

TEST REPORT

FCC ID. :	ZLE-RG935
Test Report No..... :	TCT211201E053
Date of issue..... :	Jan. 12, 2022
Testing laboratory	SHENZHEN TONGCE TESTING LAB
Testing location/ address:	TCT Testing Industrial Park Fuqiao 5th Industrial Zone, Fuhai Street, Bao'an District Shenzhen, Guangdong, 518103, People's Republic of China
Applicant's name..... :	Power Idea Technology (Shenzhen) Co., Ltd.
Address..... :	4th Floor, A Section, Languang Science&technology, Xinxi RD, Hi-Tech Industrial Park North, Nanshan, ShenZhen, 518057 China
Manufacturer's name ... :	Power Idea Technology (Shenzhen) Co., Ltd.
Address..... :	4th Floor, A Section, Languang Science&technology, Xinxi RD, Hi-Tech Industrial Park North, Nanshan, ShenZhen, 518057 China
Standard(s)	FCC CFR Title 47 Part 15 Subpart E Section 15.407 KDB 662911 D01 Multiple Transmitter Output v02r01 KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
Test item description	Smart Tablet
Trade Mark	RugGear
Model/Type reference..... :	PTM01G, RG935
Rating(s)..... :	Refer to EUT description of page 3
Date of receipt of test item	Dec. 01, 2021
Date (s) of performance of test..... :	Dec. 01, 2021 ~ Jan. 12, 2022
Tested by (+signature) ... :	Rleo LIU
Check by (+signature)..... :	Beryl ZHAO
Approved by (+signature):	Tomsin



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Appendix A: Test Result of Conducted Test

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1. General Product Information

1.1. EUT description

Test item description	Smart Tablet
Model/Type reference.....	PTM01G
Sample Number.....	TCT21201E015-0101
Operation Frequency	Band 1: 5180 MHz -5240 MHz Band 2A: 5260 MHz -5320 MHz Band 2C: 5500 MHz -5700 MHz
Channel Bandwidth.....	802.11a: 20MHz 802.11n: 20MHz, 40MHz 802.11ac: 20MHz, 40MHz, 80MHz
Modulation Technology	Orthogonal Frequency Division Multiplexing(OFDM)
Modulation Type	256QAM, 64QAM, 16QAM, BPSK, QPSK
Antenna Type.....	Internal Antenna
Antenna Gain.....	0.4dBi
Rating(s).....	Adapter Information1: MODEL: Q183 INPUT: AC 100-240V, 50/60Hz, 0.5A OUTPUT: DC 3.6V-6V, 3A/ DC 6V-9V, 2A/ DC 9V-12V, 1.5A Adapter Information2: MODEL: QN184U INPUT: AC 100-240V, 50/60Hz, 0.5A OUTPUT: DC 5.0V, 3.0A/ DC 9.0V, 2.0A/ DC 12.0V, 1.5A Adapter Information3: MODEL: DBS15Q INPUT: AC 100-240V, 50/60Hz, 0.5A OUTPUT: DC 5V, 3A/ DC 9V, 2A/ DC 12V, 1.5A, MAX: 18 W Rechargeable Li-ion Battery DC 3.7V

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

1.2. Model(s) list

No.	Model No.	Tested with
1	PTM01G	☒
Other models	RG935	☐

Note: PTM01G is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names, yellow and black border. So the test data of PTM01G can represent the remaining models.

1.3. Test Frequency

Band 1

20MHz		40MHz		80MHz	
Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180	38	5190	42	5210
40	5200	46	5230		
48	5240				

Band 2A

20MHz		40MHz		80MHz	
Channel	Frequency	Channel	Frequency	Channel	Frequency
52	5260	54	5270	58	5290
56	5280	62	5310		
64	5320				

Band 2C

20MHz		40MHz		80MHz	
Channel	Frequency	Channel	Frequency	Channel	Frequency
100	5500	102	5510	106	5530
120	5600	118	5590	122	5610
140	5700	134	5670		

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:

2. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	PASS
Maximum Conducted Output Power	§15.407(a)	PASS
6dB Emission Bandwidth	§15.407(a)	PASS
26dB Emission Bandwidth& 99% Occupied Bandwidth	§15.407(a)	PASS
Power Spectral Density	§15.407(a)	PASS
Restricted Bands around fundamental frequency	§15.407(b)	PASS
Radiated Emission	§15.407(b)	PASS
Frequency Stability	§15.407(g)	PASS

Note:

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.
5. For the band 5.15-5.25GHz, EUT meet the requirements of 15.407(a)(ii).

3. General Information

3.1. Test environment and mode

Operating Environment:

Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar

Test Mode:

Engineering mode:	Keep the EUT in continuous transmitting by select channel and modulations with max. duty cycle.
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The sample was placed 0.8m/1.5m for blow/above 1GHz above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	Data rate
802.11a(SISO)	6 Mbps
802.11n(HT20) (MIMO)	6.5 Mbps
802.11n(HT40) (MIMO)	13.5 Mbps
802.11ac(VHT20) (MIMO)	6.5 Mbps
802.11ac(VHT40) (MIMO)	13.5 Mbps
802.11ac(VHT80) (MIMO)	29.3 Mbps

Final Test Mode:

Operation mode:	Keep the EUT in continuous transmitting with modulation
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3.2. 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.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

4. Facilities and Accreditations

4.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

- FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

SHENZHEN TONGCE TESTING LAB

CAB identifier: CN0031

The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

4.2. Location

SHENZHEN TONGCE TESTING LAB

Address: TCT Testing Industrial Park Fuqiao 5th Industrial Zone, Fuhai Street, Bao'an District Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

4.3. Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Conducted Emission	± 3.10 dB
2	RF power, conducted	± 0.12 dB
3	Spurious emissions, conducted	± 0.11 dB
4	All emissions, radiated(<1 GHz)	± 4.56 dB
5	All emissions, radiated(1 GHz - 18 GHz)	± 4.22 dB
6	All emissions, radiated(18 GHz- 40 GHz)	± 4.36 dB

5. Test Results and Measurement Data

5.1. Antenna requirement

Standard requirement:

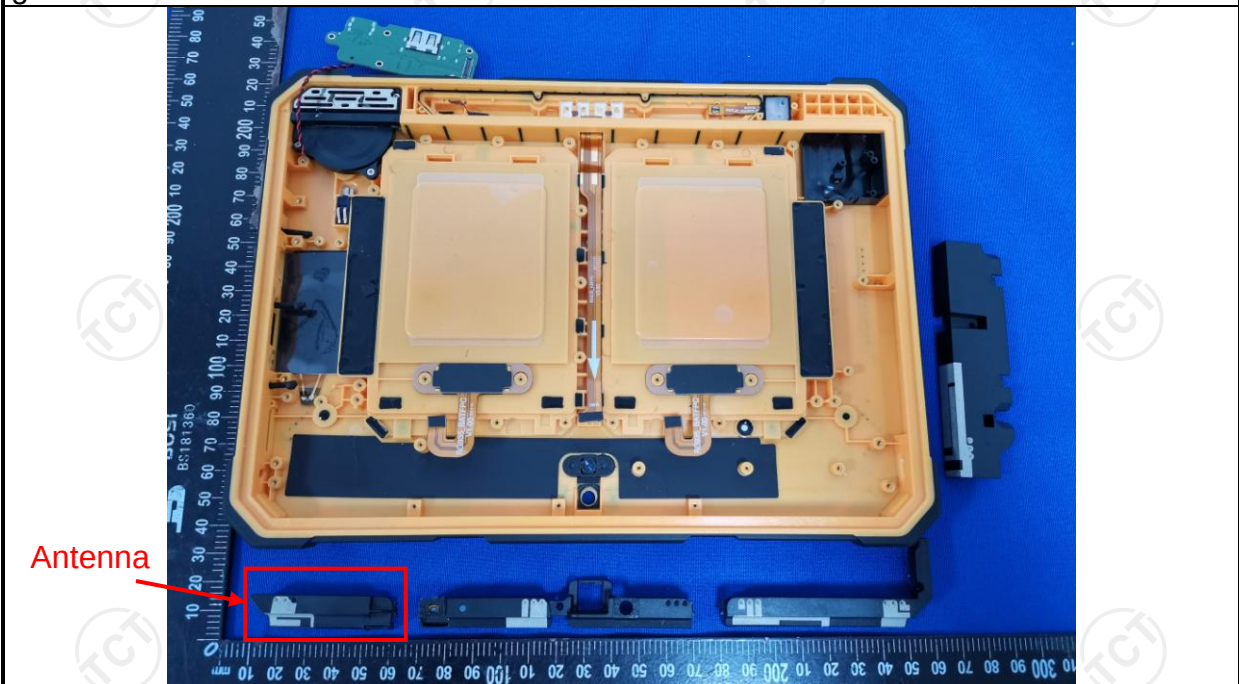
FCC Part15 C Section 15.203 /247(c)

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

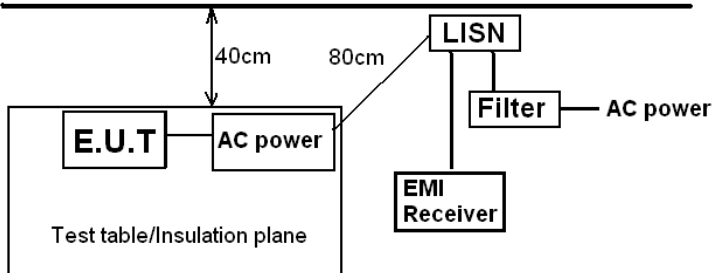
E.U.T Antenna:

The EUT antenna is internal antenna which permanently attached, and the best case gain of the antenna is 0.4dBi.



5.2. Conducted Emission

5.2.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10:2013														
Frequency Range:	150 kHz to 30 MHz														
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
Limits:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>5-30</td><td>60</td><td>50</td></tr></table>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
Test Setup:	Reference Plane  Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m														
Test Mode:	Tx Mode														
Test Procedure:	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.														
Test Result:	PASS														

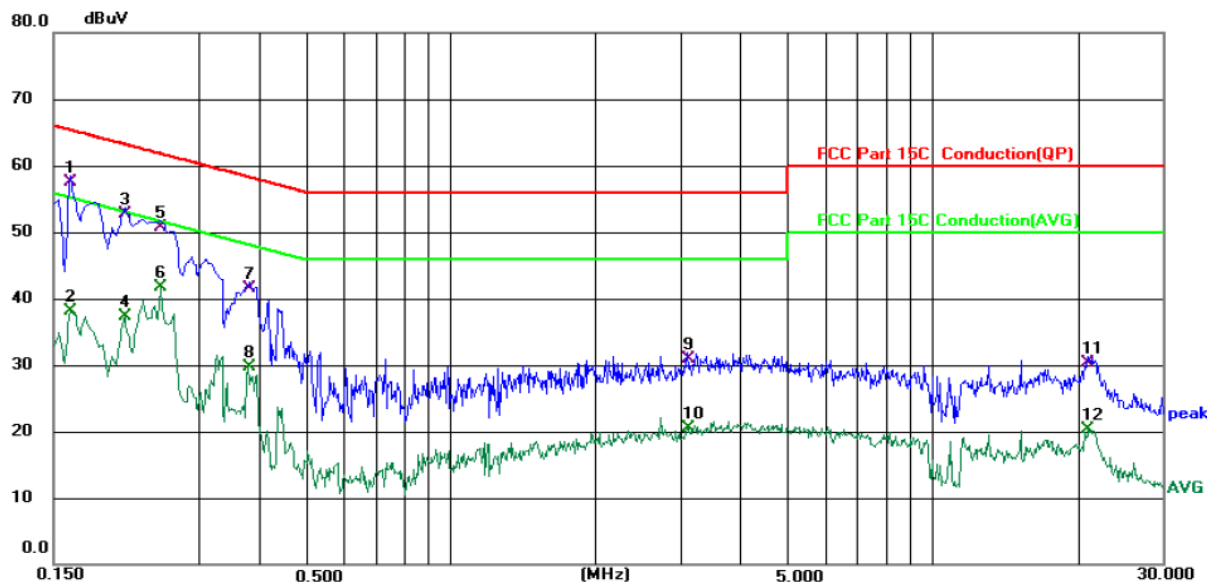
5.2.2. Test Instruments

Conducted Emission Shielding Room Test Site (843)				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESCI3	100898	Jul. 07, 2022
Line Impedance Stabilisation Newtork(LISN)	Schwarzbeck	NSLK 8126	8126453	Mar. 11, 2022
Line-5	TCT	CE-05	N/A	Jul. 07, 2022
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A

5.2.3. Test data

Please refer to following diagram for individual

Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)



Site 844 Shielding Room

Phase: L1

Temperature: 25 (°C)

Humidity: 55 %

Limit: FCC Part 15C Conduction(QP)

Power: AC 120 V/60 Hz

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1620	47.99	9.59	57.58	65.36	-7.78	QP	
2		0.1620	28.60	9.59	38.19	55.36	-17.17	AVG	
3		0.2100	43.38	9.37	52.75	63.21	-10.46	QP	
4		0.2100	27.94	9.37	37.31	53.21	-15.90	AVG	
5		0.2500	41.34	9.35	50.69	61.76	-11.07	QP	
6		0.2500	32.33	9.35	41.68	51.76	-10.08	AVG	
7		0.3820	32.30	9.25	41.55	58.24	-16.69	QP	
8		0.3820	20.50	9.25	29.75	48.24	-18.49	AVG	
9		3.0980	21.46	9.52	30.98	56.00	-25.02	QP	
10		3.0980	11.04	9.52	20.56	46.00	-25.44	AVG	
11		20.9700	20.48	9.79	30.27	60.00	-29.73	QP	
12		20.9700	10.50	9.79	20.29	50.00	-29.71	AVG	

Note:

Freq. = Emission frequency in MHz

Reading level (dBuV) = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement (dBuV) = Reading level (dBuV) + Corr. Factor (dB)

Limit (dBuV) = Limit stated in standard

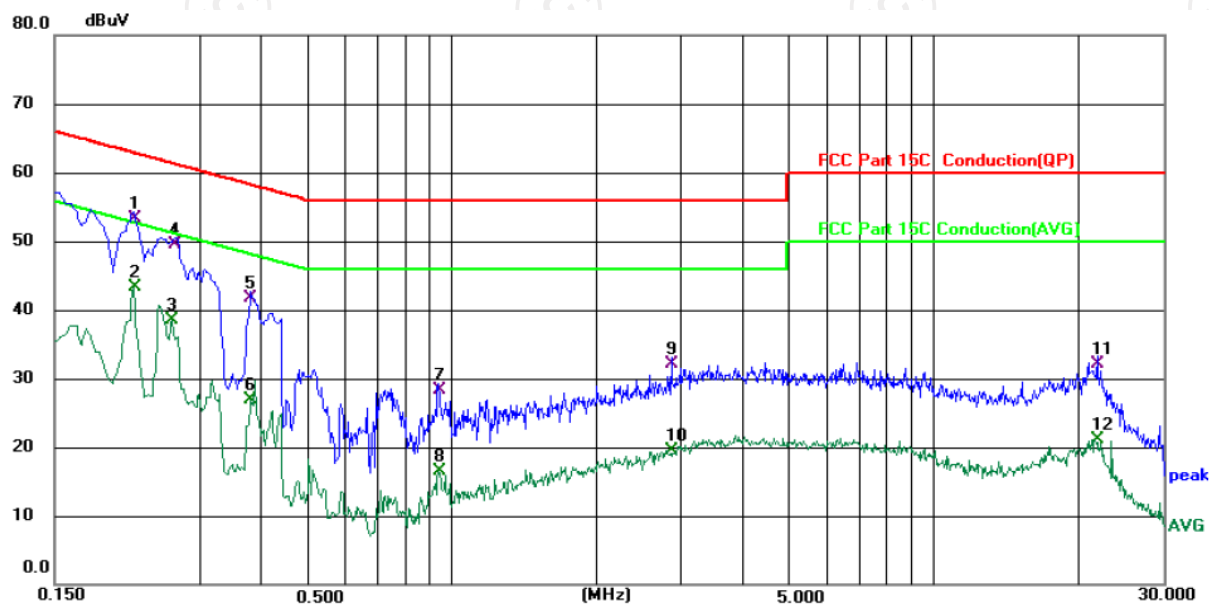
Margin (dB) = Measurement (dBuV) – Limits (dBuV)

Q.P. =Quasi-Peak

AVG =average

* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



Site 844 Shielding Room

Phase: *N*

Temperature: 25 (°C)

Humidity: 55 %

Limit: FCC Part 15C Conduction(QP)

Power: AC 120 V/60 Hz

No.	Mk.	Freq. MHz	Reading Level dBμV	Correct Factor dB	Measure- ment dBμV	Limit dBμV	Over dB	Detector	Comment
1	*	0.2180	43.98	9.31	53.29	62.89	-9.60	QP	
2		0.2180	33.97	9.31	43.28	52.89	-9.61	AVG	
3		0.2620	29.07	9.34	38.41	51.37	-12.96	AVG	
4		0.2660	40.24	9.34	49.58	61.24	-11.66	QP	
5		0.3820	32.46	9.27	41.73	58.24	-16.51	QP	
6		0.3820	17.57	9.27	26.84	48.24	-21.40	AVG	
7		0.9420	18.93	9.29	28.22	56.00	-27.78	QP	
8		0.9420	7.26	9.29	16.55	46.00	-29.45	AVG	
9		2.8620	22.75	9.42	32.17	56.00	-23.83	QP	
10		2.8620	10.04	9.42	19.46	46.00	-26.54	AVG	
11		21.8779	22.41	9.79	32.20	60.00	-27.80	QP	
12		21.8779	11.40	9.79	21.19	50.00	-28.81	AVG	

Note:

Freq. = Emission frequency in MHz

Reading level (dBμV) = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement (dBμV) = Reading level (dBμV) + Corr. Factor (dB)

Limit (dBμV) = Limit stated in standard

Margin (dB) = Measurement (dBμV) – Limits (dBμV)

Q.P. =Quasi-Peak

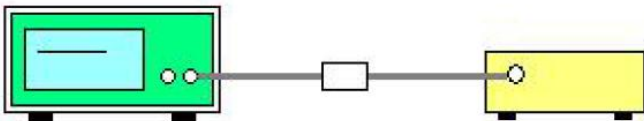
AVG =average

* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

Measurements were conducted in all three channels (high, middle, low) and all modulation (802.11a, 802.11n(HT20), 802.11n(HT40), 802.11ac(VHT20), 802.11ac(VHT40), 802.11ac(VHT80) and the worst case Mode (Middle channel and 802.11a) was submitted only.

