

TEST REPORT

FCC ID. :	2AUARTHINKX10	
Test Report No..... :	TCT211008E057	
Date of issue..... :	Nov. 18, 2021	
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..... :	THINKCAR TECH CO., LTD.	
Address..... :	2606, building 4, phase II, TiananYungu, Gangtou community, Bantian, Longgang District, Shenzhen, China	
Manufacturer's name ... :	THINKCAR TECH CO., LTD.	
Address..... :	2606, building 4, phase II, TiananYungu, Gangtou community, Bantian, Longgang District, Shenzhen, China	
Standard(s)	FCC CFR Title 47 Part 15 Subpart E Section 15.407 KDB 789033 D02 General U-NII Test Procedures New Rules v02r01	
Test item description	THINKTOOL X10	
Trade Mark	THINKCAR	
Model/Type reference..... :	TKX10	
Rating(s)..... :	Adapter Information: MODEL: PSYB0502500 INPUT: AC 100-240V, 50/60Hz, 0.6A Max OUTPUT: DC 5.0V, 2.5A, 12.5W Rechargeable Li-ion Battery DC 3.8V	
Date of receipt of test item	Oct. 08, 2021	
Date (s) of performance of test..... :	Oct. 08, 2021 - Nov. 18, 2021	
Tested by (+signature) ... :	Aaron Mo	<i>Aaron Mo</i>
Check by (+signature).... :	Beryl Zhao	<i>Beryl Zhao</i>
Approved by (+signature):	Tomsin	<i>Tomsin</i>

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Table of Contents

1. General Product Information	3
1.1. EUT description	3
1.2. Model(s) list.....	3
1.3. Test Frequency.....	4
2. Test Result Summary	5
3. General Information.....	6
3.1. Test environment and mode.....	6
3.2. Description of Support Units.....	7
4. Facilities and Accreditations	8
4.1. Facilities	8
4.2. Location	8
4.3. Measurement Uncertainty.....	8
5. Test Results and Measurement Data	9
5.1. Antenna requirement	9
5.2. Conducted Emission.....	10
5.3. Maximum Conducted Output Power.....	14
5.4. 6dB Emission Bandwidth.....	16
5.5. 26dB Bandwidth and 99% Occupied Bandwidth	17
5.6. Power Spectral Density.....	18
5.7. Band edge	19
5.8. Unwanted Emission	29
5.9. Frequency Stability Measurement	41

Appendix A: Test Result of Conducted Test

Appendix B: Photographs of Test Setup

Appendix C: Photographs of EUT

1. General Product Information

1.1. EUT description

Test item description	THINKTOOL X10
Model/Type reference.....	TKX10
Sample Number.....	TCT211008E007-0101
Operation Frequency	Band 1: 5150 MHz -5250 MHz Band 3: 5725 MHz -5850 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.....	1dBi
Rating(s).....	Adapter Information: MODEL: PSYB0502500 INPUT: AC 100-240V, 50/60Hz, 0.6A Max OUTPUT: DC 5.0V, 2.5A, 12.5W Rechargeable Li-ion Battery DC 3.8V

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

None.

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 3

20MHz		40MHz		80MHz	
Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745	151	5755	155	5775
157	5785	159	5795		
165	5825				

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(e)	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.

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
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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	6 Mbps
802.11n(HT20)	6.5 Mbps
802.11n(HT40)	13.5 Mbps
802.11ac(VHT20)	6.5 Mbps
802.11ac(VHT40)	13.5 Mbps
802.11ac(VHT80)	29.3 Mbps

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 expanded 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

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 WIFI antenna is internal antenna which permanently attached, and the best case gain of the antenna is 1dBi.



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														

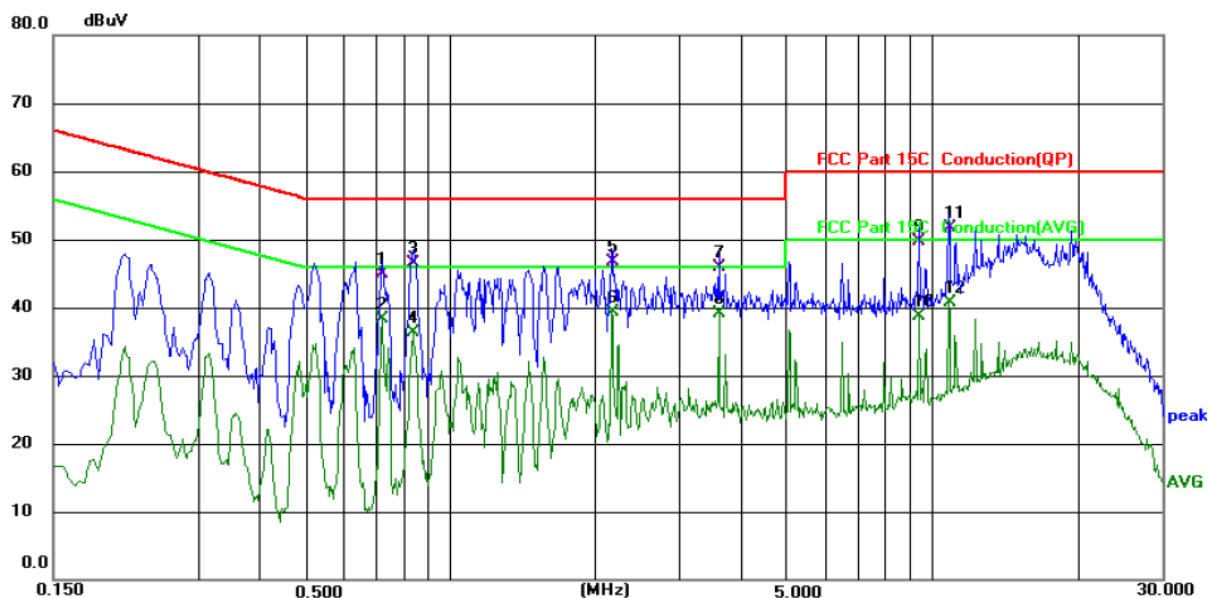
5.2.2. Test Instruments

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: 24.9 (°C)

Humidity: 45 %

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		0.7220	35.71	9.19	44.90	56.00	-11.10	QP	
2		0.7220	29.09	9.19	38.28	46.00	-7.72	AVG	
3		0.8380	37.26	9.24	46.50	56.00	-9.50	QP	
4		0.8380	27.03	9.24	36.27	46.00	-9.73	AVG	
5		2.1660	37.35	9.45	46.80	56.00	-9.20	QP	
6	*	2.1660	29.77	9.45	39.22	46.00	-6.78	AVG	
7		3.6100	36.36	9.54	45.90	56.00	-10.10	QP	
8		3.6100	29.49	9.54	39.03	46.00	-6.97	AVG	
9		9.4060	40.10	9.60	49.70	60.00	-10.30	QP	
10		9.4060	29.13	9.60	38.73	50.00	-11.27	AVG	
11		10.8340	42.09	9.61	51.70	60.00	-8.30	QP	
12		10.8340	31.16	9.61	40.77	50.00	-9.23	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

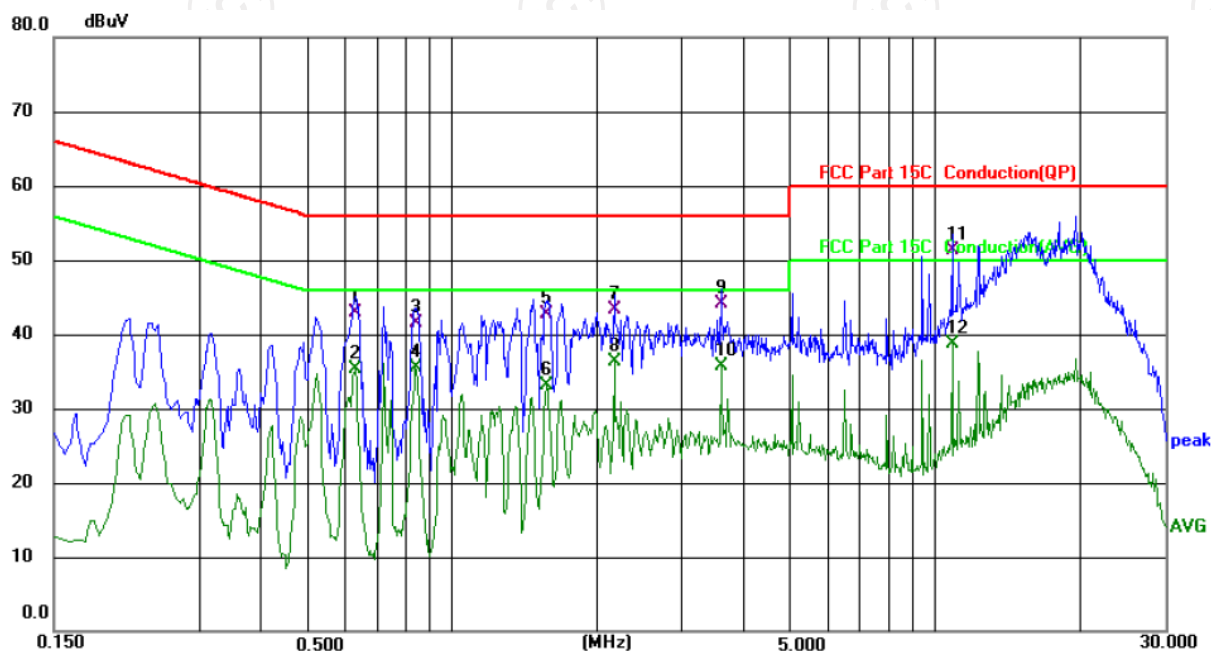
Margin (dB) = Measurement (dBμV) – Limits (dBμV)

Q.P. =Quasi-Peak

AVG =average

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

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



Site 844 Shielding Room

Phase: N

Temperature: 24.9 (°C)

Humidity: 45 %

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		0.6300	33.79	9.21	43.00	56.00	-13.00	QP	
2		0.6300	26.10	9.21	35.31	46.00	-10.69	AVG	
3		0.8420	32.29	9.26	41.55	56.00	-14.45	QP	
4		0.8420	26.25	9.26	35.51	46.00	-10.49	AVG	
5		1.5740	33.31	9.35	42.66	56.00	-13.34	QP	
6		1.5740	23.84	9.35	33.19	46.00	-12.81	AVG	
7		2.1740	33.91	9.39	43.30	56.00	-12.70	QP	
8		2.1740	26.92	9.39	36.31	46.00	-9.69	AVG	
9		3.6220	34.66	9.44	44.10	56.00	-11.90	QP	
10		3.6220	26.25	9.44	35.69	46.00	-10.31	AVG	
11	*	10.8660	41.77	9.63	51.40	60.00	-8.60	QP	
12		10.8660	28.99	9.63	38.62	50.00	-11.38	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)

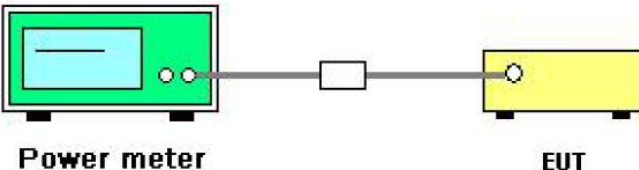
Q.P. =Quasi-Peak

AVG =average

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

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:	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E										
Limit:	<table> <tr> <th>Frequency Band (MHz)</th><th>Limit</th></tr> <tr> <td>5180 - 5240</td><td>24dBm(250mW) for client device</td></tr> <tr> <td>5260 - 5320</td><td>24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz</td></tr> <tr> <td>5470 - 5725</td><td>24dBm(250mW) or 11 dBm + 10 log B, B is the 26 dB emission bandwidth in megahertz</td></tr> <tr> <td>5745 - 5825</td><td>30dBm(1W)</td></tr> </table>	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)
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:	 The diagram illustrates the test setup. On the left is a green box labeled 'Power meter'. A cable connects it to a small white box labeled 'Attenuator'. Another cable connects the attenuator to a yellow box labeled 'EUT' (Equipment Under Test).										
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. 4. 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

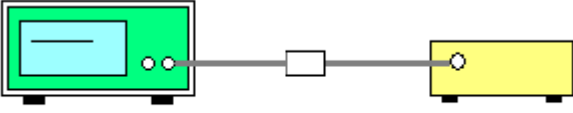
Test Requirement:	FCC CFR47 Part 15 Section 15.407(e)& Part 2 J Section 2.1049
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C
Limit:	>500kHz
Test Setup:	 Spectrum Analyzer EUT
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. KDB789033 D02 General UNII 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:	PASS

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:	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) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. 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

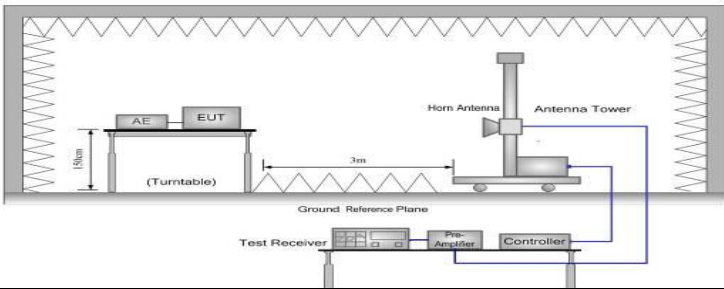
Test Requirement:	FCC Part15 E Section 15.407 (a)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section F
Limit:	$\leq 11.00\text{dBm/MHz}$ for Band 1 5150MHz-5250MHz(client device) $\leq 11.00\text{dBm/MHz}$ for Band 2A&2C 5250-5350&5470-5725 $\leq 30.00\text{dBm/500KHz}$ 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																		
$E[dB\mu V/m] = EIRP[dBm] + 95.2 @3m$ In restricted band:																					
<table><tr><td>Detector</td><td>Limit@3m</td></tr><tr><td>Peak</td><td>74dBμV/m</td></tr><tr><td>AVG</td><td>54dBμV/m</td></tr></table>		Detector	Limit@3m	Peak	74dB μ V/m	AVG	54dB μ V/m														
Detector	Limit@3m																				
Peak	74dB μ V/m																				
AVG	54dB μ V/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

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	Lowest	5150	41.34	5.82	47.16	74	54	-6.84	H
		5150	35.95	5.82	41.77	74	54	-12.23	V
	Highest	5250	40.43	6.52	46.95	74	54	-7.05	H
		5250	37.57	6.52	44.09	74	54	-9.91	V
Band 3	Lowest	5725	61.76	5.82	67.58	122.2	/	-54.62	H
		5725	66.68	5.82	72.50	122.2	/	-49.70	V
	Highest	5850	60.77	6.52	67.29	122.2	/	-54.91	H
		5850	60.06	6.52	66.58	122.2	/	-55.62	V
Remark: Factor(dB)=Ant. Factor+Cable Loss-Amp. Factor									

802.11 nHT20	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	Lowest	5150	40.77	6.96	47.73	74	54	-6.27	H
		5150	39.68	6.96	46.64	74	54	-7.36	V
	Highest	5250	33.59	8.21	41.80	74	54	-12.20	H
		5250	37.08	8.21	45.29	74	54	-8.71	V
Band 3	Lowest	5725	59.86	8.21	68.07	122.2	/	-54.13	H
		5725	56.68	8.21	64.89	122.2	/	-57.31	V
	Highest	5850	60.41	8.87	69.28	122.2	/	-52.92	H
		5850	58.25	8.87	67.12	122.2	/	-55.08	V
Remark: Factor(dB)=Ant. Factor+Cable Loss-Amp. Factor									

802.11 nHT40	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	Lowest	5150	41.81	5.82	47.63	74	54	-6.37	H
		5150	37.53	5.82	43.35	74	54	-10.65	V
	Highest	5250	40.79	6.52	47.31	74	54	-6.69	H
		5250	37.55	6.52	44.07	74	54	-9.93	V
Band 3	Lowest	5725	61.94	5.82	67.76	122.2	/	-54.44	H
		5725	56.36	5.82	62.18	122.2	/	-60.02	V
	Highest	5850	63.14	6.52	69.66	122.2	/	-52.54	H
		5850	60.85	6.52	67.37	122.2	/	-54.83	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	Lowest	5150	35.81	6.96	42.77	74	54	-11.23	H
		5150	39.37	6.96	46.33	74	54	-7.67	V
	Highest	5250	39.09	8.21	47.30	74	54	-6.70	H
		5250	36.98	8.21	45.19	74	54	-8.81	V
Band 3	Lowest	5725	64.86	8.21	73.07	122.2	/	-49.13	H
		5725	58.54	8.21	66.75	122.2	/	-55.45	V
	Highest	5850	60.15	8.87	69.02	122.2	/	-53.18	H
		5850	57.98	8.87	66.85	122.2	/	-55.35	V

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

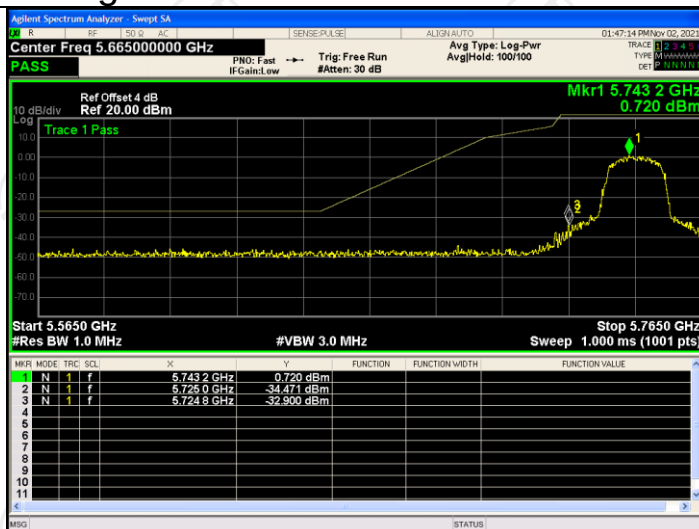
802.11 ac HT40	CH	Freq. (MHz)	Read_level (dBuV/m)	Factor (dB)	Peak (dBuV/m)	Limit (dBuV/m) (Peak)	Limit (dBuV/m) (Avg)	Over	Ant. Pol. H/V
Band 1	Lowest	5150	42.17	5.82	47.99	74	54	-6.01	H
		5150	36.46	5.82	42.28	74	54	-11.72	V
	Highest	5250	41.49	6.52	48.01	74	54	-5.99	H
		5250	37.93	6.52	44.45	74	54	-9.55	V
Band 3	Lowest	5725	68.87	5.82	74.69	122.2	/	-47.51	H
		5725	67.02	5.82	72.84	122.2	/	-49.36	V
	Highest	5850	63.78	6.52	70.30	122.2	/	-51.90	H
		5850	61.05	6.52	67.57	122.2	/	-54.63	V

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

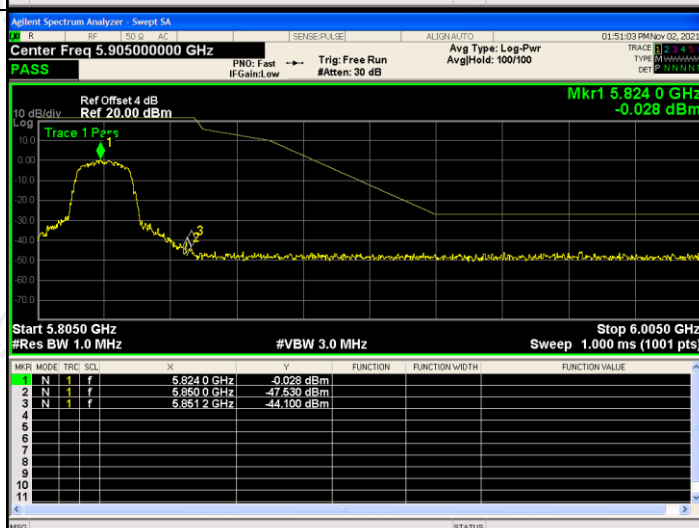
802.11 ac HT80	CH	Freq. (MHz)	Read_level (dBuV/m)	Factor (dB)	Peak (dBuV/m)	Limit (dBuV/m) (Peak)	Limit (dBuV/m) (Avg)	Over	Ant. Pol. H/V
Band 1	Lowest	5150	38.80	6.96	45.76	74	54	-8.24	H
		5150	40.26	6.96	47.22	74	54	-6.78	V
	Highest	5250	35.47	8.21	43.68	74	54	-10.32	H
		5250	37.14	8.21	45.35	74	54	-8.65	V
Band 3	Lowest	5725	66.11	8.21	74.32	122.2	/	-47.88	H
		5725	68.45	8.21	76.66	122.2	/	-45.54	V
	Highest	5850	60.50	8.87	69.37	122.2	/	-52.83	H
		5850	68.78	8.87	77.65	122.2	/	-44.55	V
Remark: Factor(dB)=Ant. Factor+Cable Loss-Amp. Factor									

