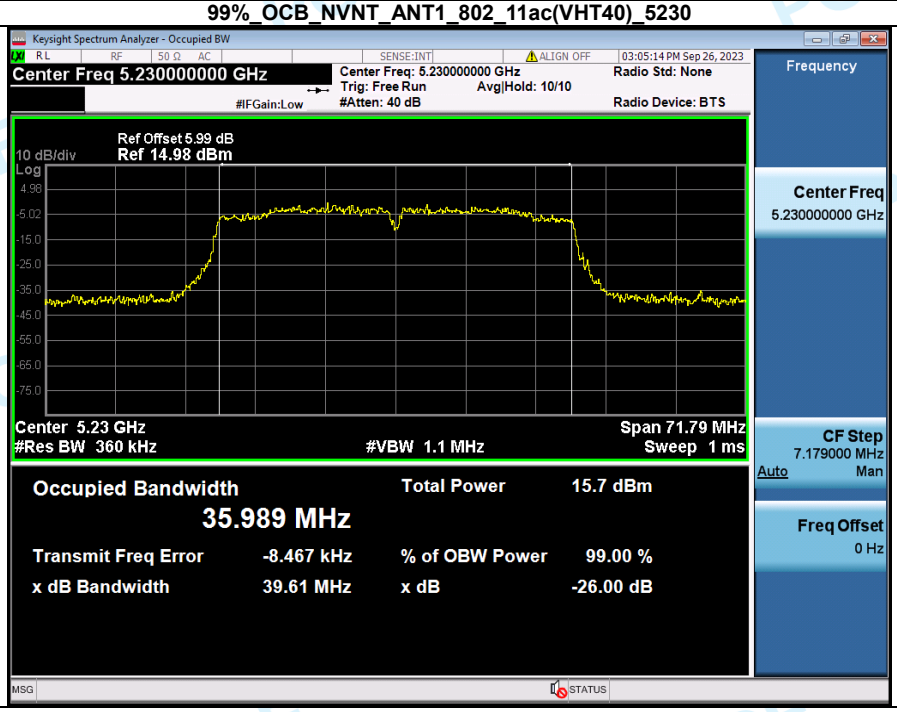

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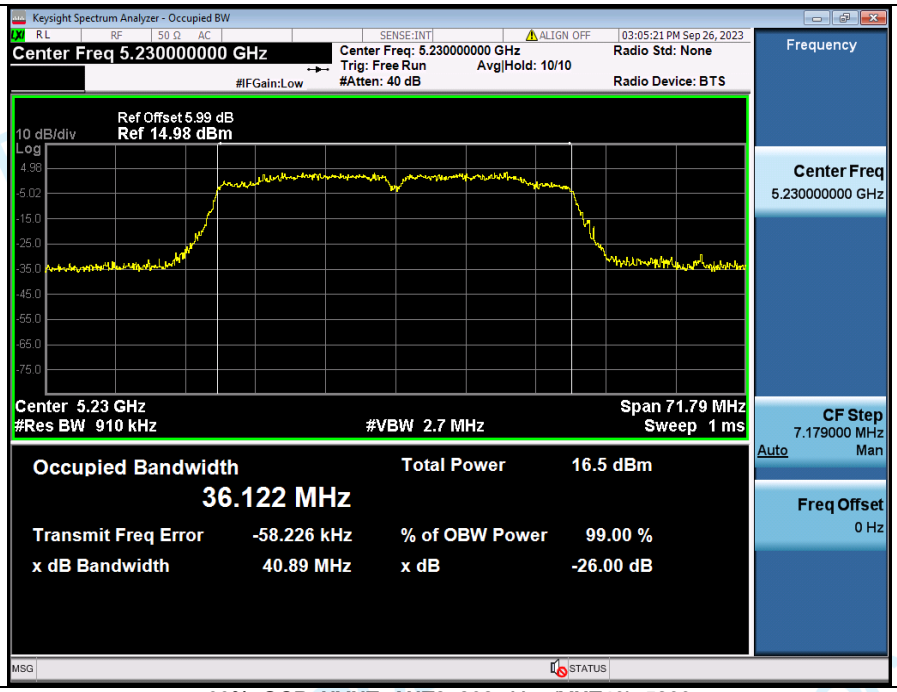

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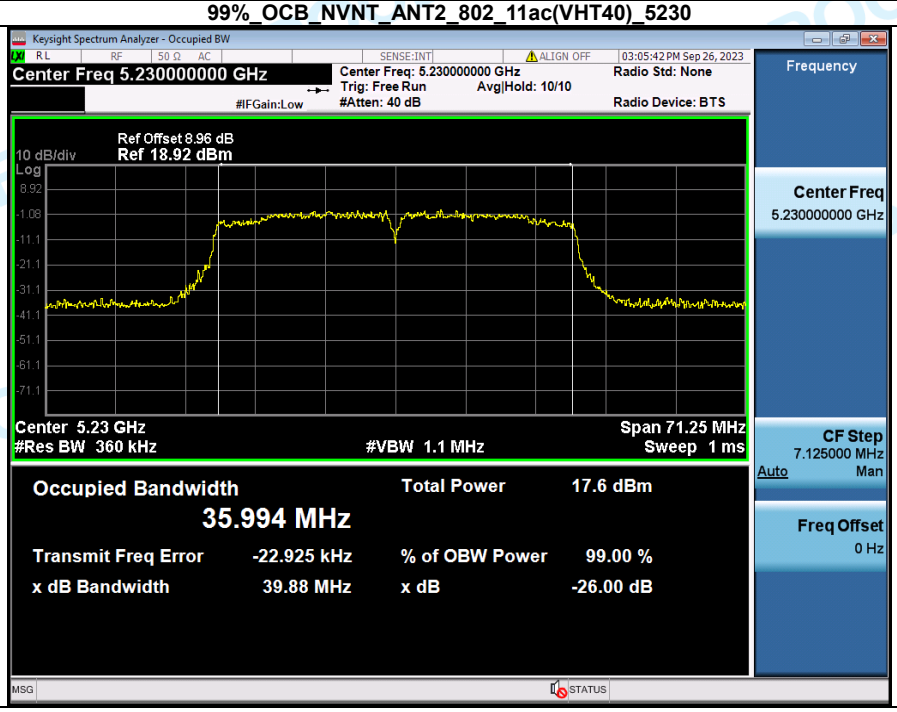

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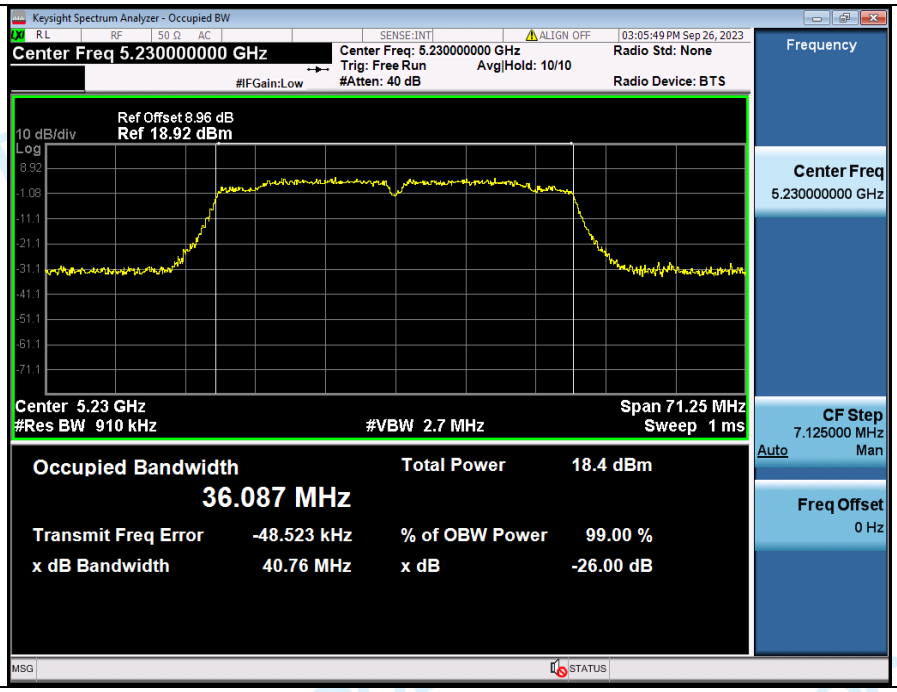