5.3. Maximum Conducted Output Power

5.3.1. Test Specification

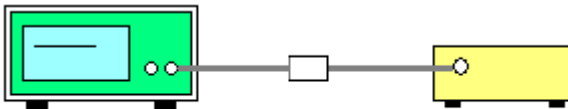
Test Requirement:	FCC Part15 E Section 15.407(a)& Part 2 J Section 2.1046	
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E	
Limit:	Frequency Band (MHz)	Limit
	5180 - 5240	24dBm(250mW) for client device
	5260 - 5320	24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz
	5470 - 5725	24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz
	5745 - 5825	30dBm(1W)
Test Setup:	 Power meter EUT	
Test Mode:	Transmitting mode with modulation	
Test Procedure:	1. The testing follows the Measurement Procedure of KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E, 3, a 2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement. 3. Set to the maximum power setting and enable the EUT transmit continuously. 5. Measure the conducted output power and record the results in the test report.	
Test Result:	PASS	
Remark:	Conducted output power= measurement power +10log(1/x) X is duty cycle=1, so 10log(1/1)=0 Conducted output power= measurement power	

5.3.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 18, 2022
Power Meter	Agilent	E4418B	GB43312526	Jul. 07, 2022
Power Sensor	Agilent	E9301A	MY41497725	Jul. 07, 2022
Combiner Box	Ascentest	AT890-RFB	N/A	Jul. 07, 2022

5.4. 6dB Emission Bandwidth

5.4.1. Test Specification

Test Requirement:	FCC CFR47 Part 15 Section 15.407(e)& Part 2 J Section 2.1049
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C
Limit:	>500kHz
Test Setup:	 Spectrum Analyzer EUT
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz. 4. Measure and record the results in the test report.
Test Result:	N/A

5.4.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 18, 2022
Combiner Box	Ascentest	AT890-RFB	N/A	Jul. 07, 2022

5.5. 26dB Bandwidth and 99% Occupied Bandwidth

5.5.1. Test Specification

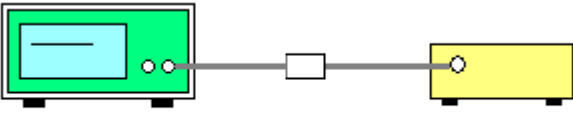
Test Requirement:	47 CFR Part 15C Section 15.407 (a)& Part 2 J Section 2.1049
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section D
Limit:	No restriction limits
Test Setup:	 Spectrum Analyzer EUT
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section D 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 1% to 5% of the OBW. Set the Video bandwidth (VBW) = 3 *RBW. In order to make an accurate measurement. 4. Measure and record the results in the test report.
Test Result:	PASS

5.5.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 18, 2022
Combiner Box	Ascentest	AT890-RFB	N/A	Jul. 07, 2022

5.6. Power Spectral Density

5.6.1. Test Specification

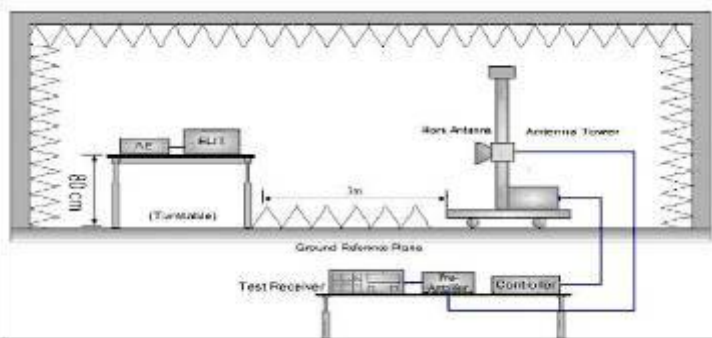
Test Requirement:	FCC Part15 E Section 15.407 (a)
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section F
Limit:	$\leq 11.00\text{dBm/MHz}$ for Band 1 5150MHz-5250MHz(client device) $\leq 11.00\text{dBm/MHz}$ for Band 2A&2C 5250-5350&5470-5725 $\leq 30.00\text{dBm/500KHz}$ for Band 3 5725MHz-5850MHz The e.i.r.p spectral density for Band 1 5150MHz – 5250 MHz should not exceed 10dBm/MHz
Test Setup:	 Spectrum Analyzer EUT
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth. 1. Set RBW = 510 kHz/1 MHz, VBW $\geq 3 \times$ RBW, Sweep time = Auto, Detector = RMS. 2. Allow the sweeps to continue until the trace stabilizes. 3. Use the peak marker function to determine the maximum amplitude level. 4. The E.I.R.P spectral density used radiated test method. At a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space environment.
Test Result:	PASS

5.6.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 18, 2022
Combiner Box	Ascentest	AT890-RFB	N/A	Jul. 07, 2022

5.7. Band edge

5.7.1. Test Specification

Test Requirement:	FCC CFR47 Part 15E Section 15.407																				
Test Method:	ANSI C63.10 2013																				
Limit:	In un-restricted band: For Band 1&2A&2C: -27dBm/MHz For Band 3:																				
	<table><tr><th>Frequency (MHz)</th><th>Limit (dBm/MHz)</th><th>Frequency (MHz)</th><th>Limit (dBm/MHz)</th></tr><tr><td>< 5650</td><td>-27</td><td>5850~5855</td><td>27~15.6</td></tr><tr><td>5650~5700</td><td>-27~10</td><td>5855~5875</td><td>15.6~10</td></tr><tr><td>5700~5720</td><td>10~15.6</td><td>5875~5925</td><td>10~-27</td></tr><tr><td>5720~5725</td><td>15.6~27</td><td>> 5925</td><td>-27</td></tr></table>	Frequency (MHz)	Limit (dBm/MHz)	Frequency (MHz)	Limit (dBm/MHz)	< 5650	-27	5850~5855	27~15.6	5650~5700	-27~10	5855~5875	15.6~10	5700~5720	10~15.6	5875~5925	10~-27	5720~5725	15.6~27	> 5925	-27
	Frequency (MHz)	Limit (dBm/MHz)	Frequency (MHz)	Limit (dBm/MHz)																	
	< 5650	-27	5850~5855	27~15.6																	
	5650~5700	-27~10	5855~5875	15.6~10																	
	5700~5720	10~15.6	5875~5925	10~-27																	
5720~5725	15.6~27	> 5925	-27																		
E[dBμV/m] = EIRP[dBm] + 95.2 @3m																					
In restricted band:																					
<table><tr><th>Detector</th><th>Limit@3m</th></tr><tr><td>Peak</td><td>74dBμV/m</td></tr><tr><td>AVG</td><td>54dBμV/m</td></tr></table>	Detector	Limit@3m	Peak	74dBμV/m	AVG	54dBμV/m															
Detector	Limit@3m																				
Peak	74dBμV/m																				
AVG	54dBμV/m																				
Test Setup:																					
Test Mode:	Transmitting mode with modulation																				
Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. 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. 4. 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 and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold																				

	Mode. 6. 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, quasipeak or average method as specified and then reported in a data sheet.
Test Result:	PASS

5.7.2. Test Instruments

Radiated Emission Test Site (966)				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESIB7	100197	Jul. 07, 2022
Spectrum Analyzer	R&S	FSQ40	200061	Jul. 07, 2022
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jul. 18, 2022
Pre-amplifier	SKET	LNPA_0118G-45	SK2021012102	Mar. 11, 2022
Pre-amplifier	SKET	LNPA_1840G-50	SK202109203500	Apr. 08, 2022
Pre-amplifier	HP	8447D	2727A05017	Jul. 07, 2022
Loop antenna	ZHINAN	ZN30900A	12024	Sep. 05, 2022
Broadband Antenna	Schwarzbeck	VULB9163	340	Sep. 04, 2022
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Sep. 04, 2022
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Apr. 10, 2023
Coaxial cable	SKET	RC_DC18G-N	N/A	Apr. 08, 2022
Coaxial cable	SKET	RC-DC18G-N	N/A	Apr. 08, 2022
Coaxial cable	SKET	RC-DC40G-N	N/A	Jul. 07, 2022
Antenna Mast	Keleto	CC-A-4M	N/A	N/A
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A

5.7.3. Test Data

Channel Test Data									
802.11 a	CH	Freq. (MHz)	Read_level (dBuV/m)	Factor (dB)	Peak (dBuV/m)	Limit (dBuV/m) (Peak)	Limit (dBuV/m) (Avg)	Over	Ant. Pol. H/V
Band 1 & Band 2A	Lowest	5150	40.50	5.82	46.32	74	54	-7.68	H
		5150	36.63	5.82	42.45	74	54	-11.55	V
	Highest	5350	40.01	6.52	46.53	74	54	-7.47	H
		5350	38.29	6.52	44.81	74	54	-9.19	V
Band 2C	Lowest	5470	52.32	5.82	58.14	68.2	/	-10.06	H
		5470	46.16	5.82	51.98	68.2	/	-16.22	V
	Highest	5725	64.04	6.52	70.56	68.2	/	2.36	H
		5725	60.79	6.52	67.31	68.2	/	-0.89	V
Remark: Factor(dB)=Ant. Factor+Cable Loss-Amp. Factor									

802.11 n HT20	CH	Freq. (MHz)	Read_level (dBuV/m)	Factor (dB)	Peak (dBuV/m)	Limit (dBuV/m) (Peak)	Limit (dBuV/m) (Avg)	Over	Ant. Pol. H/V
Band 1 &Band 2A	Lowest	5150	40.36	6.96	47.32	74	54	-6.68	H
		5150	39.90	6.96	46.86	74	54	-7.14	V
	Highest	5350	35.01	8.21	43.22	74	54	-10.78	H
		5350	36.85	8.21	45.06	74	54	-8.94	V
Band 2C	Lowest	5470	50.88	8.21	59.09	68.2	/	-9.11	H
		5470	47.43	8.21	55.64	68.2	/	-12.56	V
	Highest	5725	51.07	8.87	59.94	68.2	/	-8.26	H
		5725	48.72	8.87	57.59	68.2	/	-10.61	V
Remark: Factor(dB)=Ant. Factor+Cable Loss-Amp. Factor									

802.11 n HT40	CH	Freq. (MHz)	Read_level (dBuV/m)	Factor (dB)	Peak (dBuV/m)	Limit (dBuV/m) (Peak)	Limit (dBuV/m) (Avg)	Over	Ant. Pol. H/V
Band 1 &Band 2A	Lowest	5150	41.62	5.82	47.44	74	54	-6.56	H
		5150	36.96	5.82	42.78	74	54	-11.22	V
	Highest	5350	40.44	6.52	46.96	74	54	-7.04	H
		5350	37.51	6.52	44.03	74	54	-9.97	V

Band 2C	Lowest	5470	52.30	5.82	58.12	68.2	/	-10.08	H
		5470	46.27	5.82	52.09	68.2	/	-16.11	V
	Highest	5725	53.45	6.52	59.97	68.2	/	-8.23	H
		5725	51.19	6.52	57.71	68.2	/	-10.49	V

Remark: Factor(dB)=Ant. Factor+Cable Loss-Amp. Factor

802.11 ac HT20	CH	Freq. (MHz)	Read_level (dBuV/m)	Factor (dB)	Peak (dBuV/m)	Limit (dBuV/m) (Peak)	Limit (dBuV/m) (Avg)	Over	Ant. Pol. H/V
Band 1 &Band 2A	Lowest	5150	41.10	6.96	48.06	74	54	-5.94	H
		5150	39.09	6.96	46.05	74	54	-7.95	V
	Highest	5350	34.83	8.21	43.04	74	54	-10.96	H
		5350	37.28	8.21	45.49	74	54	-8.51	V

Band 2C	Lowest	5470	49.91	8.21	58.12	68.2	/	-10.08	H
		5470	45.41	8.21	53.62	68.2	/	-14.58	V
	Highest	5725	50.63	8.87	59.50	68.2	/	-8.70	H
		5725	48.02	8.87	56.89	68.2	/	-11.31	V

Remark: Factor(dB)=Ant. Factor+Cable Loss-Amp. Factor

802.11 ac HT40	CH	Freq. (MHz)	Read_level (dBuV/m)	Factor (dB)	Peak (dBuV/m)	Limit (dBuV/m) (Peak)	Limit (dBuV/m) (Avg)	Over	Ant. Pol. H/V
Band 1 &Band 2A	Lowest	5150	41.42	5.82	47.24	74	54	-6.76	H
		5150	36.93	5.82	42.75	74	54	-11.25	V
	Highest	5350	41.43	6.52	47.95	74	54	-6.05	H
		5350	38.89	6.52	45.41	74	54	-8.59	V

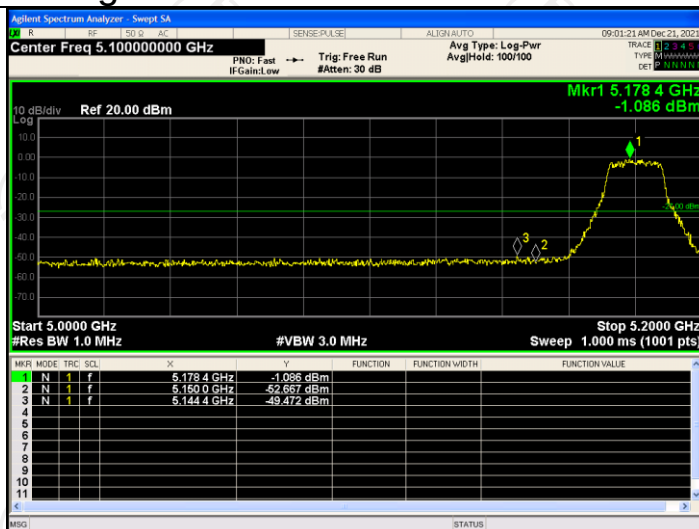
Band 2C	Lowest	5470	51.45	5.82	57.27	68.2	/	-10.93	H
		5470	45.86	5.82	51.68	68.2	/	-16.52	V
	Highest	5725	54.26	6.52	60.78	68.2	/	-7.42	H
		5725	50.35	6.52	56.87	68.2	/	-11.33	V

Remark: Factor(dB)=Ant. Factor+Cable Loss-Amp. Factor

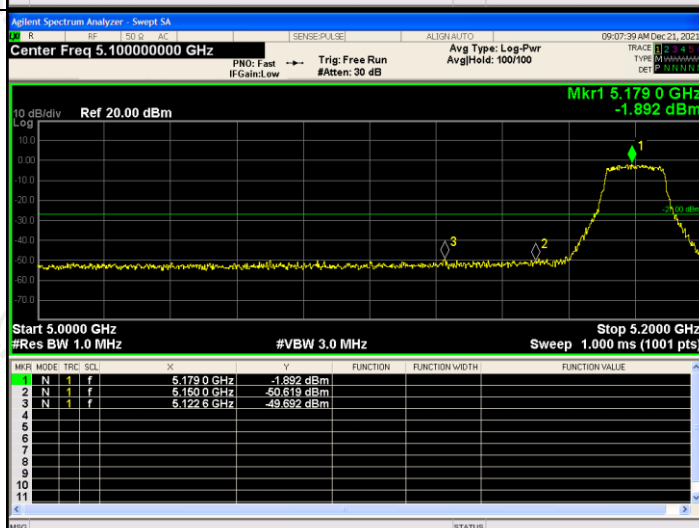
802.11 ac HT80	CH	Freq. (MHz)	Read_level (dBuV/m)	Factor (dB)	Peak (dBuV/m)	Limit (dBuV/m) (Peak)	Limit (dBuV/m) (Avg)	Over	Ant. Pol. H/V
Band 1 &Band 2A	Lowest	5150	42.11	6.96	49.07	74	54	-4.93	H
		5150	40.64	6.96	47.60	74	54	-6.40	V
	Highest	5350	39.33	8.21	47.54	74	54	-6.46	H
		5350	37.99	8.21	46.20	74	54	-7.80	V
Band 2C	Lowest	5470	42.82	8.21	51.03	68.2	/	-17.17	H
		5470	42.02	8.21	50.23	68.2	/	-17.97	V
	Highest	5725	41.26	8.87	50.13	68.2	/	-18.07	H
		5725	39.38	8.87	48.25	68.2	/	-19.95	V
Remark: Factor(dB)=Ant. Factor+Cable Loss-Amp. Factor									