Band 3 Band-edge for RF Conducted Emissions

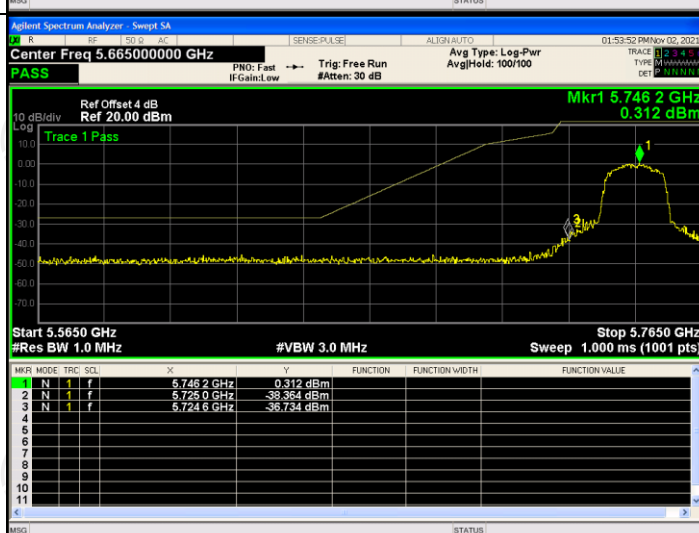
802.11a
/LCH



802.11a
/HCH

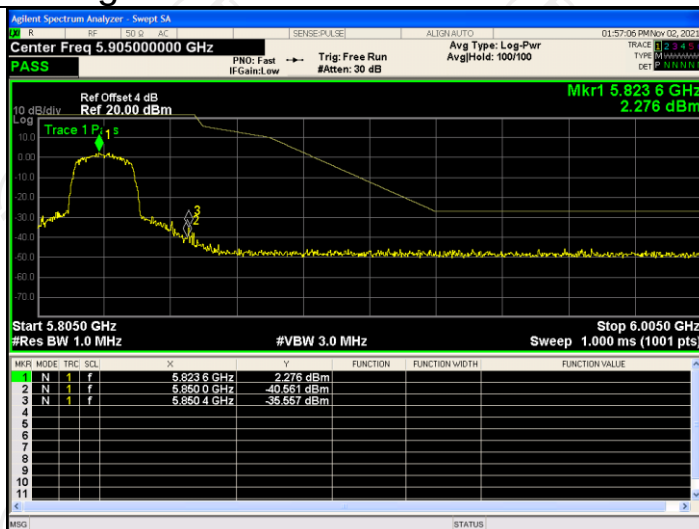


802.11n
HT20 / LCH

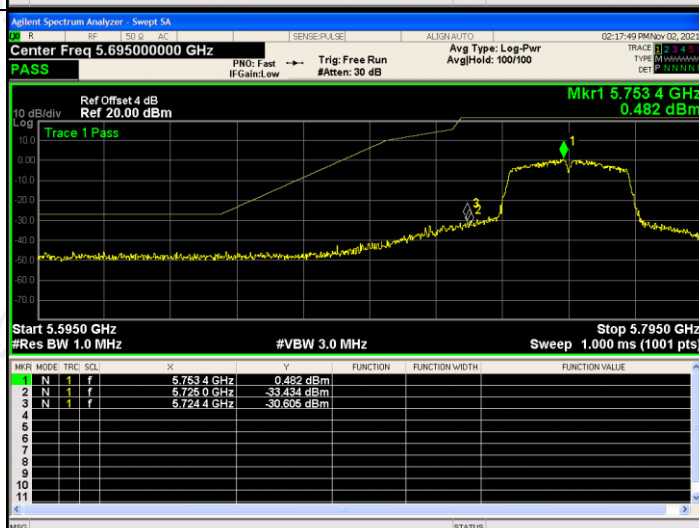


Band 3 Band-edge for RF Conducted Emissions

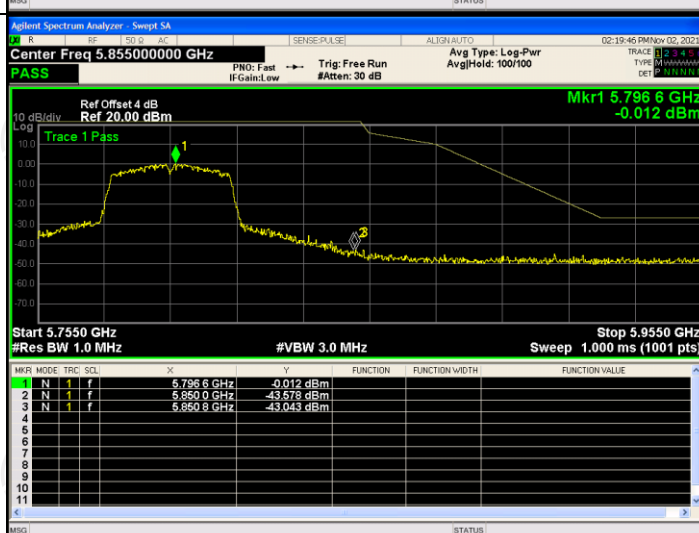
802.11n
HT20 / HCH



802.11n
HT40 / LCH

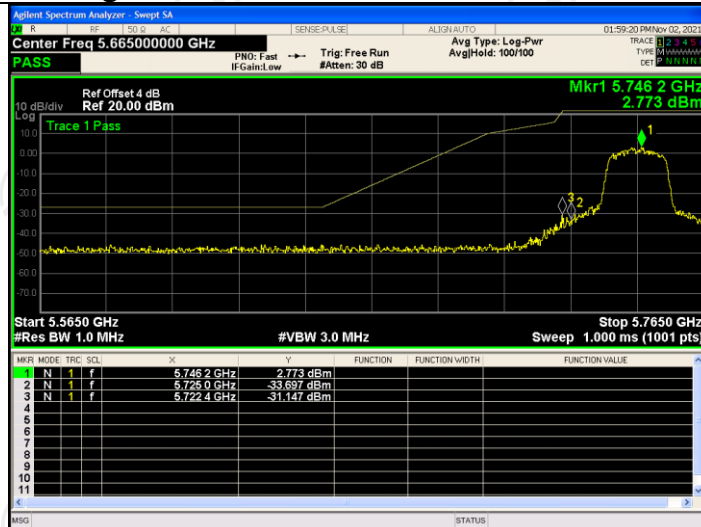


802.11n
HT40 / HCH

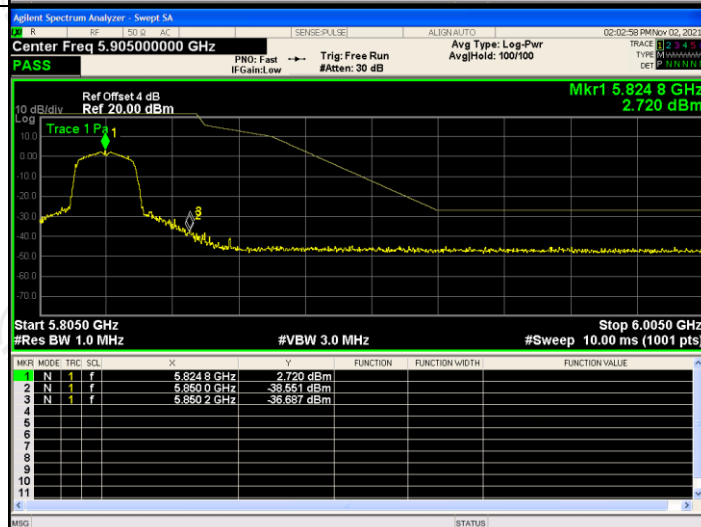


Band 3 Band-edge for RF Conducted Emissions

802.11ac
HT20 / LCH



802.11ac
HT20 / HCH

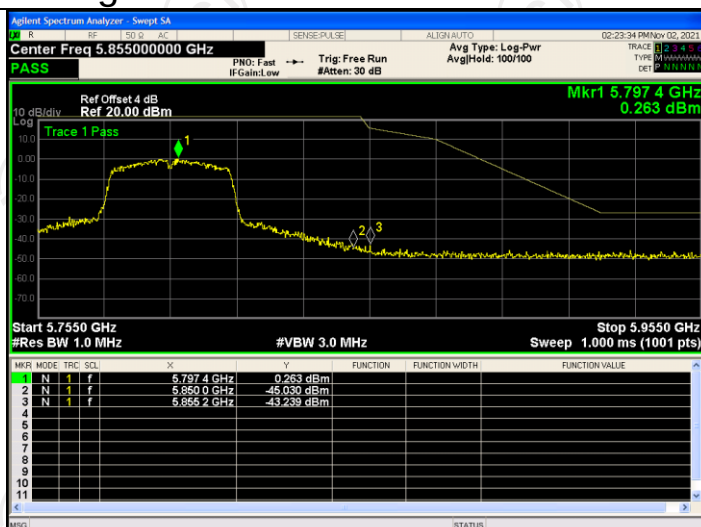


802.11ac
HT40 / LCH

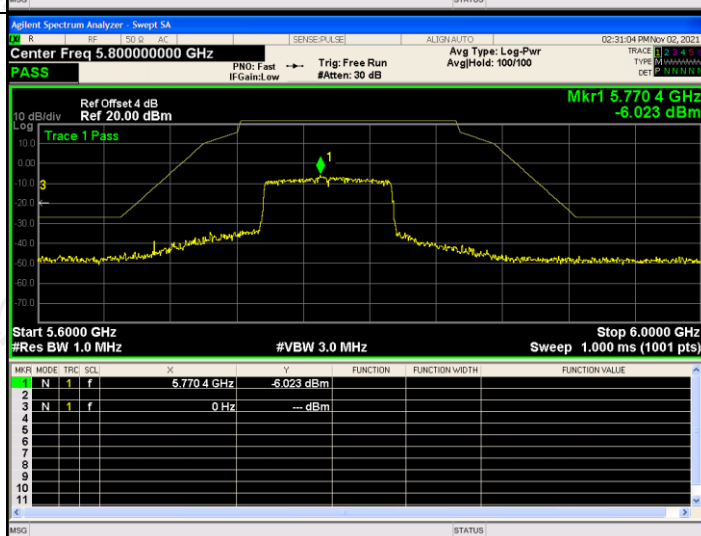


Band 3 Band-edge for RF Conducted Emissions

802.11ac
HT40 / HCH

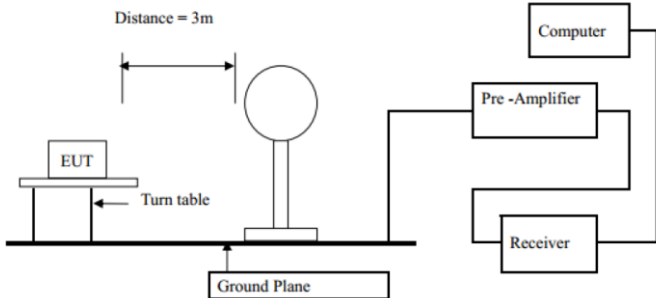


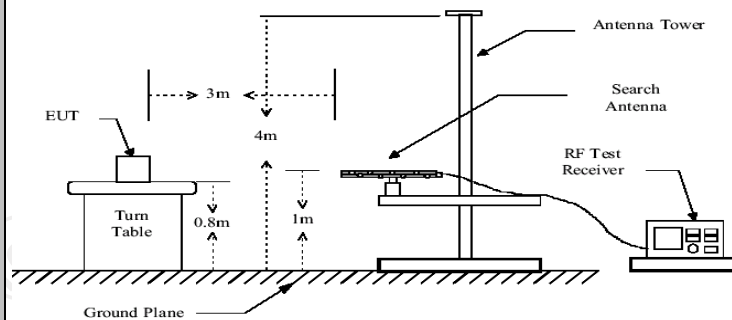
802.11ac
HT80 / LCH



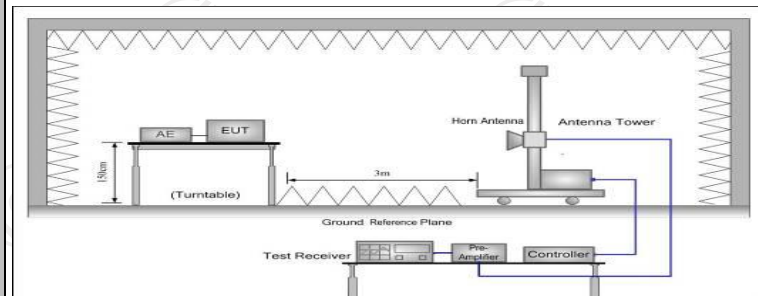
5.8. Unwanted Emission

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,				
	Frequency	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	30		30	
	30-88	100		3	
	88-216	150		3	
	216-960	200		3	
	Above 960	500		3	
	Frequency	Limit (dBuV/m @3m)		Detector	
Above 1G	74.0		Peak		
	54.0		Average		
Test setup:	For radiated emissions below 30MHz				
					
	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 rotating 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, quasi-peak or average method as specified and then reported in a data sheet.

Test results:

PASS

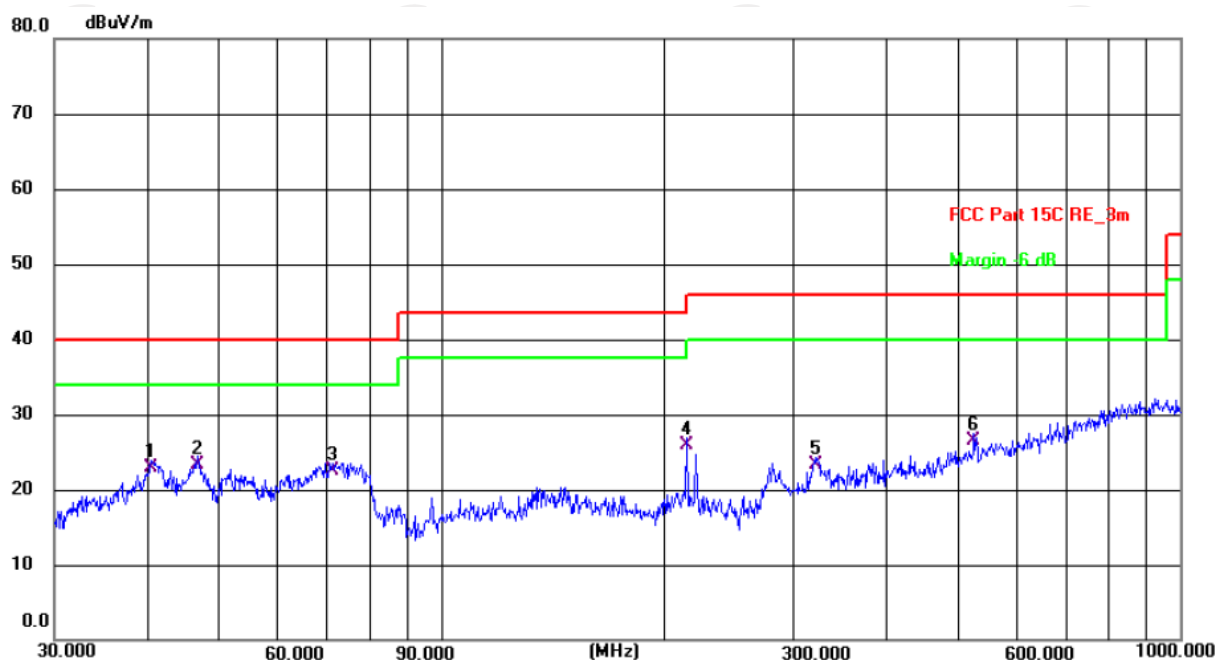
5.8.2. Test Instruments

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

5.8.3. Test Data

Please refer to following diagram for individual
Below 1GHz

Horizontal:



Site #2

Polarization: **Horizontal**

Temperature: 25.1(C)

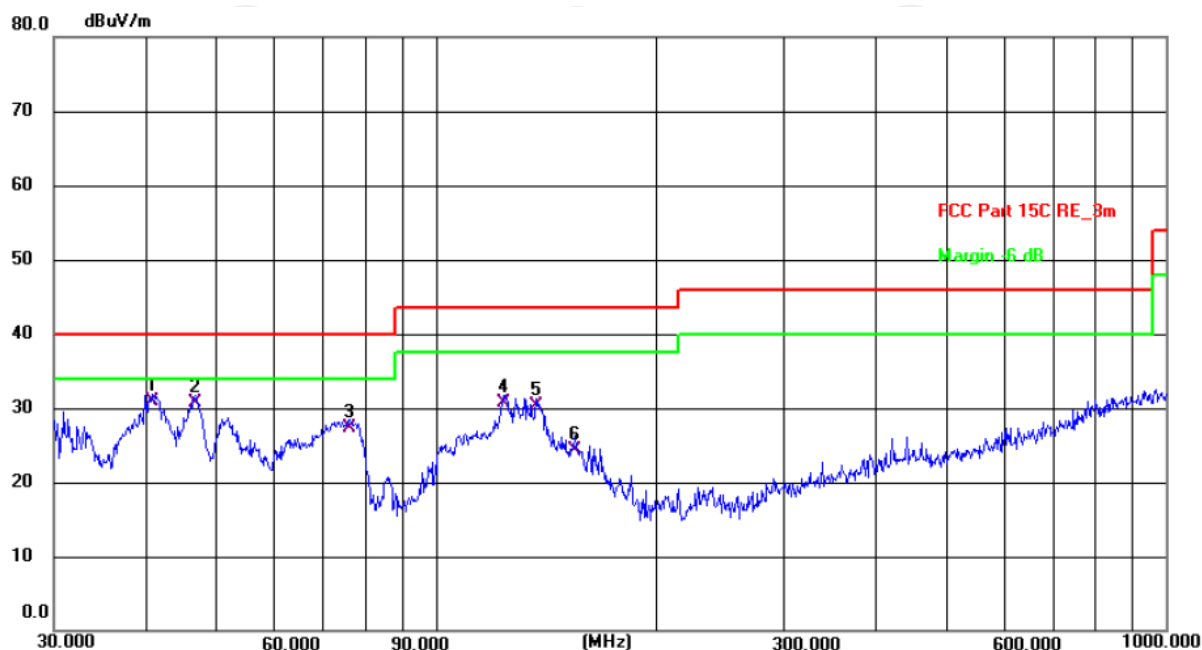
Limit: FCC Part 15C RE_3m

Power: AC 120 V/60 Hz

Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	40.5591	8.91	13.99	22.90	40.00	-17.10	QP	P	
2 *	46.8301	9.55	13.85	23.40	40.00	-16.60	QP	P	
3	71.3300	11.64	10.86	22.50	40.00	-17.50	QP	P	
4	215.2675	14.74	11.16	25.90	43.50	-17.60	QP	P	
5	321.0605	8.92	14.48	23.40	46.00	-22.60	QP	P	
6	526.3967	6.62	19.88	26.50	46.00	-19.50	QP	P	

Vertical:



Site #2

Polarization: **Vertical**

Temperature: 25.1(C)

Limit: FCC Part 15C RE_3m

Power: AC 120 V/60 Hz

Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	40.9879	16.91	13.99	30.90	40.00	-9.10	QP	P	
2	46.8301	16.95	13.85	30.80	40.00	-9.20	QP	P	
3	76.2442	17.41	9.99	27.40	40.00	-12.60	QP	P	
4	124.1329	18.47	12.23	30.70	43.50	-12.80	QP	P	
5	137.4200	17.22	13.08	30.30	43.50	-13.20	QP	P	
6	155.3642	10.92	13.38	24.30	43.50	-19.20	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 (Highest channel and 802.11ac(VHT40)) 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	38.35	---	8.02	46.37	---	74	54	-7.63
15540	H	40.40	---	9.87	50.27	---	74	54	-3.73
---	H	---	---	---	---	---	---	---	---
10360	V	38.89	---	8.02	46.91	---	74	54	-7.09
15540	V	39.10	---	9.87	48.97	---	74	54	-5.03
---	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	40.02	---	7.97	47.99	---	74	54	-6.01
15600	H	38.41	---	9.83	48.24	---	74	54	-5.76
---	H	---	---	---	---	---	---	---	---
10400	V	40.13	---	7.97	48.10	---	74	54	-5.90
15600	V	39.52	---	9.83	49.35	---	74	54	-4.65
---	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	39.49	---	7.97	47.46	---	74	54	-6.54
15720	H	39.15	---	9.83	48.98	---	74	54	-5.02
---	H	---	---	---	---	---	---	---	---
10480	V	40.07	---	7.97	48.04	---	74	54	-5.96
15720	V	37.29	---	9.83	47.12	---	74	54	-6.88
---	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	40.04	---	8.02	48.06	---	74	54	-5.94
15540	H	38.77	---	9.87	48.64	---	74	54	-5.36
---	H	---	---	---	---	---	---	---	---
10360	V	40.37	---	8.02	48.39	---	74	54	-5.61
15540	V	37.64	---	9.87	47.51	---	74	54	-6.49
---	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	38.75	---	7.97	46.72	---	74	54	-7.28
15600	H	39.29	---	9.83	49.12	---	74	54	-4.88
---	H	---	---	---	---	---	---	---	---
10400	V	40.92	---	7.97	48.89	---	74	54	-5.11
15600	V	38.66	---	9.83	48.49	---	74	54	-5.51
---	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	38.67	---	7.97	46.64	---	74	54	-7.36
15720	H	37.85	---	9.83	47.68	---	74	54	-6.32
---	H	---	---	---	---	---	---	---	---
10480	V	39.19	---	7.97	47.16	---	74	54	-6.84
15720	V	38.66	---	9.83	48.49	---	74	54	-5.51
---	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	40.44	---	7.75	48.19	---	74	54	-5.81
15570	H	38.31	---	9.87	48.18	---	74	54	-5.82
---	H	---	---	---	---	---	---	---	---
10380	V	40.05	---	7.75	47.80	---	74	54	-6.20
15570	V	38.62	---	9.87	48.49	---	74	54	-5.51
---	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	41.14	---	7.97	49.11	---	74	54	-4.89
15690	H	38.63	---	9.83	48.46	---	74	54	-5.54
---	H	---	---	---	---	---	---	---	---
10460	V	41.04	---	7.97	49.01	---	74	54	-4.99
15690	V	38.56	---	9.83	48.39	---	74	54	-5.61
---	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	40.21	---	8.02	48.23	---	74	54	-5.77
15540	H	38.78	---	9.87	48.65	---	74	54	-5.35
---	H	---	---	---	---	---	---	---	---
10360	V	38.47	---	8.02	46.49	---	74	54	-7.51
15540	V	39.26	---	9.87	49.13	---	74	54	-4.87
---	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	40.94	---	7.97	48.91	---	74	54	-5.09
15600	H	38.87	---	9.83	48.70	---	74	54	-5.30
---	H	---	---	---	---	---	---	---	---
10400	V	39.94	---	7.97	47.91	---	74	54	-6.09
15600	V	38.68	---	9.83	48.51	---	74	54	-5.49
---	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	39.92	---	7.97	47.89	---	74	54	-6.11
15720	H	38.04	---	9.83	47.87	---	74	54	-6.13
---	H	---	---	---	---	---	---	---	---
10480	V	39.41	---	7.97	47.38	---	74	54	-6.62
15720	V	38.22	---	9.83	48.05	---	74	54	-5.95
---	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	41.65	---	7.75	49.40	---	74	54	-4.60
15570	H	38.88	---	9.87	48.75	---	74	54	-5.25
---	H	---	---	---	---	---	---	---	---
10380	V	39.06	---	7.75	46.81	---	74	54	-7.19
15570	V	39.81	---	9.87	49.68	---	74	54	-4.32
---	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	39.73	---	7.97	47.70	---	74	54	-6.30
15690	H	39.66	---	9.83	49.49	---	74	54	-4.51
---	H	---	---	---	---	---	---	---	---
10460	V	40.62	---	7.97	48.59	---	74	54	-5.41
15690	V	37.47	---	9.83	47.30	---	74	54	-6.70
---	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	40.58	---	7.96	48.54	---	74	54	-5.46
15630	H	38.74	---	9.84	48.58	---	74	54	-5.42
---	H	---	---	---	---	---	---	---	---
10420	V	40.05	---	7.96	48.01	---	74	54	-5.99
15630	V	38.28	---	9.84	48.12	---	74	54	-5.88
---	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 3									
11a(HT20) CH149: 5745MHz									
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)			
11490	H	39.62	---	8.09	47.71	---	74	54	-6.29
17235	H	37.04	---	9.67	46.71	---	74	54	-7.29
---	H	---	---	---	---	---	---	---	---
11490	V	41.89	---	8.09	49.98	---	74	54	-4.02
17235	V	37.72	---	9.67	47.39	---	74	54	-6.61
---	V	---	---	---	---	---	---	---	---

11a(HT20) CH157: 5785MHz									
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)			
11570	H	40.33	---	8.10	48.43	---	74	54	-5.57
17355	H	37.21	---	9.65	46.86	---	74	54	-7.14
---	H	---	---	---	---	---	---	---	---
11570	V	38.74	---	8.10	46.84	---	74	54	-7.16
17355	V	36.61	---	9.65	46.26	---	74	54	-7.74
---	V	---	---	---	---	---	---	---	---

11a(HT20) CH165: 5825MHz									
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)			
11650	H	39.23	---	8.12	47.35	---	74	54	-6.65
17475	H	38.06	---	9.62	47.68	---	74	54	-6.32
---	H	---	---	---	---	---	---	---	---
11650	V	40.52	---	8.12	48.64	---	74	54	-5.36
17475	V	37.44	---	9.62	47.06	---	74	54	-6.94
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH149: 5745MHz									
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)			
11490	H	40.56	---	8.09	48.65	---	74	54	-5.35
17235	H	37.20	---	9.67	46.87	---	74	54	-7.13
---	H	---	---	---	---	---	---	---	---
11490	V	39.93	---	8.09	48.02	---	74	54	-5.98
17235	V	37.75	---	9.67	47.42	---	74	54	-6.58
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH157: 5785MHz									
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)			
11570	H	40.93	---	8.10	49.03	---	74	54	-4.97
17355	H	37.22	---	9.65	46.87	---	74	54	-7.13
---	H	---	---	---	---	---	---	---	---
11570	V	39.80	---	8.10	47.90	---	74	54	-6.10
17355	V	35.37	---	9.65	45.02	---	74	54	-8.98
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH165: 5825MHz									
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)			
11650	H	39.20	---	8.12	47.32	---	74	54	-6.68
17475	H	37.66	---	9.62	47.28	---	74	54	-6.72
---	H	---	---	---	---	---	---	---	---
11650	V	40.52	---	8.12	48.64	---	74	54	-5.36
17475	V	37.40	---	9.62	47.02	---	74	54	-6.98
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH151: 5755MHz									
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)			
11510	H	41.44	---	8.09	49.53	---	74	54	-4.47
17265	H	38.03	---	9.67	47.70	---	74	54	-6.30
---	H	---	---	---	---	---	---	---	---
11510	V	41.32	---	8.09	49.41	---	74	54	-4.59
17265	V	37.19	---	9.67	46.86	---	74	54	-7.14
---	V	---	---	---	---	---	---	---	---

11n(HT40) CH159: 5795MHz									
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)			
11590	H	40.37	---	8.10	48.47	---	74	54	-5.53
17385	H	37.65	---	9.65	47.30	---	74	54	-6.70
---	H	---	---	---	---	---	---	---	---
11590	V	40.89	---	8.10	48.99	---	74	54	-5.01
17385	V	36.75	---	9.65	46.40	---	74	54	-7.60
---	V	---	---	---	---	---	---	---	---

11ac(VHT20) CH149: 5745MHz									
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)			
11490	H	40.78	---	8.09	48.87	---	74	54	-5.13
17235	H	38.26	---	9.67	47.93	---	74	54	-6.07
---	H	---	---	---	---	---	---	---	---
11490	V	40.51	---	8.09	48.60	---	74	54	-5.40
17235	V	37.67	---	9.67	47.34	---	74	54	-6.66
---	V	---	---	---	---	---	---	---	---

11ac(VHT20) CH157: 5785MHz									
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)			
11570	H	39.40	---	8.10	47.50	---	74	54	-6.50
17355	H	37.32	---	9.65	46.97	---	74	54	-7.03
---	H	---	---	---	---	---	---	---	---
11570	V	38.02	---	8.10	46.12	---	74	54	-7.88
17355	V	35.79	---	9.65	45.44	---	74	54	-8.56
---	V	---	---	---	---	---	---	---	---

11ac(VHT20) CH165: 5825MHz									
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)			
11650	H	40.26	---	8.12	48.38	---	74	54	-5.62
17475	H	37.73	---	9.62	47.35	---	74	54	-6.65
---	H	---	---	---	---	---	---	---	---
11650	V	40.51	---	8.12	48.63	---	74	54	-5.37
17475	V	35.67	---	9.62	45.29	---	74	54	-8.71
---	V	---	---	---	---	---	---	---	---

11ac(VHT40) CH151: 5755MHz									
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)			
11510	H	39.95	---	8.09	48.04	---	74	54	-5.96
17265	H	37.22	---	9.67	46.89	---	74	54	-7.11
---	H	---	---	---	---	---	---	---	---
11510	V	40.99	---	8.09	49.08	---	74	54	-4.92
17265	V	38.68	---	9.67	48.35	---	74	54	-5.65
---	V	---	---	---	---	---	---	---	---

11ac(VHT40) CH159: 5795MHz									
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)			
11590	H	39.29	---	8.10	47.39	---	74	54	-6.61
17385	H	36.53	---	9.65	46.18	---	74	54	-7.82
---	H	---	---	---	---	---	---	---	---
11590	V	40.92	---	8.10	49.02	---	74	54	-4.98
17385	V	38.55	---	9.65	48.20	---	74	54	-5.80
---	V	---	---	---	---	---	---	---	---

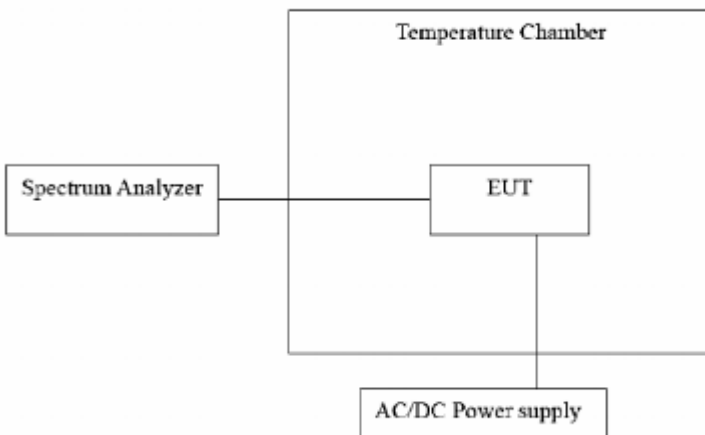
11ac(VHT80) CH155: 5775MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11550	H	40.93	---	8.09	49.02	---	74	54	-4.98
17325	H	35.64	---	9.66	45.30	---	74	54	-8.70
---	H	---	---	---	---	---	---	---	---
11550	V	41.06	---	8.09	49.15	---	74	54	-4.85
17325	V	37.39	---	9.66	47.05	---	74	54	-6.95
---	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(VHT20)	Frequency(MHz):	5180
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.8V	5180.0093	9300	PASS
35		5179.9761	-23900	PASS
25		5179.9877	-12300	PASS
15		5179.9882	-11800	PASS
5		5180.0138	13800	PASS
0		5179.9849	-15100	PASS
20	3.6	5179.9936	-6400	PASS
	3.8	5180.0034	3400	PASS
	4.3	5179.9825	-17500	PASS

Test mode:		802.11ac(VHT20)	Frequency(MHz):	5200
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.8V	5200.0097	9700	PASS
35		5200.0089	8900	PASS
25		5200.0071	7100	PASS
15		5200.0045	4500	PASS
5		5199.9982	-1800	PASS
0		5199.9873	-12700	PASS
20	3.6	5199.9955	-4500	PASS
	3.8	5200.0026	2600	PASS
	4.3	5200.0054	5400	PASS

Test mode:		802.11ac(VHT20)	Frequency(MHz):	5240
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.8V	5240.0047	4700	PASS
35		5240.0033	3300	PASS
25		5240.0026	2600	PASS
15		5239.9991	-900	PASS
5		5239.9985	-1500	PASS
0		5239.9972	-2800	PASS
20	3.6	5240.0038	3800	PASS
	3.8	5240.0014	1400	PASS
	4.3	5239.9986	-1400	PASS

Test mode:		802.11ac(VHT20)	Frequency(MHz):	5745
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.8V	5745.0019	1900	PASS
35		5745.0013	1300	PASS
25		5744.9967	-3300	PASS
15		5744.9955	-4500	PASS
5		5745.0034	3400	PASS
0		5745.0046	4600	PASS
20	3.6	5745.0077	7700	PASS
	3.8	5745.0071	7100	PASS
	4.3	5745.0020	2000	PASS