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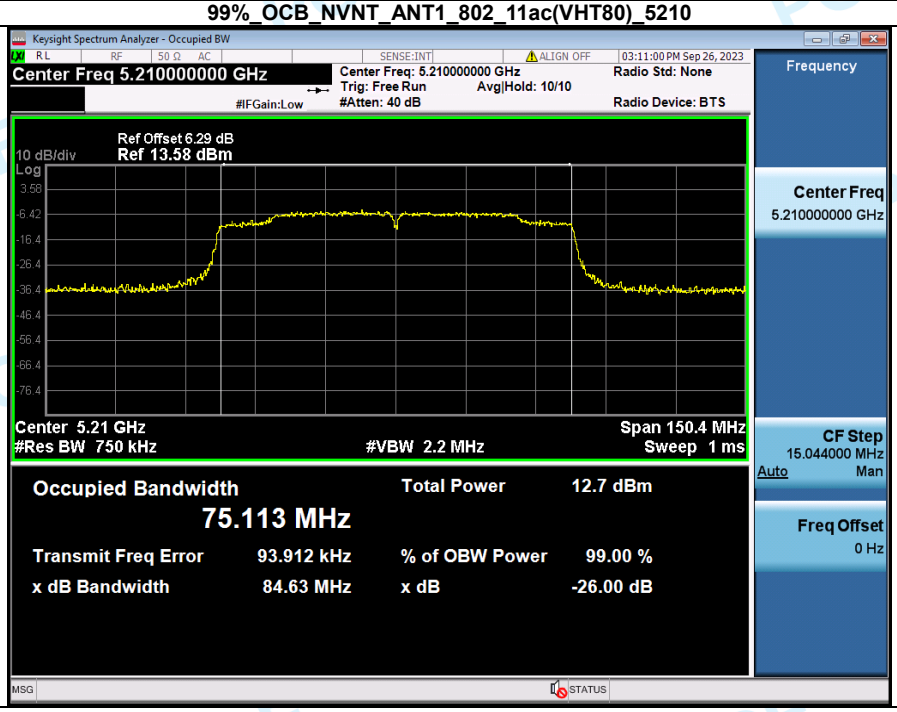

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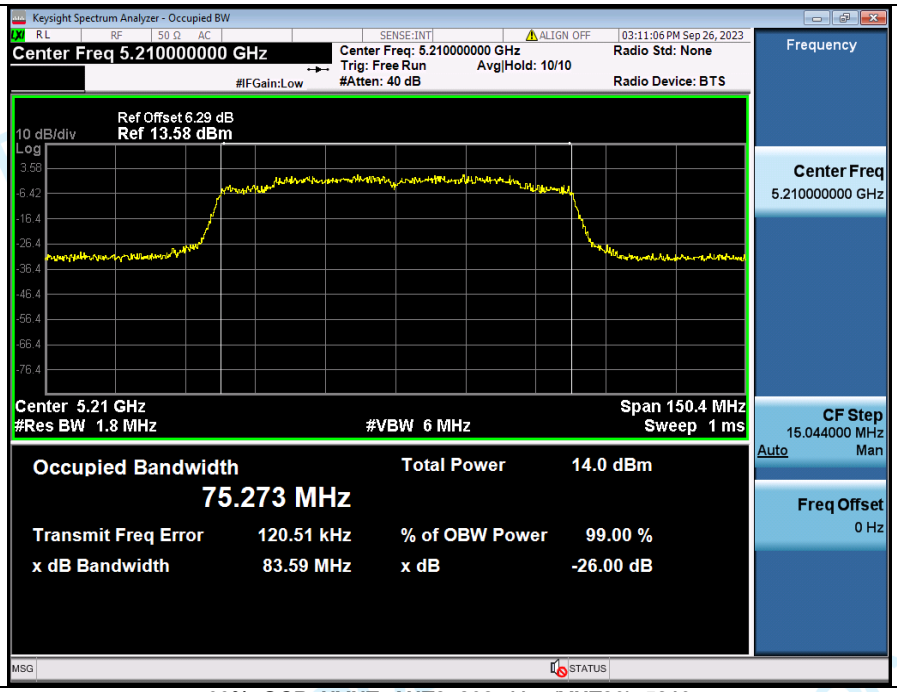

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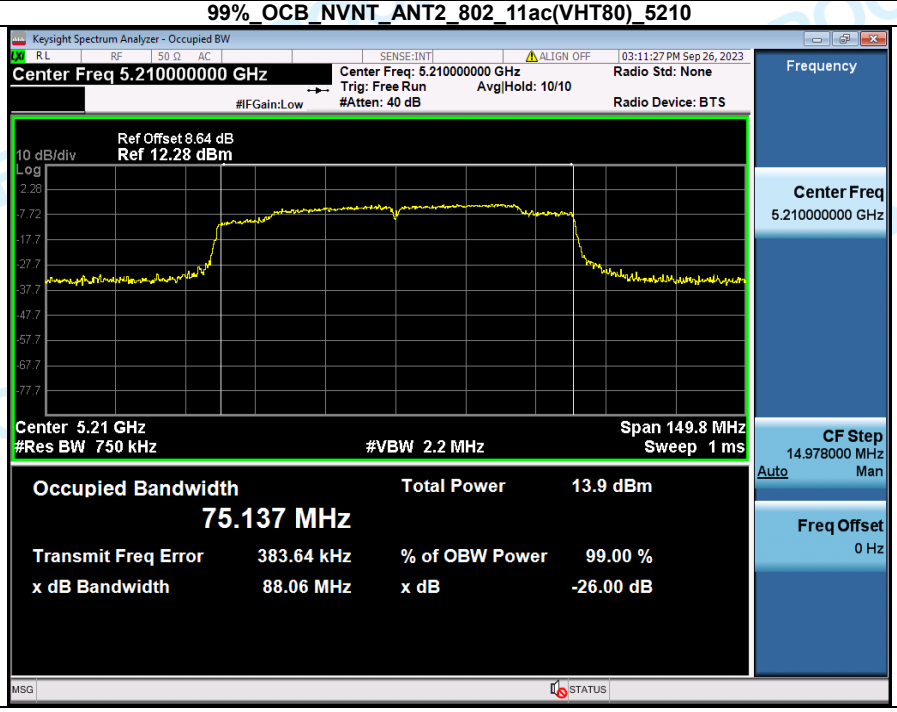