Band 1 Band-edge for RF Conducted Emissions

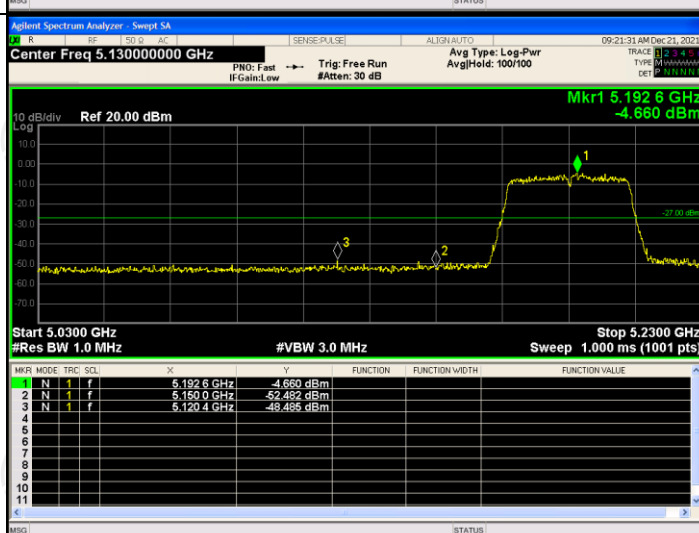
802.11a
/LCH



802.11n
HT20 / LCH

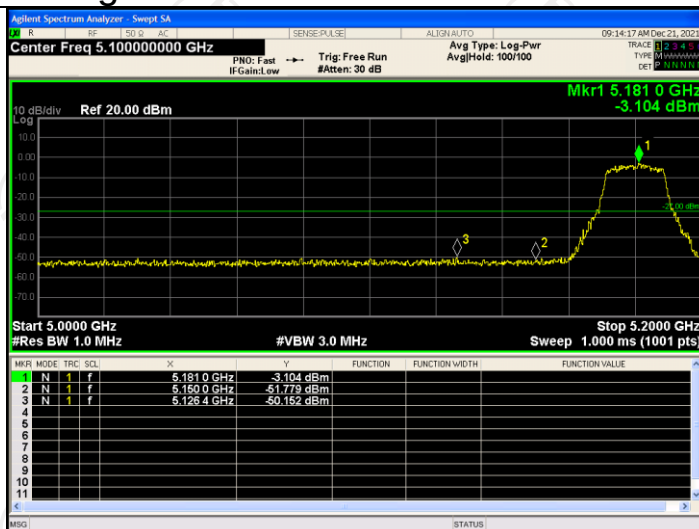


802.11n
HT40 / LCH

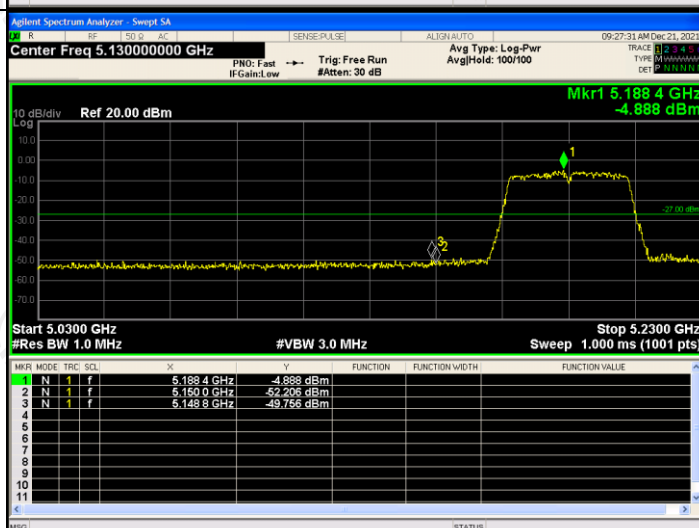


Band 1 Band-edge for RF Conducted Emissions

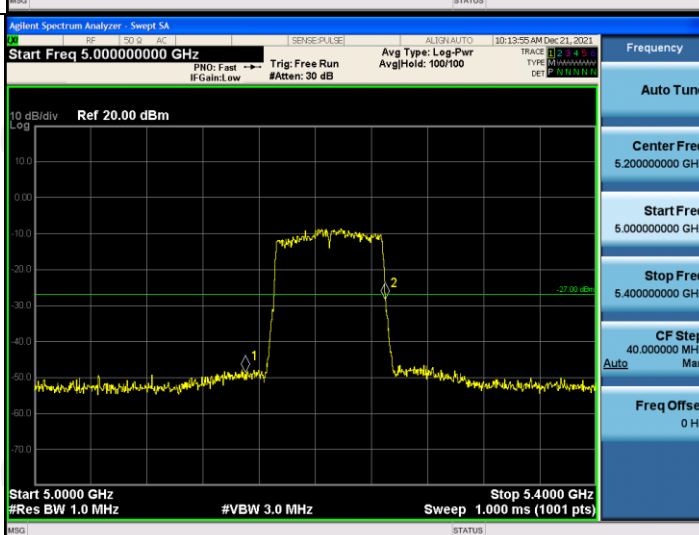
802.11ac
HT20 / LCH



802.11ac
HT40 / LCH

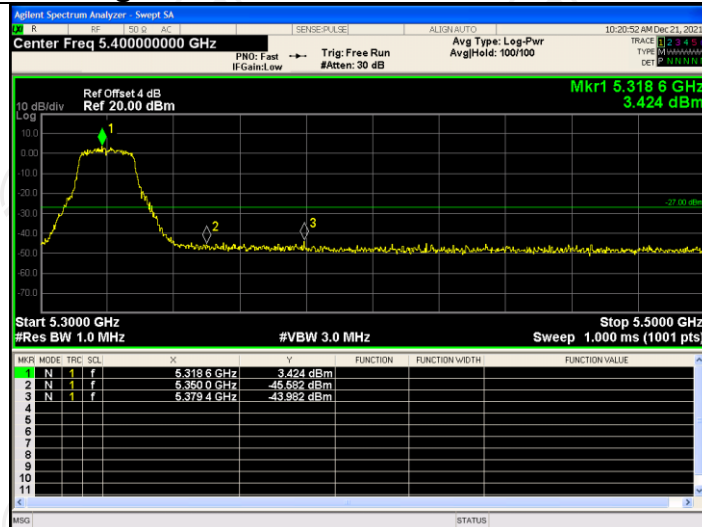


802.11ac
HT80 / LCH

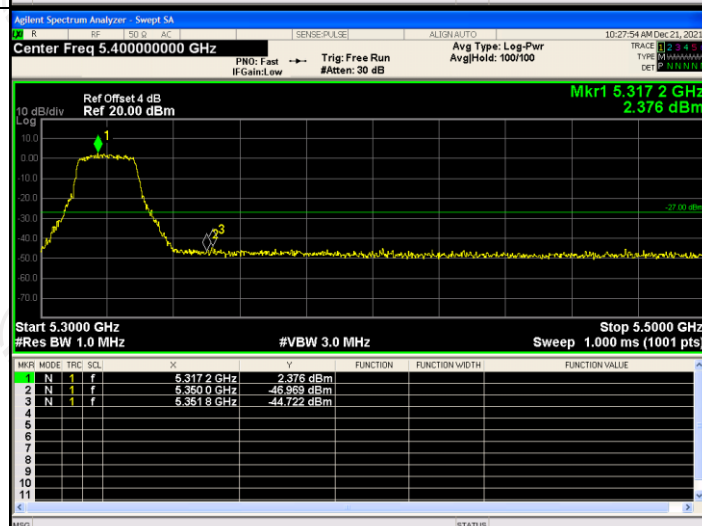


Band 2A Band-edge for RF Conducted Emissions

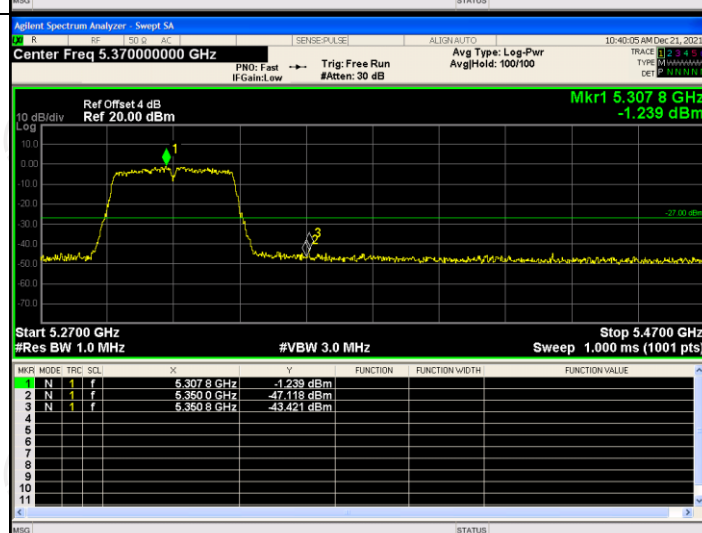
802.11a
/HCH



802.11n
HT20 / HCH

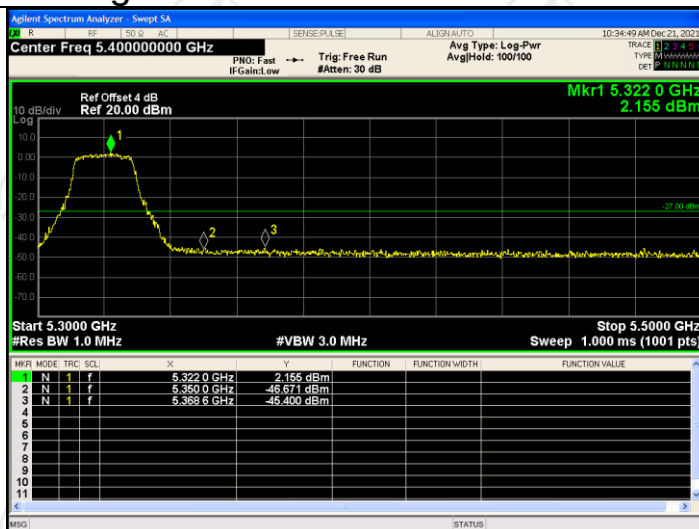


802.11n
HT40 / HCH

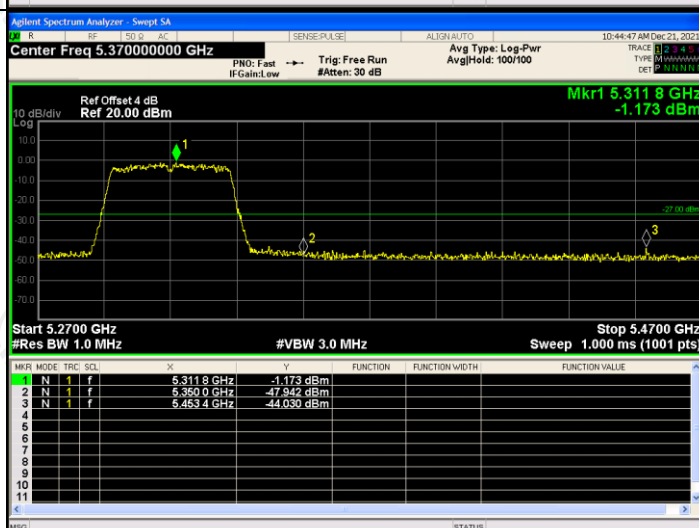


Band 2A Band-edge for RF Conducted Emissions

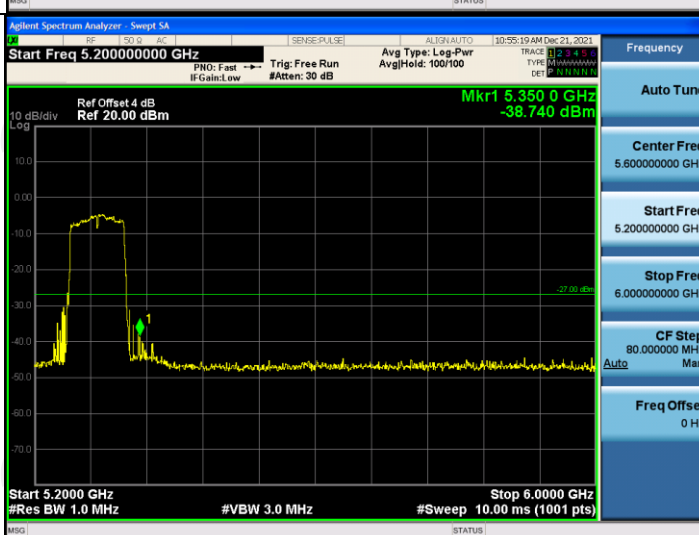
802.11ac
HT20 / HCH



802.11ac
HT40 / HCH

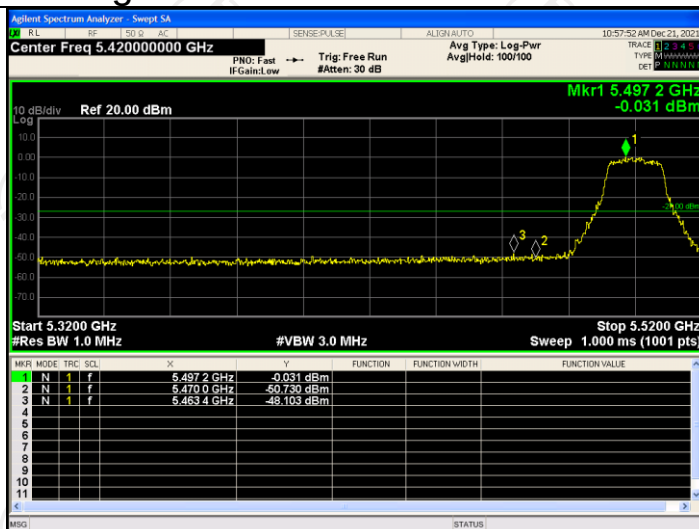


802.11ac
HT80 / HCH

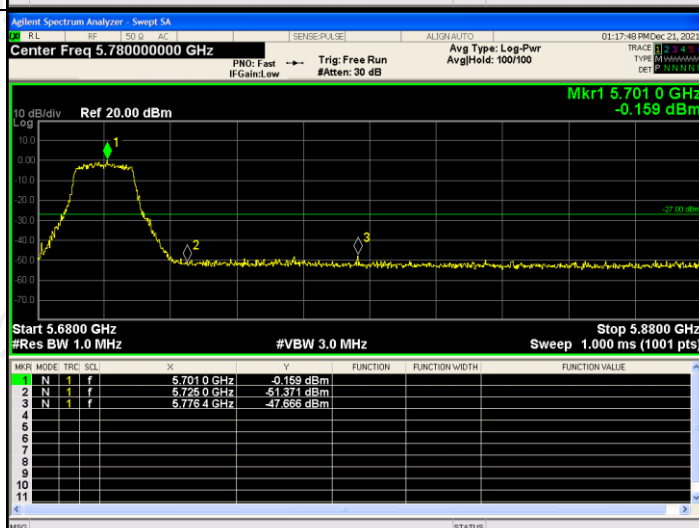


Band 2C Band-edge for RF Conducted Emissions

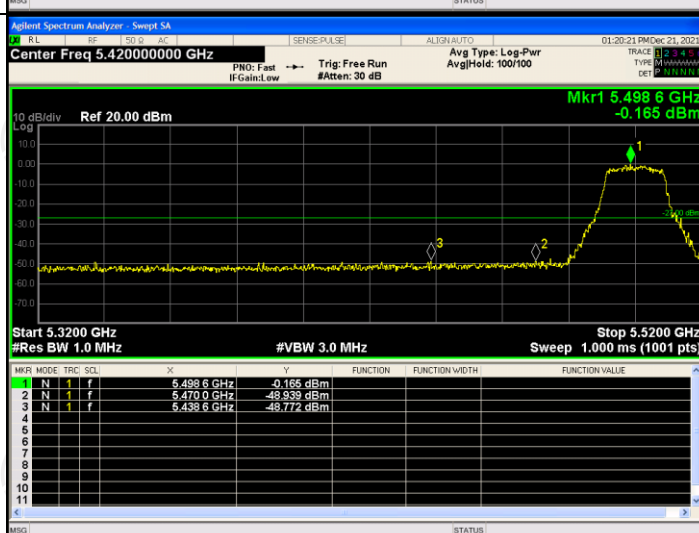
802.11a
/LCH



802.11a
/HCH

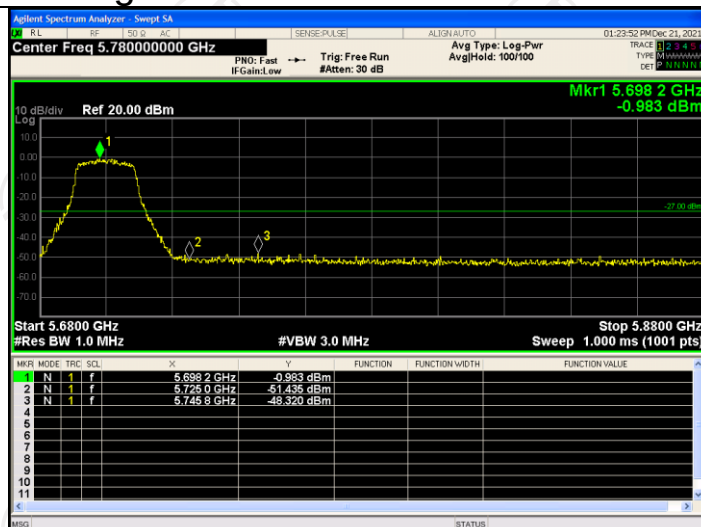


802.11n
HT20 / LCH

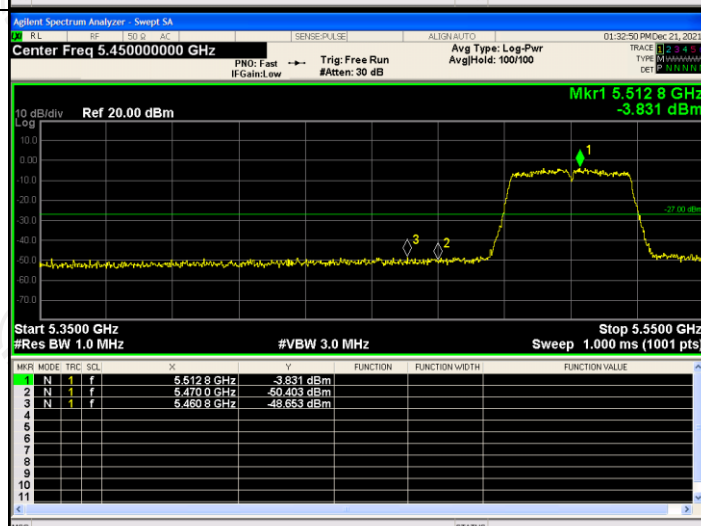


Band 2C Band-edge for RF Conducted Emissions

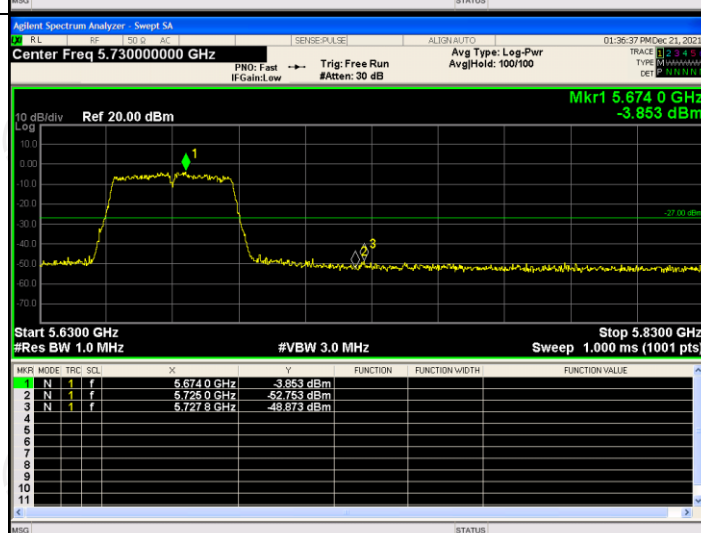
802.11n
HT20 / HCH



802.11n
HT40 / LCH

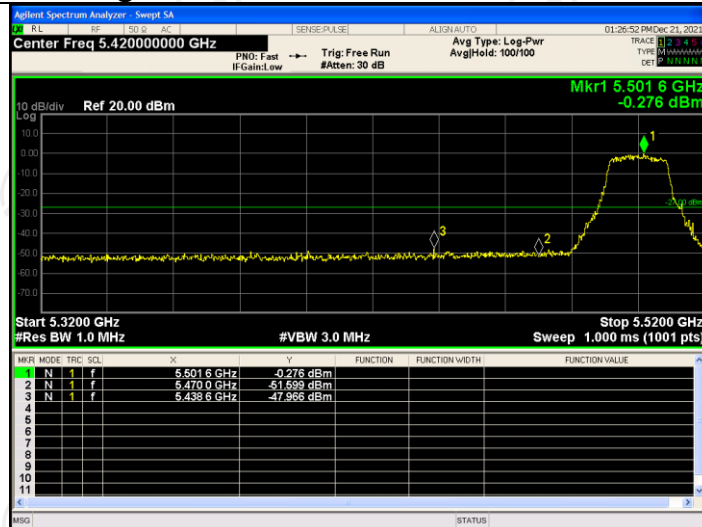


802.11n
HT40 / HCH

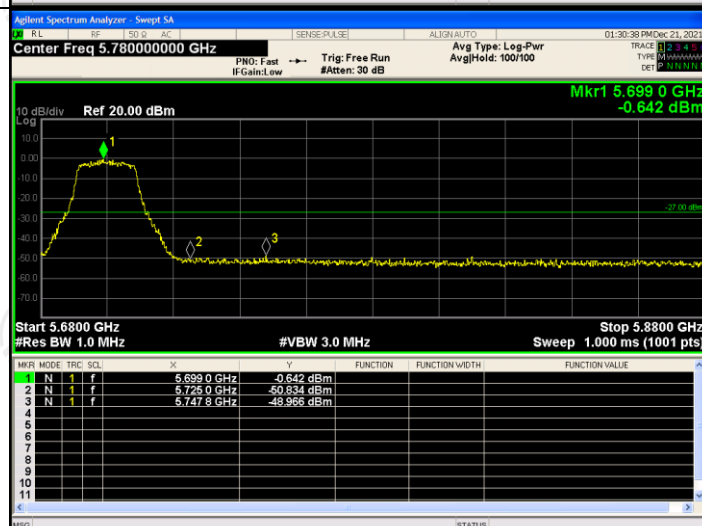


Band 2C Band-edge for RF Conducted Emissions

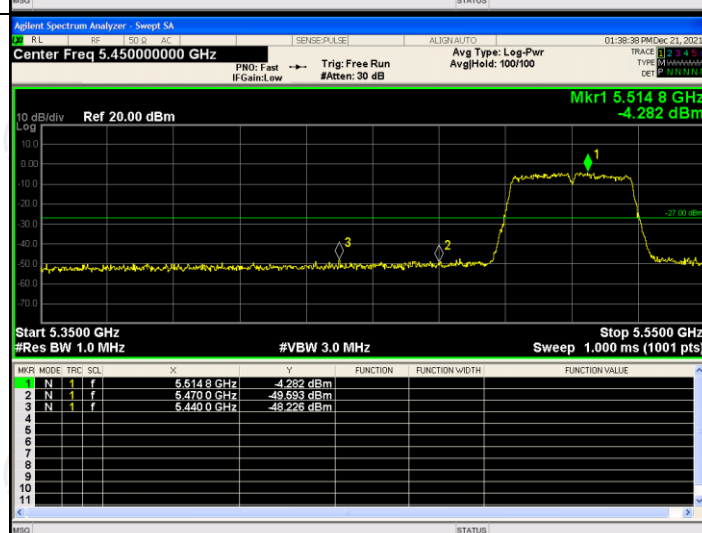
802.11ac
HT20 / LCH



802.11ac
HT20 / HCH

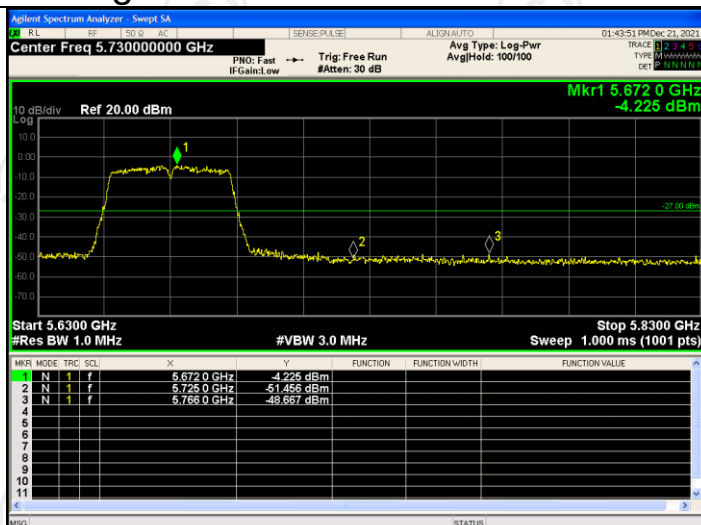


802.11ac
HT40 / LCH

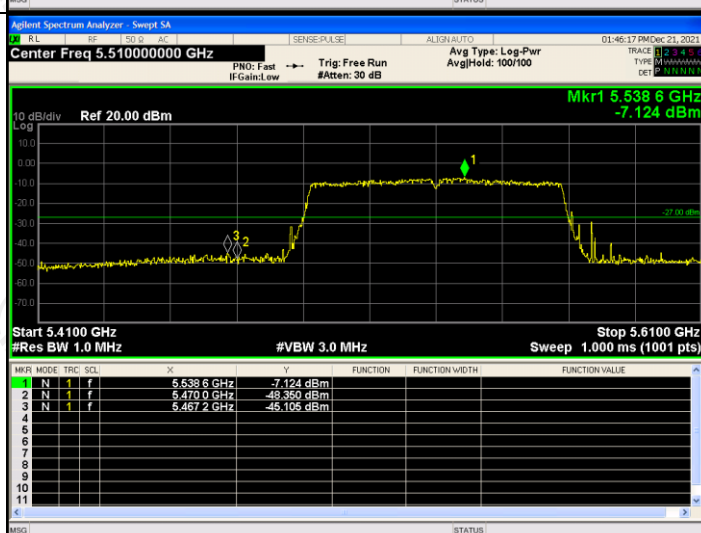


Band 2C Band-edge for RF Conducted Emissions

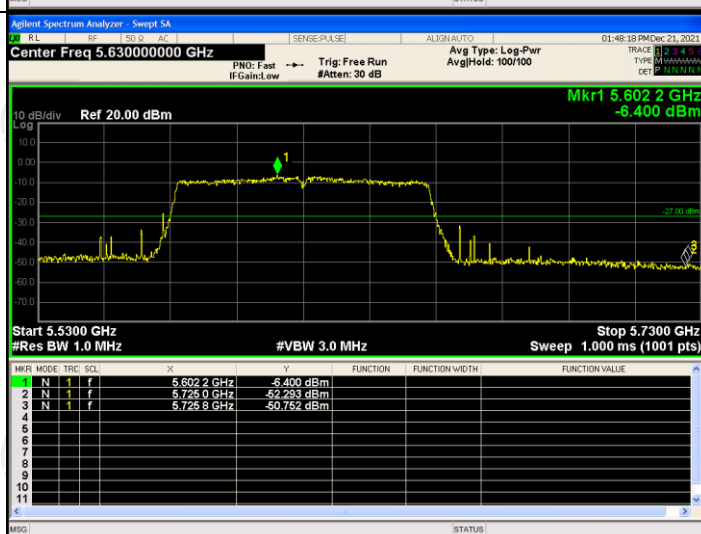
802.11ac
HT40 / HCH



802.11ac
HT80 / LCH

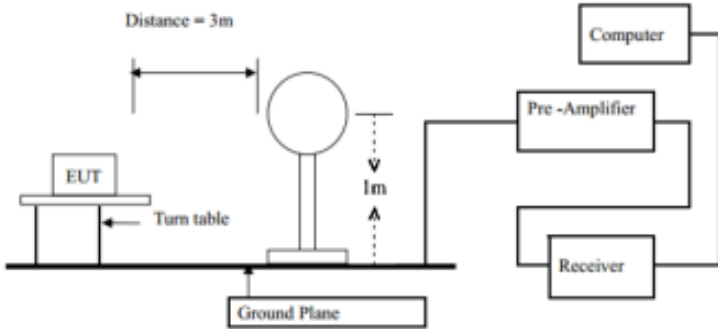


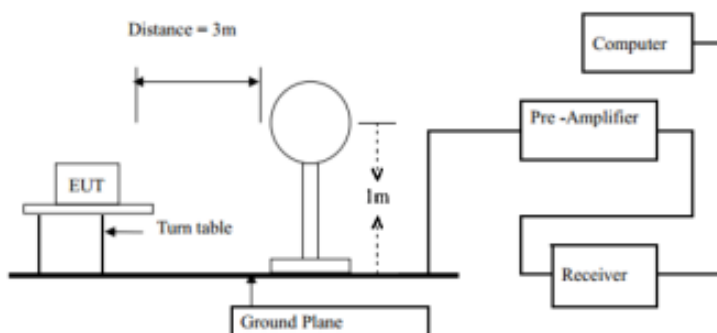
802.11ac
HT80 / HCH



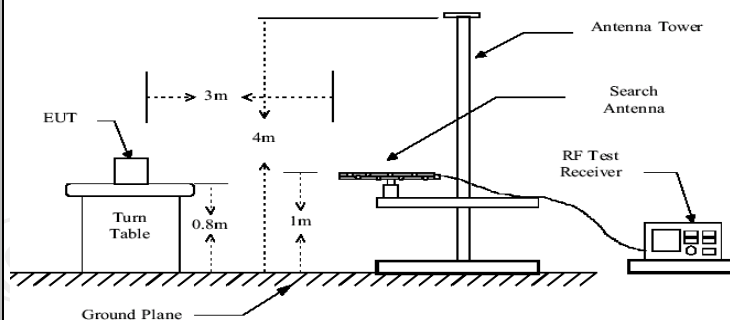
5.8. Unwanted Emissions

5.8.1. Test Specification

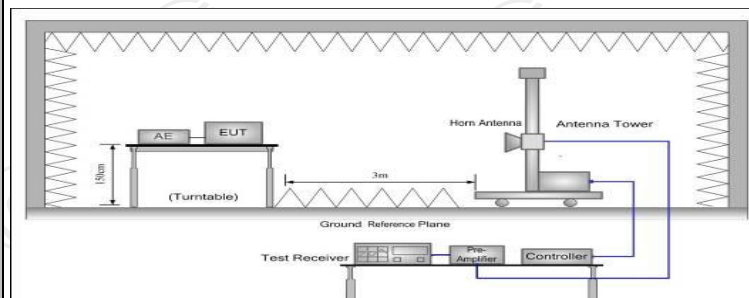
Test Requirement:	FCC CFR47 Part 15 Section 15.407 & 15.209 & 15.205				
Test Method:	KDB 789033 D02 v02r01				
Frequency Range:	9kHz to 40GHz				
Measurement Distance:	3 m				
Antenna Polarization:	Horizontal & Vertical				
Operation mode:	Transmitting mode with modulation				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz- 30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
Peak		1MHz	10Hz	Average Value	
Limit:	Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table, In restricted bands:				
	Frequency		Detector		Limit@3m
	Above 1G		Peak		74dBµV/m
			AVG		54dBµV/m
	Frequency		Field Strength (microvolts/meter)	Measurement Distance (meters)	
	0.009-0.490		2400/F(KHz)	300	
	0.490-1.705		24000/F(KHz)	3	
	1.705-30		30	30	
	30-88		100	3	
	88-216		150	3	
216-960		200	3		
Above 960		500	3		
Test setup:	In un-restricted bands: 68.2dBuV/m				
	For radiated emissions below 30MHz				
Test setup:					
	30MHz to 1GHz				



30MHz to 1GHz



Above 1GHz



Test Procedure:

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. 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.
4. 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 and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. 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, quasi-peak or average method as specified and then reported in a data sheet.