Test mode:		802.11ac(VHT20)	Frequency(MHz):	5785
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.8V	5785.0087	8700	PASS
35		5785.0031	3100	PASS
25		5785.0024	2400	PASS
15		5784.9985	-1500	PASS
5		5785.0020	2000	PASS
0		5784.9973	-2700	PASS
20	3.6	5785.0056	5600	PASS
	3.8	5785.0028	2800	PASS
	4.3	5784.9979	-2100	PASS

Test mode:		802.11ac(VHT20)	Frequency(MHz):	5825
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.8V	5824.9814	-18600	PASS
35		5825.0083	8300	PASS
25		5824.9955	-4500	PASS
15		5824.9982	-1800	PASS
5		5825.0011	1100	PASS
0		5825.0044	4400	PASS
20	3.6	5825.0048	4800	PASS
	3.8	5824.9986	-1400	PASS
	4.3	5825.0027	2700	PASS

Test mode:		802.11ac(VHT40)	Frequency(MHz):	5190
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.8V	5190.0121	12100	PASS
35		5190.0117	11700	PASS
25		5190.0104	10400	PASS
15		5190.0035	3500	PASS
5		5190.0069	6900	PASS
0		5190.0072	7200	PASS
20	3.6	5189.9911	-8900	PASS
	3.8	5189.9976	-2400	PASS
	4.3	5190.0048	4800	PASS

Test mode:		802.11ac(VHT40)	Frequency(MHz):	5230
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.8V	5230.0127	12700	PASS
35		5230.0125	12500	PASS
25		5230.0090	9000	PASS
15		5229.9981	-1900	PASS
5		5229.9988	-1200	PASS
0		5230.0056	5600	PASS
20	3.6	5230.0044	4400	PASS
	3.8	5230.0029	2900	PASS
	4.3	5229.9972	-2800	PASS

Test mode:		802.11ac(VHT40)	Frequency(MHz):	5755
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.8V	5755.0108	10800	PASS
35		5755.0022	2200	PASS
25		5755.0114	11400	PASS
15		5755.0096	9600	PASS
5		5755.0033	3300	PASS
0		5755.0078	7800	PASS
20	3.6	5755.0045	4500	PASS
	3.8	5755.0037	3700	PASS
	4.3	5755.0069	6900	PASS

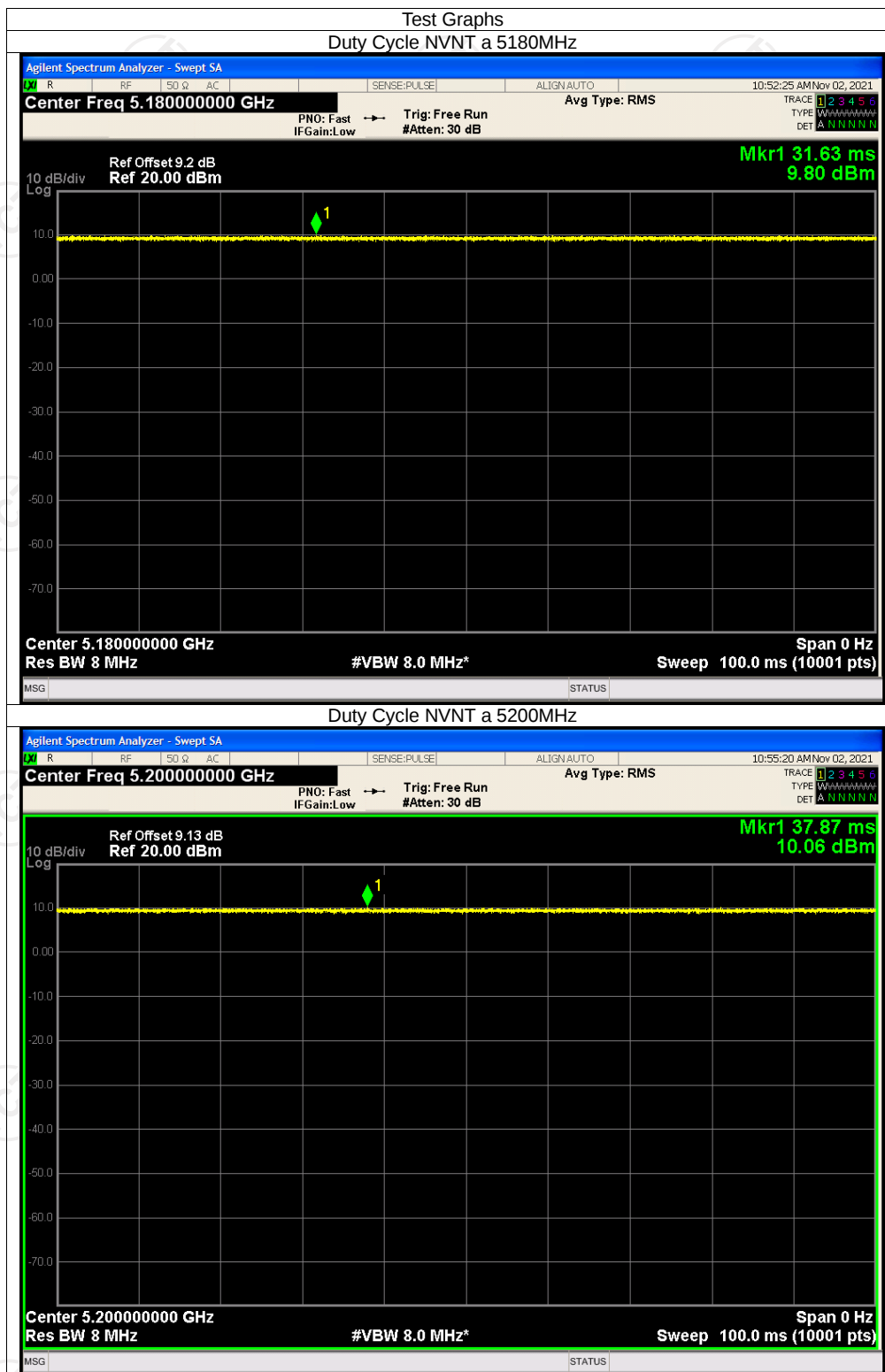
Test mode:		802.11ac(VHT40)	Frequency(MHz):	5795
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.8V	5794.9807	-19300	PASS
35		5794.9842	-15800	PASS
25		5795.0045	4500	PASS
15		5795.0033	3300	PASS
5		5795.0021	2100	PASS
0		5795.0066	6600	PASS
20	3.6	5795.0058	5800	PASS
	3.8	5794.9989	-1100	PASS
	4.3	5795.0084	8400	PASS

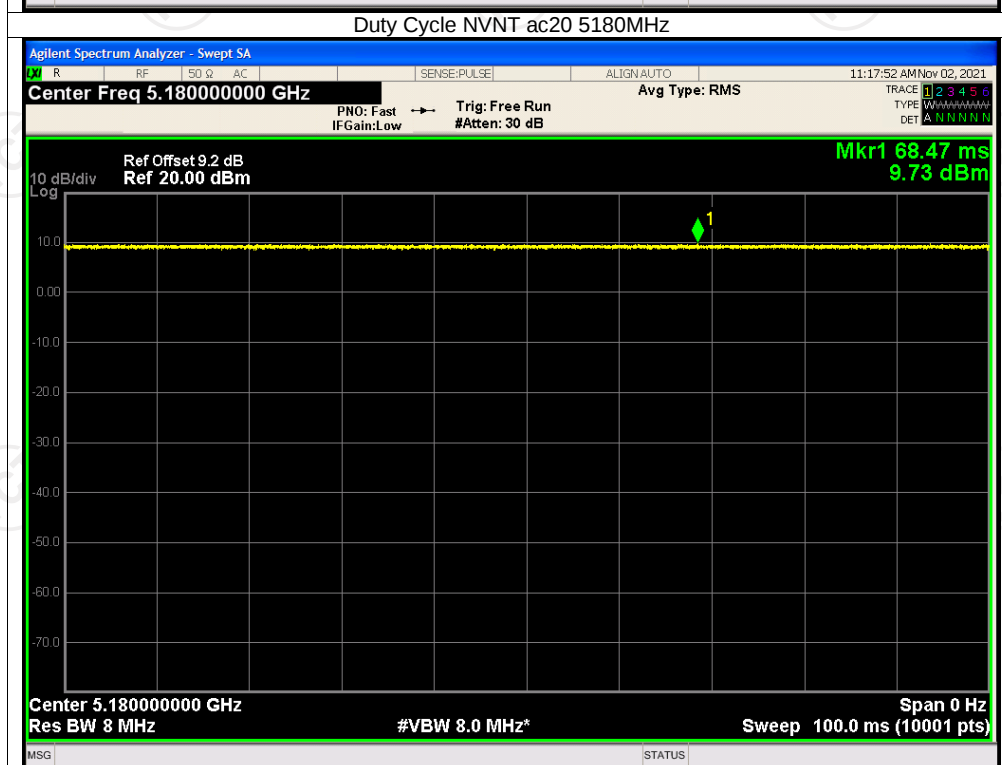
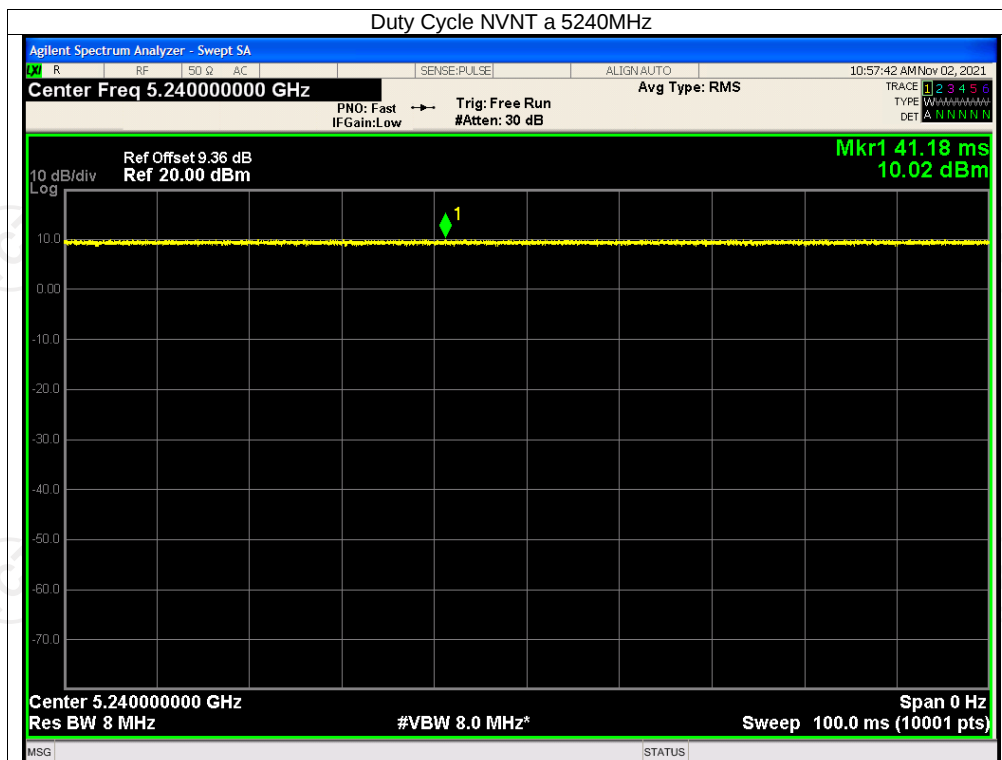
Test mode:		802.11ac(VHT80)	Frequency(MHz):	5210
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.8V	5209.9801	-19900	PASS
35		5209.9844	-15600	PASS
25		5210.0048	4800	PASS
15		5210.0033	3300	PASS
5		5210.0027	2700	PASS
0		5210.0065	6500	PASS
20	3.6	5210.0059	5900	PASS
	3.8	5209.9986	-1400	PASS
	4.3	5210.0080	8000	PASS

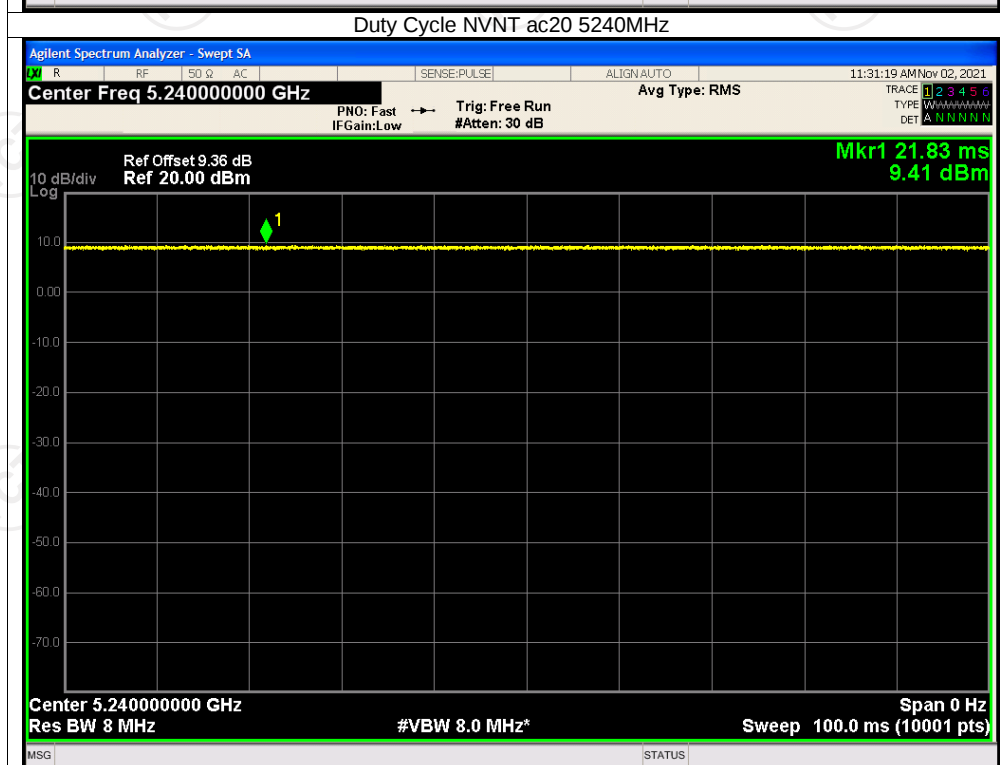
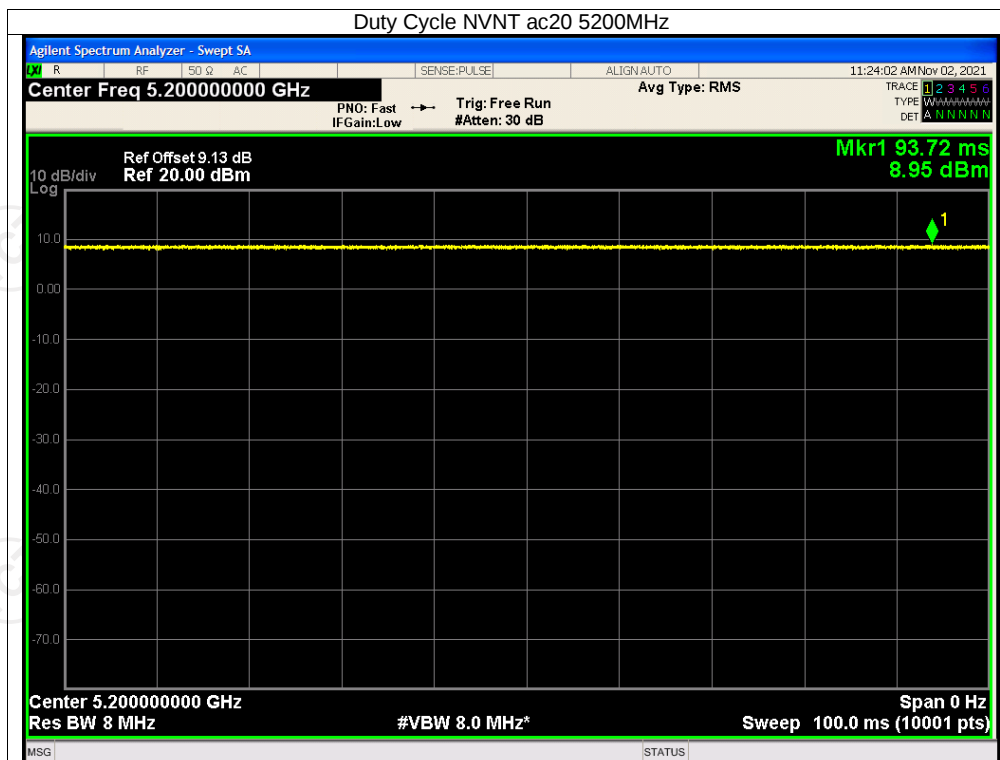
Test mode:		802.11ac(VHT80)	Frequency(MHz):	5775
Temperature (°C)	Voltage(VDC)	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.8V	5775.0044	4400	PASS
35		5774.9978	-2200	PASS
25		5775.0049	4900	PASS
15		5775.0033	3300	PASS
5		5775.0026	2600	PASS
0		5775.0061	6100	PASS
20	3.6	5775.0057	5700	PASS
	3.8	5774.9982	-1800	PASS
	4.3	5775.0084	8400	PASS

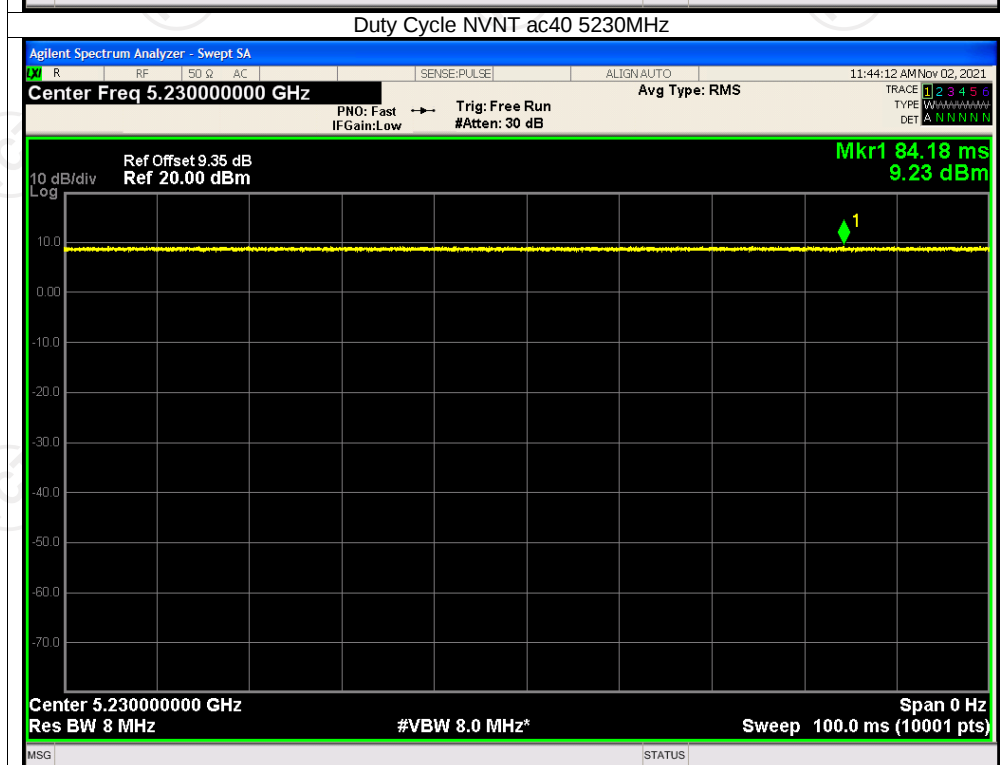
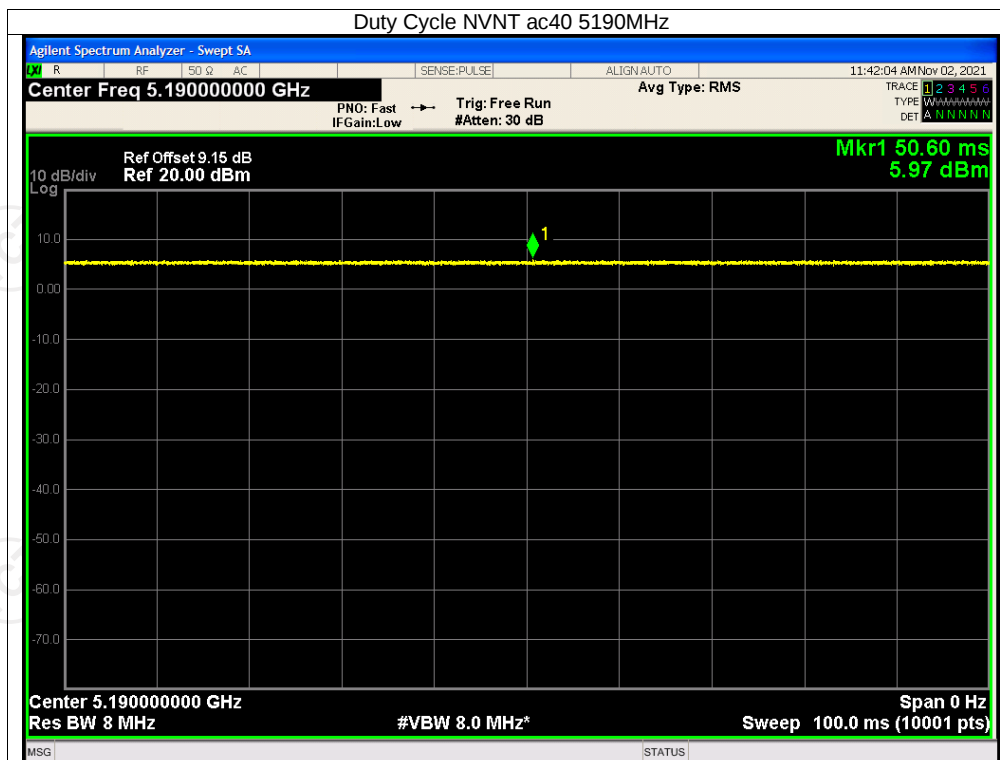
Appendix A: Test Result of Conducted Test**Duty Cycle**

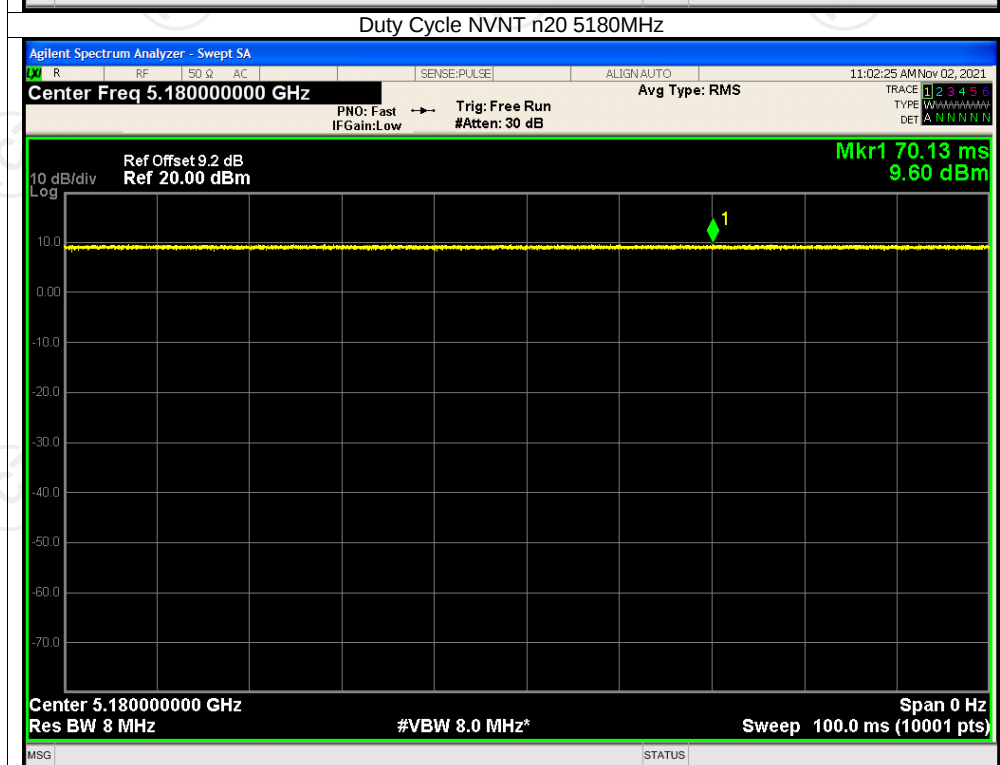
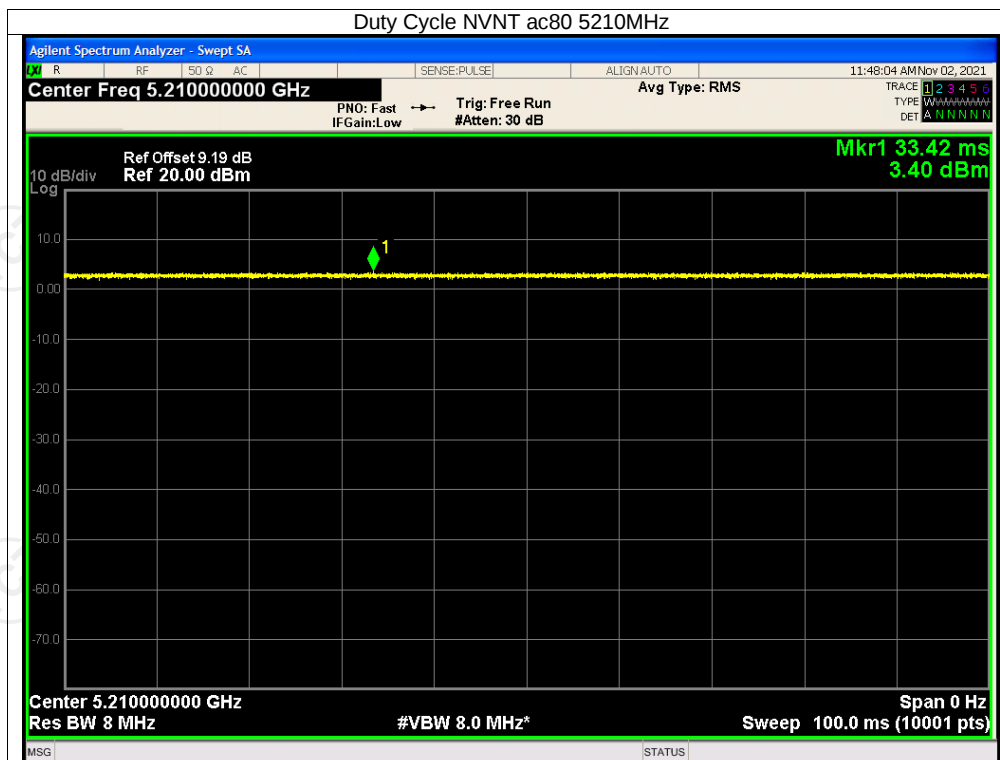
Condition	Mode	Frequency (MHz)	Duty Cycle (%)
NVNT	a	5180	100
NVNT	a	5200	100
NVNT	a	5240	100
NVNT	ac20	5180	100
NVNT	ac20	5200	100
NVNT	ac20	5240	100
NVNT	ac40	5190	100
NVNT	ac40	5230	100
NVNT	ac80	5210	100
NVNT	n20	5180	100
NVNT	n20	5200	100
NVNT	n20	5240	100
NVNT	n40	5190	100
NVNT	n40	5230	100
NVNT	a	5745	100
NVNT	a	5785	100
NVNT	a	5825	100
NVNT	ac20	5745	100
NVNT	ac20	5785	100
NVNT	ac20	5825	100
NVNT	ac40	5755	100
NVNT	ac40	5795	100
NVNT	ac80	5775	100
NVNT	n20	5745	100
NVNT	n20	5785	100
NVNT	n20	5825	100
NVNT	n40	5755	100
NVNT	n40	5795	100