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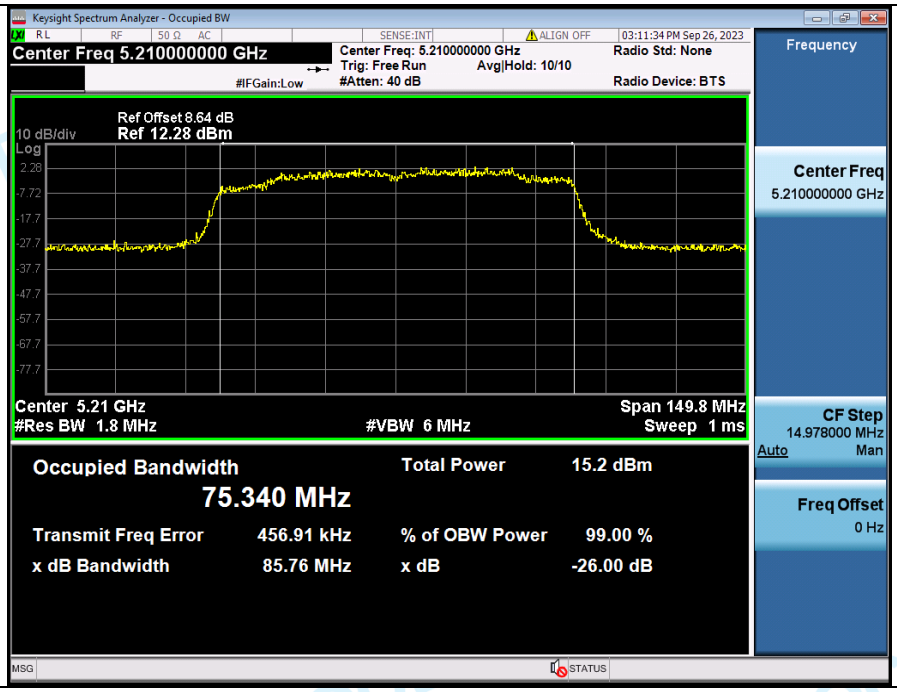
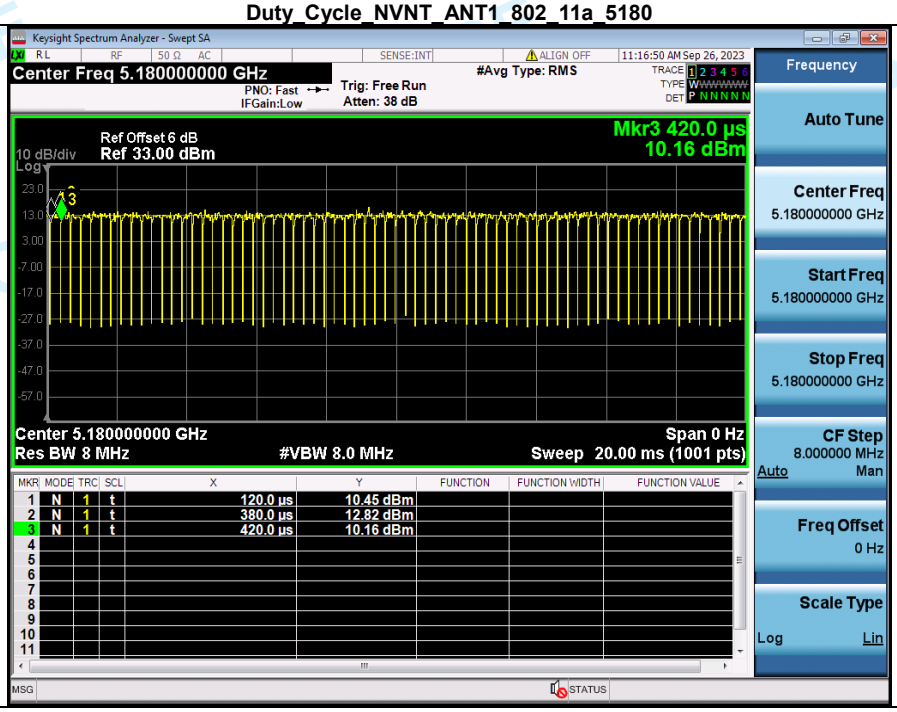

Keysight Spectrum Analyzer - Occupied BW
RL
RF
50 Ω AC
SENSE:INT
ALIGN OFF
03:11:34 PM Sep 26, 2023
Center Freq 5.210000000 GHz
Center Freq: 5.210000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#IFGain:Low
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 8.64 dB
10 dB/div
Ref 12.28 dBm
Log
2.28
-7.72
-17.7
-27.7
-37.7
-47.7
-57.7
-67.7
-77.7
Center Freq
5.210000000 GHz
Center 5.21 GHz
#Res BW 1.8 MHz
#VBW 6 MHz
Span 149.8 MHz
Sweep 1 ms
CF Step
14.978000 MHz
Auto
Man
Occupied Bandwidth
75.340 MHz
Total Power
15.2 dBm
Transmit Freq Error
456.91 kHz
% of OBW Power
99.00 %
x dB Bandwidth
85.76 MHz
x dB
-26.00 dB
Freq Offset
0 Hz
MSG
STATUS

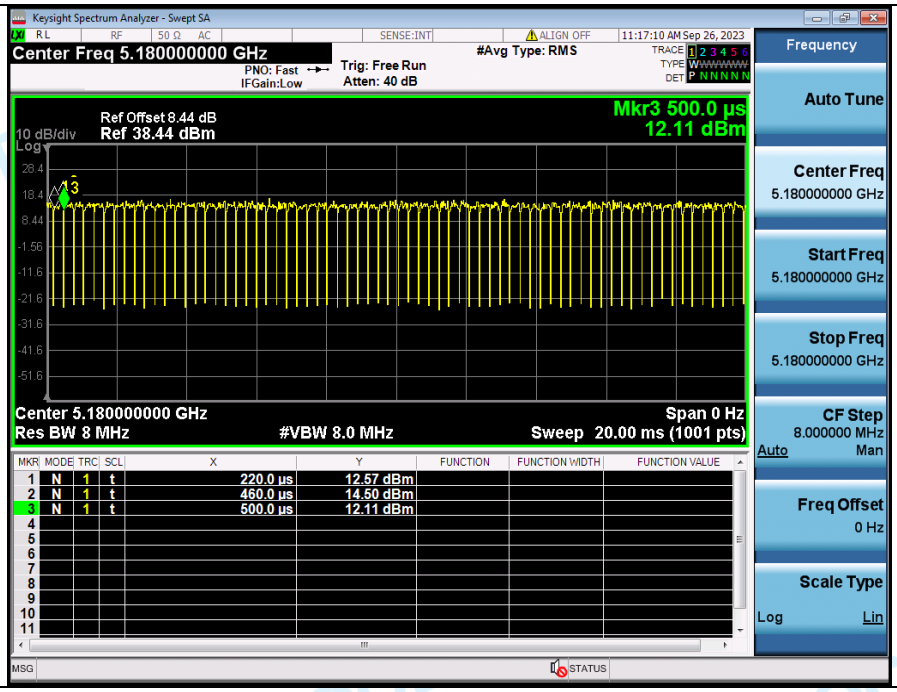
2. Duty Cycle

Condition	Antenna	Modulation	Frequency (MHz)	Duty cycle(%)	Duty_factor
NVNT	ANT1	802.11a	5180.00	86.67	0.62
NVNT	ANT2	802.11a	5180.00	85.71	0.67
NVNT	ANT1	802.11a	5200.00	85.71	0.67
NVNT	ANT2	802.11a	5200.00	86.67	0.62
NVNT	ANT1	802.11a	5240.00	85.71	0.67
NVNT	ANT2	802.11a	5240.00	86.67	0.62
NVNT	ANT1	802.11n(HT20)	5180.00	92.23	0.35
NVNT	ANT2	802.11n(HT20)	5180.00	93.20	0.31
NVNT	ANT1	802.11n(HT20)	5200.00	92.23	0.35
NVNT	ANT2	802.11n(HT20)	5200.00	92.23	0.35
NVNT	ANT1	802.11n(HT20)	5240.00	93.14	0.31
NVNT	ANT2	802.11n(HT20)	5240.00	92.23	0.35
NVNT	ANT1	802.11ac(VHT20)	5180.00	84.62	0.73
NVNT	ANT2	802.11ac(VHT20)	5180.00	84.62	0.73
NVNT	ANT1	802.11ac(VHT20)	5200.00	84.62	0.73
NVNT	ANT2	802.11ac(VHT20)	5200.00	84.62	0.73
NVNT	ANT1	802.11ac(VHT20)	5240.00	84.62	0.73
NVNT	ANT2	802.11ac(VHT20)	5240.00	78.57	1.05
NVNT	ANT1	802.11n(HT40)	5190.00	81.03	0.91
NVNT	ANT2	802.11n(HT40)	5190.00	81.03	0.91
NVNT	ANT1	802.11n(HT40)	5230.00	81.03	0.91
NVNT	ANT2	802.11n(HT40)	5230.00	79.31	1.01
NVNT	ANT1	802.11ac(VHT40)	5190.00	75.00	1.25
NVNT	ANT2	802.11ac(VHT40)	5190.00	71.43	1.46
NVNT	ANT1	802.11ac(VHT40)	5230.00	71.43	1.46
NVNT	ANT2	802.11ac(VHT40)	5230.00	75.00	1.25
NVNT	ANT1	802.11ac(VHT80)	5210.00	85.19	0.70
NVNT	ANT2	802.11ac(VHT80)	5210.00	82.14	0.85