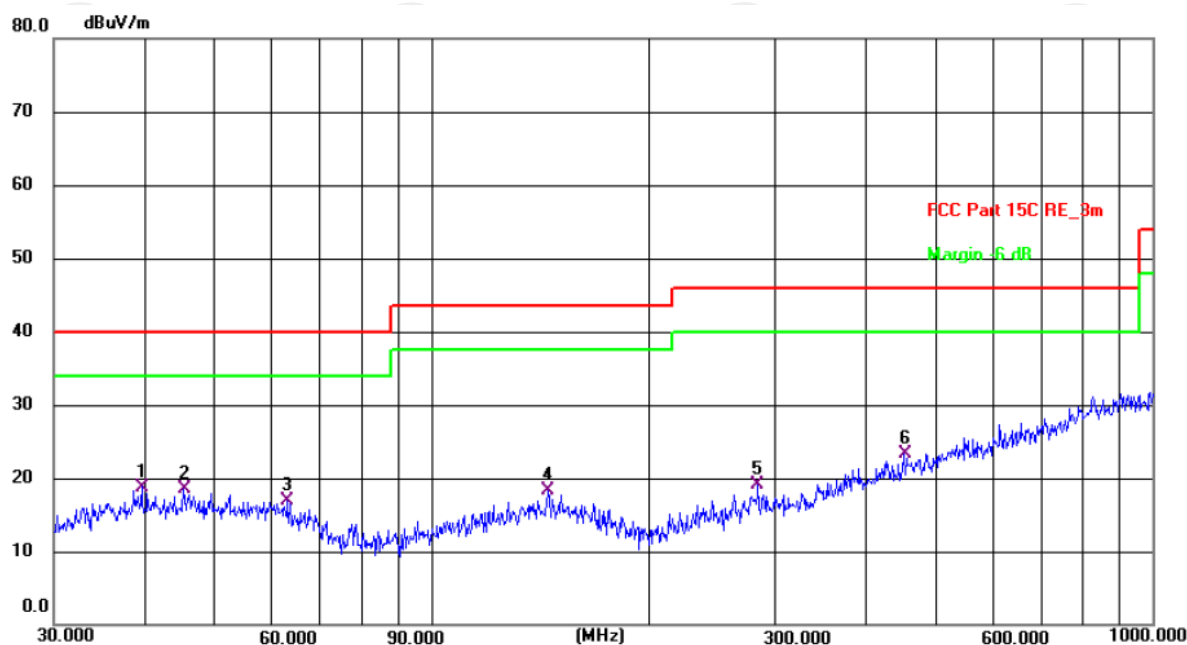
Test results:

PASS

5.8.2. Test Data

Please refer to following diagram for individual
Below 1GHz

Horizontal:



Site #2 3m Anechoic Chamber

Polarization: **Horizontal**

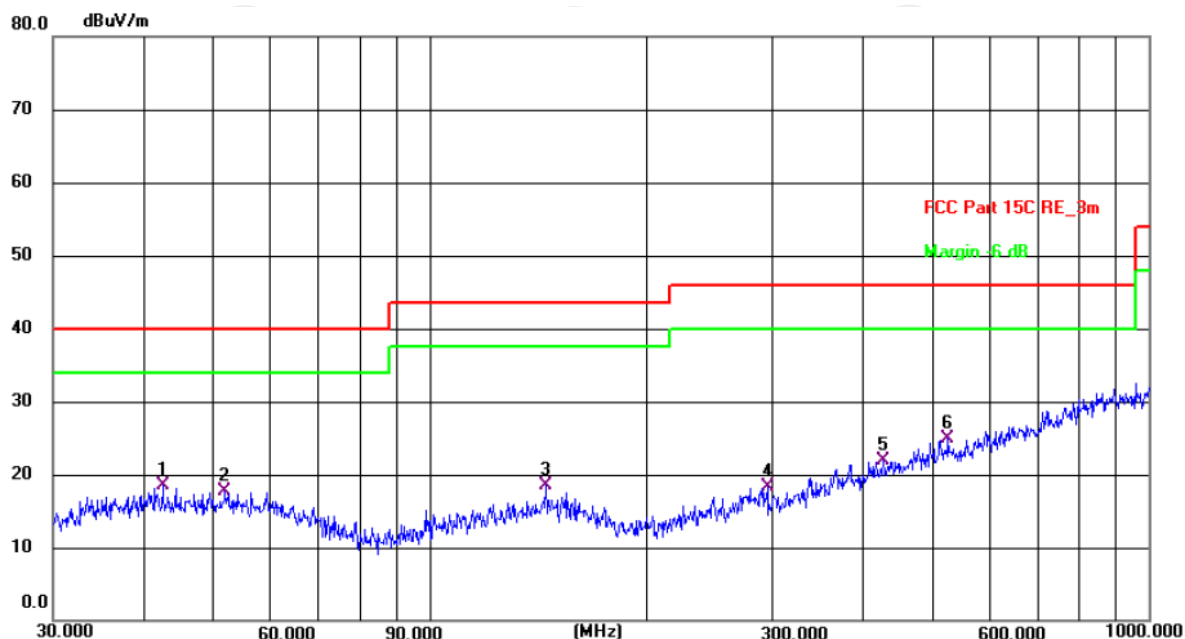
Temperature: 23.7(C) Humidity: 48 %

Limit: FCC Part 15C RE_3m

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	39.7146	4.84	13.96	18.80	40.00	-21.20	QP	P	
2	45.3754	4.68	13.88	18.56	40.00	-21.44	QP	P	
3	63.3132	4.40	12.46	16.86	40.00	-23.14	QP	P	
4	145.3505	5.00	13.29	18.29	43.50	-25.21	QP	P	
5	283.9791	5.00	14.10	19.10	46.00	-26.90	QP	P	
6	452.7197	4.98	18.38	23.36	46.00	-22.64	QP	P	

Vertical:



Site #2 3m Anechoic Chamber

Polarization: **Vertical**

Temperature: 23.7(C) Humidity: 48 %

Limit: FCC Part 15C RE_3m

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	42.6000	4.55	13.95	18.50	40.00	-21.50	QP	P	
2	52.0251	4.03	13.64	17.67	40.00	-22.33	QP	P	
3	145.3505	5.24	13.29	18.53	43.50	-24.97	QP	P	
4	295.1468	4.36	13.85	18.21	46.00	-27.79	QP	P	
5	428.0192	3.97	17.85	21.82	46.00	-24.18	QP	P	
6 *	526.3967	4.95	19.88	24.83	46.00	-21.17	QP	P	

Note: 1. The low frequency, which started from 9KHz~30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported

2. Measurements were conducted in all three channels (high, middle, low) and all modulation (802.11a, 802.11n(HT20), 802.11n(HT40), 802.11ac(VHT20), 802.11ac(VHT40), 802.11ac(VHT80) and the worst case Mode (Middle channel and 802.11a) was submitted only.

3. Measurement (dBuV) = Reading level + Correction Factor, correction Factor= Antenna Factor + Cable loss – Pre-amplifier.

Modulation Type: Band 1									
11a CH36: 5180MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10360	H	38.36	---	8.02	46.38	---	74	54	-7.62
15540	H	38.48	---	9.87	48.35	---	74	54	-5.65
---	H	---	---	---	---	---	---	---	---
10360	V	37.19	---	8.02	45.21	---	74	54	-8.79
15540	V	38.77	---	9.87	48.64	---	74	54	-5.36
---	V	---	---	---	---	---	---	---	---
11a CH40: 5200MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10400	H	39.35	---	7.97	47.32	---	74	54	-6.68
15600	H	37.89	---	9.83	47.72	---	74	54	-6.28
---	H	---	---	---	---	---	---	---	---
10400	V	40.42	---	7.97	48.39	---	74	54	-5.61
15600	V	37.39	---	9.83	47.22	---	74	54	-6.78
---	V	---	---	---	---	---	---	---	---
11a CH48: 5240MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10480	H	38.35	---	7.97	46.32	---	74	54	-7.68
15720	H	37.92	---	9.83	47.75	---	74	54	-6.25
---	H	---	---	---	---	---	---	---	---
10480	V	38.43	---	7.97	46.40	---	74	54	-7.60
15720	V	36.69	---	9.83	46.52	---	74	54	-7.48
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH36: 5180MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10360	H	41.89	---	8.02	49.91	---	74	54	-4.09
15540	H	37.66	---	9.87	47.53	---	74	54	-6.47
---	H	---	---	---	---	---	---	---	---
10360	V	41.63	---	8.02	49.65	---	74	54	-4.35
15540	V	37.82	---	9.87	47.69	---	74	54	-6.31
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH40: 5200MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10400	H	40.25	---	7.97	48.22	---	74	54	-5.78
15600	H	38.38	---	9.83	48.21	---	74	54	-5.79
---	H	---	---	---	---	---	---	---	---
10400	V	40.94	---	7.97	48.91	---	74	54	-5.09
15600	V	37.33	---	9.83	47.16	---	74	54	-6.84
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH48: 5240MHz									

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10480	H	41.32	---	7.97	49.29	---	74	54	-4.71
15720	H	39.08	---	9.83	48.91	---	74	54	-5.09
---	H	---	---	---	---	---	---	---	---
10480	V	40.12	---	7.97	48.09	---	74	54	-5.91
15720	V	38.83	---	9.83	48.66	---	74	54	-5.34
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH38: 5190MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10380	H	39.91	---	7.75	47.66	---	74	54	-6.34
15570	H	37.77	---	9.87	47.64	---	74	54	-6.36
---	H	---	---	---	---	---	---	---	---
10380	V	40.53	---	7.75	48.28	---	74	54	-5.72
15570	V	38.46	---	9.87	48.33	---	74	54	-5.67
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH46: 5230MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10460	H	41.16	---	7.97	49.13	---	74	54	-4.87
15690	H	37.70	---	9.83	47.53	---	74	54	-6.47
---	H	---	---	---	---	---	---	---	---
10460	V	41.38	---	7.97	49.35	---	74	54	-4.65
15690	V	38.51	---	9.83	48.34	---	74	54	-5.66
---	V	---	---	---	---	---	---	---	---

11ac(VHT20) CH36: 5180MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10360	H	40.96	---	8.02	48.98	---	74	54	-5.02
15540	H	37.32	---	9.87	47.19	---	74	54	-6.81
---	H	---	---	---	---	---	---	---	---
10360	V	38.79	---	8.02	46.81	---	74	54	-7.19
15540	V	38.85	---	9.87	48.72	---	74	54	-5.28
---	V	---	---	---	---	---	---	---	---

11ac(VHT20) CH40: 5200MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10400	H	40.26	---	7.97	48.23	---	74	54	-5.77
15600	H	38.71	---	9.83	48.54	---	74	54	-5.46
---	H	---	---	---	---	---	---	---	---
10400	V	39.30	---	7.97	47.27	---	74	54	-6.73
15600	V	37.65	---	9.83	47.48	---	74	54	-6.52
---	V	---	---	---	---	---	---	---	---

11ac(VHT20) CH48: 5240MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10480	H	36.95	---	7.97	44.92	---	74	54	-9.08
15720	H	37.24	---	9.83	47.07	---	74	54	-6.93
---	H	---	---	---	---	---	---	---	---
10480	V	39.19	---	7.97	47.16	---	74	54	-6.84
15720	V	38.65	---	9.83	48.48	---	74	54	-5.52
---	V	---	---	---	---	---	---	---	---
11ac(VHT40) CH38: 5190MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10380	H	40.59	---	7.75	48.34	---	74	54	-5.66
15570	H	38.47	---	9.87	48.34	---	74	54	-5.66
---	H	---	---	---	---	---	---	---	---
10380	V	38.20	---	7.75	45.95	---	74	54	-8.05
15570	V	38.89	---	9.87	48.76	---	74	54	-5.24
---	V	---	---	---	---	---	---	---	---
11ac(VHT40) CH46: 5230MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10460	H	38.98	---	7.97	46.95	---	74	54	-7.05
15690	H	38.70	---	9.83	48.53	---	74	54	-5.47
---	H	---	---	---	---	---	---	---	---
10460	V	39.15	---	7.97	47.12	---	74	54	-6.88
15690	V	37.94	---	9.83	47.77	---	74	54	-6.23
---	V	---	---	---	---	---	---	---	---
11ac(VHT80) CH42:5210									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10420	H	40.78	---	7.96	48.74	---	74	54	-5.26
15630	H	39.55	---	9.84	49.39	---	74	54	-4.61
---	H	---	---	---	---	---	---	---	---
10420	V	42.10	---	7.96	50.06	---	74	54	-3.94
15630	V	38.83	---	9.84	48.67	---	74	54	-5.33
---	V	---	---	---	---	---	---	---	---

Note:

- Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
- Margin (dB) = Emission Level (Peak) (dBμV/m)-Average limit (dBμV/m)
- The emission levels of other frequencies are very lower than the limit and not show in test report.
- Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
- Data of measurement shown "---" in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

Modulation Type: Band 2A									
11a CH52: 5260MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10520	H	37.85	---	7.97	45.82	---	74	54	-8.18
15780	H	36.22	---	9.83	46.05	---	74	54	-7.95
---	H	---	---	---	---	---	---	---	---
10520	V	41.11	---	7.97	49.08	---	74	54	-4.92
15780	V	38.48	---	9.83	48.31	---	74	54	-5.69
---	V	---	---	---	---	---	---	---	---
11a CH56: 5280MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10560	H	38.75	---	7.98	46.73	---	74	54	-7.27
15840	H	38.84	---	9.85	48.69	---	74	54	-5.31
---	H	---	---	---	---	---	---	---	---
10560	V	39.50	---	7.98	47.48	---	74	54	-6.52
15840	V	38.27	---	9.85	48.12	---	74	54	-5.88
---	V	---	---	---	---	---	---	---	---
11a CH64: 5320MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10640	H	39.93	---	7.98	47.91	---	74	54	-6.09
15960	H	37.15	---	9.85	47.00	---	74	54	-7.00
---	H	---	---	---	---	---	---	---	---
10640	V	39.38	---	7.98	47.36	---	74	54	-6.64
15960	V	35.41	---	9.85	45.26	---	74	54	-8.74
---	V	---	---	---	---	---	---	---	---
11n(HT20) C52: 5260MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10520	H	41.17	---	7.97	49.14	---	74	54	-4.86
15780	H	38.20	---	9.83	48.03	---	74	54	-5.97
---	H	---	---	---	---	---	---	---	---
10520	V	37.98	---	7.97	45.95	---	74	54	-8.05
15780	V	35.75	---	9.83	45.58	---	74	54	-8.42
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH58: 5280MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10560	H	38.57	---	7.98	46.55	---	74	54	-7.45
15840	H	38.21	---	9.85	48.06	---	74	54	-5.94
---	H	---	---	---	---	---	---	---	---
10560	V	40.10	---	7.98	48.08	---	74	54	-5.92
15840	V	39.34	---	9.85	49.19	---	74	54	-4.81
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH64: 5320MHz									

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10640	H	37.39	---	7.98	45.37	---	74	54	-8.63
15960	H	35.76	---	9.85	45.61	---	74	54	-8.39
---	H	---	---	---	---	---	---	---	---
10640	V	38.72	---	7.98	46.70	---	74	54	-7.30
15960	V	39.16	---	9.85	49.01	---	74	54	-4.99
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH54: 5270MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10540	H	41.39	---	7.97	49.36	---	74	54	-4.64
15810	H	37.48	---	9.83	47.31	---	74	54	-6.69
---	H	---	---	---	---	---	---	---	---
10540	V	37.85	---	7.97	45.82	---	74	54	-8.18
15810	V	36.29	---	9.83	46.12	---	74	54	-7.88
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH62: 5310MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10620	H	40.73	---	7.98	48.71	---	74	54	-5.29
15930	H	38.41	---	9.85	48.26	---	74	54	-5.74
---	H	---	---	---	---	---	---	---	---
10620	V	38.15	---	7.98	46.13	---	74	54	-7.87
15930	V	36.26	---	9.85	46.11	---	74	54	-7.89
---	V	---	---	---	---	---	---	---	---

11ac(VHT20) C52: 5260MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10520	H	39.99	---	7.97	47.96	---	74	54	-6.04
15780	H	39.05	---	9.83	48.88	---	74	54	-5.12
---	H	---	---	---	---	---	---	---	---
10520	V	39.65	---	7.97	47.62	---	74	54	-6.38
15780	V	36.40	---	9.83	46.23	---	74	54	-7.77
---	V	---	---	---	---	---	---	---	---

11ac(VHT20) CH56: 5280MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10560	H	38.20	---	7.98	46.18	---	74	54	-7.82
15840	H	36.86	---	9.85	46.71	---	74	54	-7.29
---	H	---	---	---	---	---	---	---	---
10560	V	37.84	---	7.98	45.82	---	74	54	-8.18
15840	V	35.61	---	9.85	45.46	---	74	54	-8.54
---	V	---	---	---	---	---	---	---	---

11ac(VHT20) CH64: 5320MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10640	H	40.75	---	7.98	48.73	---	74	54	-5.27
15960	H	39.10	---	9.85	48.95	---	74	54	-5.05
---	H	---	---	---	---	---	---	---	---
10640	V	40.31	---	7.98	48.29	---	74	54	-5.71
15960	V	35.84	---	9.85	45.69	---	74	54	-8.31
---	V	---	---	---	---	---	---	---	---
11ac(VHT40) CH54: 5270MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10540	H	39.99	---	7.97	47.96	---	74	54	-6.04
15810	H	37.65	---	9.83	47.48	---	74	54	-6.52
---	H	---	---	---	---	---	---	---	---
10540	V	39.26	---	7.97	47.23	---	74	54	-6.77
15810	V	37.04	---	9.83	46.87	---	74	54	-7.13
---	V	---	---	---	---	---	---	---	---
11ac(VHT40) CH60: 5310MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10620	H	38.79	---	7.98	46.77	---	74	54	-7.23
15930	H	36.52	---	9.85	46.37	---	74	54	-7.63
---	H	---	---	---	---	---	---	---	---
10620	V	38.86	---	7.98	46.84	---	74	54	-7.16
15930	V	36.55	---	9.85	46.40	---	74	54	-7.60
---	V	---	---	---	---	---	---	---	---
11ac(VHT80) C58:5290MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10580	H	41.04	---	7.98	49.02	---	74	54	-4.98
15870	H	38.78	---	9.85	48.63	---	74	54	-5.37
---	H	---	---	---	---	---	---	---	---
10580	V	40.09	---	7.98	48.07	---	74	54	-5.93
15870	V	37.33	---	9.85	47.18	---	74	54	-6.82
---	V	---	---	---	---	---	---	---	---