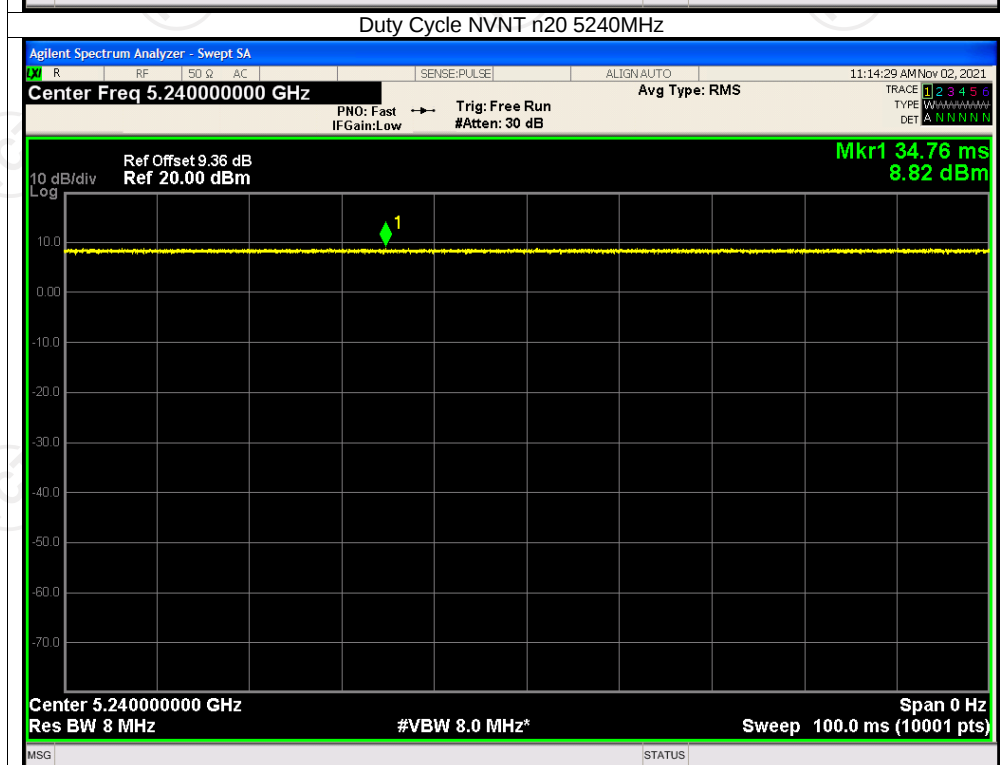
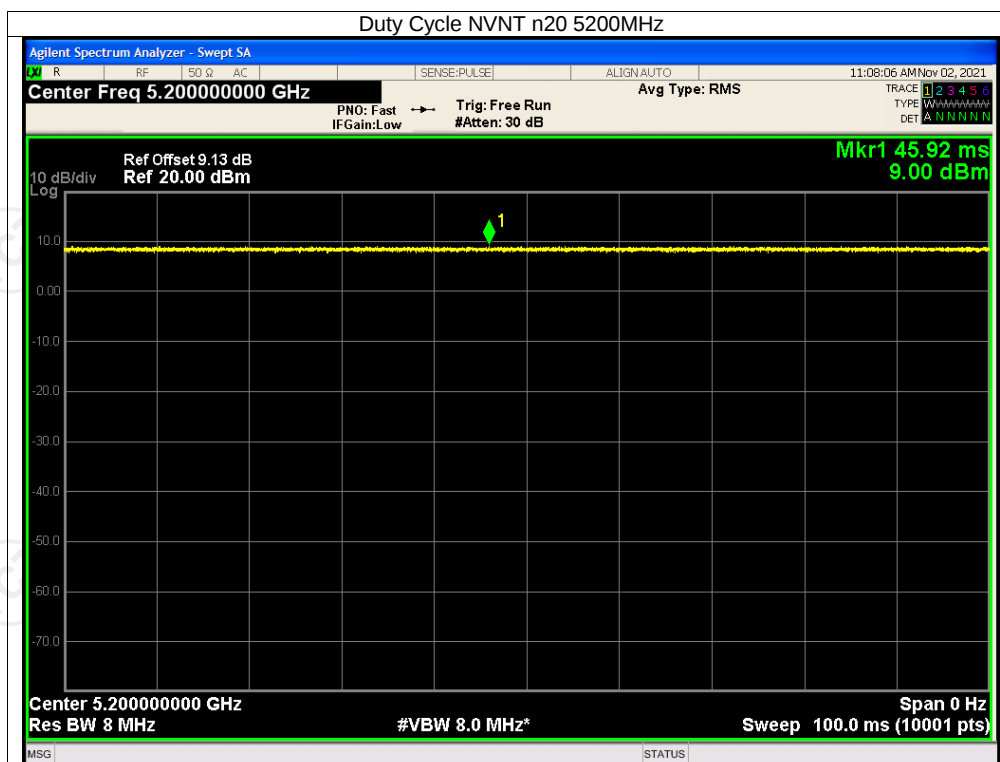


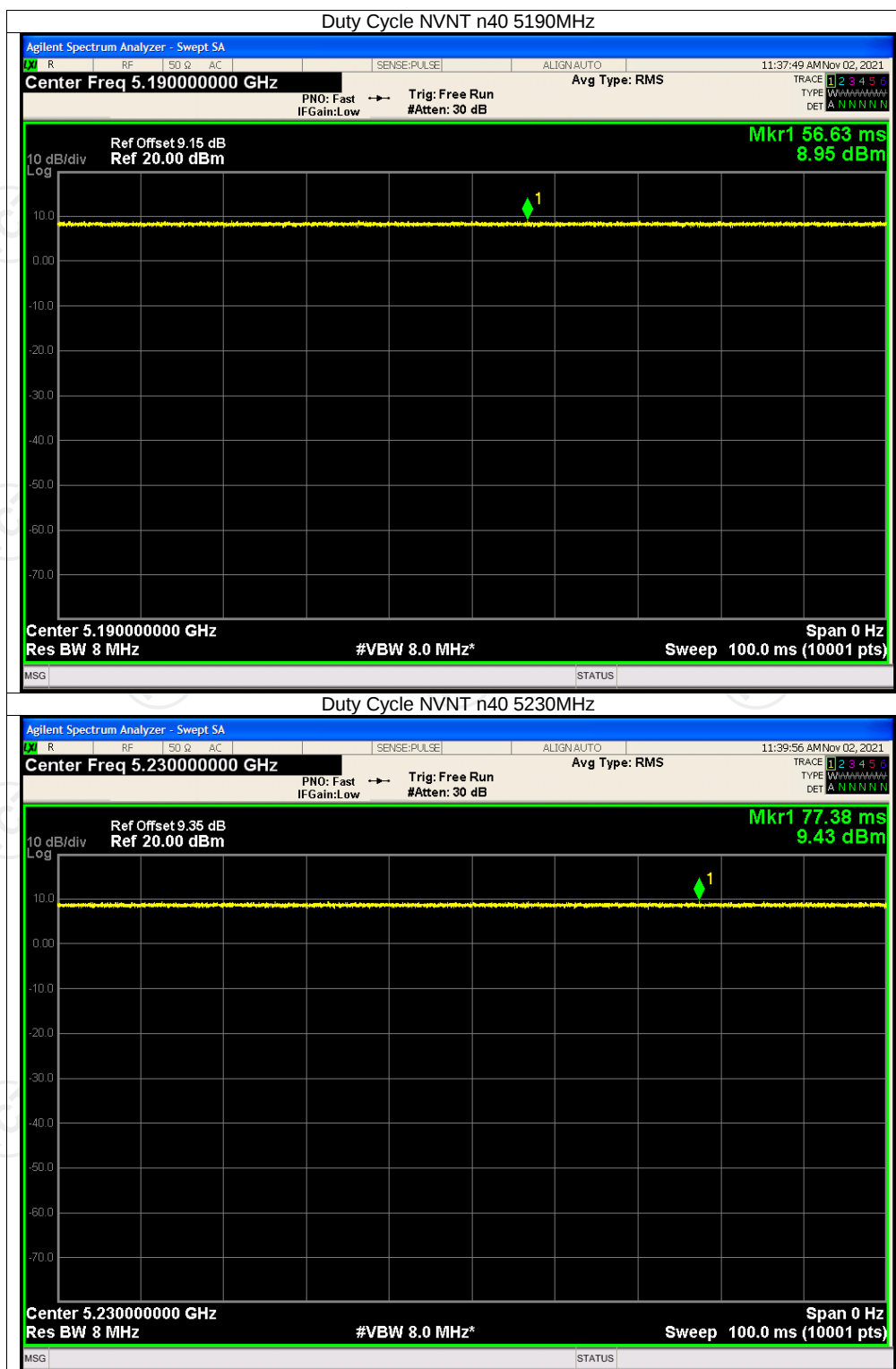


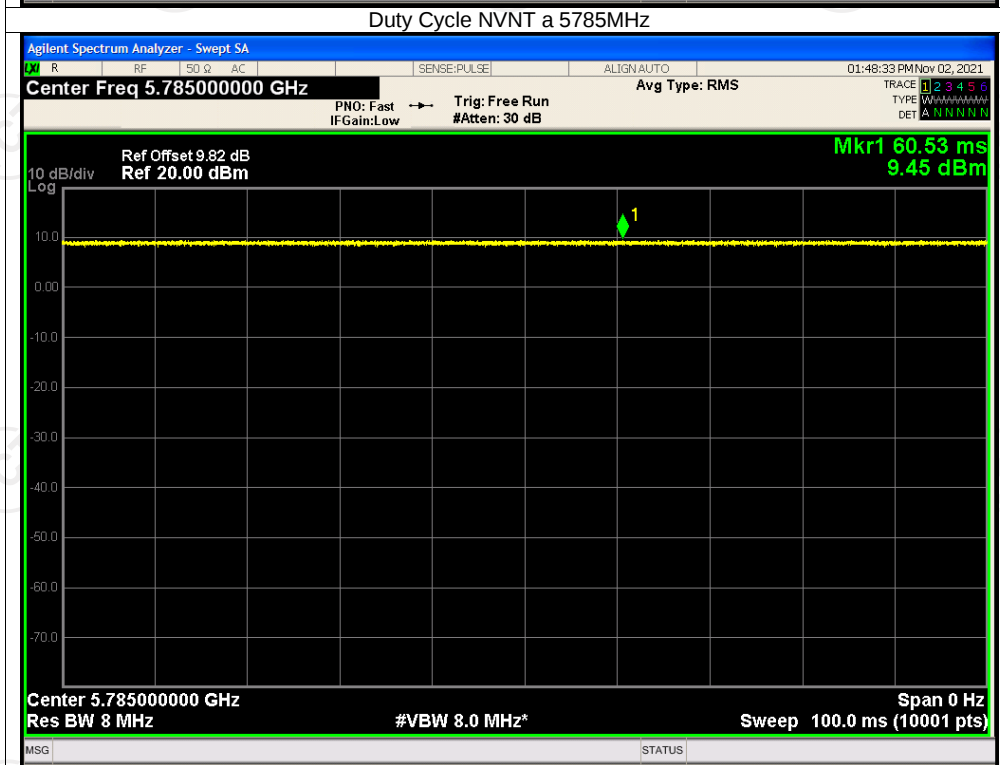
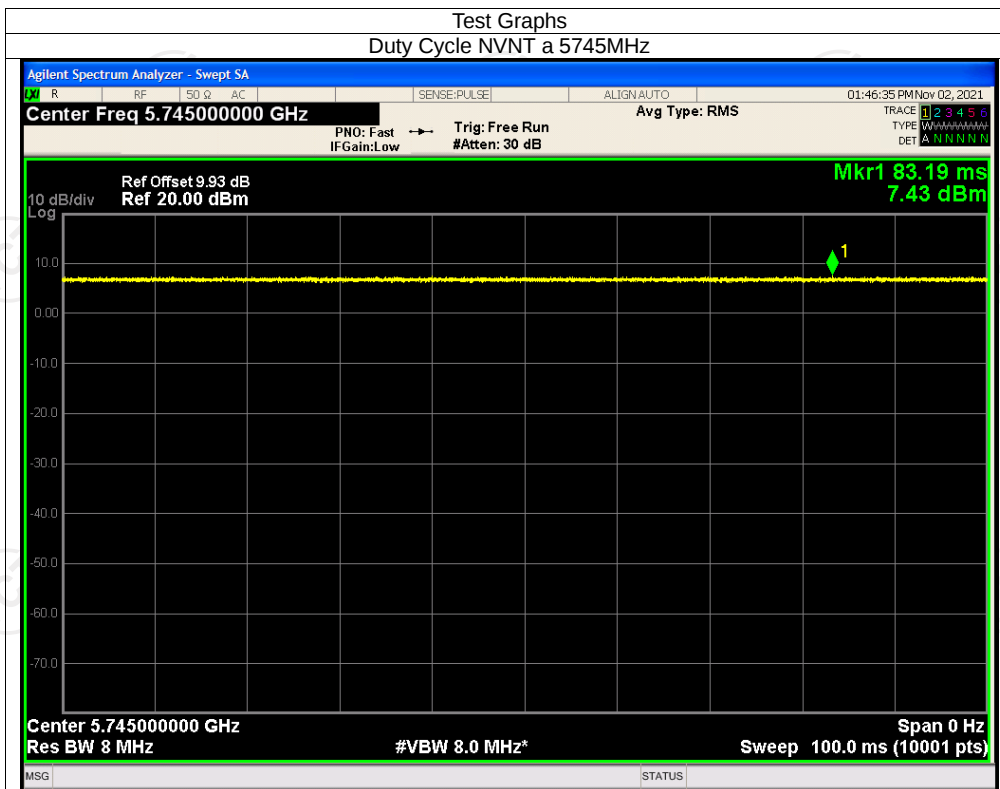


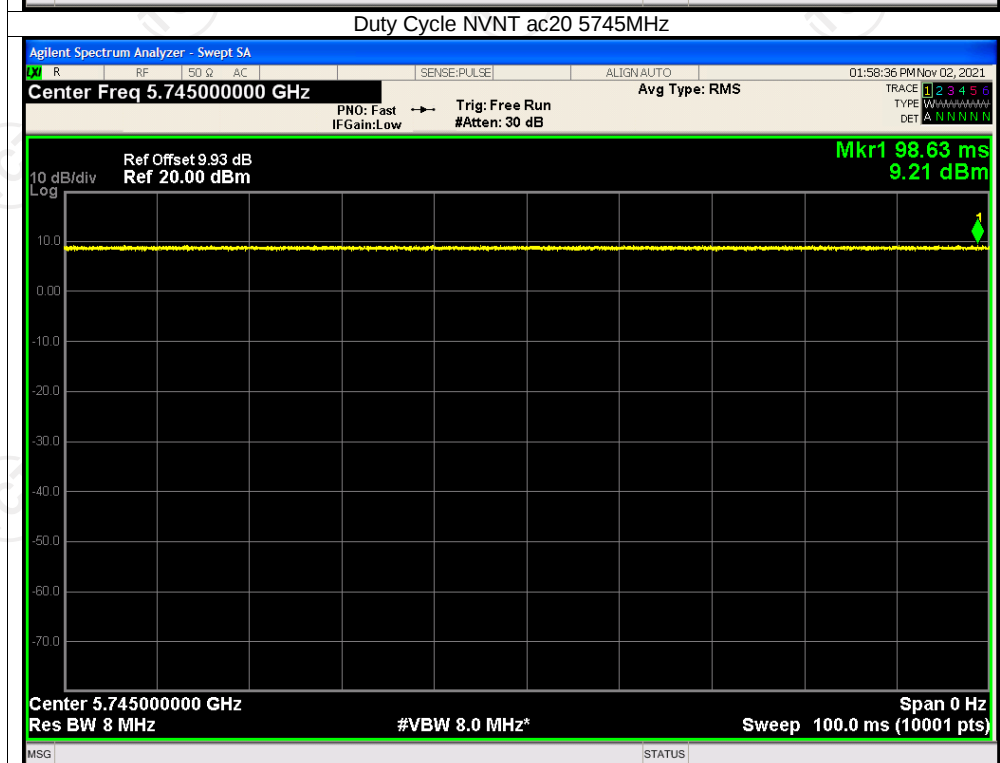
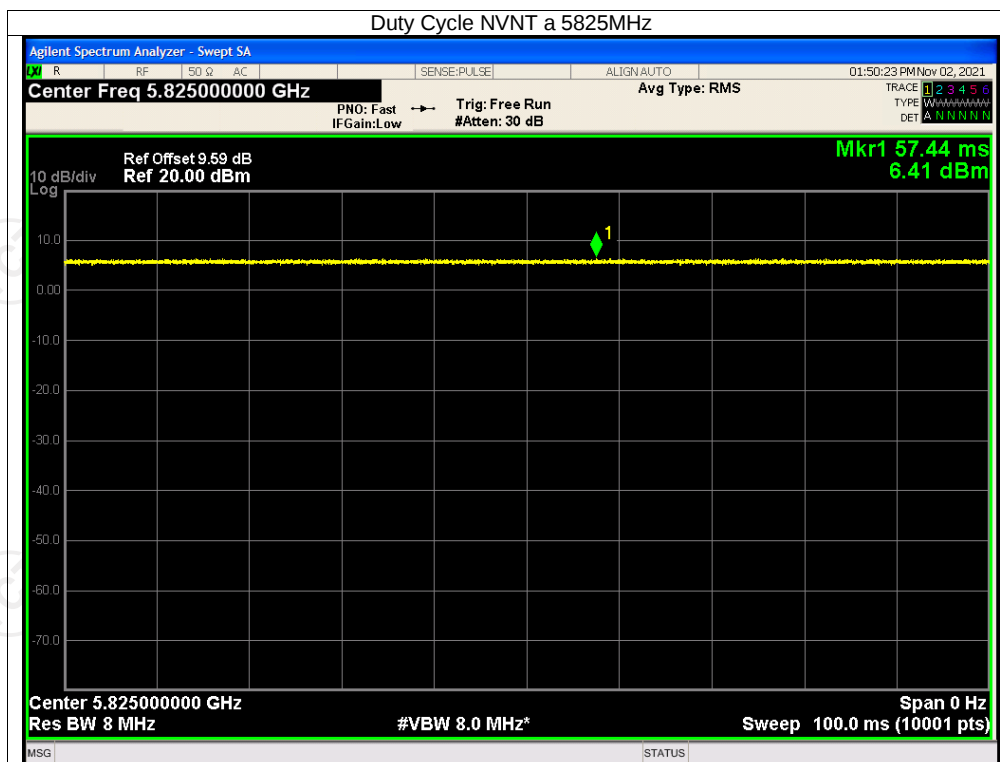


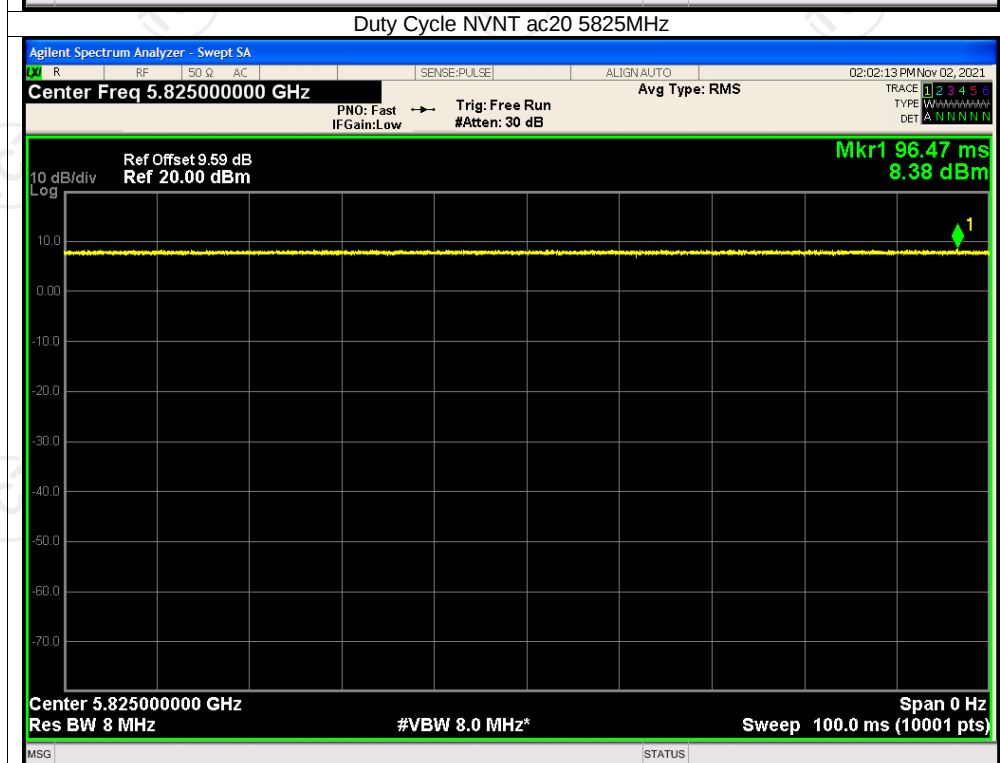
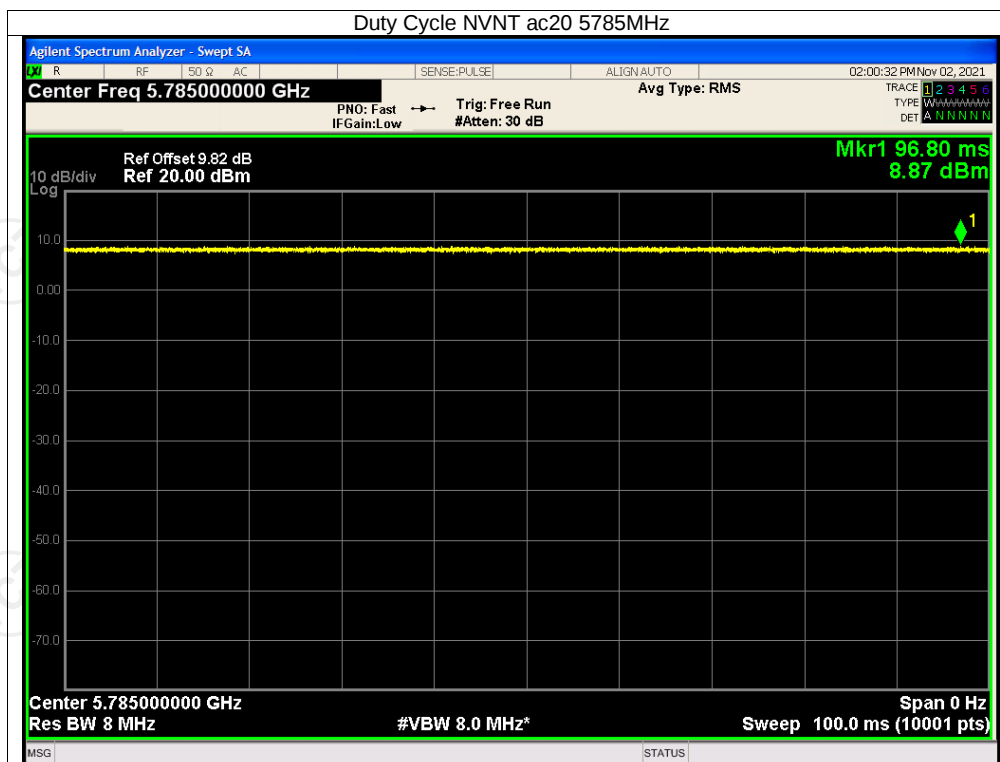