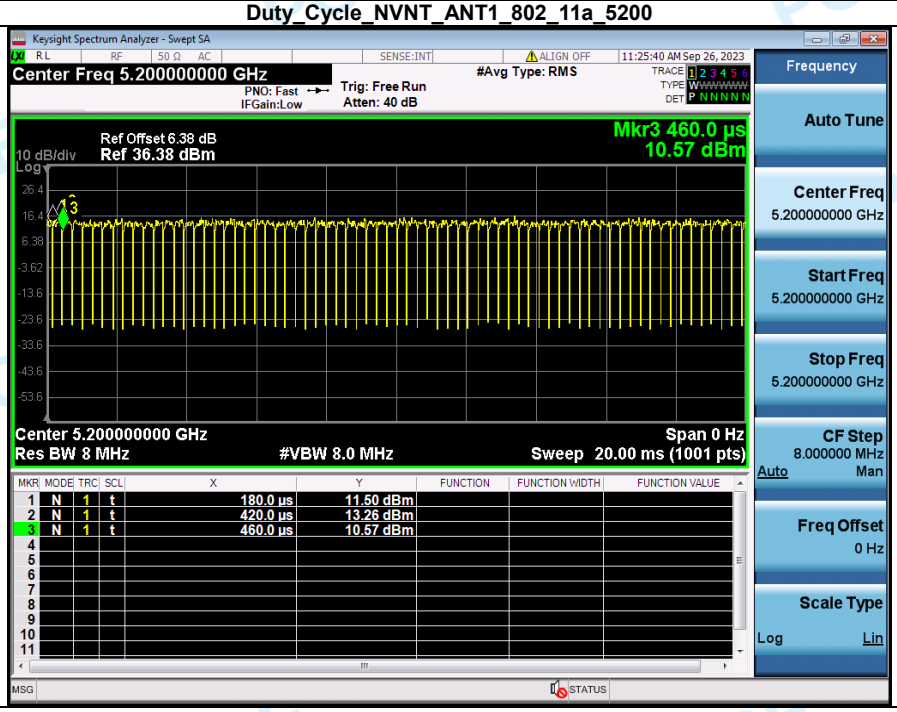
Duty_Cycle_NVNT_ANT1_802_11a_5180



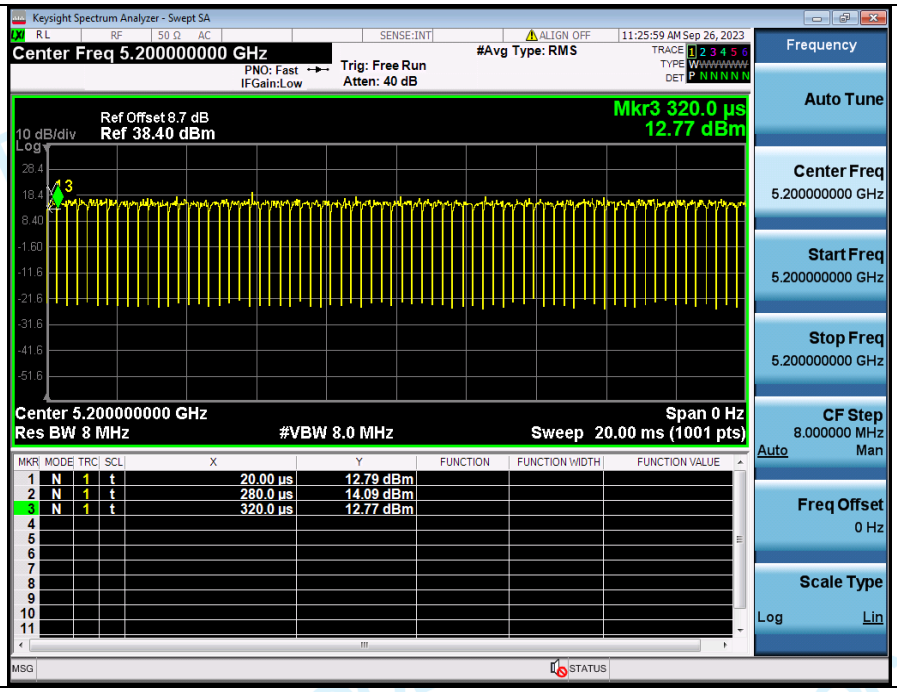
Duty_Cycle_NVNT_ANT2_802_11a_5180



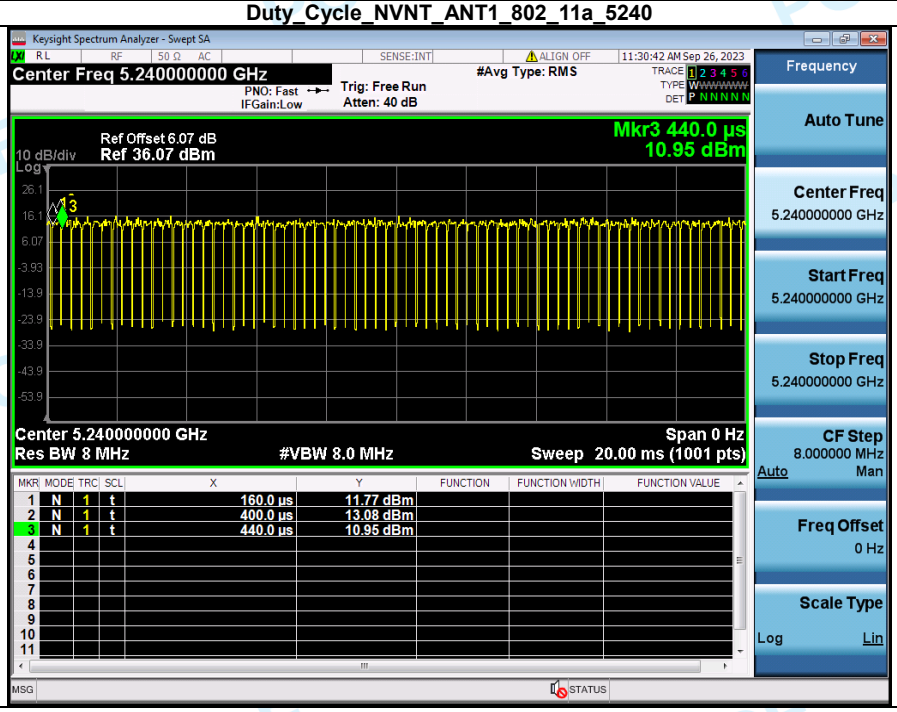
Duty_Cycle_NVNT_ANT1_802_11a_5200



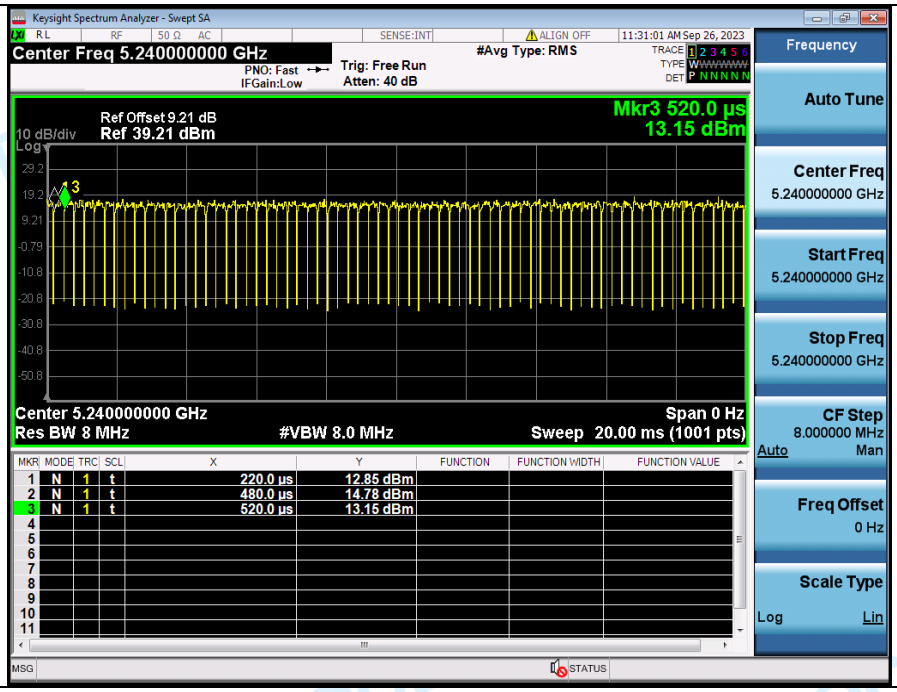
Duty_Cycle_NVNT_ANT2_802_11a_5200