Note:

1. Emission Level=Peak Reading + Correction Factor; Correction Factor=Antenna Factor + Cable loss – Pre-amplifier
2. Margin (dB) = Emission Level (Peak) (dBμV/m)-Average limit (dBμV/m)
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
5. Data of measurement shown “---“in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

Modulation Type: Band 2C									
11a CH100: 5500MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11000	H	39.11	---	8.03	47.14	---	74	54	-6.86
16500	H	39.43	---	9.76	49.19	---	74	54	-4.81
---	H	---	---	---	---	---	---	---	---
11000	V	39.73	---	8.03	47.76	---	74	54	-6.24
16500	V	39.96	---	9.76	49.72	---	74	54	-4.28
---	V	---	---	---	---	---	---	---	---
11a CH120: 5600MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11200	H	39.91	---	8.04	47.95	---	74	54	-6.05
16800	H	40.24	---	9.74	49.98	---	74	54	-4.02
---	H	---	---	---	---	---	---	---	---
11200	V	38.08	---	8.04	46.12	---	74	54	-7.88
16800	V	39.93	---	9.74	49.67	---	74	54	-4.33
---	V	---	---	---	---	---	---	---	---
11a CH140: 5700MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11400	H	37.96	---	8.05	46.01	---	74	54	-7.99
17100	H	39.35	---	9.72	49.07	---	74	54	-4.93
---	H	---	---	---	---	---	---	---	---
11400	V	37.88	---	8.05	45.93	---	74	54	-8.07
17100	V	40.50	---	9.72	50.22	---	74	54	-3.78
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH100: 5500MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11000	H	40.22	---	8.03	48.25	---	74	54	-5.75
16500	H	38.69	---	9.76	48.45	---	74	54	-5.55
---	H	---	---	---	---	---	---	---	---
11000	V	38.15	---	8.03	46.18	---	74	54	-7.82
16500	V	36.04	---	9.76	45.80	---	74	54	-8.20
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH120: 5600MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11200	H	39.07	---	8.04	47.11	---	74	54	-6.89
16800	H	39.63	---	9.74	49.37	---	74	54	-4.63
---	H	---	---	---	---	---	---	---	---
11200	V	37.51	---	8.04	45.55	---	74	54	-8.45
16800	V	38.77	---	9.74	48.51	---	74	54	-5.49
---	V	---	---	---	---	---	---	---	---
11n(HT20) CH140: 5700MHz									

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11400	H	38.66	---	8.05	46.71	---	74	54	-7.29
17100	H	40.10	---	9.72	49.82	---	74	54	-4.18
---	H	---	---	---	---	---	---	---	---
11400	V	37.88	---	8.05	45.93	---	74	54	-8.07
17100	V	39.75	---	9.72	49.47	---	74	54	-4.53
---	V	---	---	---	---	---	---	---	---

11n(HT40)CH102: 5510MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11020	H	38.76	---	8.03	46.79	---	74	54	-7.21
16530	H	39.01	---	9.76	48.77	---	74	54	-5.23
---	H	---	---	---	---	---	---	---	---
11020	V	38.53	---	8.03	46.56	---	74	54	-7.44
16530	V	38.12	---	9.76	47.88	---	74	54	-6.12
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH118: 5590MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11180	H	39.35	---	8.04	47.39	---	74	54	-6.61
16770	H	38.18	---	9.74	47.92	---	74	54	-6.08
---	H	---	---	---	---	---	---	---	---
11180	V	37.77	---	8.04	45.81	---	74	54	-8.19
16770	V	36.91	---	9.74	46.65	---	74	54	-7.35
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH134: 5670MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11340	H	40.01	---	8.05	48.06	---	74	54	-5.94
17010	H	38.64	---	9.72	48.36	---	74	54	-5.64
---	H	---	---	---	---	---	---	---	---
11340	V	38.36	---	8.05	46.41	---	74	54	-7.59
17010	V	37.42	---	9.72	47.14	---	74	54	-6.86
---	V	---	---	---	---	---	---	---	---

11ac(VHT20) CH100: 5500MHz

Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11000	H	37.82	---	8.03	45.85	---	74	54	-8.15
16500	H	39.05	---	9.76	48.81	---	74	54	-5.19
---	H	---	---	---	---	---	---	---	---
11000	V	38.72	---	8.03	46.75	---	74	54	-7.25
16500	V	39.10	---	9.76	48.86	---	74	54	-5.14
---	V	---	---	---	---	---	---	---	---

11ac(VHT20) CH120: 5600MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11200	H	39.82	---	8.04	47.86	---	74	54	-6.14
16800	H	39.14	---	9.74	48.88	---	74	54	-5.12
---	H	---	---	---	---	---	---	---	---
11200	V	38.21	---	8.04	46.25	---	74	54	-7.75
16800	V	39.45	---	9.74	49.19	---	74	54	-4.81
---	V	---	---	---	---	---	---	---	---
11ac(VHT20) CH140: 5700MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11400	H	38.58	---	8.05	46.63	---	74	54	-7.37
17100	H	38.39	---	9.72	48.11	---	74	54	-5.89
---	H	---	---	---	---	---	---	---	---
11400	V	40.17	---	8.05	48.22	---	74	54	-5.78
17100	V	38.82	---	9.72	48.54	---	74	54	-5.46
---	V	---	---	---	---	---	---	---	---
11ac(VHT40) CH102: 5510MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11020	H	37.98	---	8.03	46.01	---	74	54	-7.99
16530	H	39.26	---	9.76	49.02	---	74	54	-4.98
---	H	---	---	---	---	---	---	---	---
11020	V	40.47	---	8.03	48.50	---	74	54	-5.50
16530	V	37.89	---	9.76	47.65	---	74	54	-6.35
---	V	---	---	---	---	---	---	---	---
11ac(VHT40) CH118:5590									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11180	H	38.72	---	8.04	46.76	---	74	54	-7.24
16770	H	36.66	---	9.74	46.40	---	74	54	-7.60
---	H	---	---	---	---	---	---	---	---
11180	V	37.93	---	8.04	45.97	---	74	54	-8.03
16770	V	36.88	---	9.74	46.62	---	74	54	-7.38
---	V	---	---	---	---	---	---	---	---

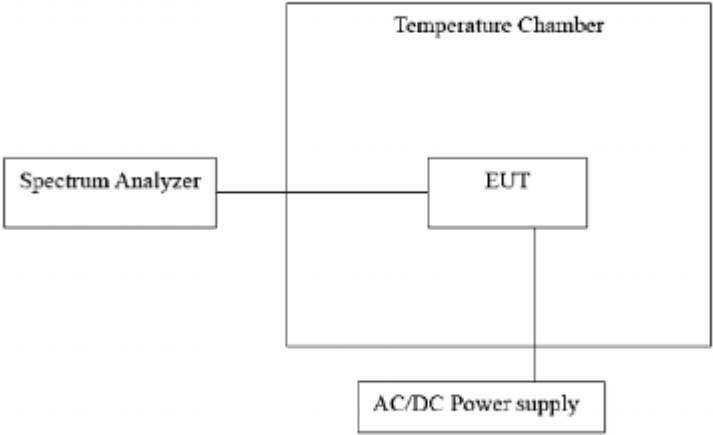
11ac(VHT40) CH134: 5670MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11340	H	36.50	---	8.05	44.55	---	74	54	-9.45
17010	H	35.74	---	9.72	45.46	---	74	54	-8.54
---	H	---	---	---	---	---	---	---	---
11340	V	37.43	---	8.05	45.48	---	74	54	-8.52
17010	V	38.86	---	9.72	48.58	---	74	54	-5.42
---	V	---	---	---	---	---	---	---	---
11ac(VHT80) CH106: 5530MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11060	H	38.91	---	8.03	46.94	---	74	54	-7.06
16590	H	40.56	---	9.75	50.31	---	74	54	-3.69
---	H	---	---	---	---	---	---	---	---
11060	V	39.49	---	8.03	47.52	---	74	54	-6.48
16590	V	35.86	---	9.75	45.61	---	74	54	-8.39
---	V	---	---	---	---	---	---	---	---
11a(HT80) CH122: 5610MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBuV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11220	H	41.16	---	8.05	49.21	---	74	54	-4.79
16830	H	38.22	---	9.72	47.94	---	74	54	-6.06
---	H	---	---	---	---	---	---	---	---
11220	V	39.27	---	8.05	47.32	---	74	54	-6.68
16830	V	39.59	---	9.72	49.31	---	74	54	-4.69
---	V	---	---	---	---	---	---	---	---

Note:

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
2. Margin (dB) = Emission Level (Peak) (dBμV/m)-Average limit (dBμV/m)
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency. The highest test frequency is 40GHz.
5. Data of measurement shown “---“in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

5.9. Frequency Stability Measurement

5.9.1. Test Specification

Test Requirement:	FCC Part15 Section 15.407(g) &Part2 J Section 2.1055
Test Method:	ANSI C63.10: 2013
Limit:	The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 45 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.
Test Setup:	 <pre> graph LR SA[Spectrum Analyzer] --- EUT[EUT] subgraph TC [Temperature Chamber] EUT end EUT --- P[AC/DC Power supply] </pre>
Test Procedure:	The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage. b. Turn the EUT on and couple its output to a spectrum analyzer. c. Turn the EUT off and set the chamber to the highest temperature specified. d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature. f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.
Test Result:	PASS
Remark:	Pre-scan was performed at all models(11a,11n,11ac), the worst case (11ac) was found and test data was shown in this report.

Test plots as follows:

Test mode:		802.11ac(HT20)	Frequency(MHz):	5180
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.7V	5180.0091	9100	PASS
35		5180.0065	6500	PASS
25		5179.9872	-12800	PASS
15		5179.9986	-1400	PASS
5		5180.0037	3700	PASS
0		5180.0044	4400	PASS
20	3.6V	5179.9833	-16700	PASS
	3.7V	5180.0039	3900	PASS
	4.2V	5179.9828	-17200	PASS

Test mode:		802.11ac(HT20)	Frequency(MHz):	5200
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.7V	5200.0095	9500	PASS
35		5200.0081	8100	PASS
25		5200.0074	7400	PASS
15		5200.0046	4600	PASS
5		5199.9982	-1800	PASS
0		5199.9877	-12300	PASS
20	3.6V	5199.9960	-4000	PASS
	3.7V	5200.0038	3800	PASS
	4.2V	5200.0052	5200	PASS

Test mode:		802.11ac(HT20)	Frequency(MHz):	5240
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.7V	5240.0049	4900	PASS
35		5240.0021	2100	PASS
25		5240.0026	2600	PASS
15		5239.9994	-600	PASS
5		5239.9982	-1800	PASS
0		5239.9975	-2500	PASS
20	3.6V	5240.0033	3300	PASS
	3.7V	5240.0017	1700	PASS
	4.2V	5239.9988	-1200	PASS

Test mode:		802.11ac(HT40)	Frequency(MHz):	5190
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.7V	5190.0123	12300	PASS
35		5190.0117	11700	PASS
25		5190.0104	10400	PASS
15		5190.0036	3600	PASS
5		5190.0061	6100	PASS
0		5190.0075	7500	PASS
20	3.6V	5189.9912	-8800	PASS
	3.7V	5189.9978	-2200	PASS
	4.2V	5190.0049	4900	PASS

Test mode:		802.11ac(HT40)	Frequency(MHz):	5230
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.7V	5230.0117	11700	PASS
35		5230.0121	12100	PASS
25		5230.0094	9400	PASS
15		5229.9986	-1400	PASS
5		5229.9982	-1800	PASS
0		5230.0054	5400	PASS
20	3.6V	5230.0048	4800	PASS
	3.7V	5230.0023	2300	PASS
	4.2V	5229.9979	-2100	PASS

Test mode:		802.11ac(VHT80)	Frequency(MHz):	5210	
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result	
45	3.7V	5209.9807	-19300	PASS	
35		5209.9844	-15600	PASS	
25		5210.0047	4700	PASS	
15		5210.0033	3300	PASS	
5		5210.0026	2600	PASS	
0		5210.0061	6100	PASS	
20	3.6V	5210.0058	5800	PASS	
	3.7V	5209.9989	-1100	PASS	
	4.2V	5210.0080	8000	PASS	

Appendix A: Test Result of Conducted Test

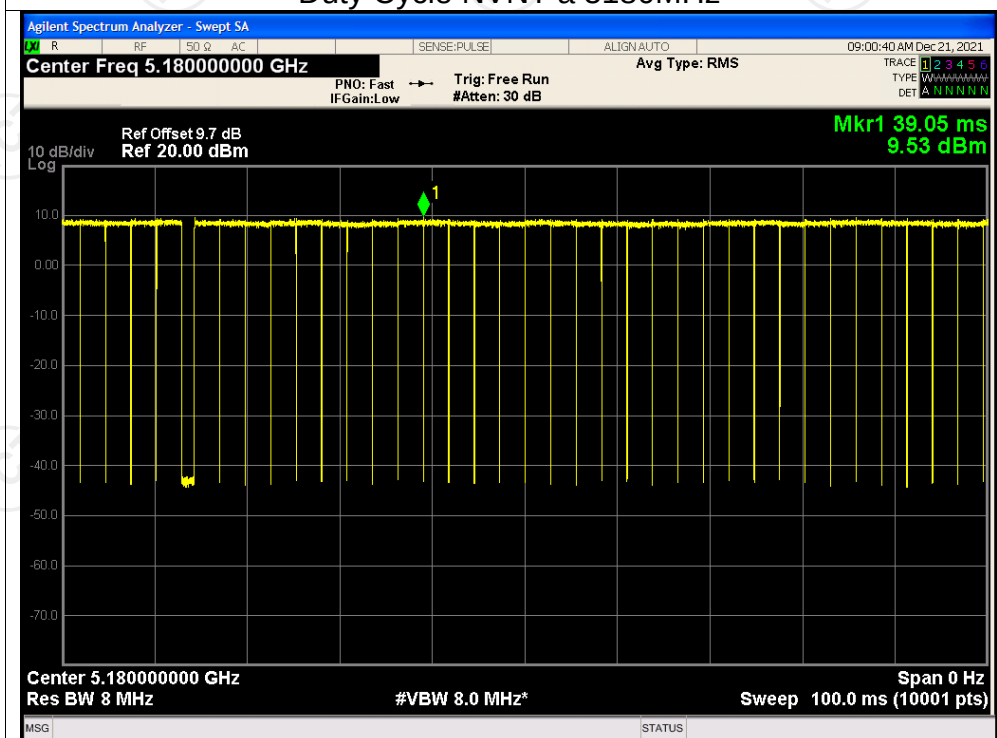
Duty Cycle

Condition	Mode	Frequency (MHz)	Duty Cycle (%)
NVNT	a	5180	98.75
NVNT	a	5200	99.08
NVNT	a	5240	99.11
NVNT	ac20	5180	99.03
NVNT	ac20	5200	98.84
NVNT	ac20	5240	99.03
NVNT	ac40	5190	98.13
NVNT	ac40	5230	98.12
NVNT	ac80	5210	98.22
NVNT	n20	5180	99.03
NVNT	n20	5200	99.02
NVNT	n20	5240	99.03
NVNT	n40	5190	98.13
NVNT	n40	5230	98.02
NVNT	a	5260	99.09
NVNT	a	5280	99.10
NVNT	a	5320	99.03
NVNT	ac20	5260	99.03
NVNT	ac20	5280	99.02
NVNT	ac20	5320	98.91
NVNT	ac40	5270	98.80
NVNT	ac40	5310	98.76
NVNT	ac80	5290	98.87
NVNT	n20	5260	99.02
NVNT	n20	5280	98.98
NVNT	n20	5320	99.02
NVNT	n40	5270	98.80
NVNT	n40	5310	98.79
NVNT	a	5500	99.09
NVNT	a	5600	99.08
NVNT	a	5700	99.02
NVNT	ac20	5500	98.97
NVNT	ac20	5600	98.92
NVNT	ac20	5700	99.02
NVNT	ac40	5510	98.78
NVNT	ac40	5590	98.70
NVNT	ac40	5670	98.70
NVNT	ac80	5530	98.88
NVNT	ac80	5610	98.86
NVNT	n20	5500	99.01
NVNT	n20	5600	99.02
NVNT	n20	5700	99.02
NVNT	n40	5510	98.80
NVNT	n40	5590	98.80

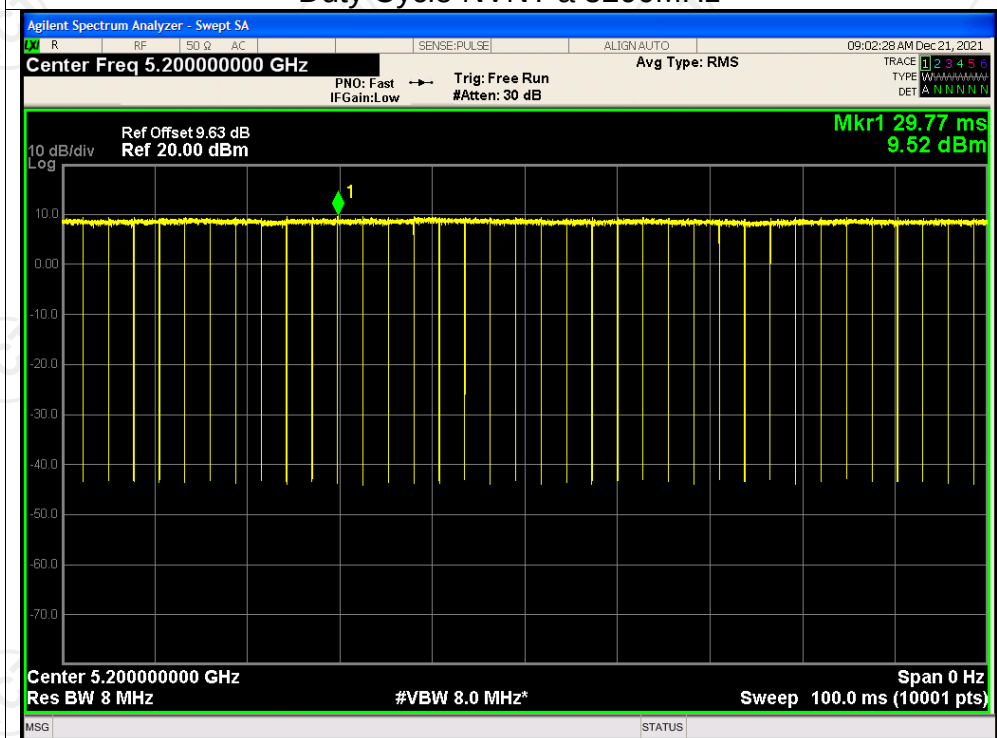
NVNT	n40	5670	98.80
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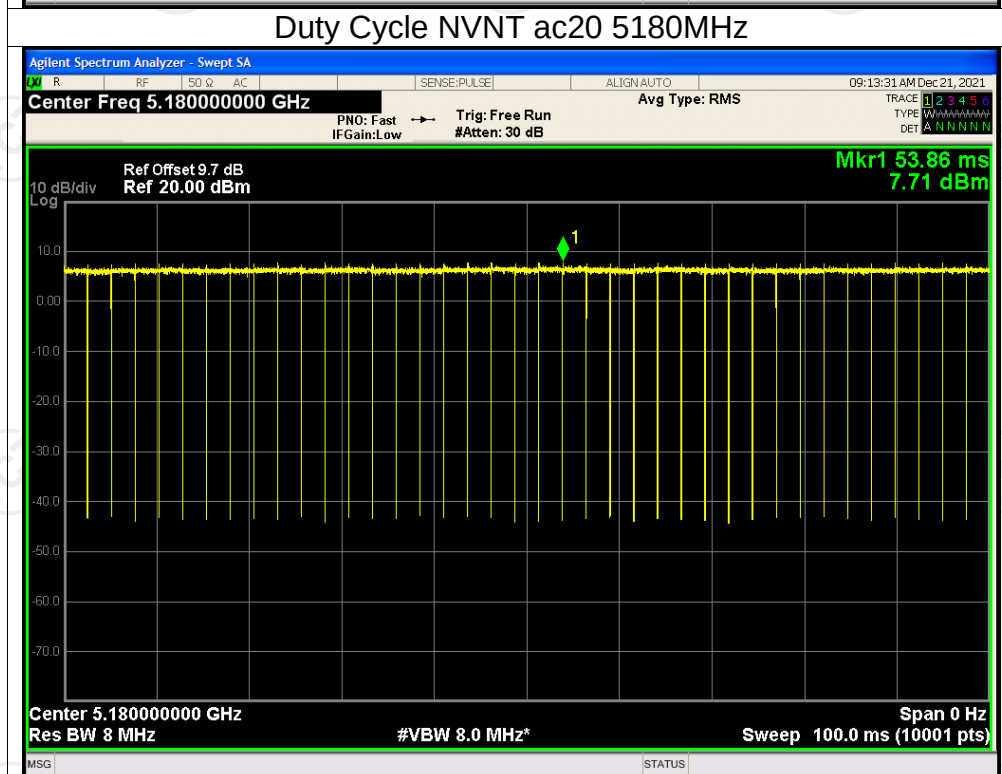
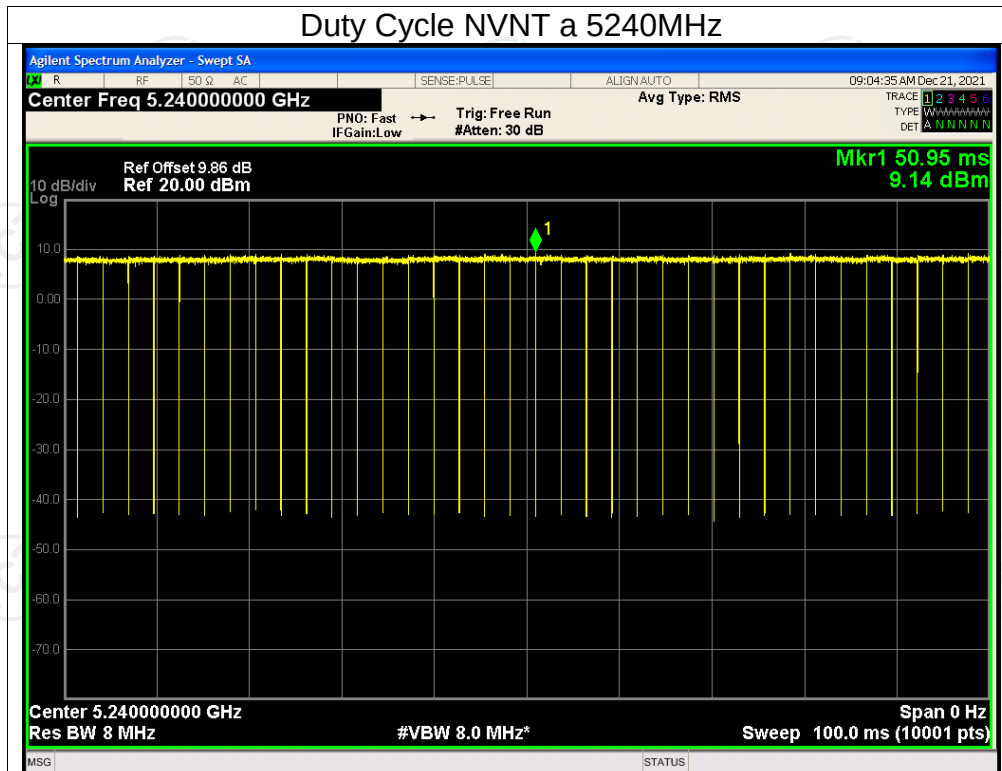
Test Graphs