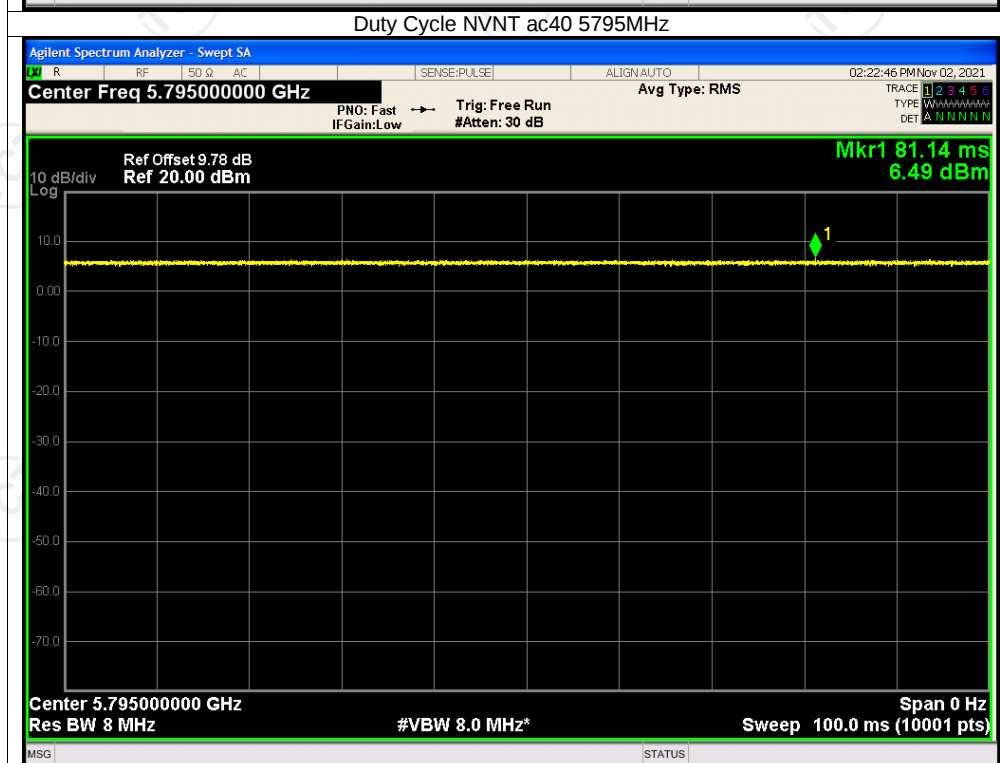
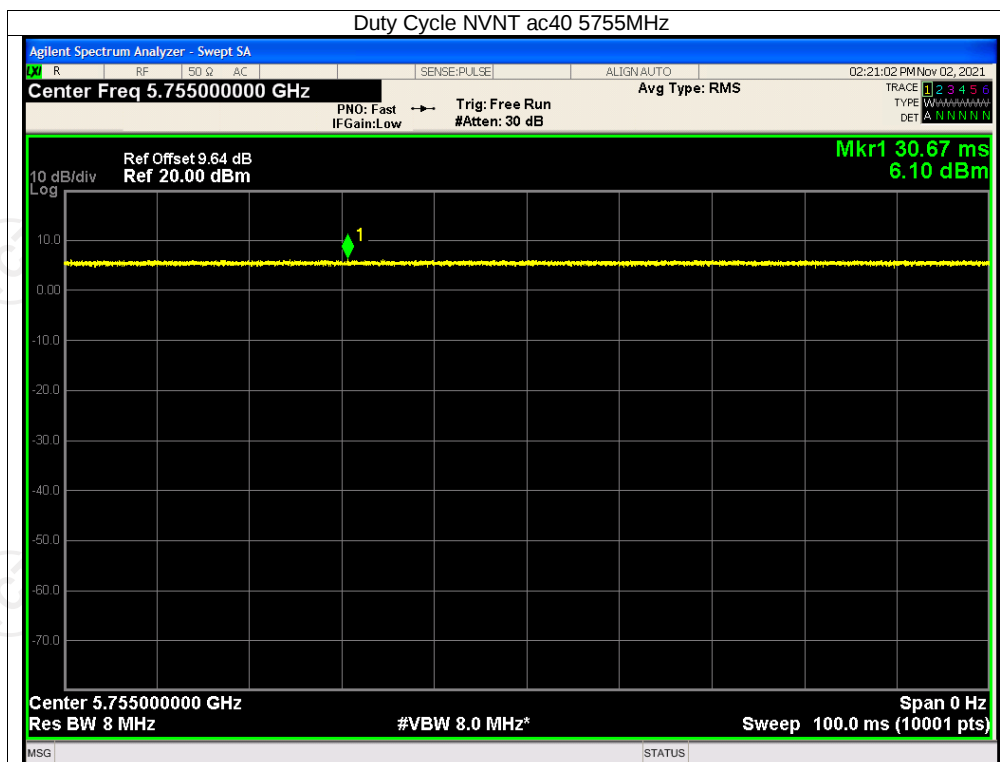


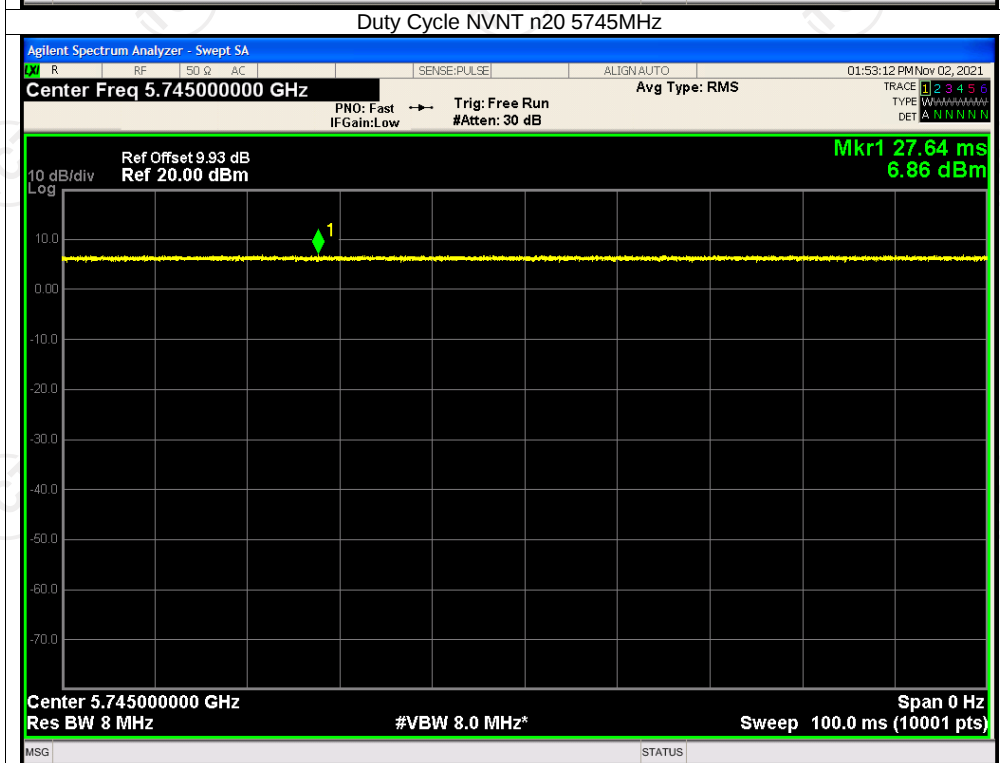
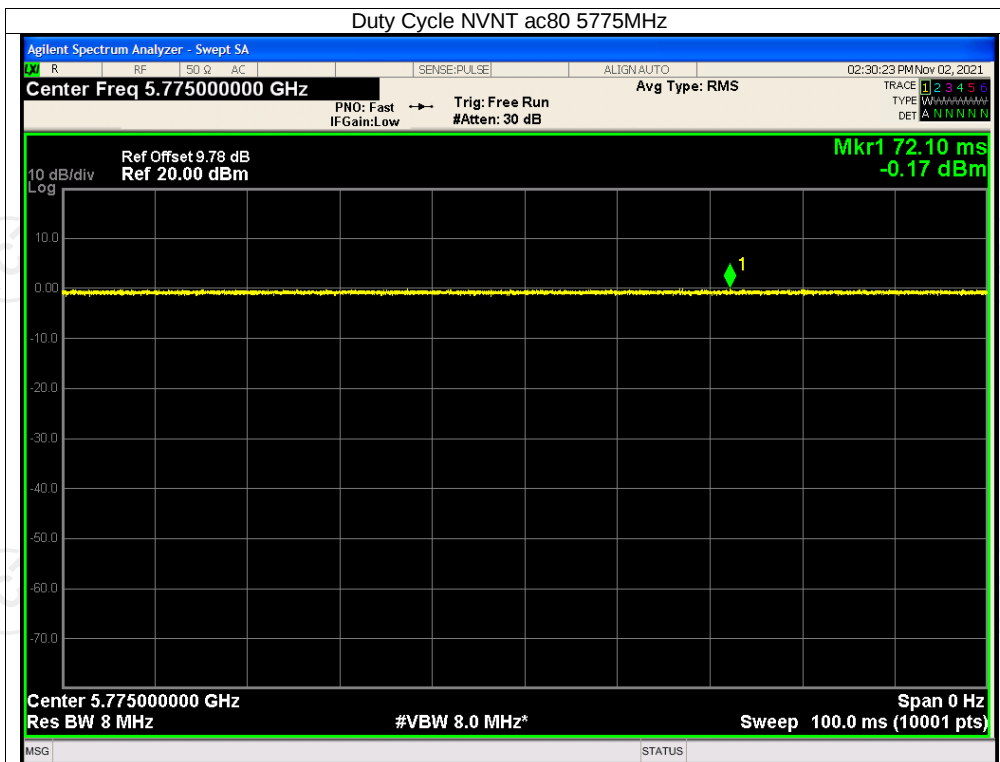


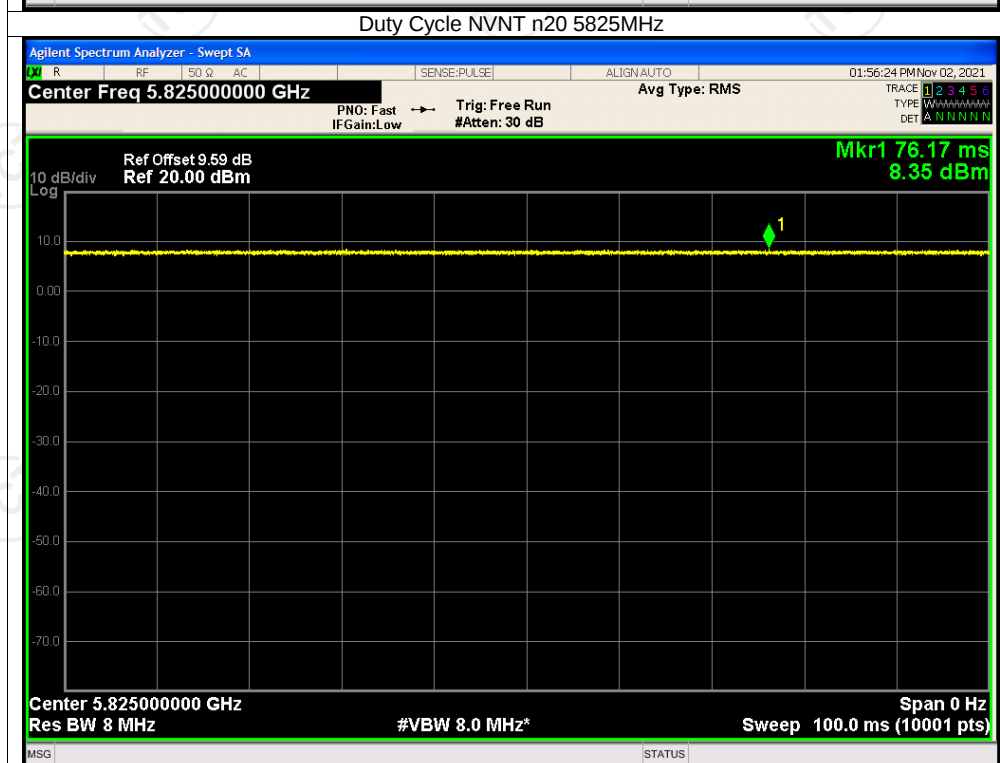
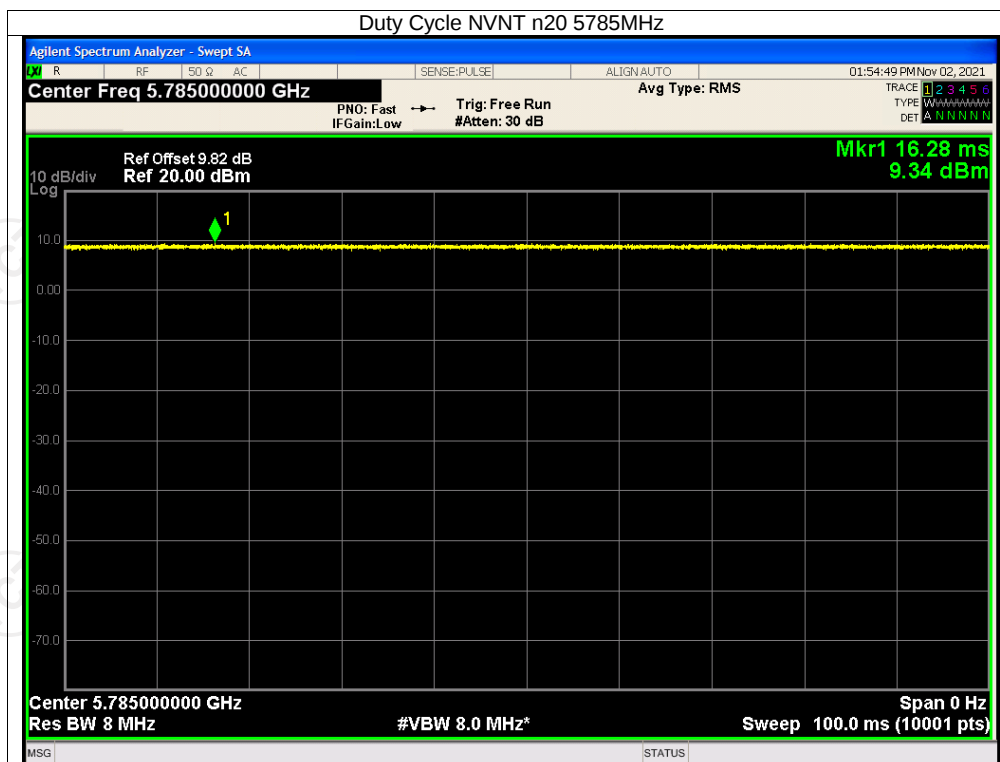


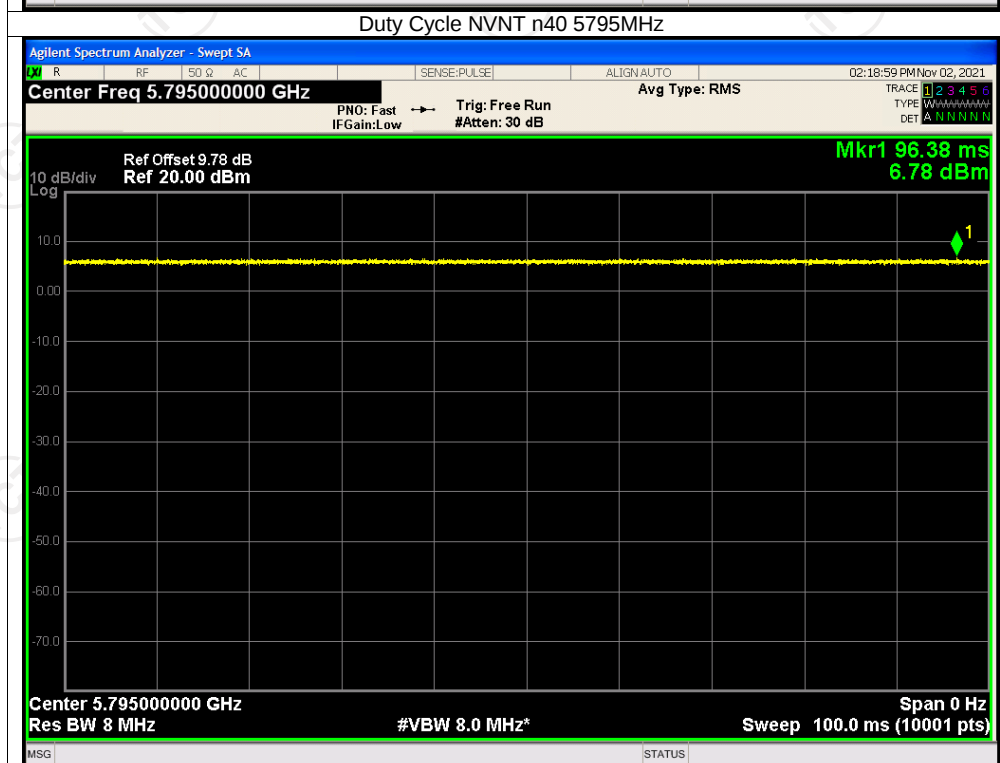
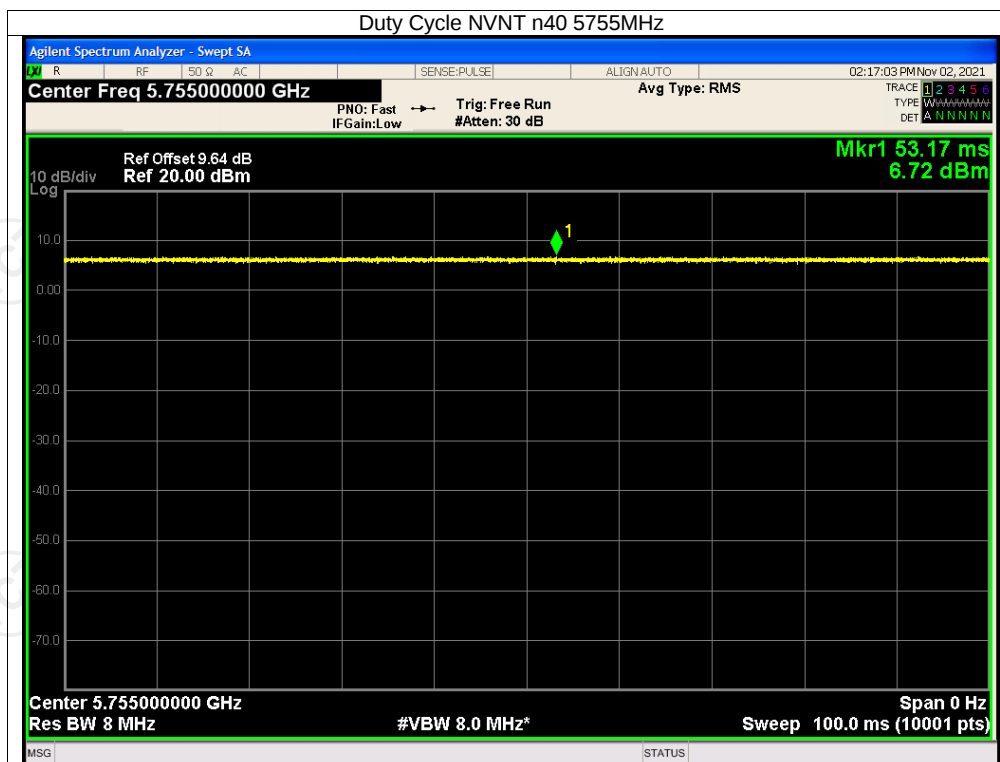






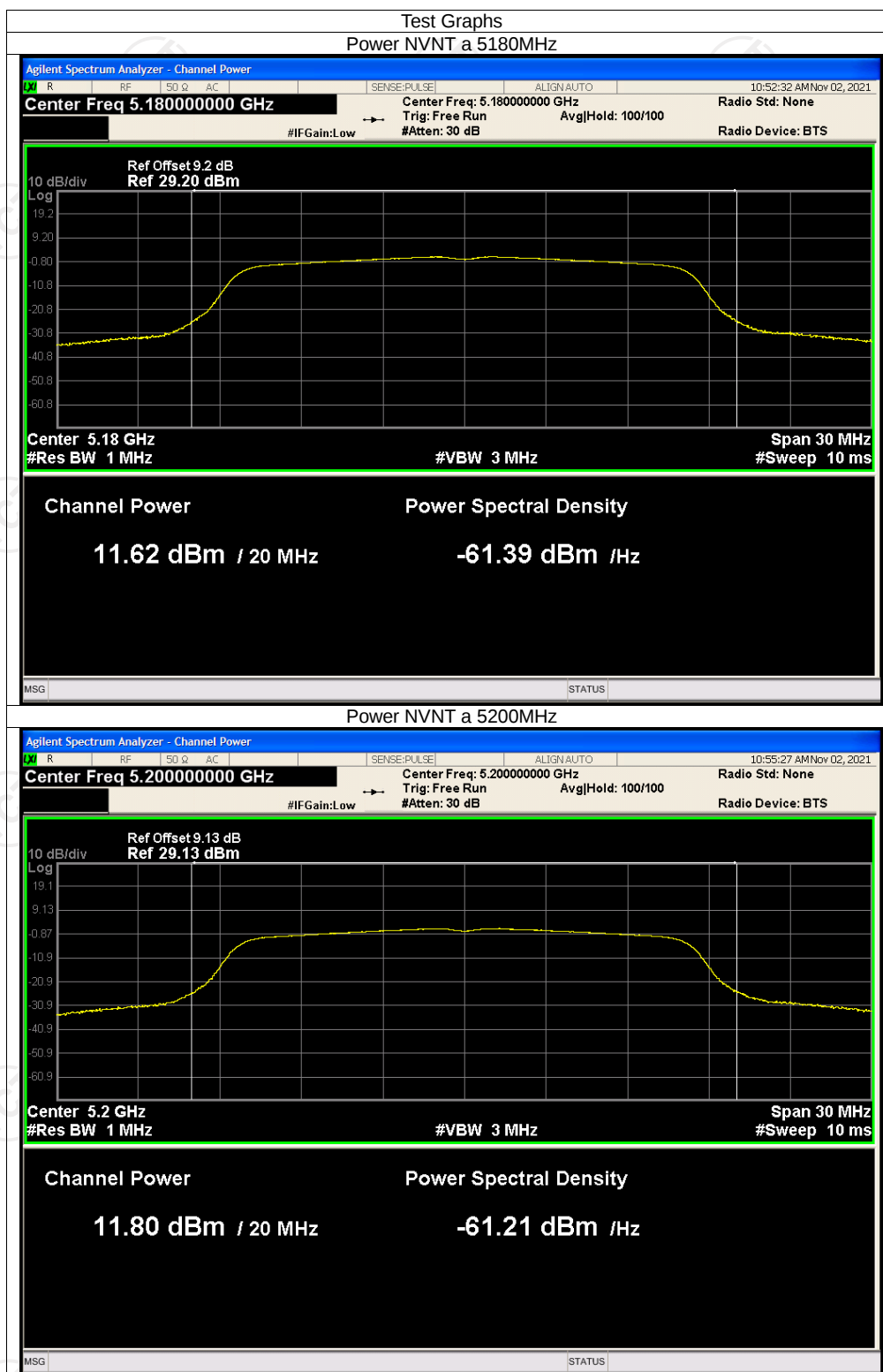


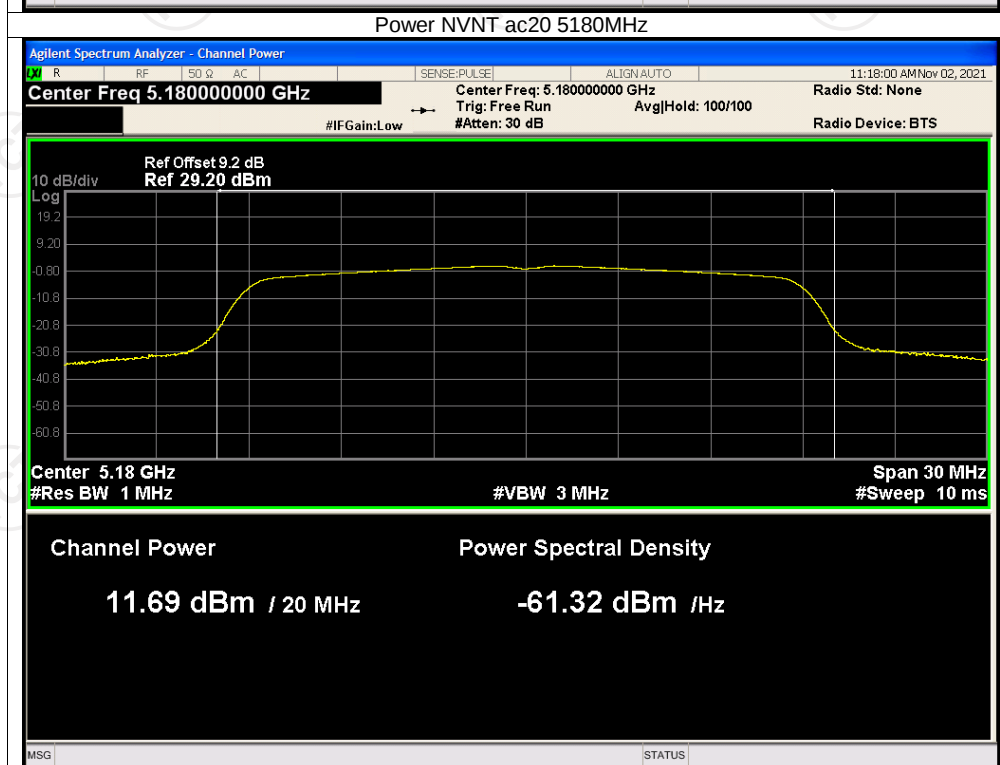
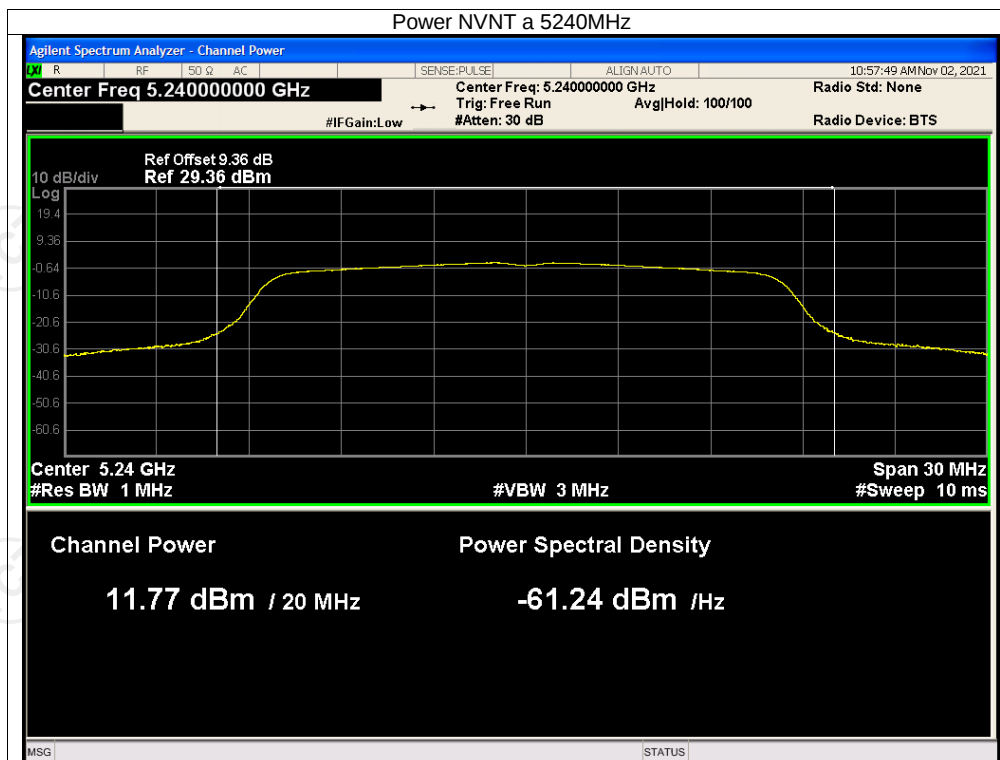