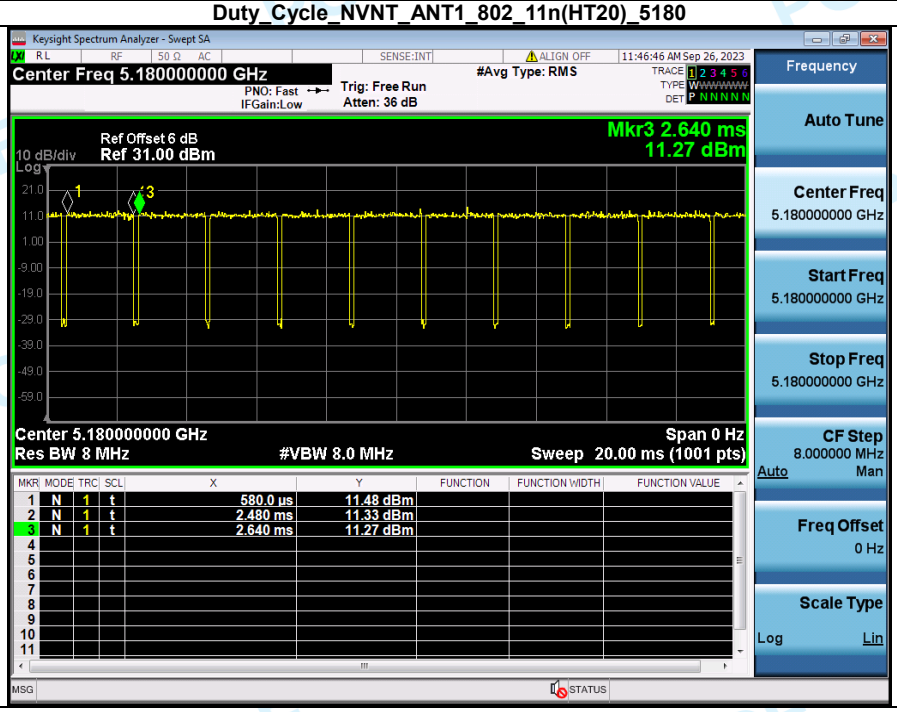
Duty_Cycle_NVNT_ANT1_802_11a_5240



Duty_Cycle_NVNT_ANT2_802_11a_5240



Duty_Cycle_NVNT_ANT1_802_11n(HT20)_5180



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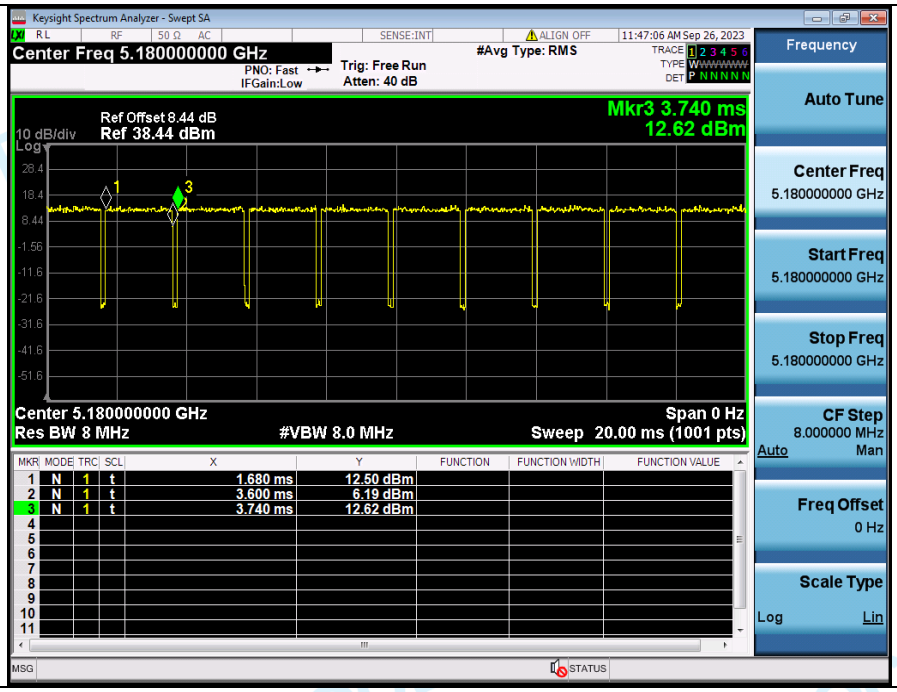

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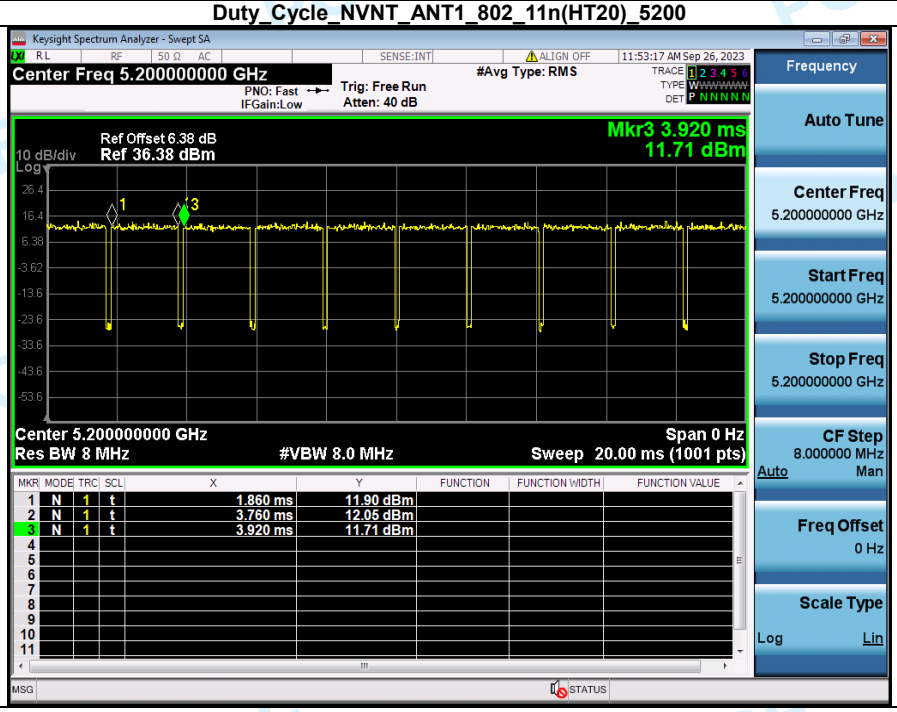