Duty Cycle NVNT a 5180MHz

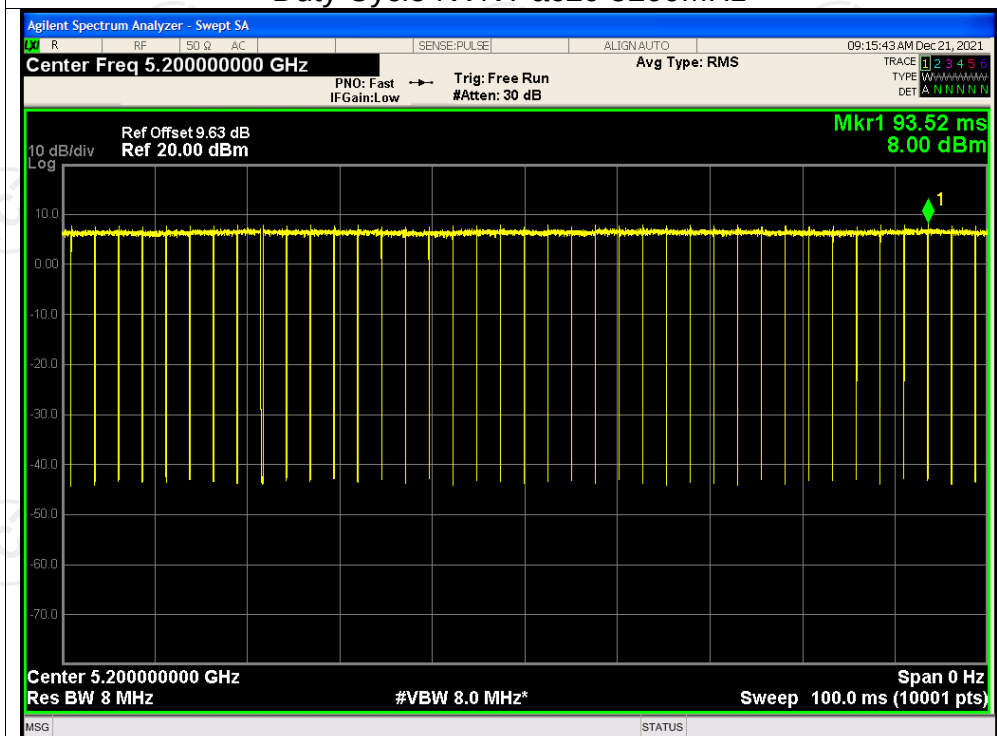


Duty Cycle NVNT a 5200MHz

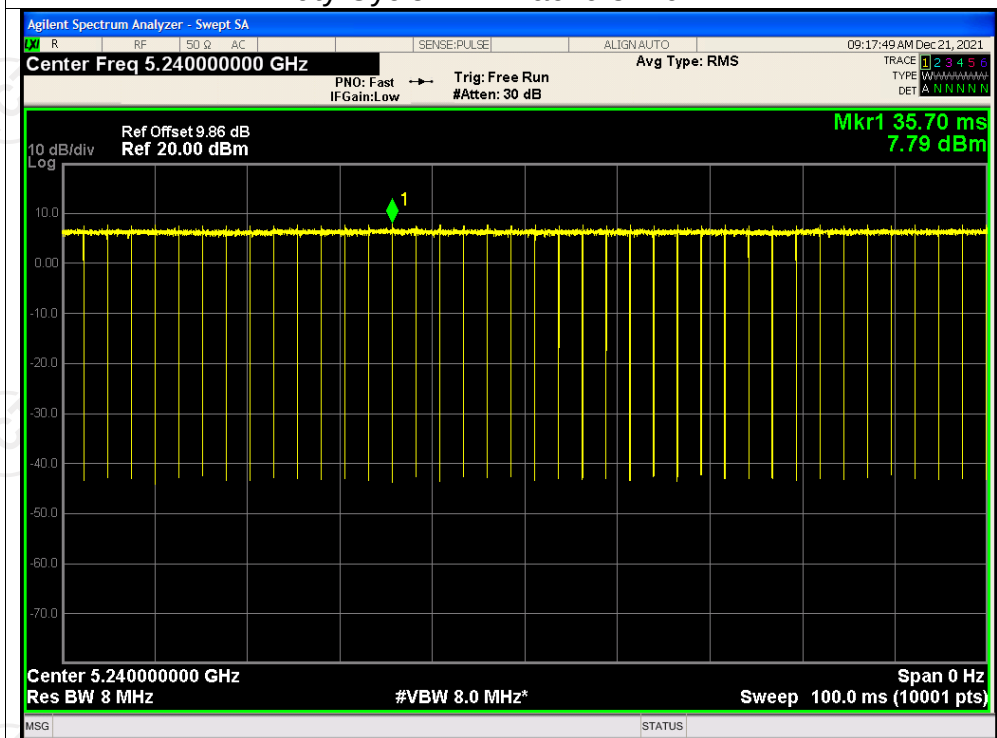




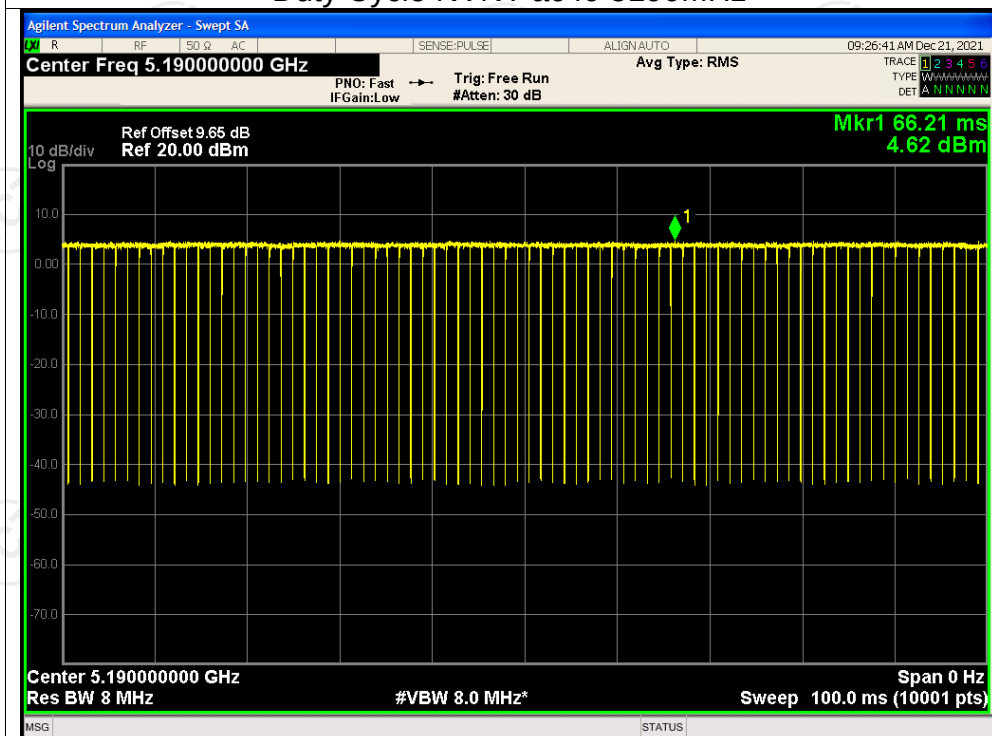
Duty Cycle NVNT ac20 5200MHz



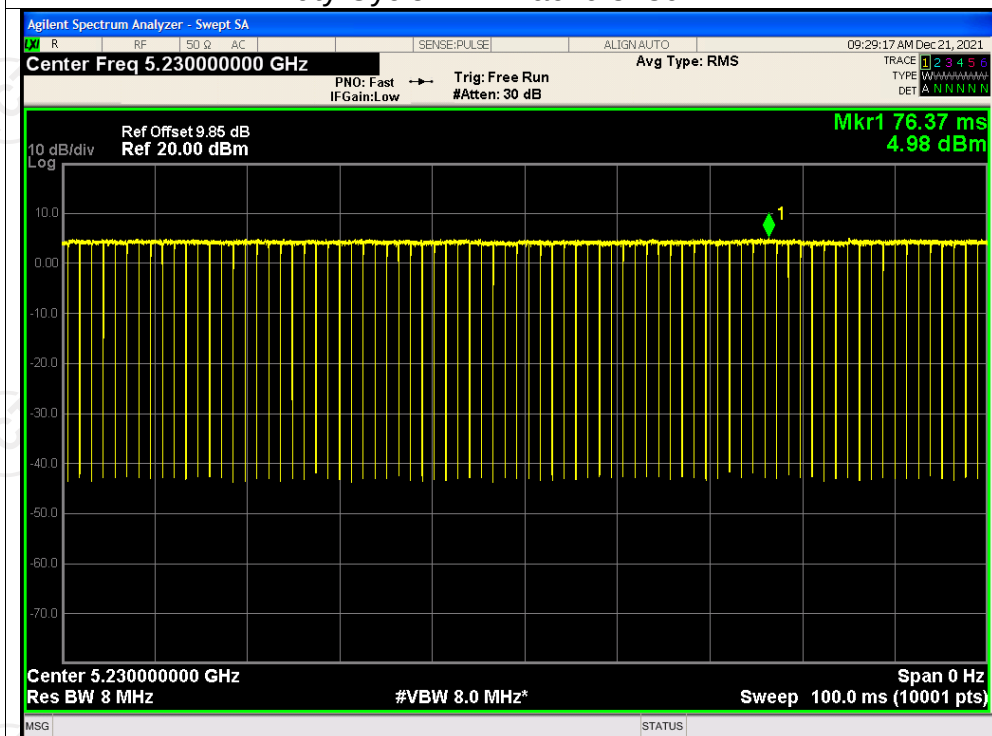
Duty Cycle NVNT ac20 5240MHz



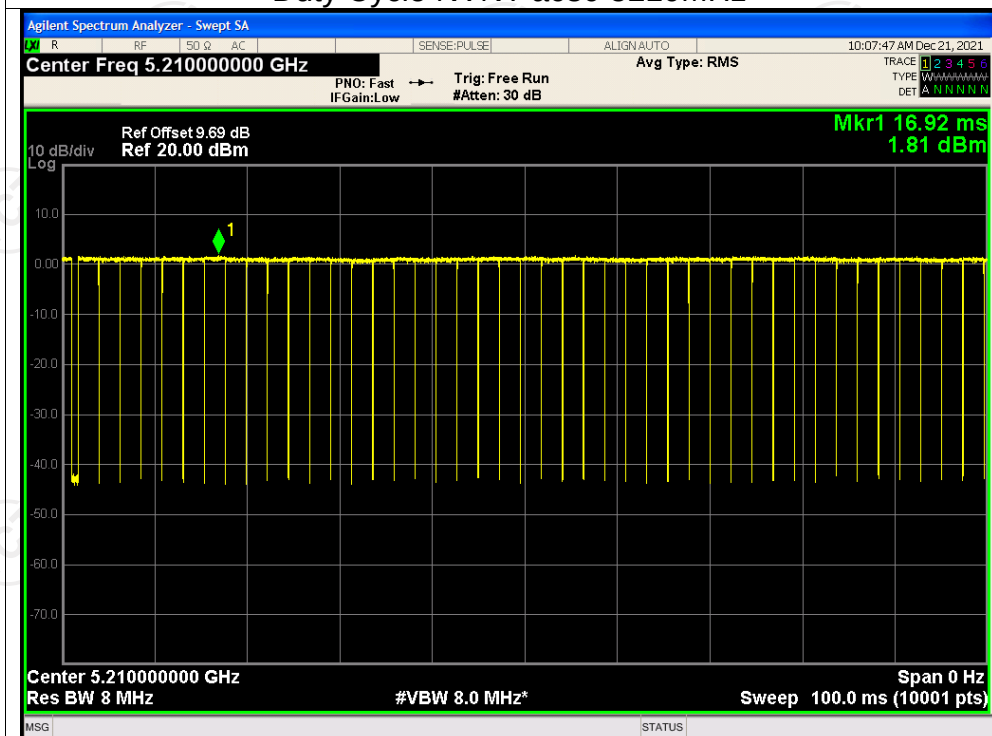
Duty Cycle NVNT ac40 5190MHz



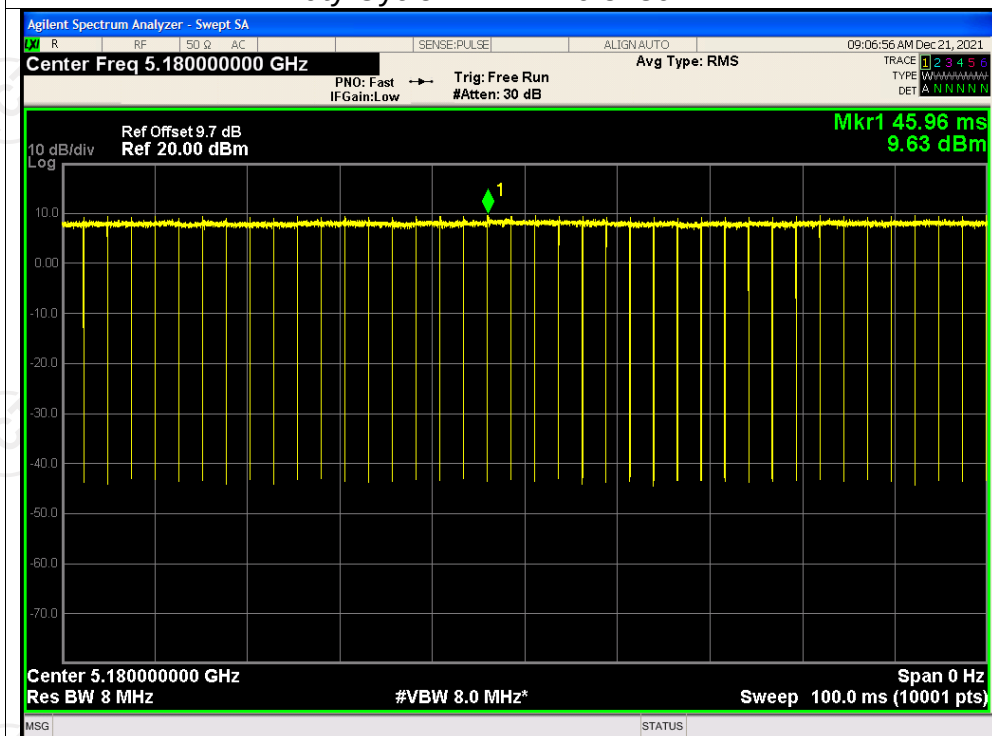
Duty Cycle NVNT ac40 5230MHz



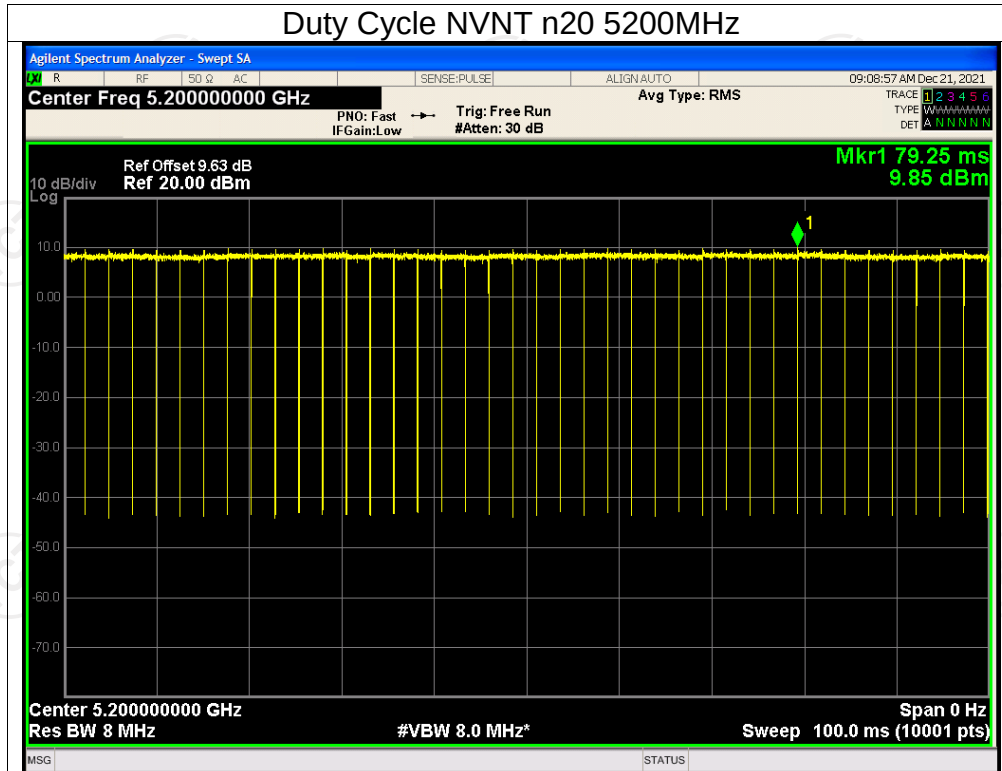