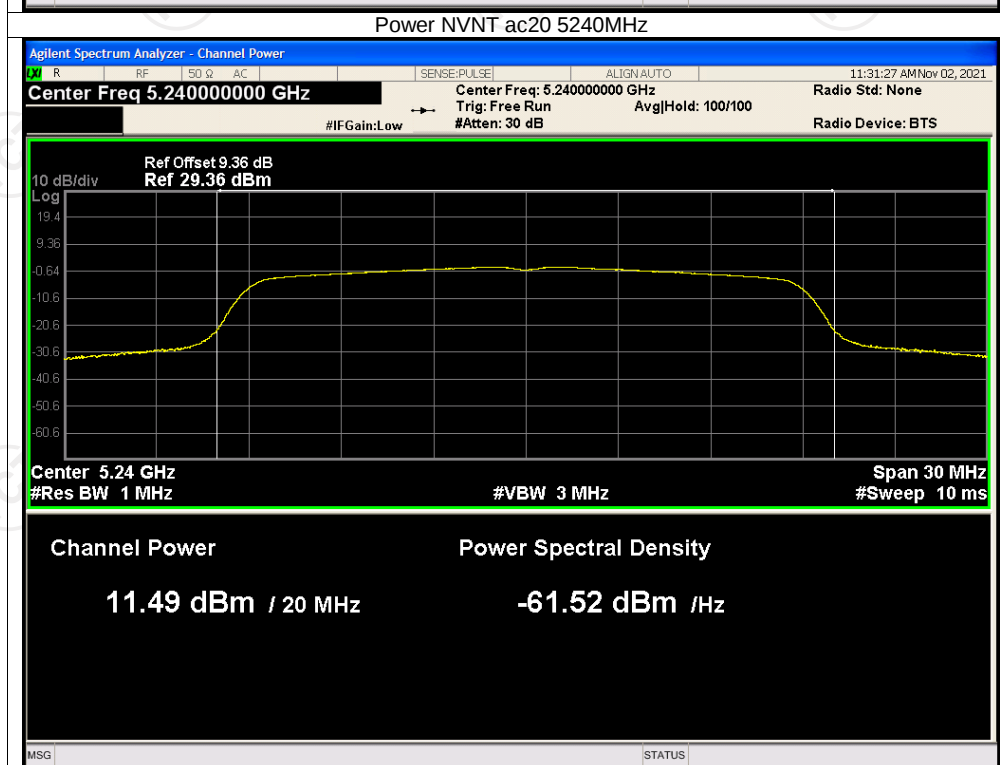
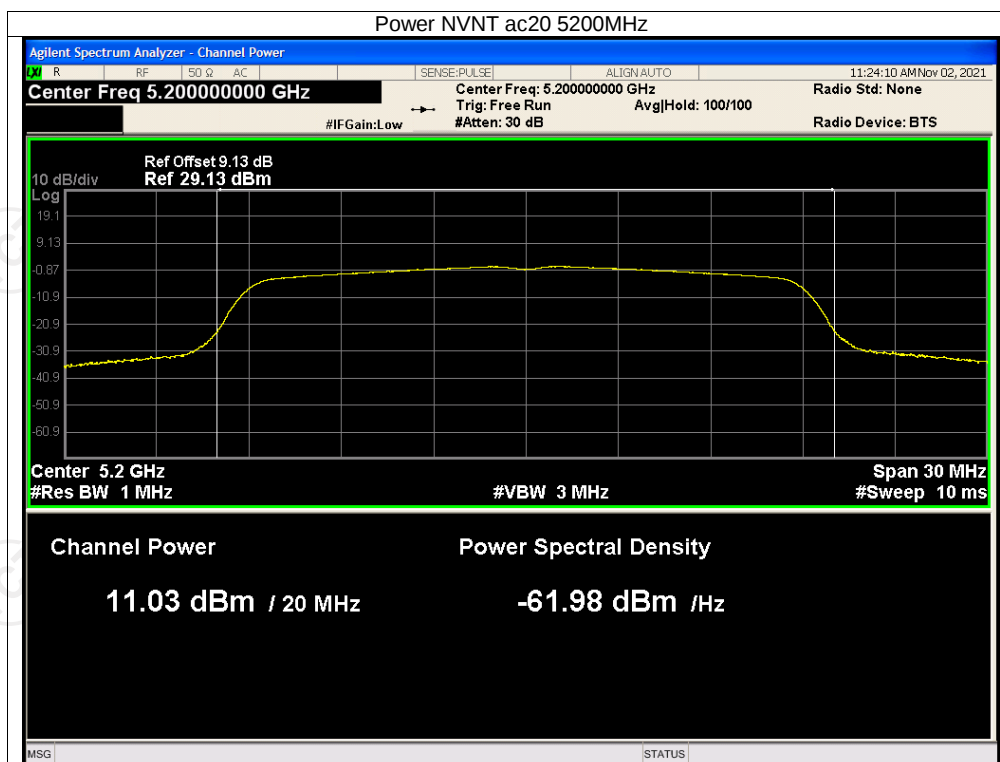


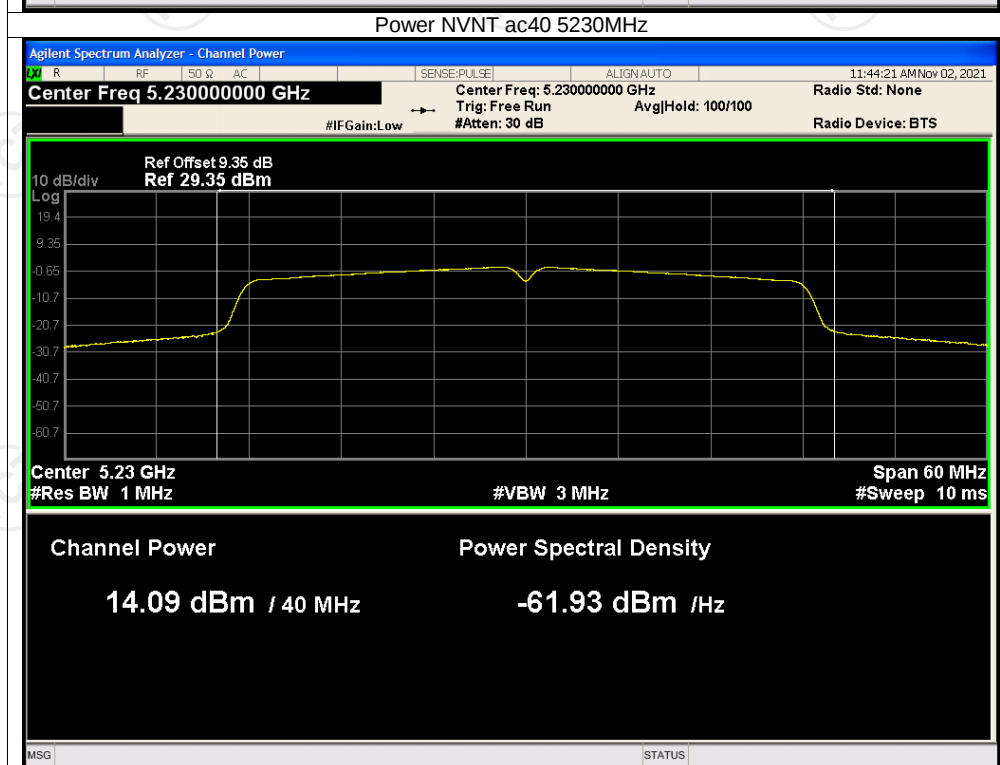
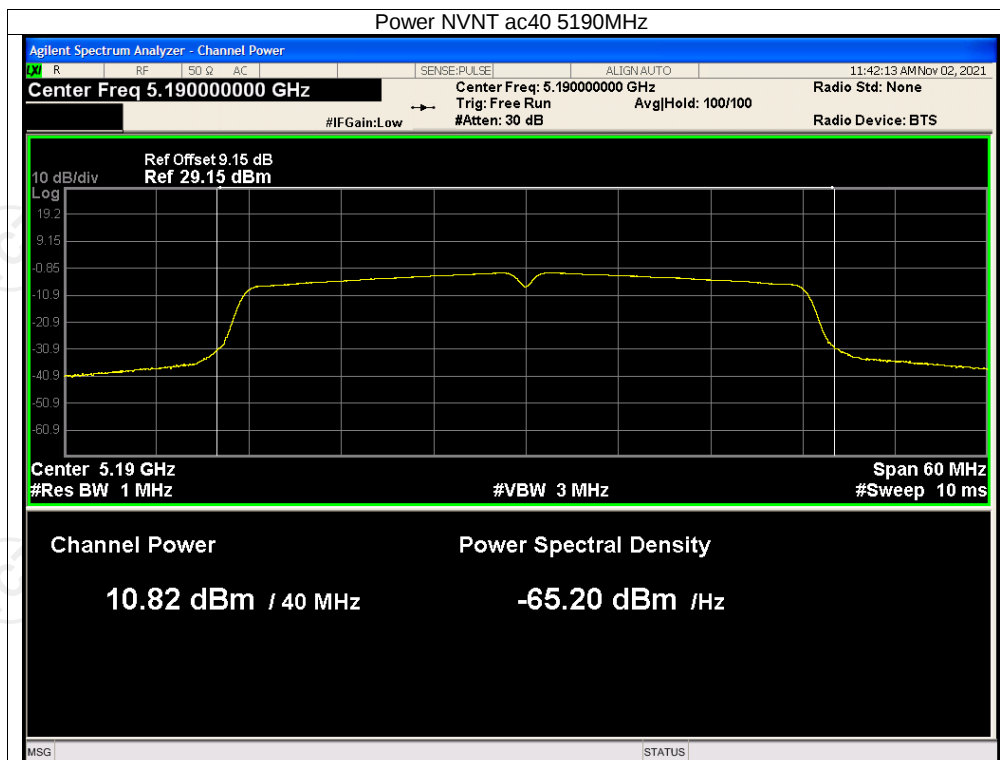
Maximum Conducted Output Power

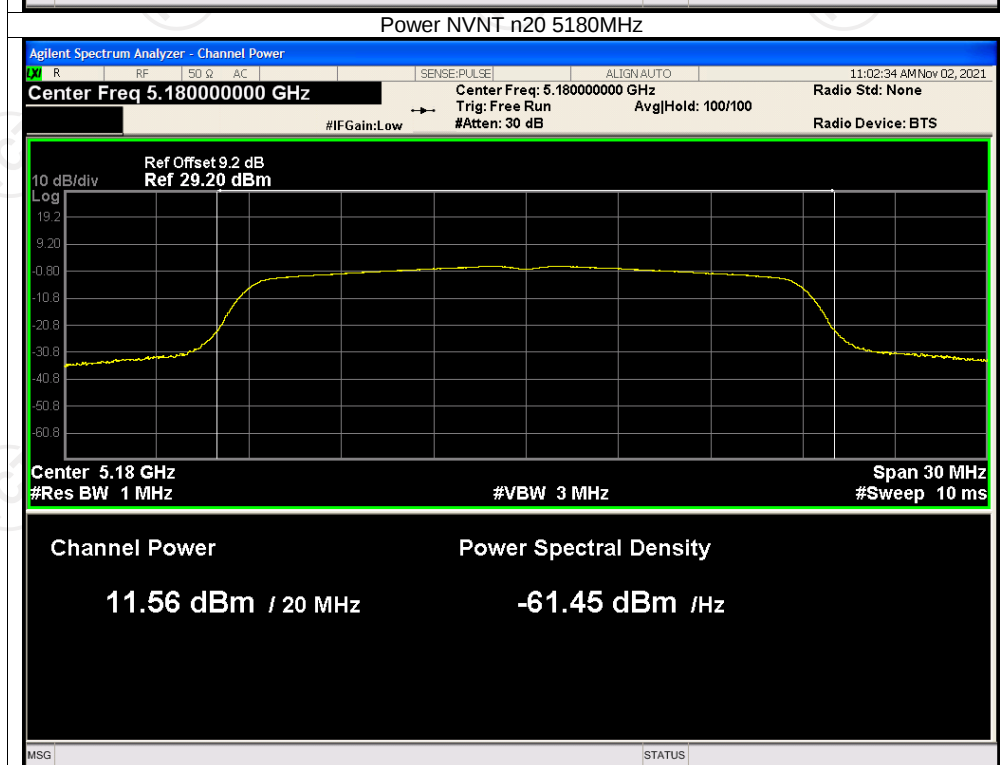
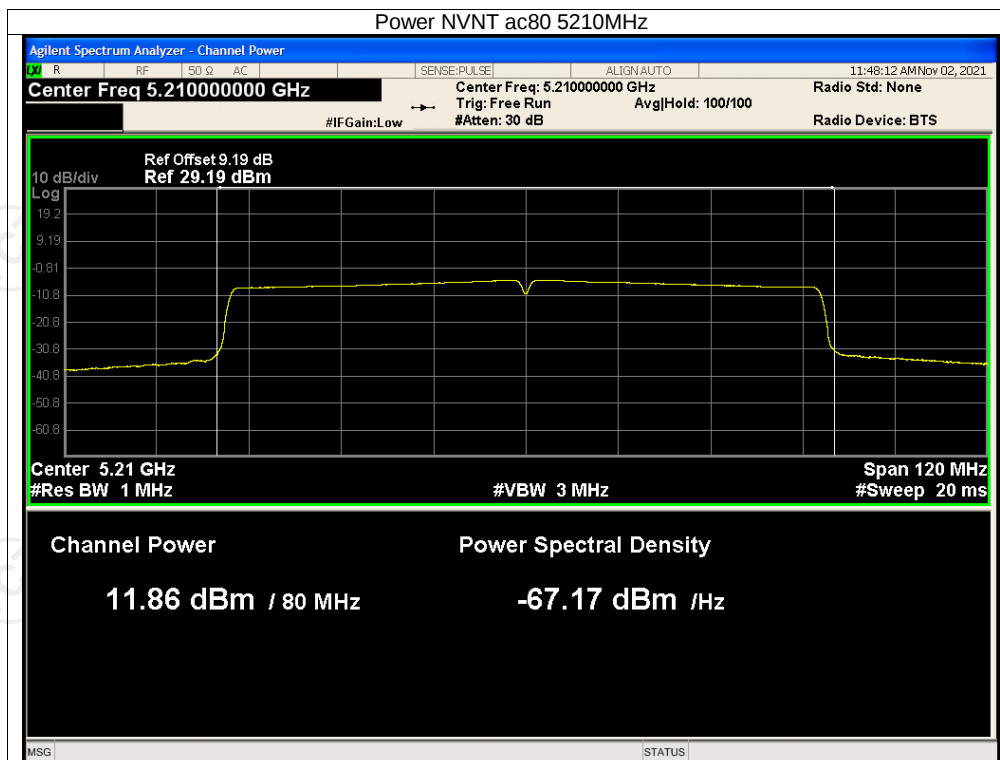
Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	11.62	24	Pass
NVNT	a	5200	11.802	24	Pass
NVNT	a	5240	11.772	24	Pass
NVNT	ac20	5180	11.69	24	Pass
NVNT	ac20	5200	11.027	24	Pass
NVNT	ac20	5240	11.494	24	Pass
NVNT	ac40	5190	10.824	24	Pass
NVNT	ac40	5230	14.09	24	Pass
NVNT	ac80	5210	11.863	24	Pass
NVNT	n20	5180	11.563	24	Pass
NVNT	n20	5200	10.982	24	Pass
NVNT	n20	5240	10.828	24	Pass
NVNT	n40	5190	13.795	24	Pass
NVNT	n40	5230	14.067	24	Pass
NVNT	a	5745	9.08	30	Pass
NVNT	a	5785	11.239	30	Pass
NVNT	a	5825	8.116	30	Pass
NVNT	ac20	5745	11.102	30	Pass
NVNT	ac20	5785	10.646	30	Pass
NVNT	ac20	5825	10.318	30	Pass
NVNT	ac40	5755	10.859	30	Pass
NVNT	ac40	5795	11.139	30	Pass
NVNT	ac80	5775	8.602	30	Pass
NVNT	n20	5745	8.697	30	Pass
NVNT	n20	5785	11.219	30	Pass
NVNT	n20	5825	10.356	30	Pass
NVNT	n40	5755	11.479	30	Pass
NVNT	n40	5795	11.302	30	Pass

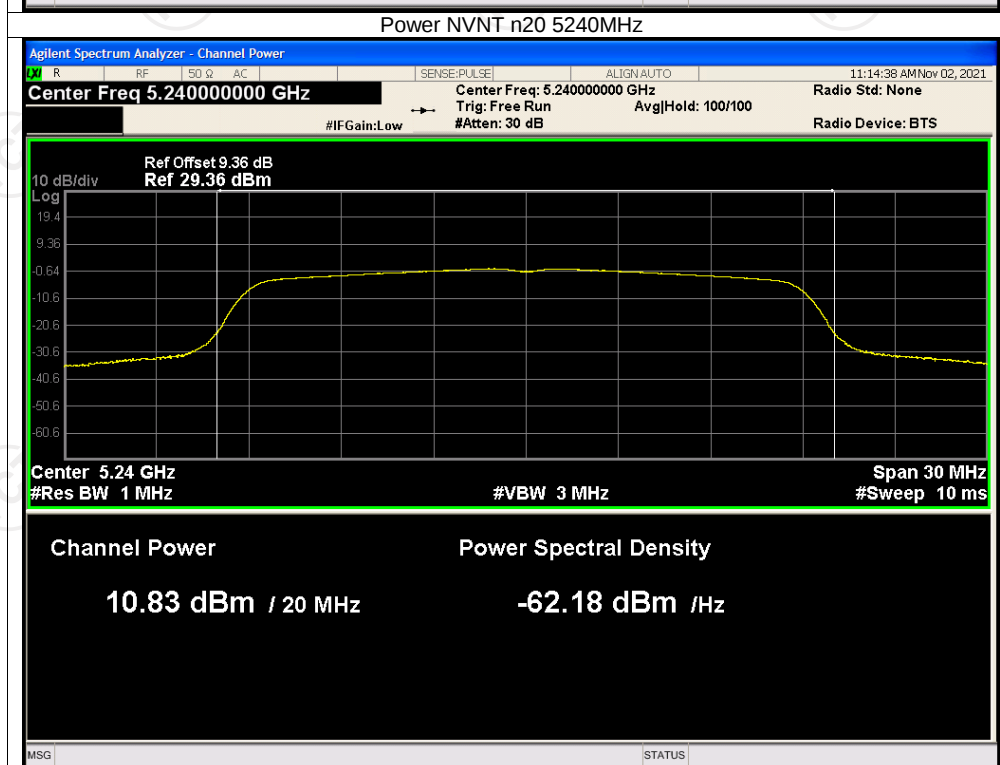
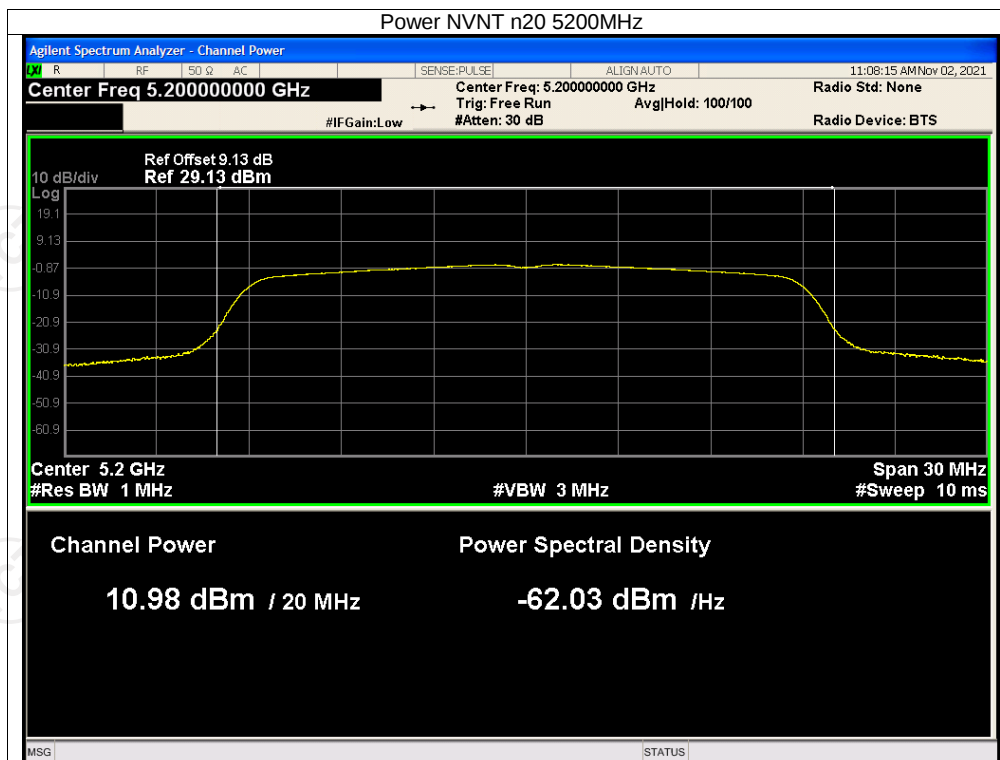


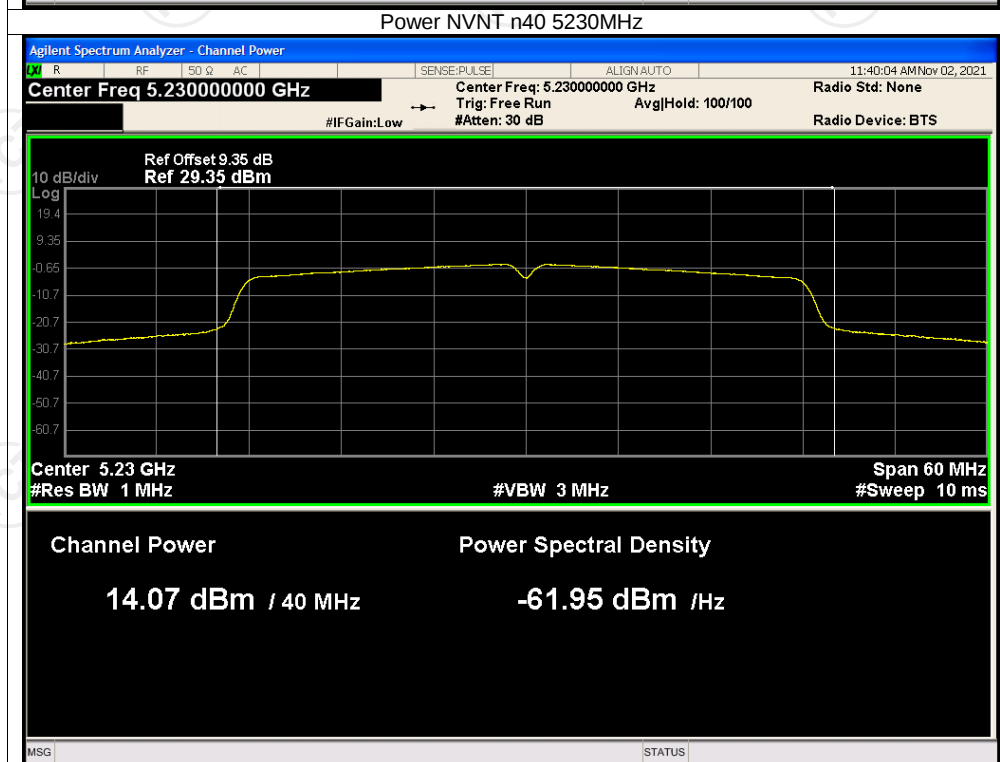
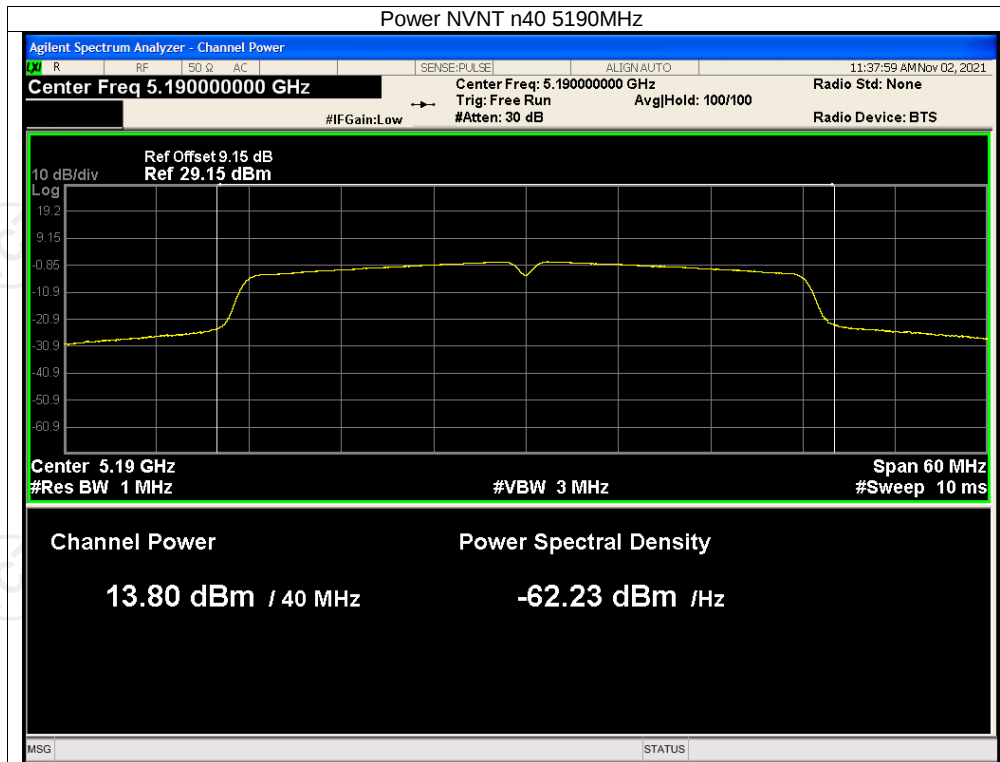