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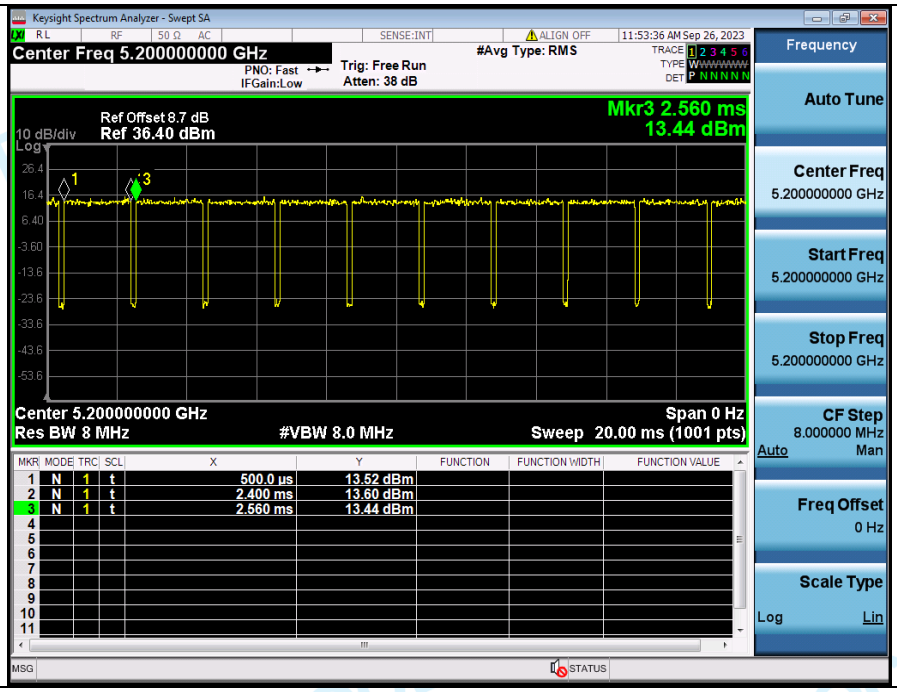

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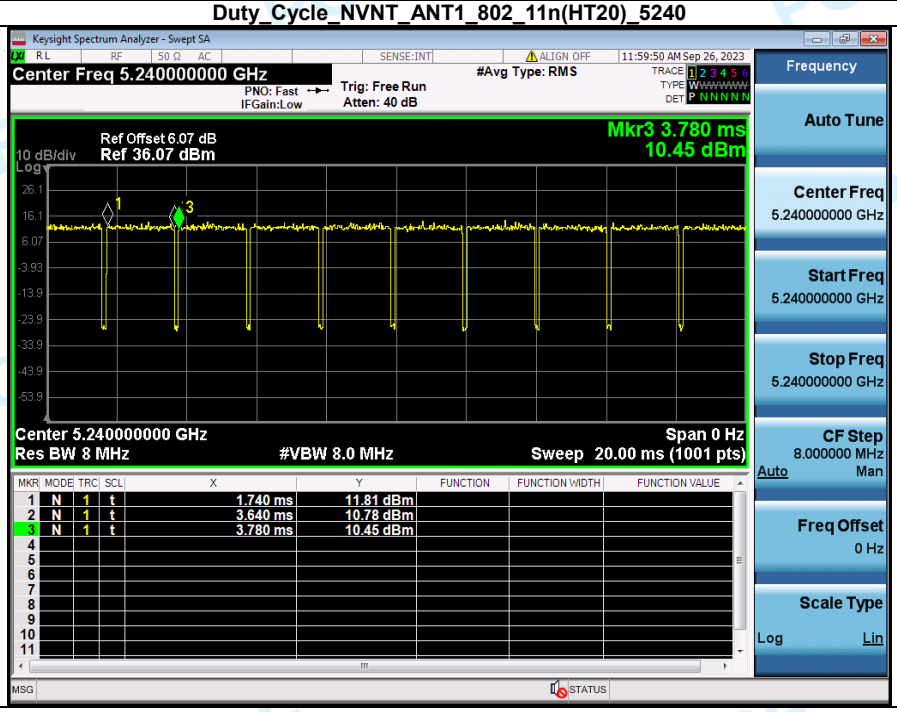

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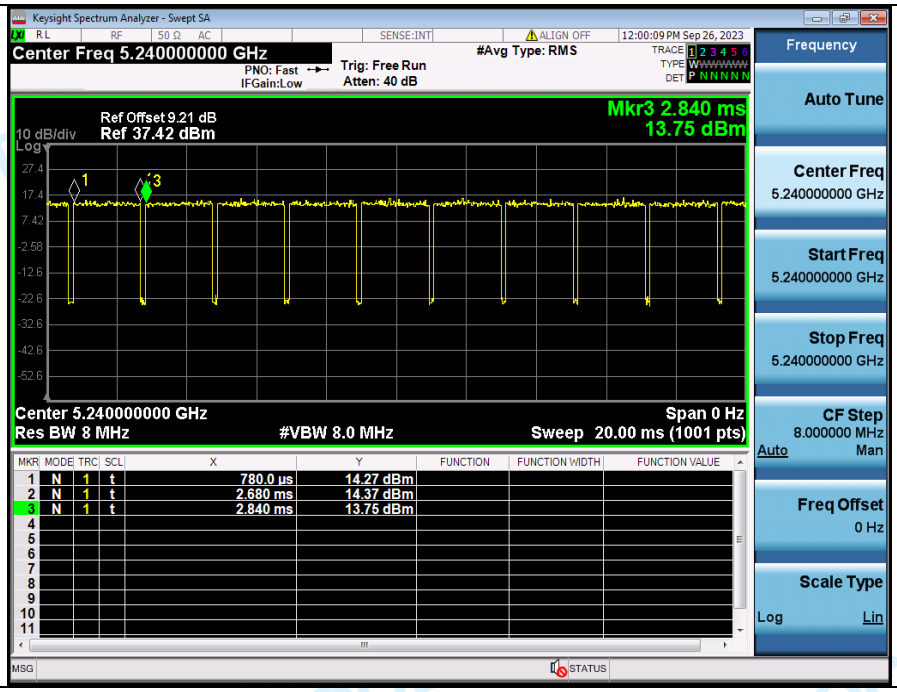

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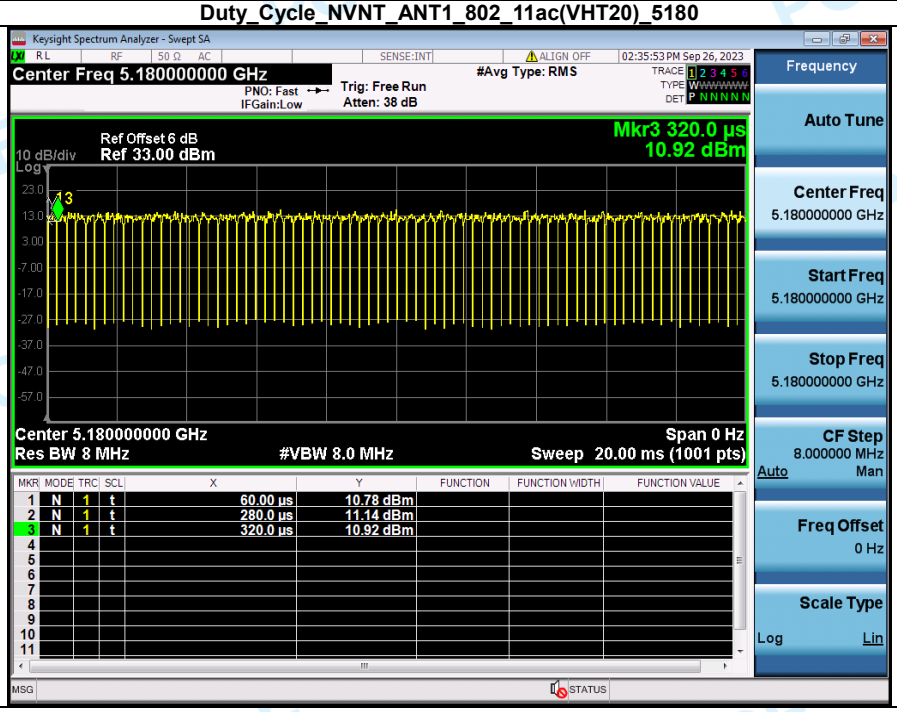