Duty Cycle NVNT ac80 5210MHz



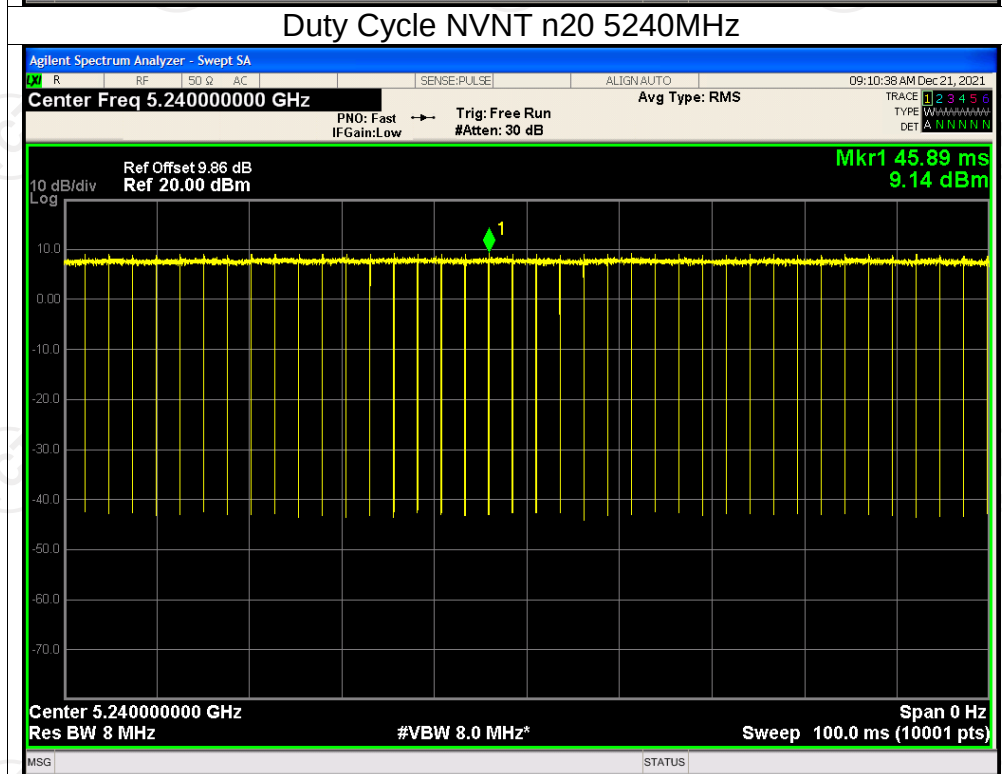
Duty Cycle NVNT n20 5180MHz



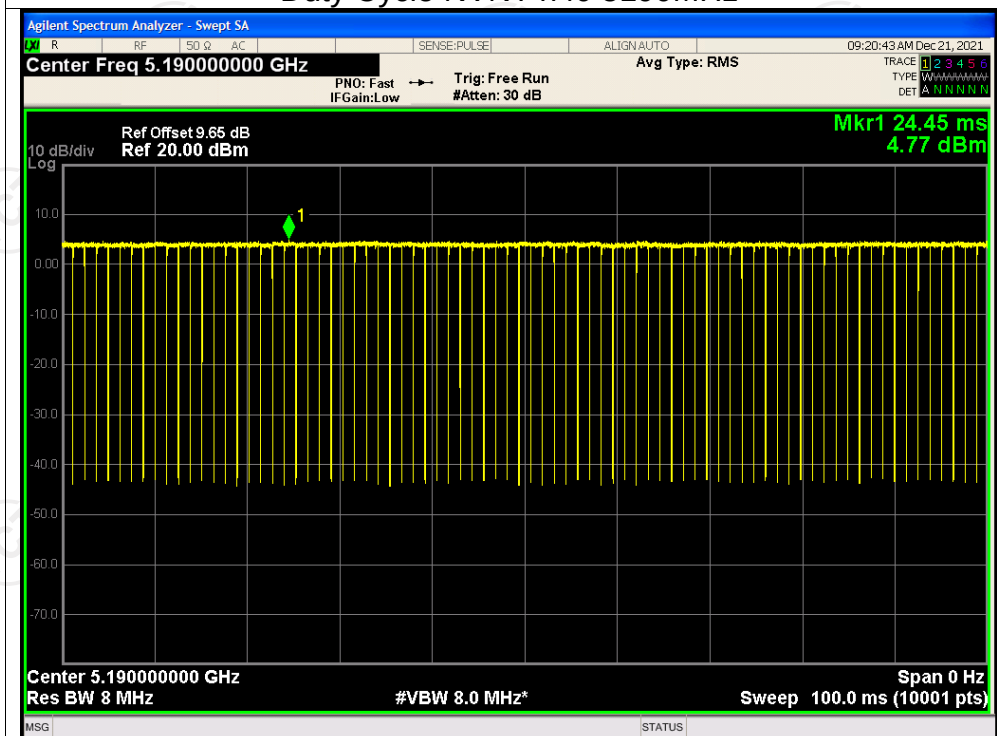
Duty Cycle NVNT n20 5200MHz



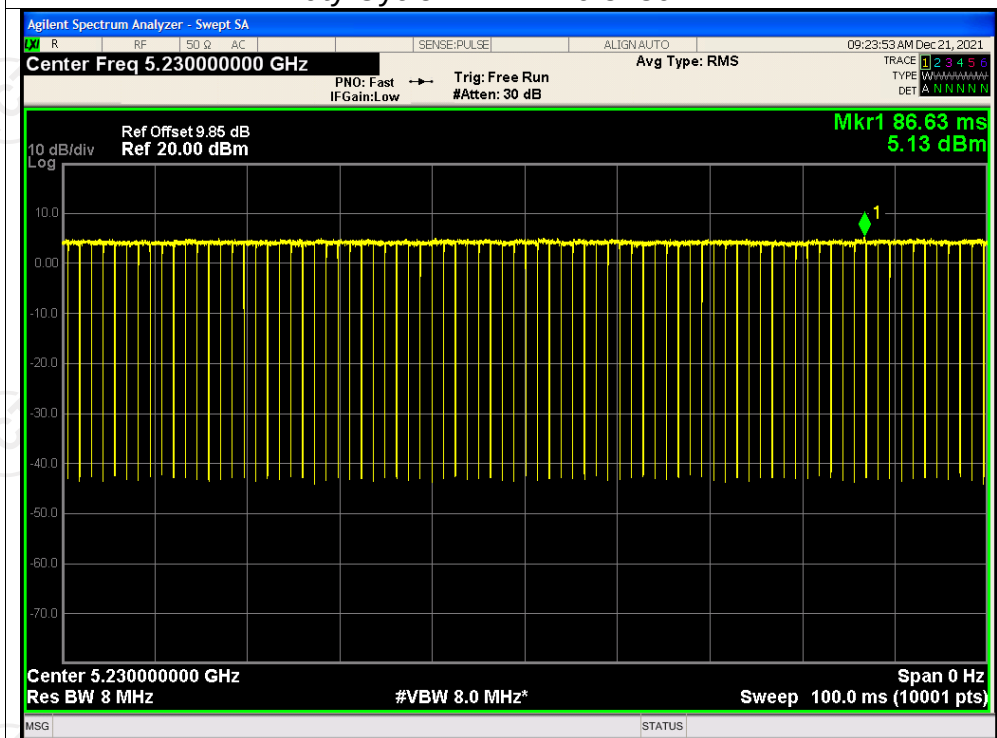
Duty Cycle NVNT n20 5240MHz



Duty Cycle NVNT n40 5190MHz

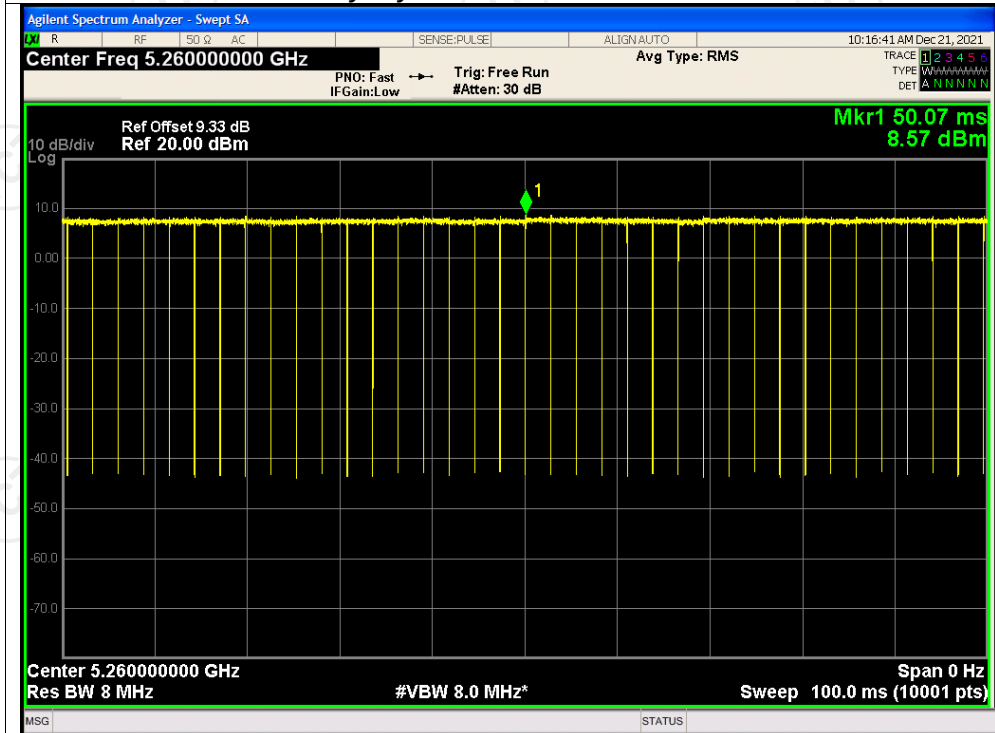


Duty Cycle NVNT n40 5230MHz

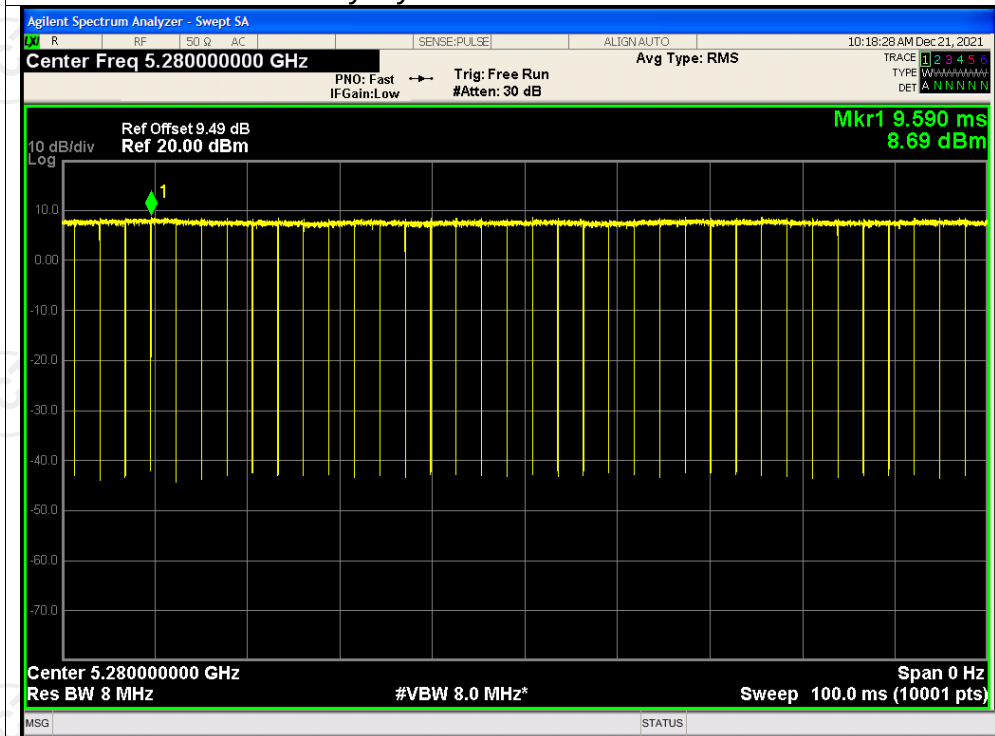


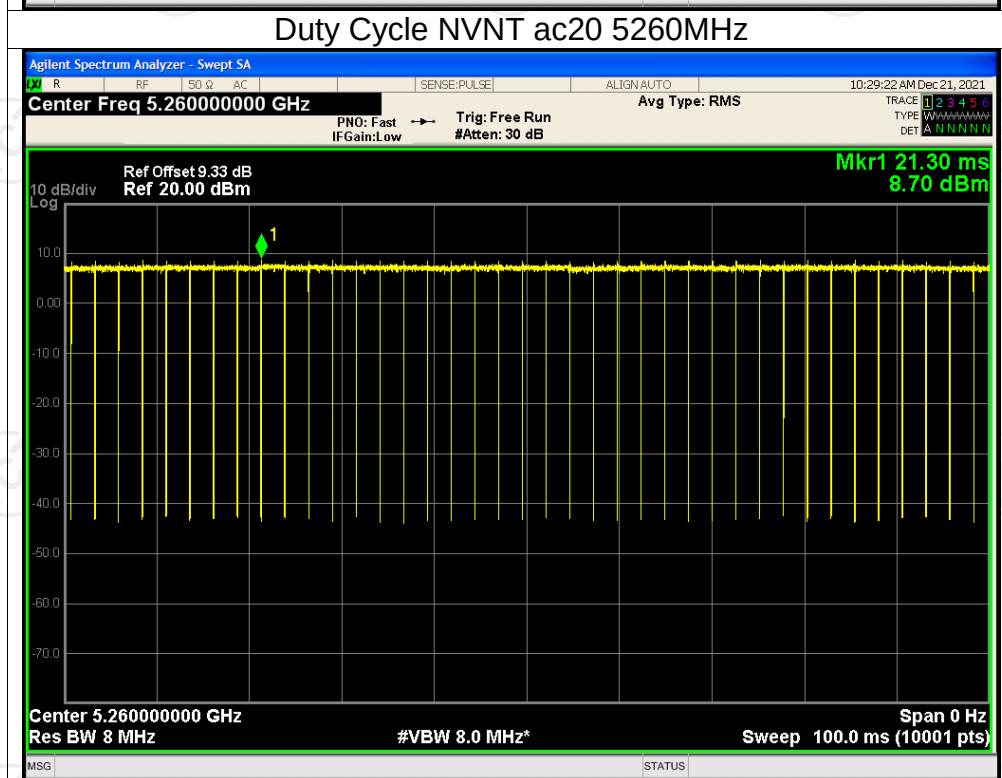
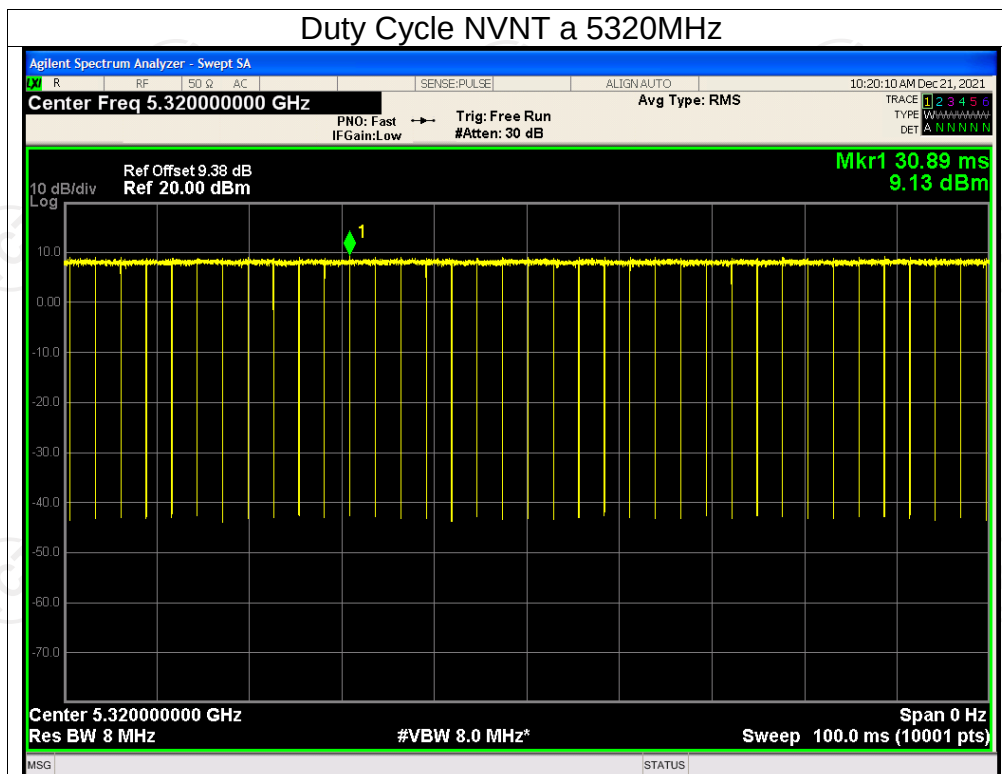
Test Graphs