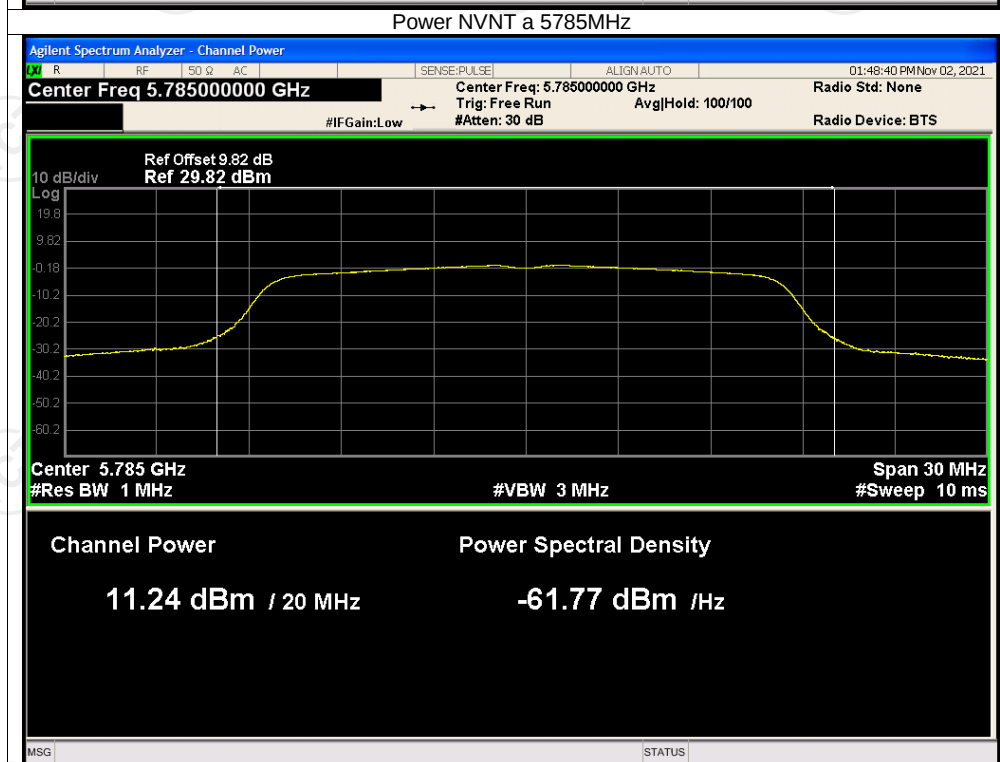
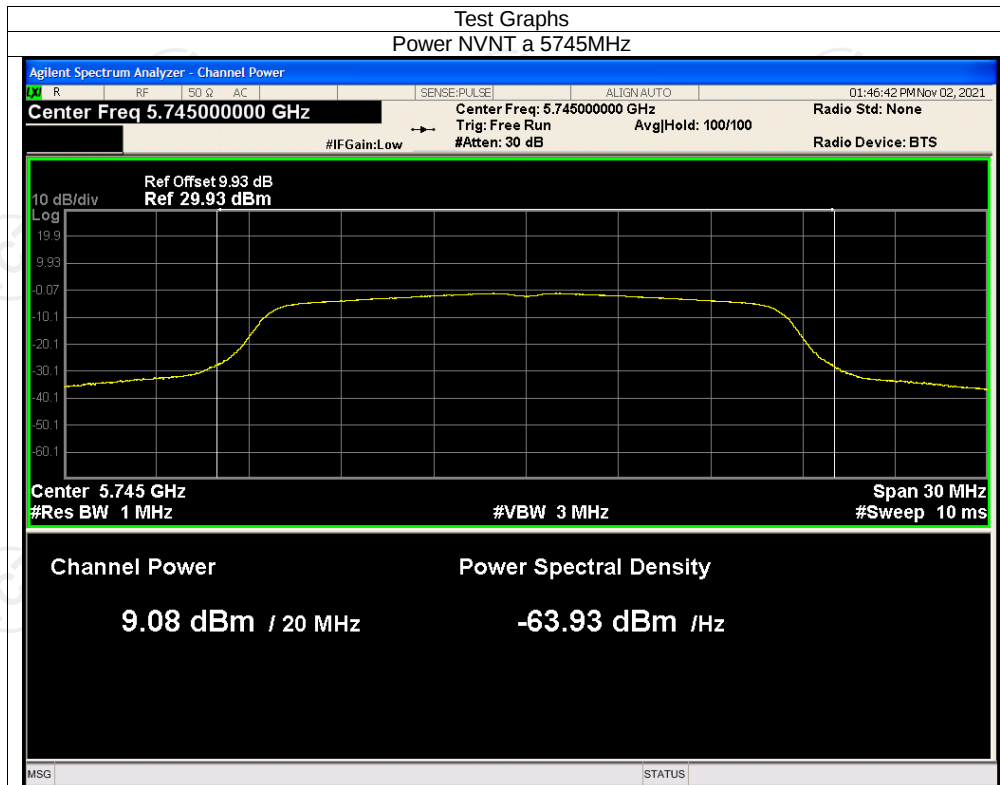


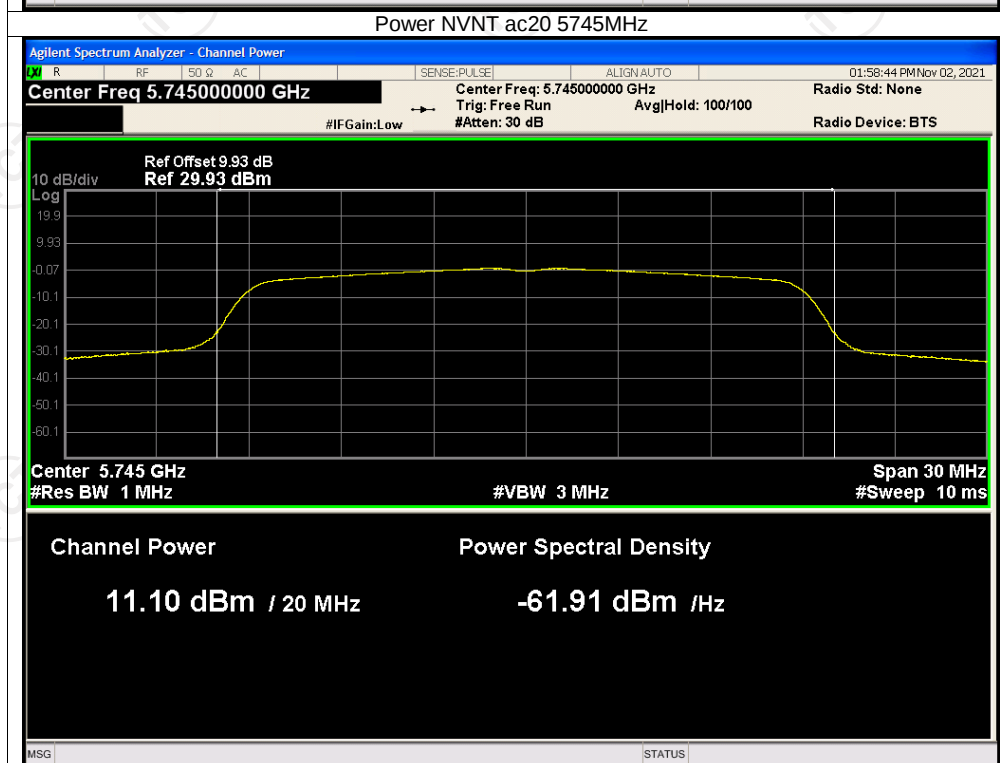
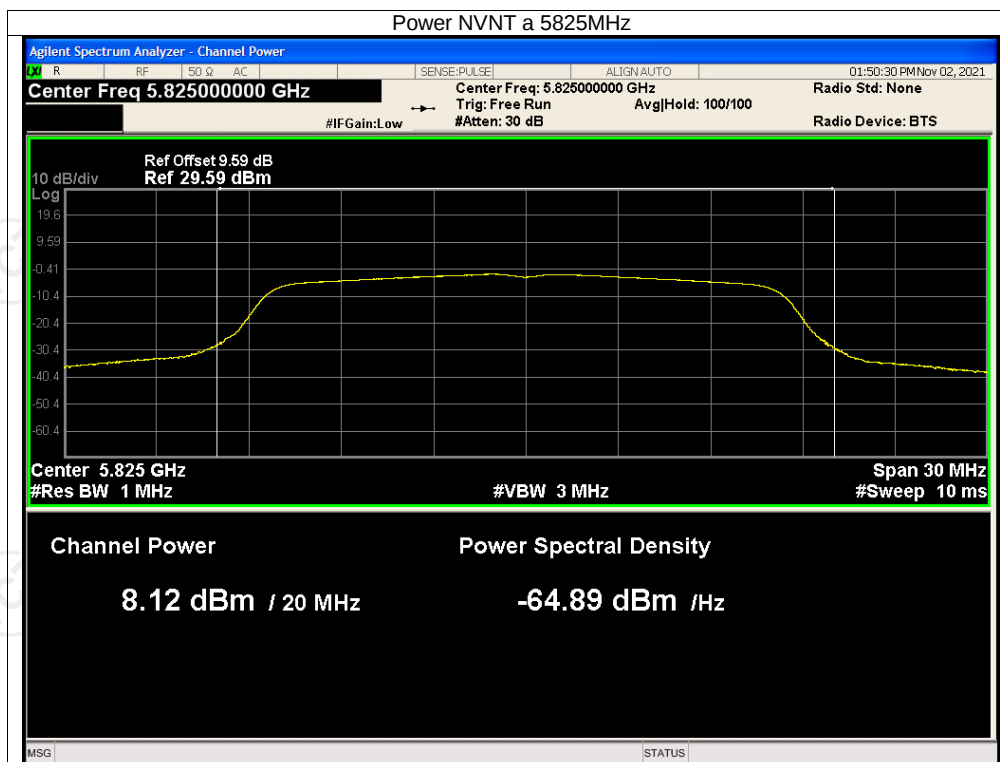


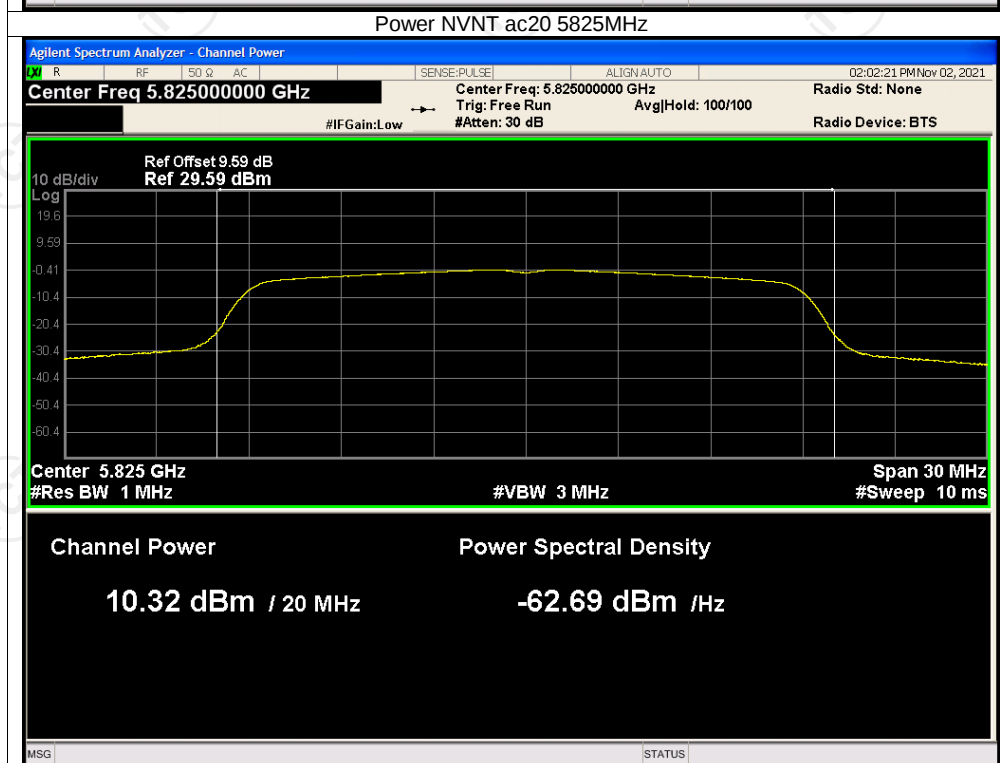
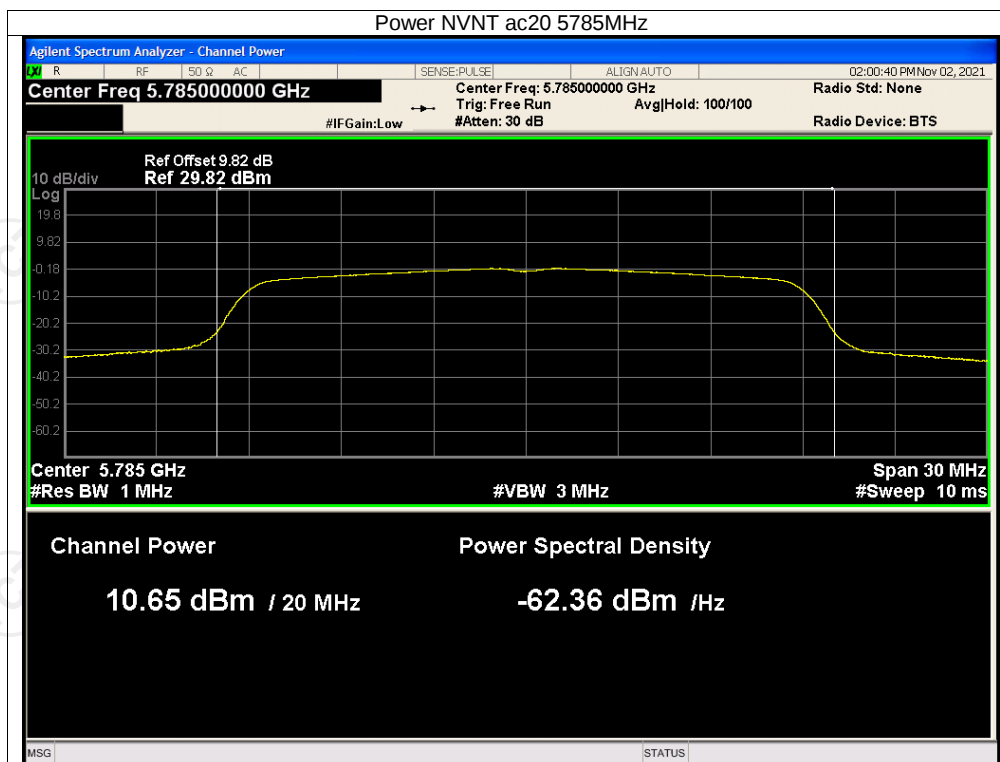


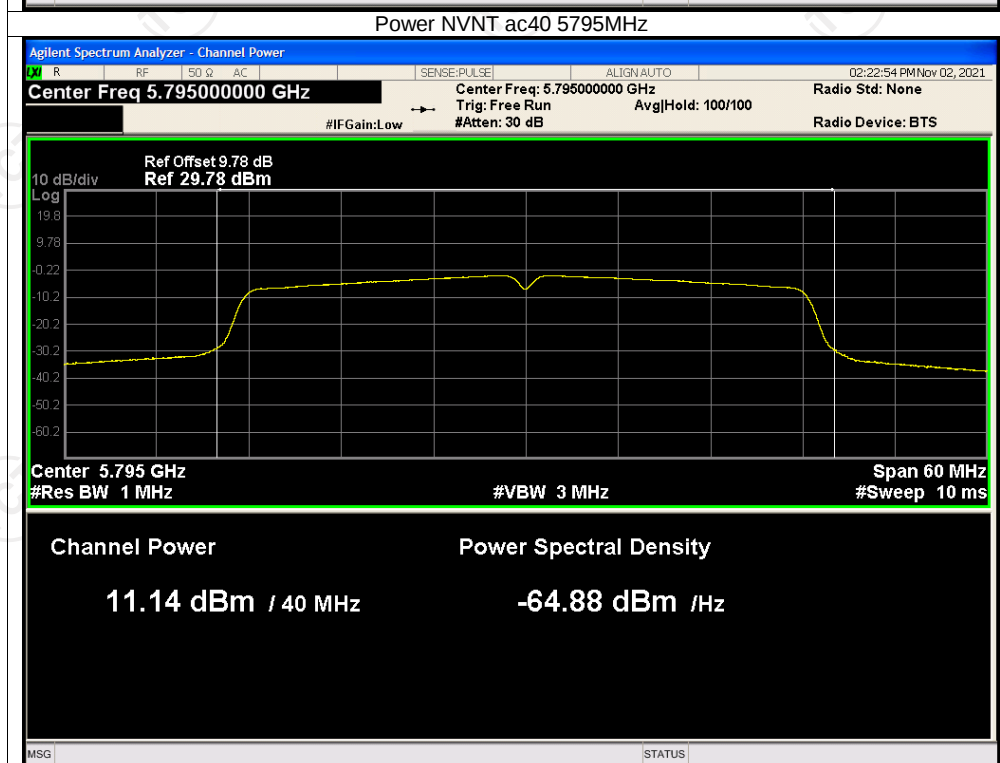
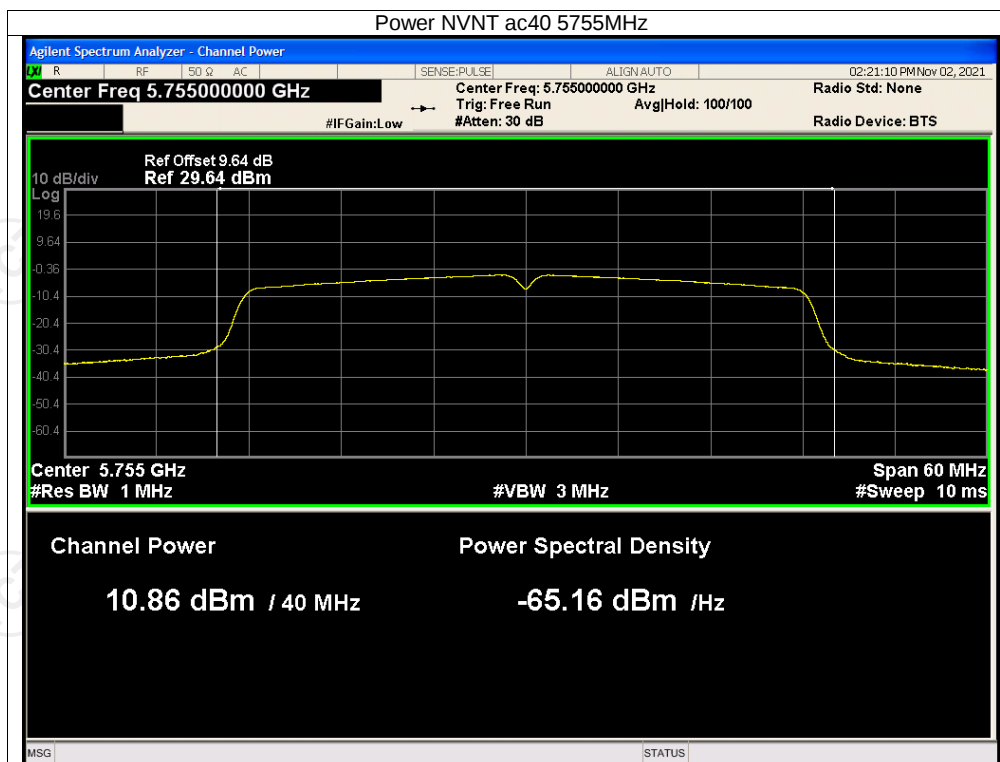


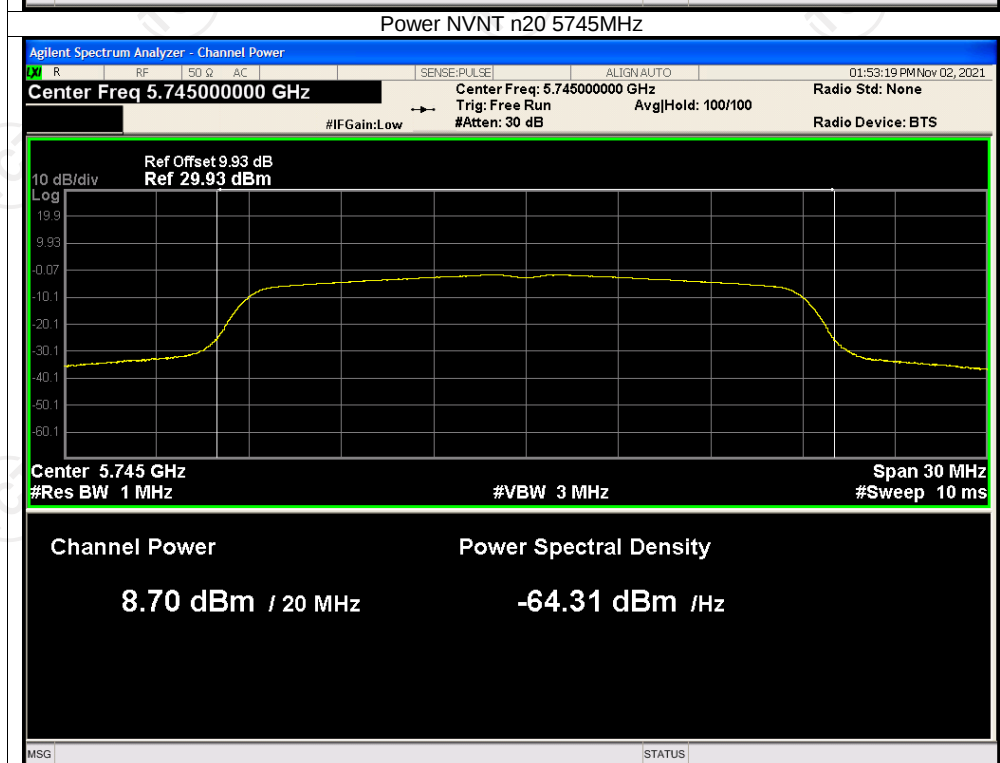
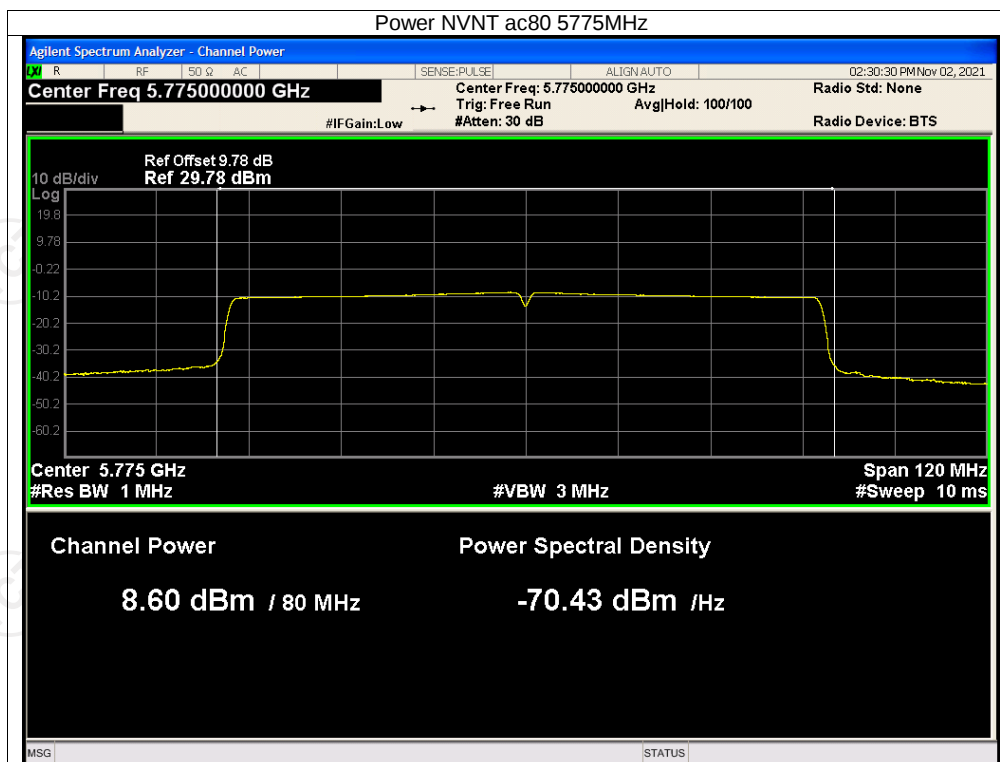


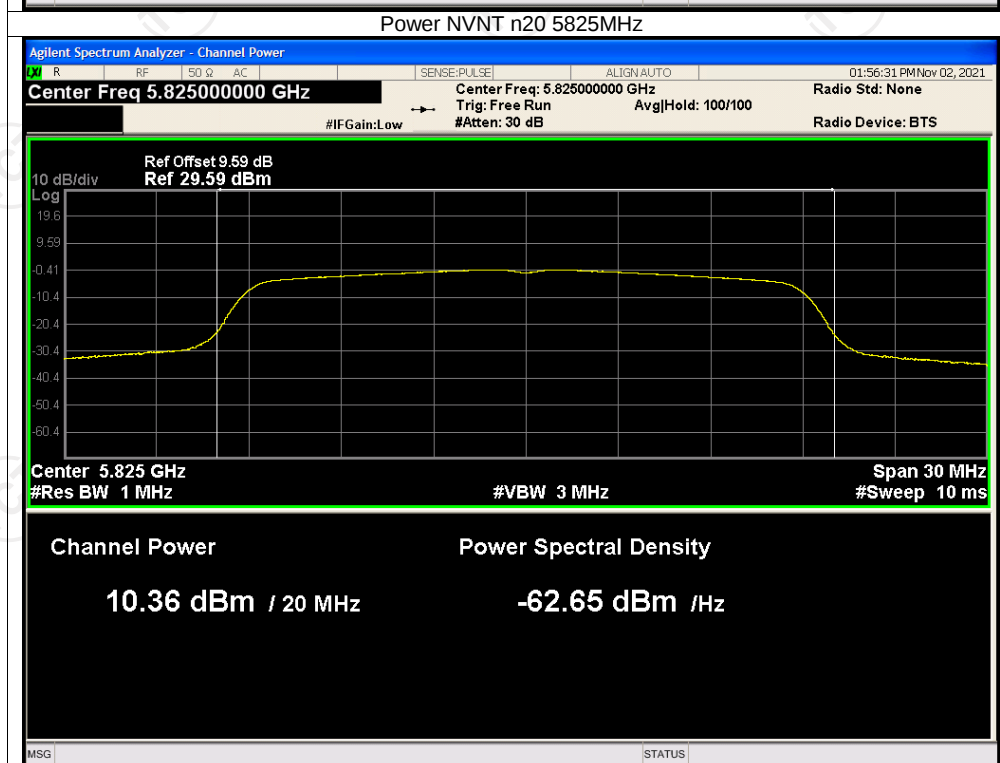
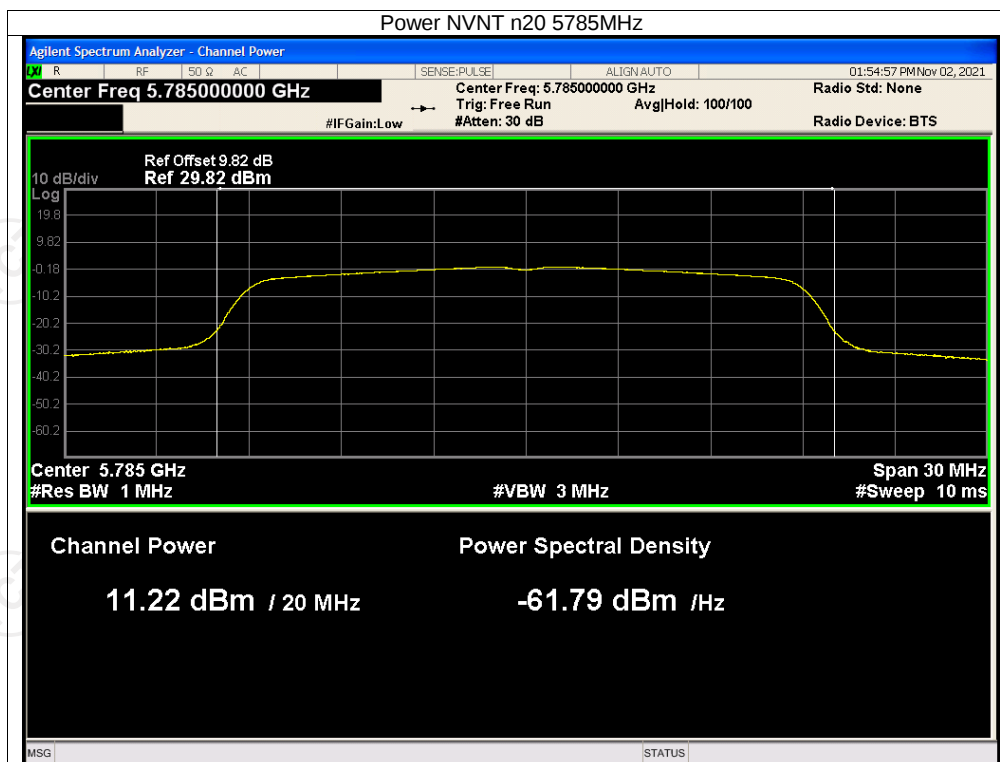