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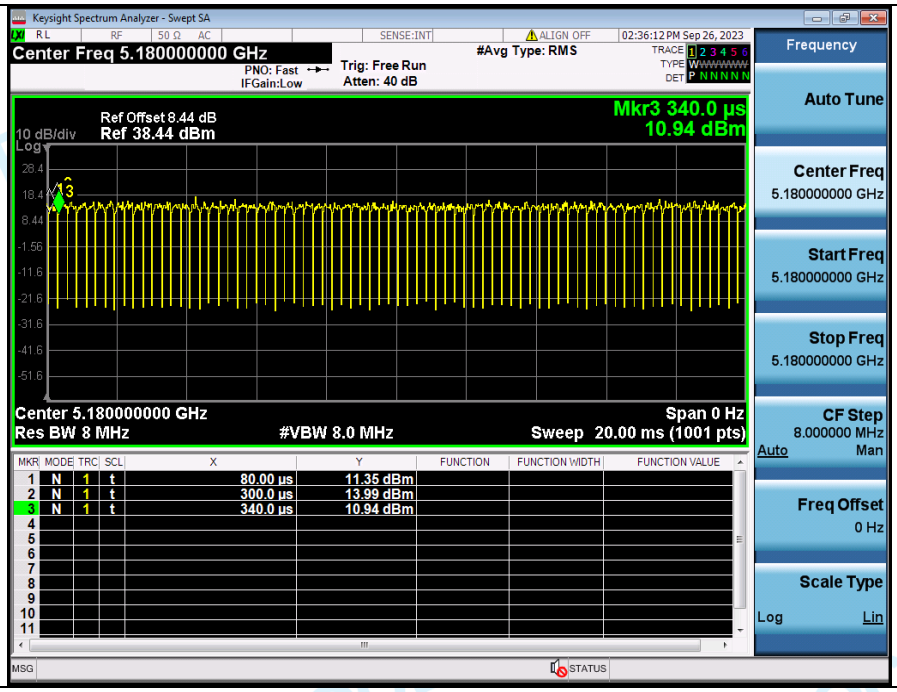

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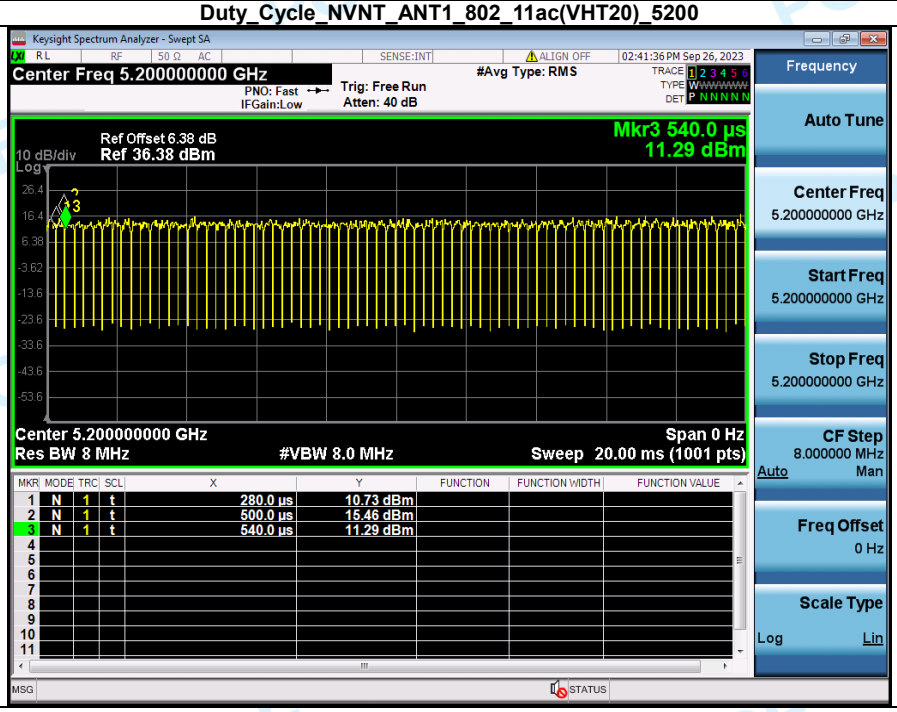

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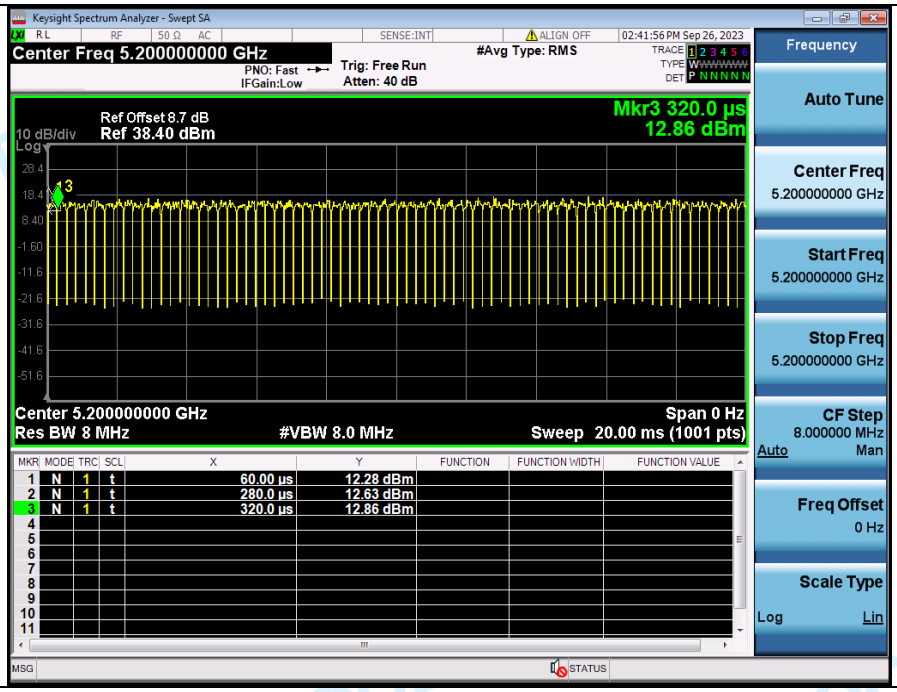

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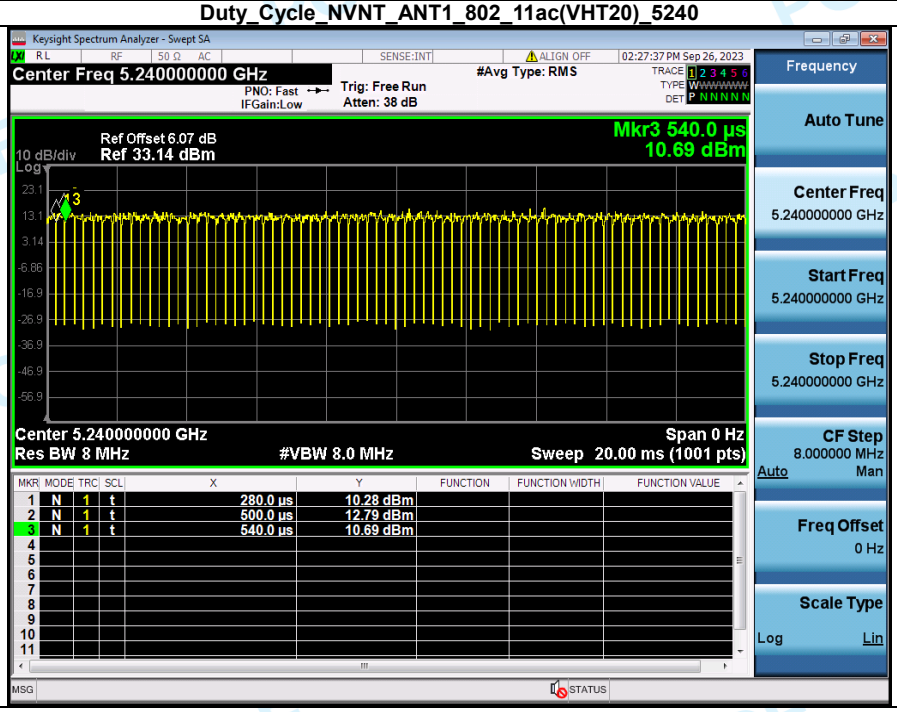