Duty Cycle NVNT a 5260MHz

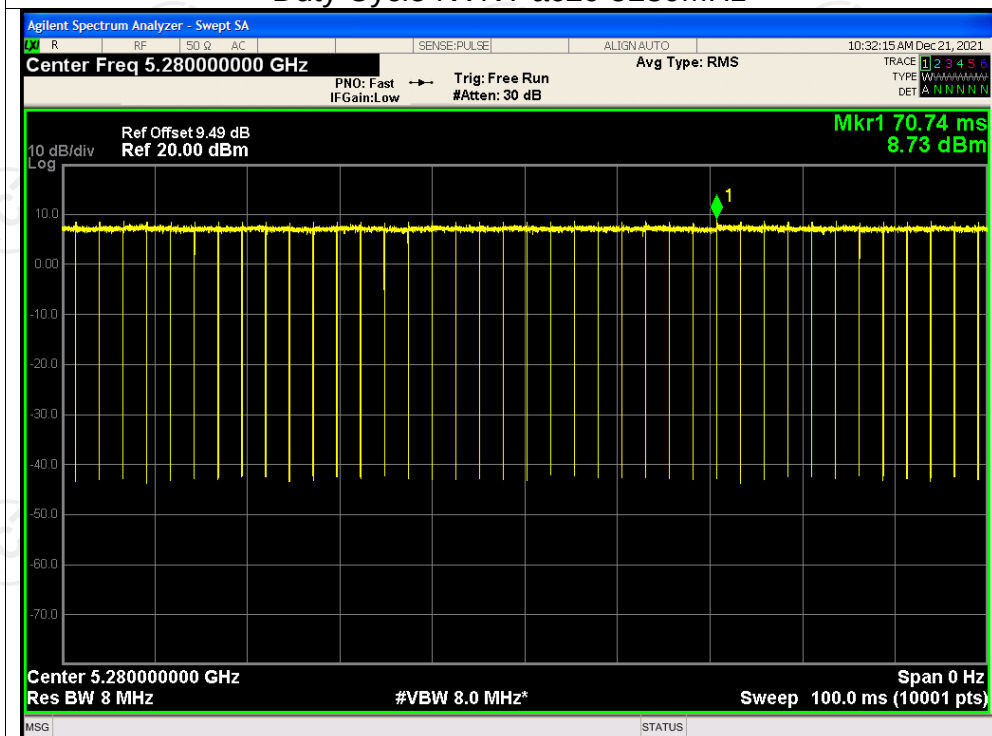


Duty Cycle NVNT a 5280MHz

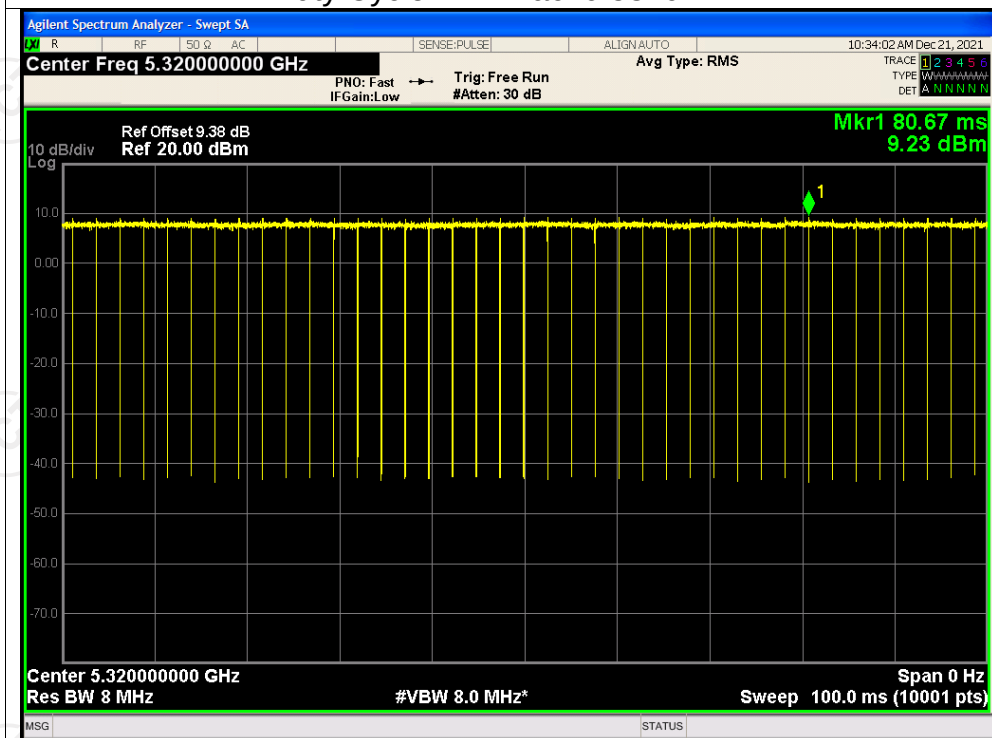




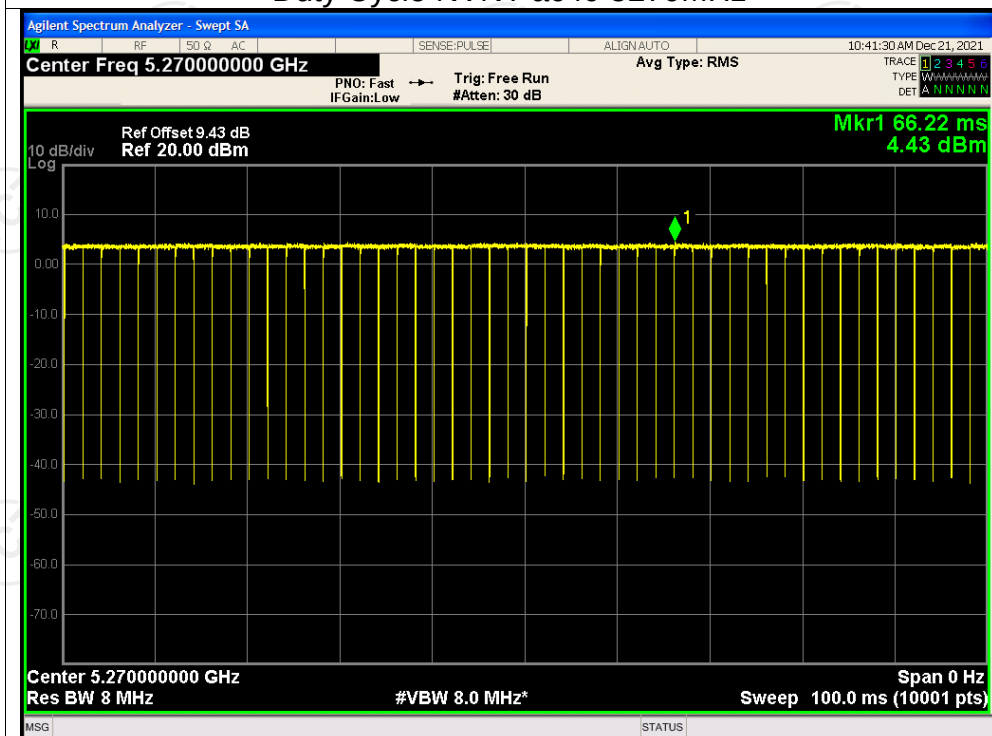
Duty Cycle NVNT ac20 5280MHz



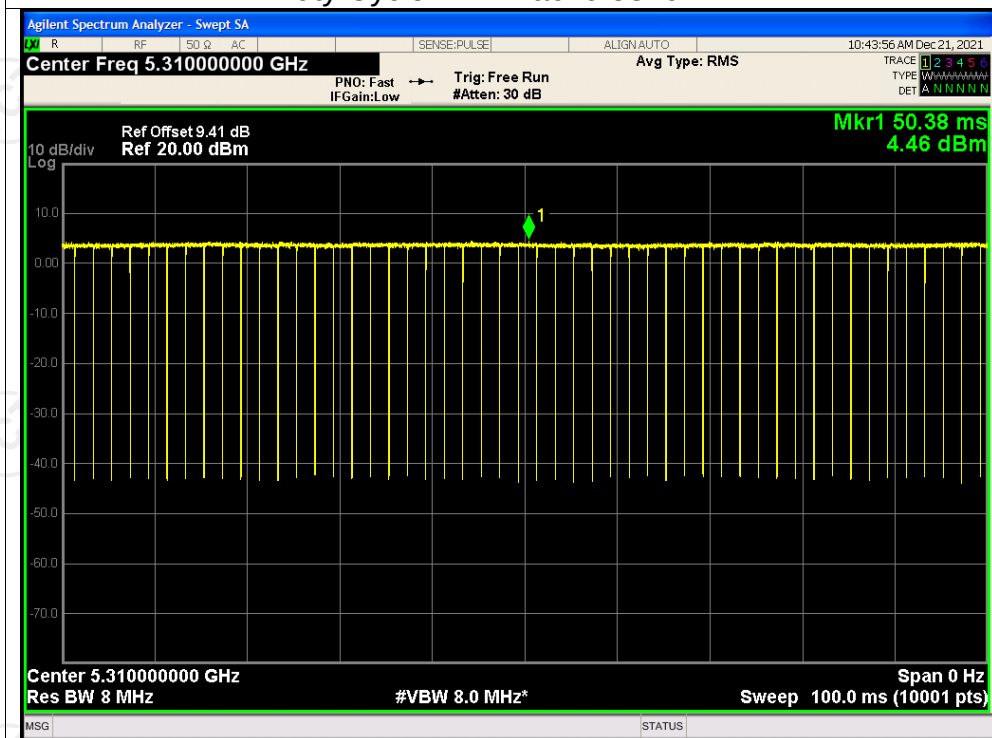
Duty Cycle NVNT ac20 5320MHz



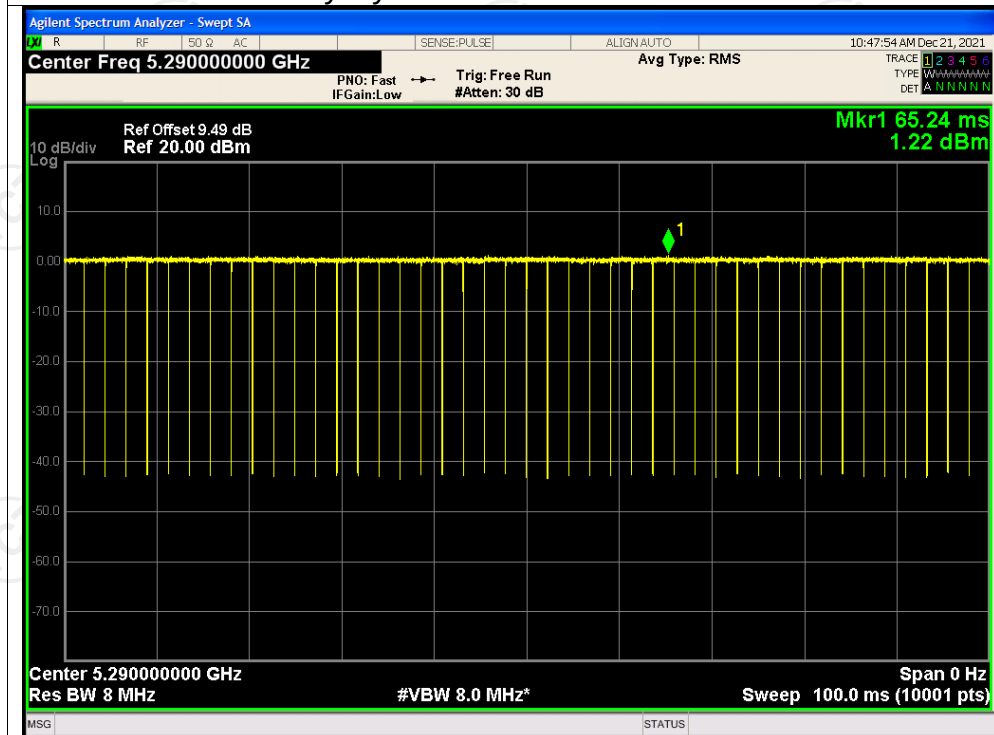
Duty Cycle NVNT ac40 5270MHz



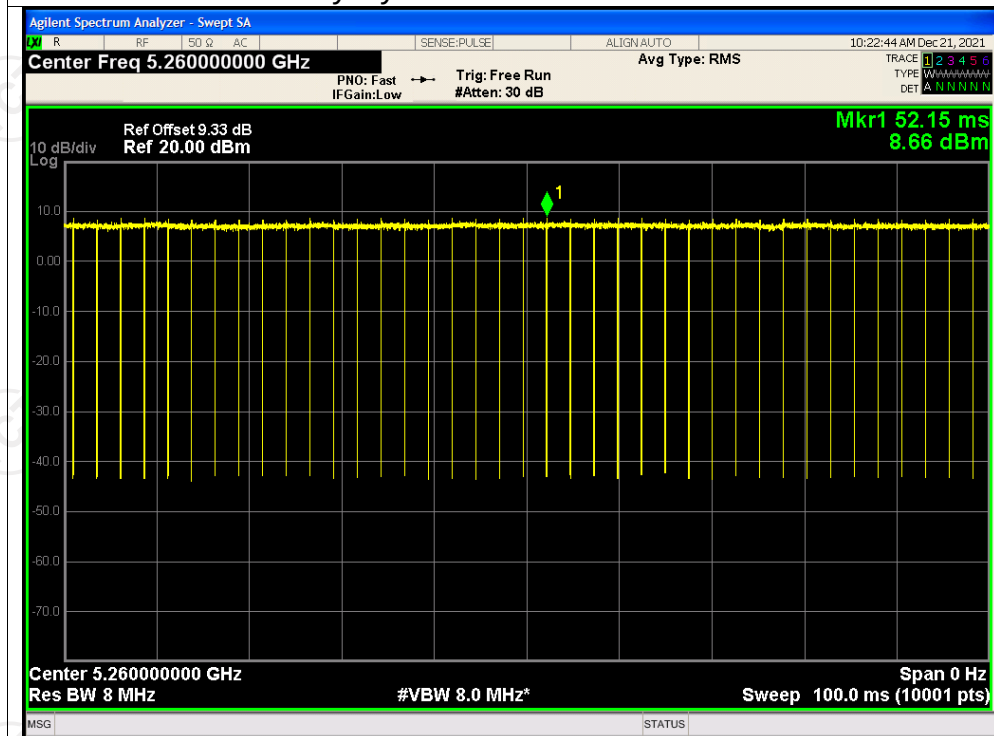
Duty Cycle NVNT ac40 5310MHz



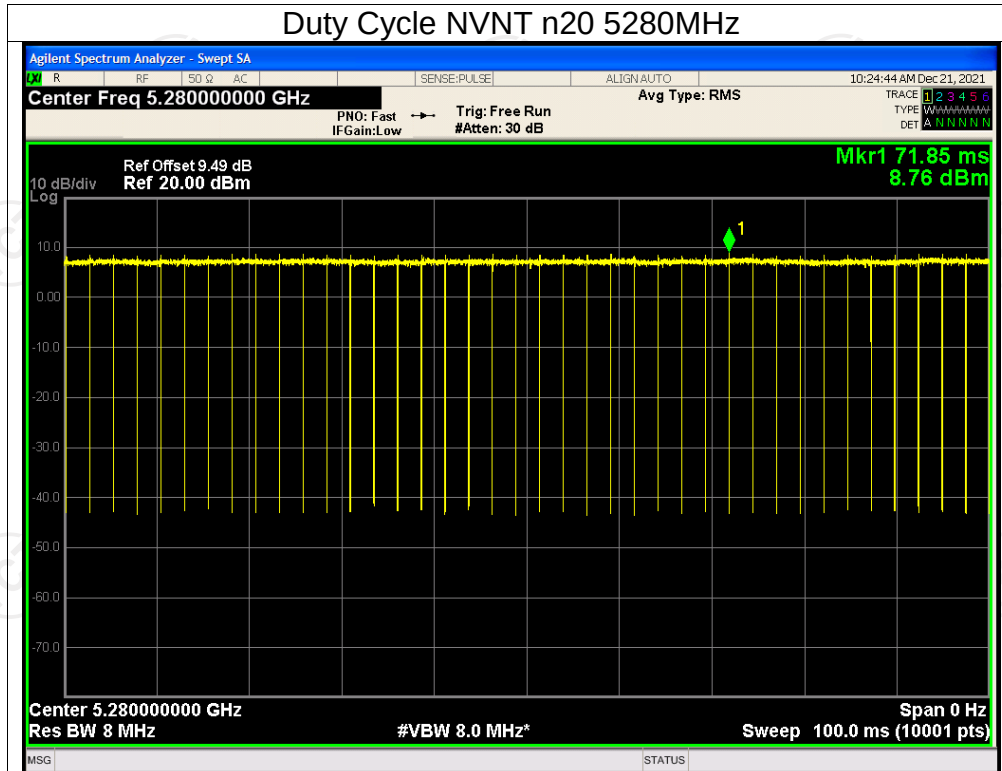
Duty Cycle NVNT ac80 5290MHz



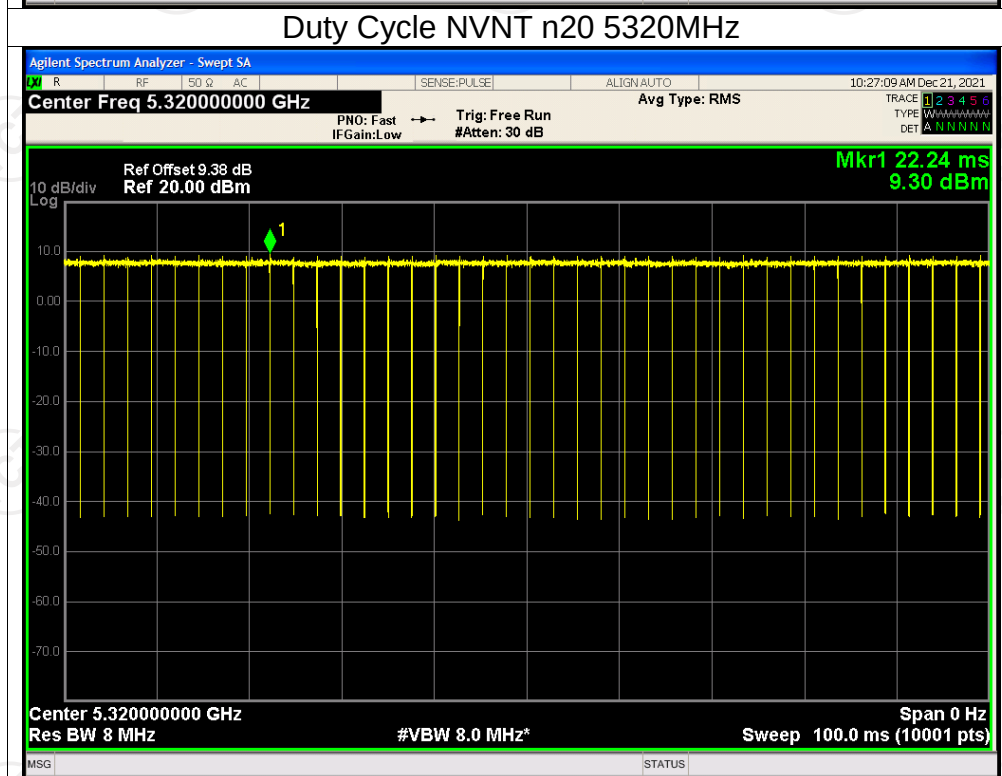
Duty Cycle NVNT n20 5260MHz



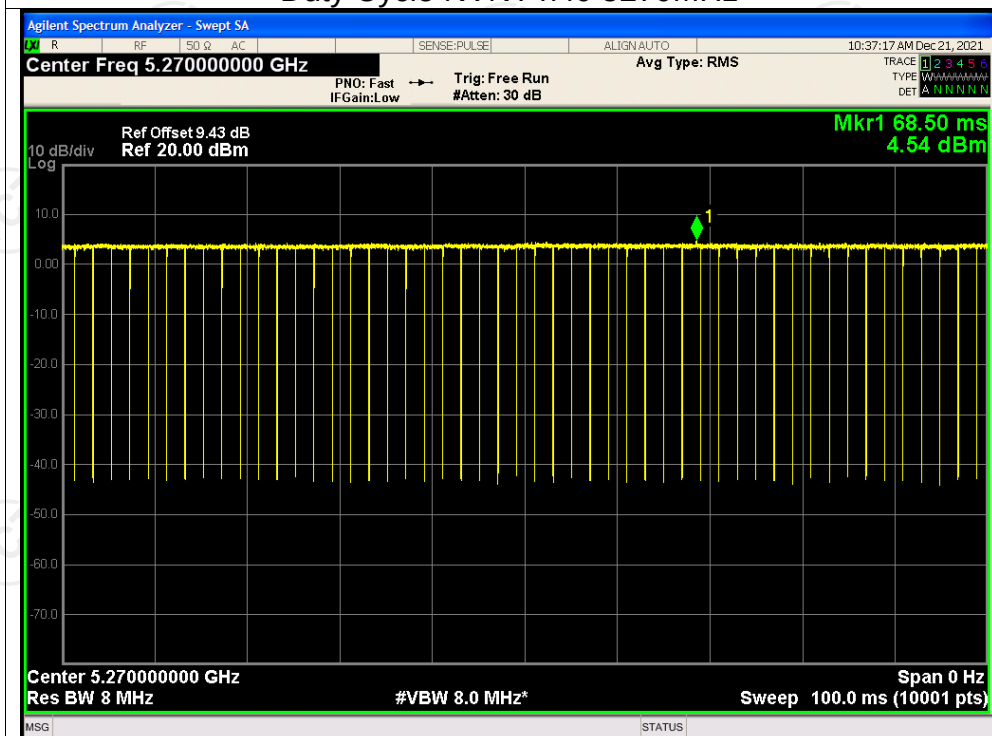
Duty Cycle NVNT n20 5280MHz



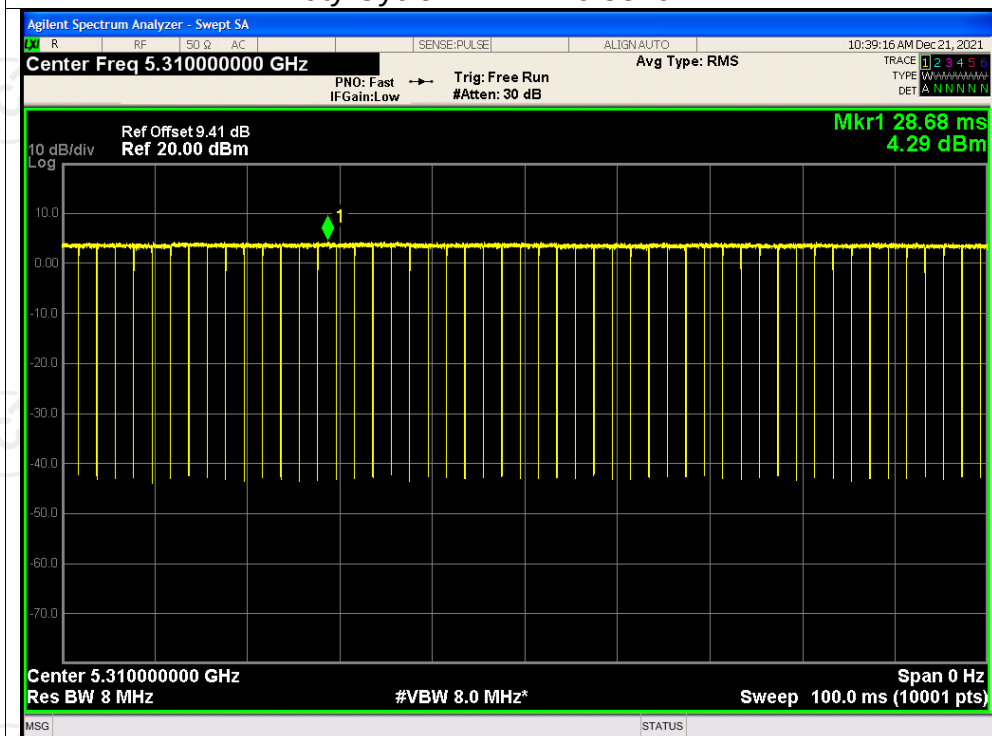
Duty Cycle NVNT n20 5320MHz



Duty Cycle NVNT n40 5270MHz

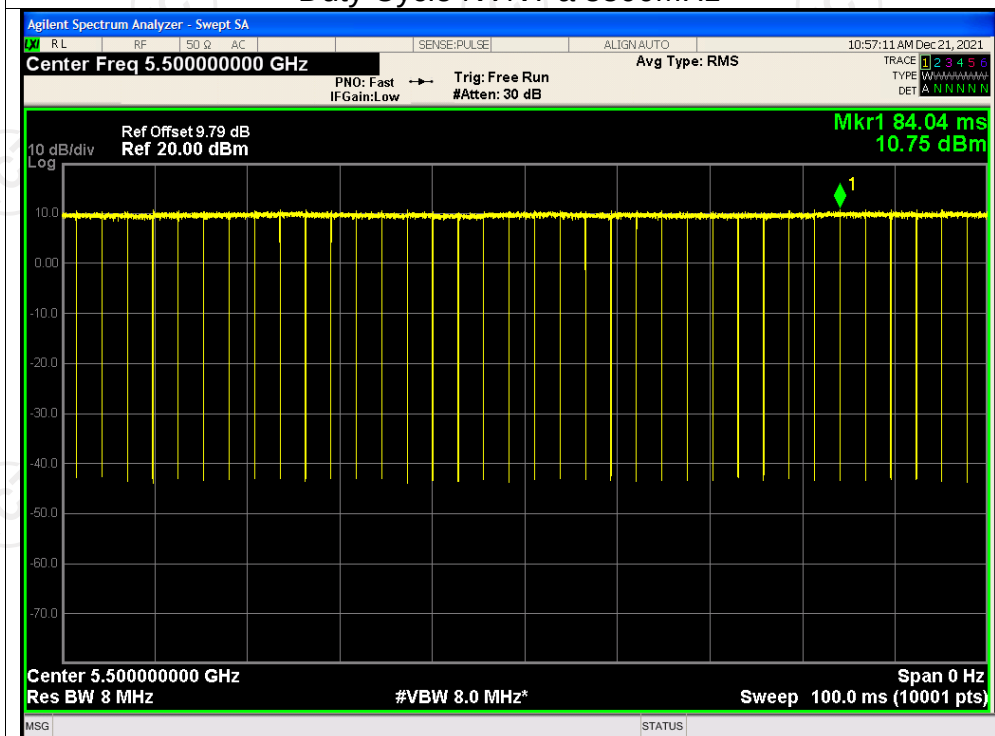


Duty Cycle NVNT n40 5310MHz



Test Graphs

Duty Cycle NVNT a 5500MHz



Duty Cycle NVNT a 5600MHz