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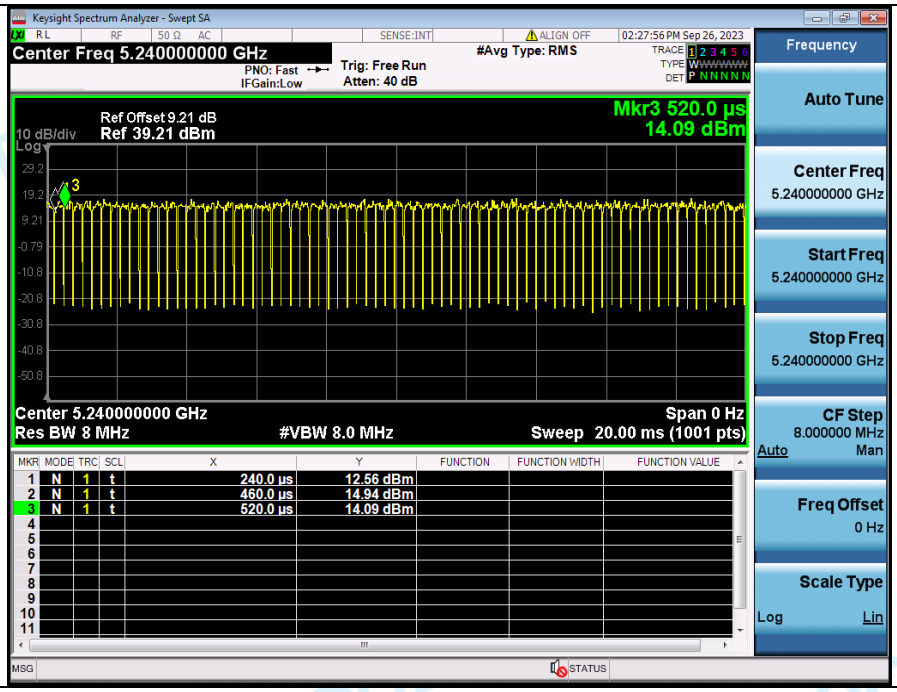

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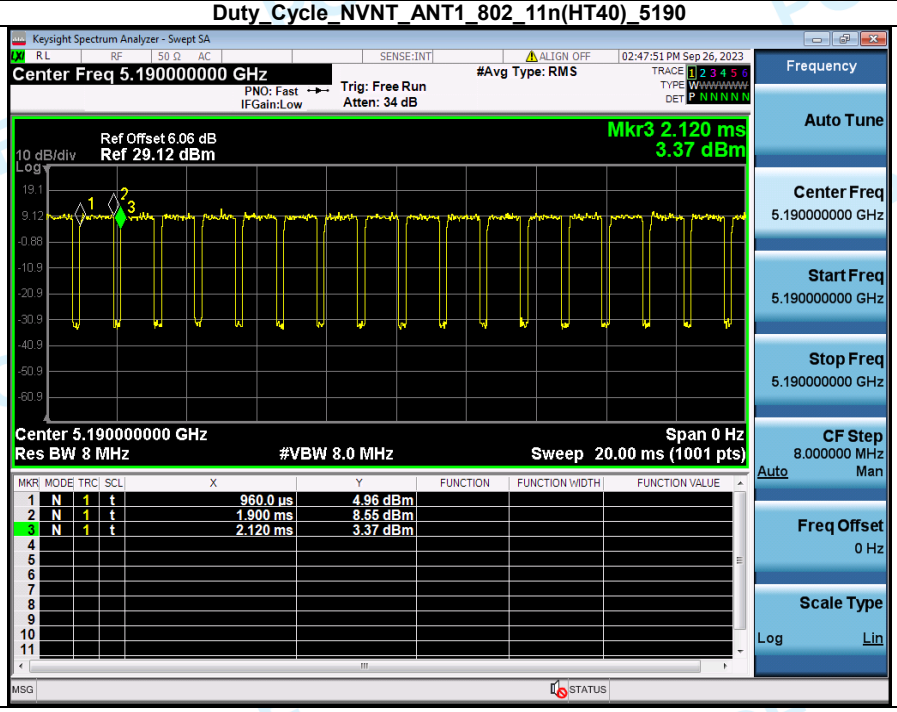

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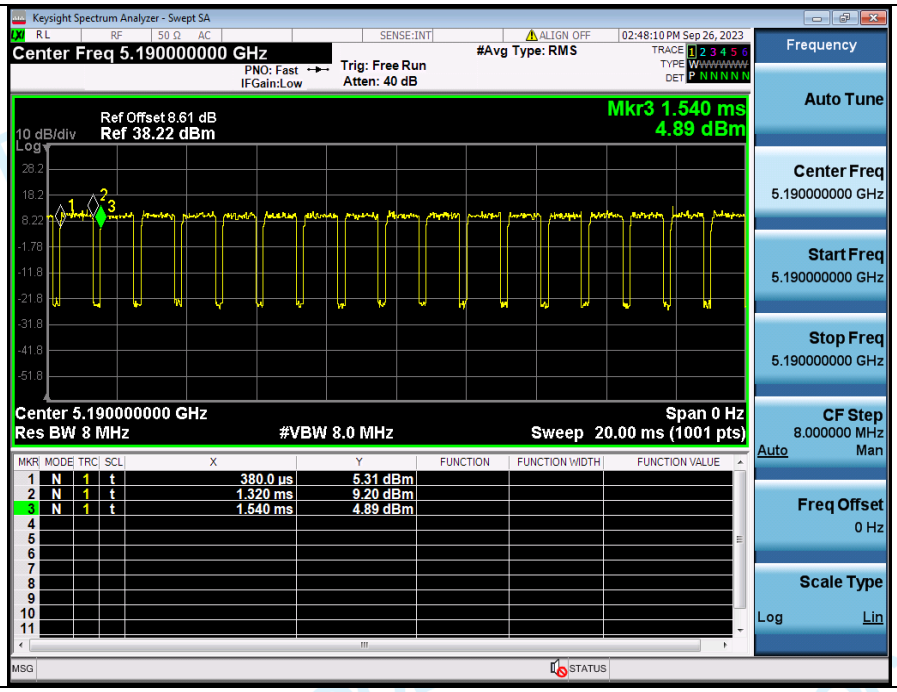

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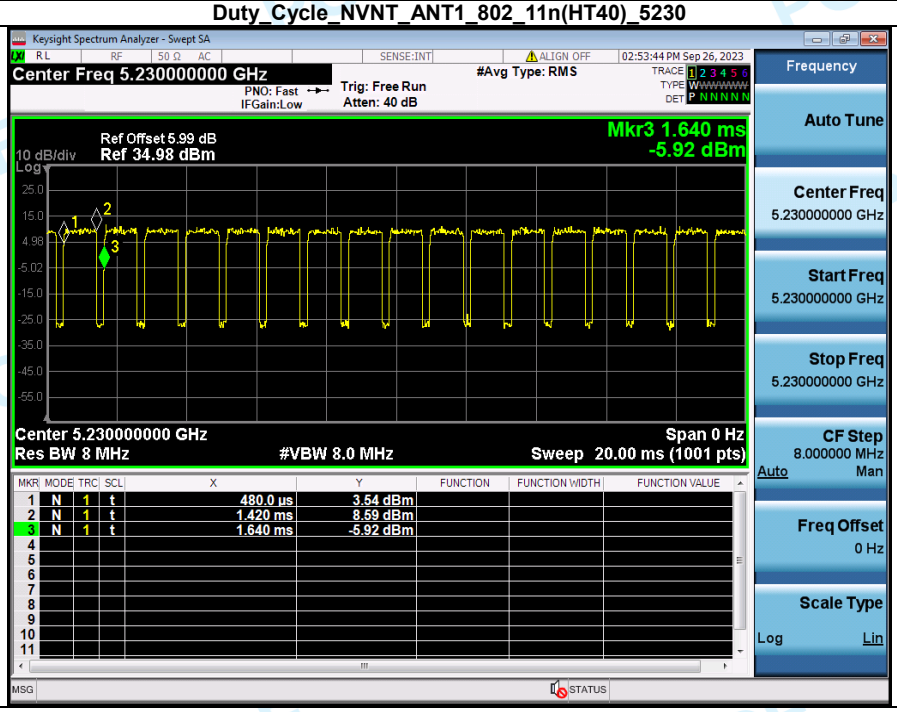

Duty_Cycle_NVNT_ANT2_802_11n(HT40)_5230