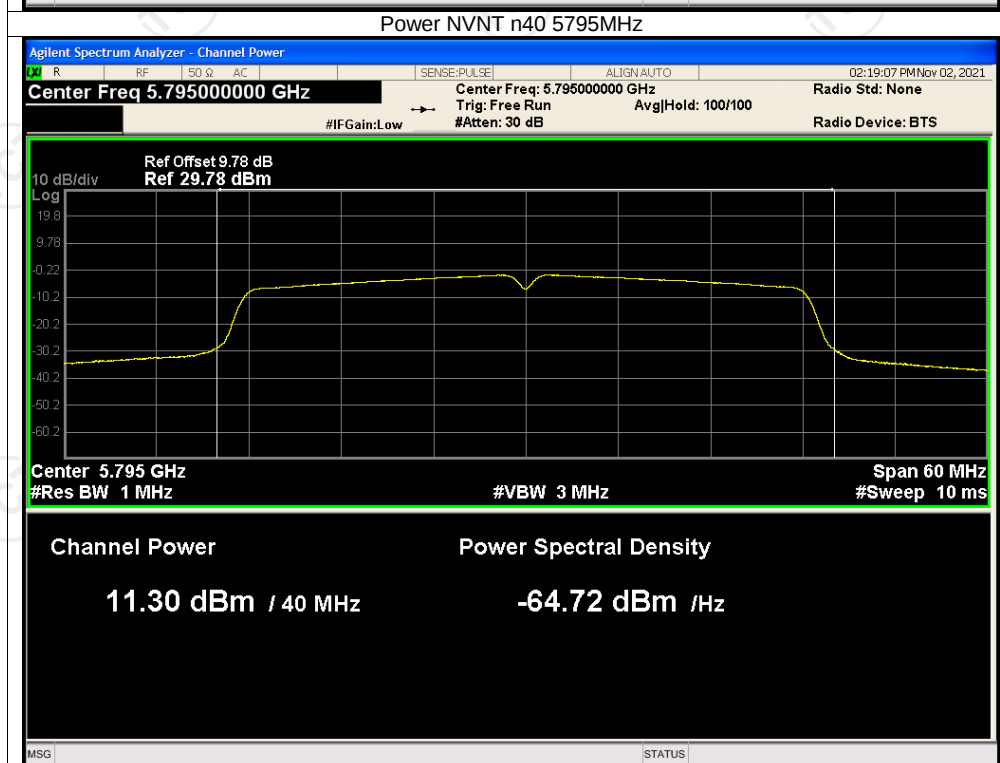
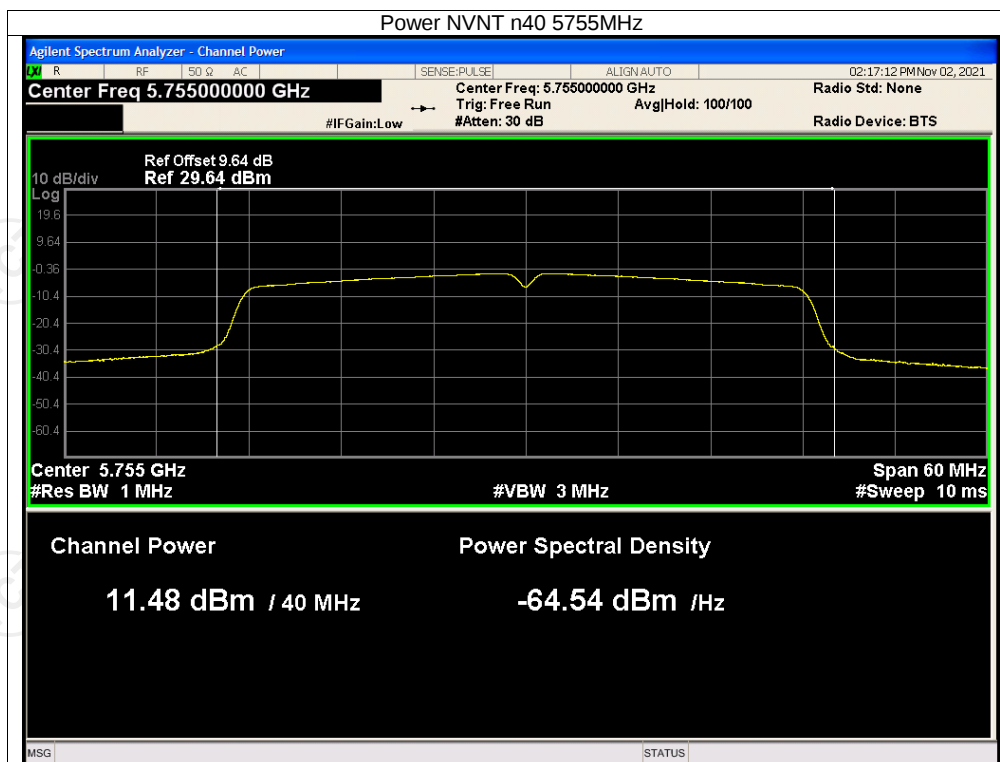






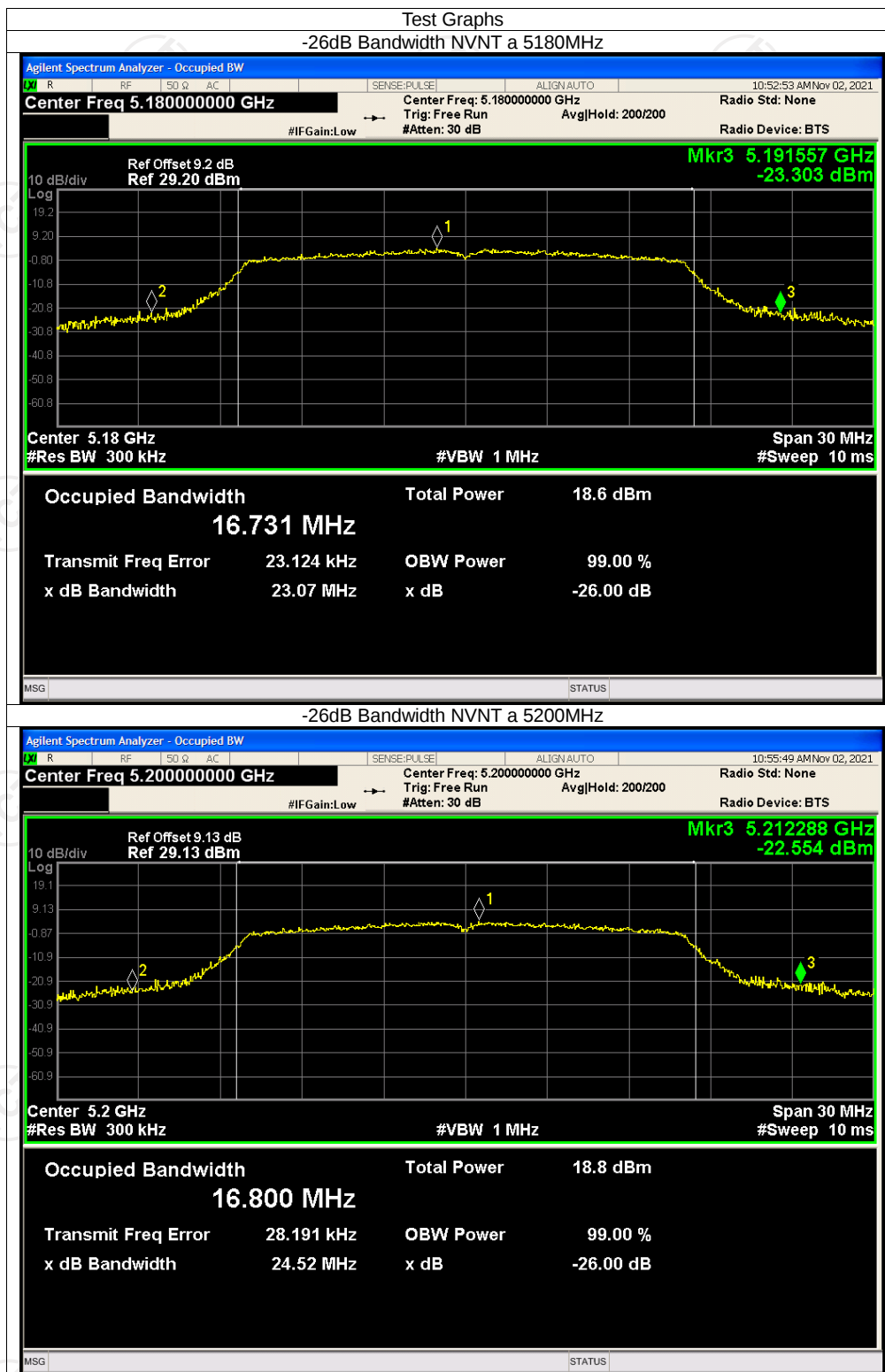


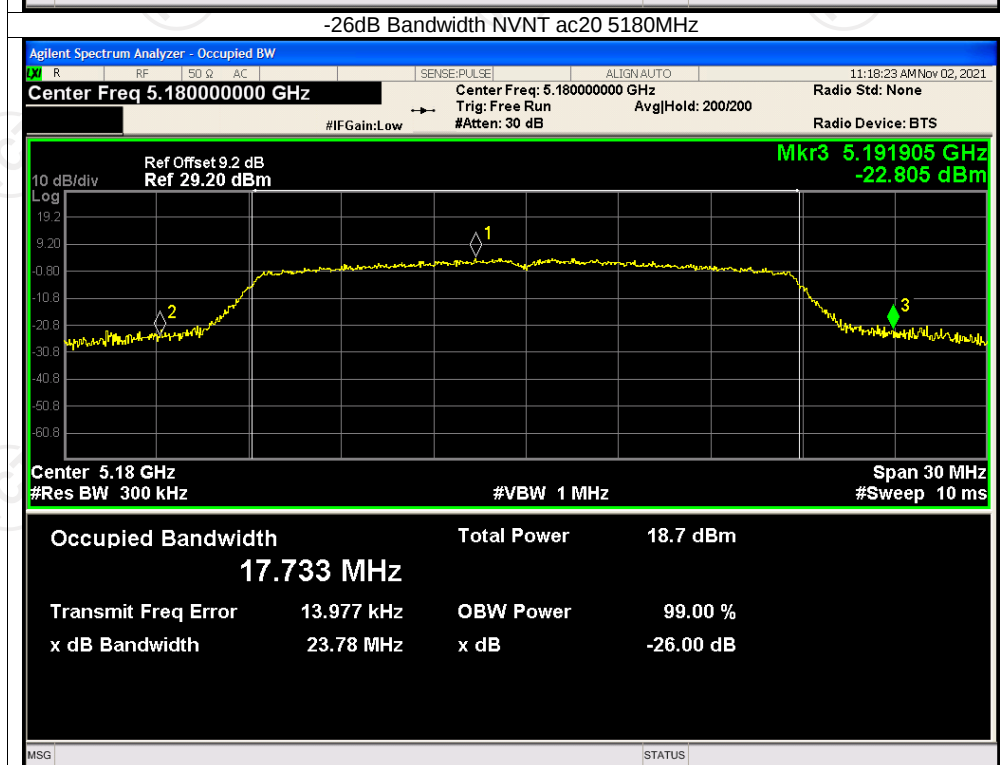
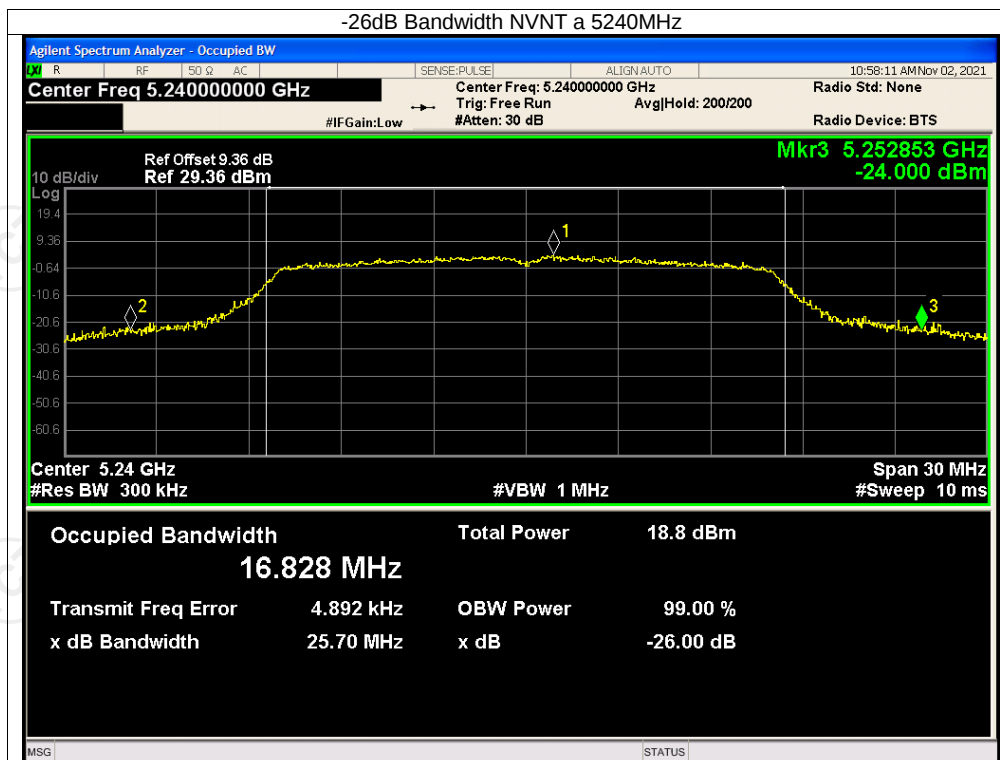


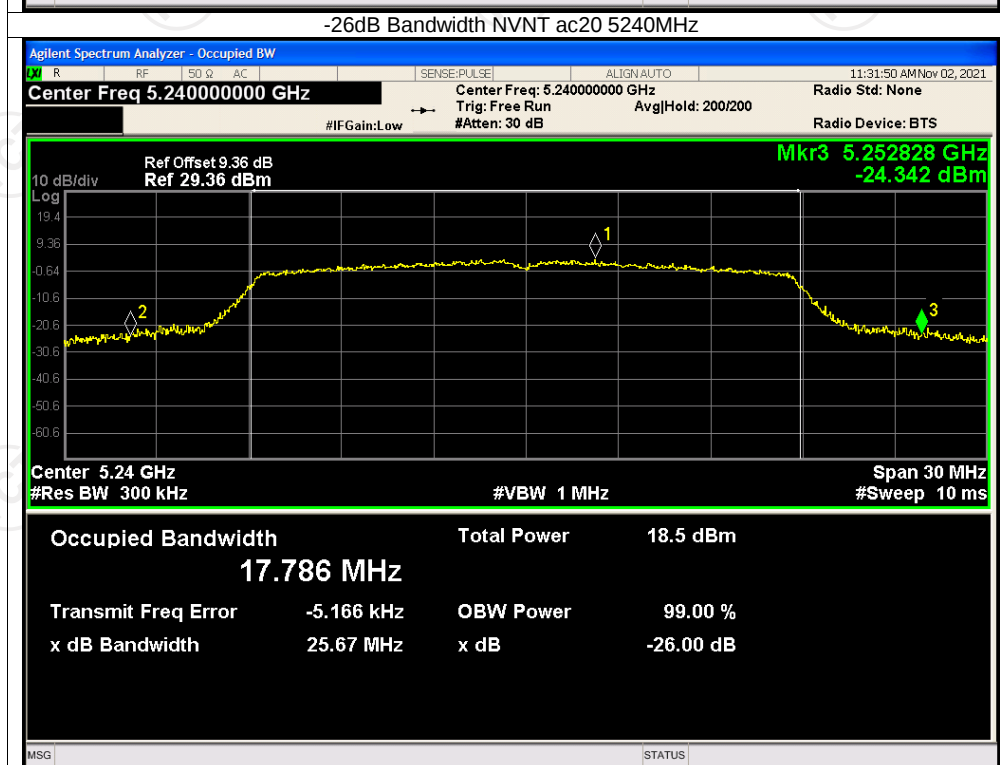
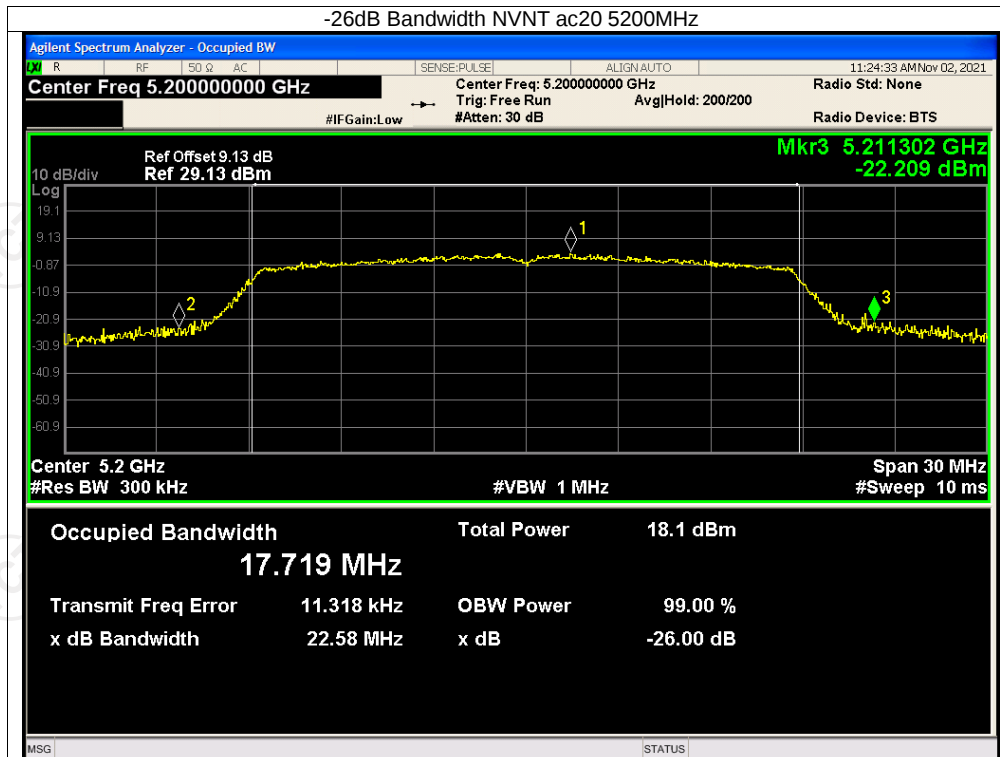


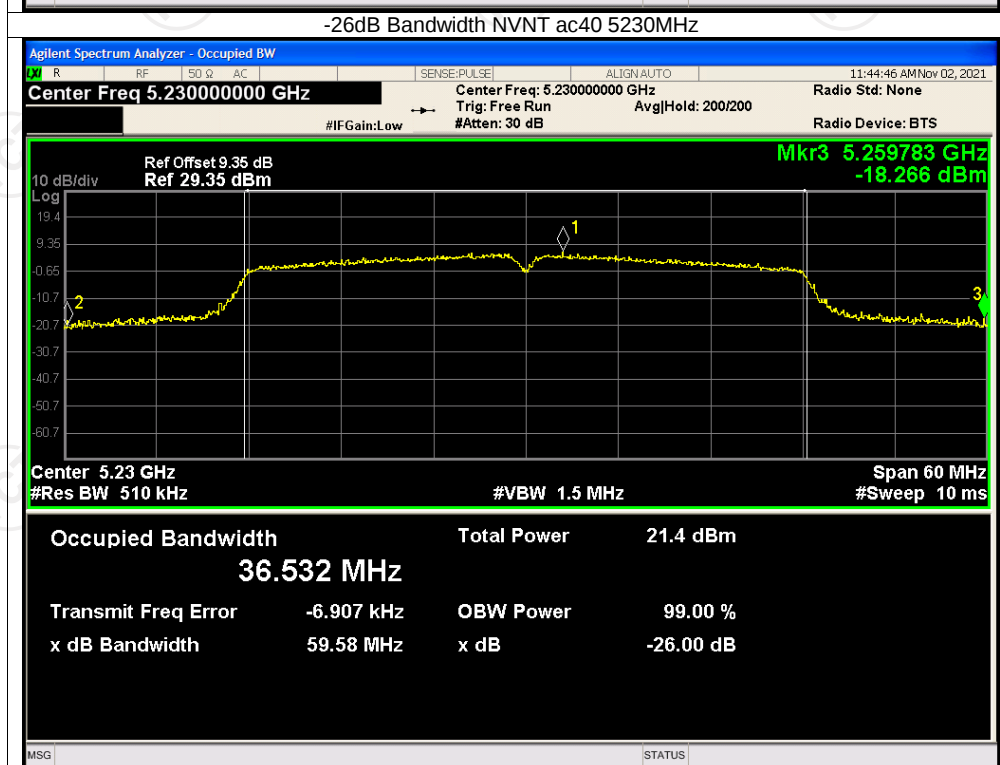
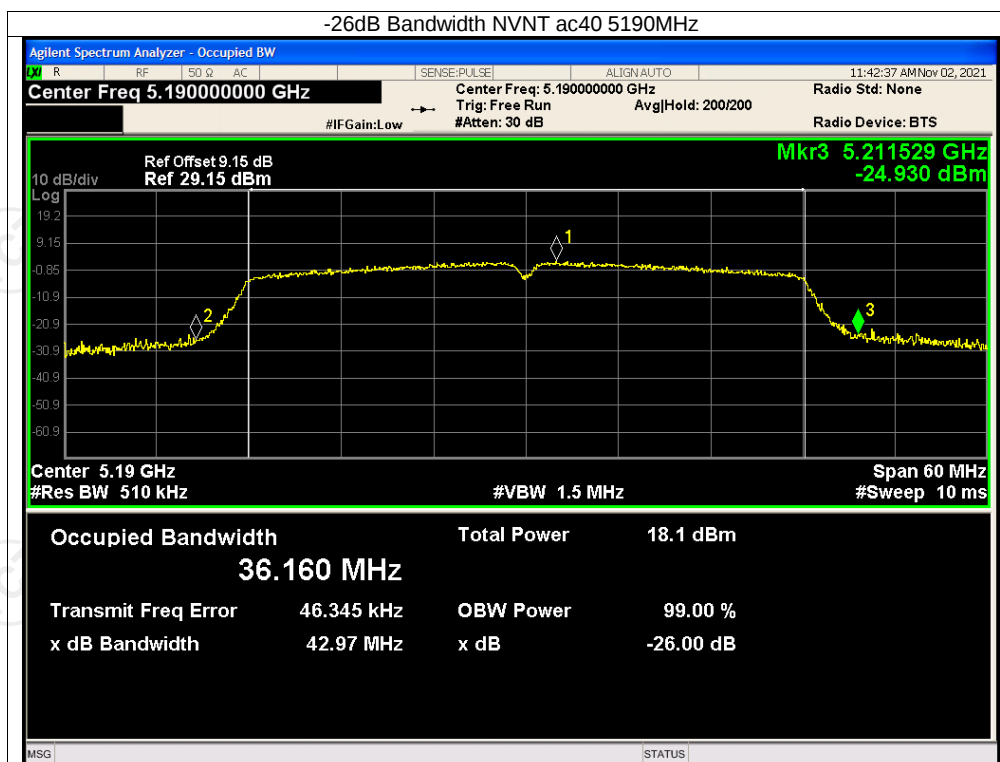
-26dB Bandwidth

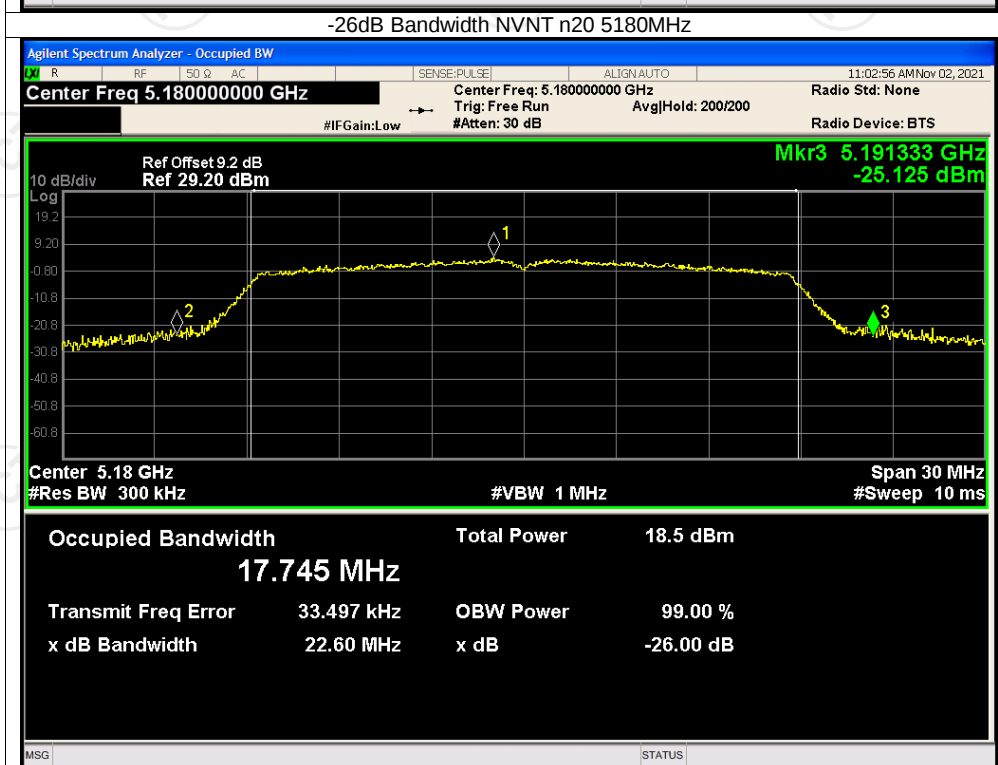
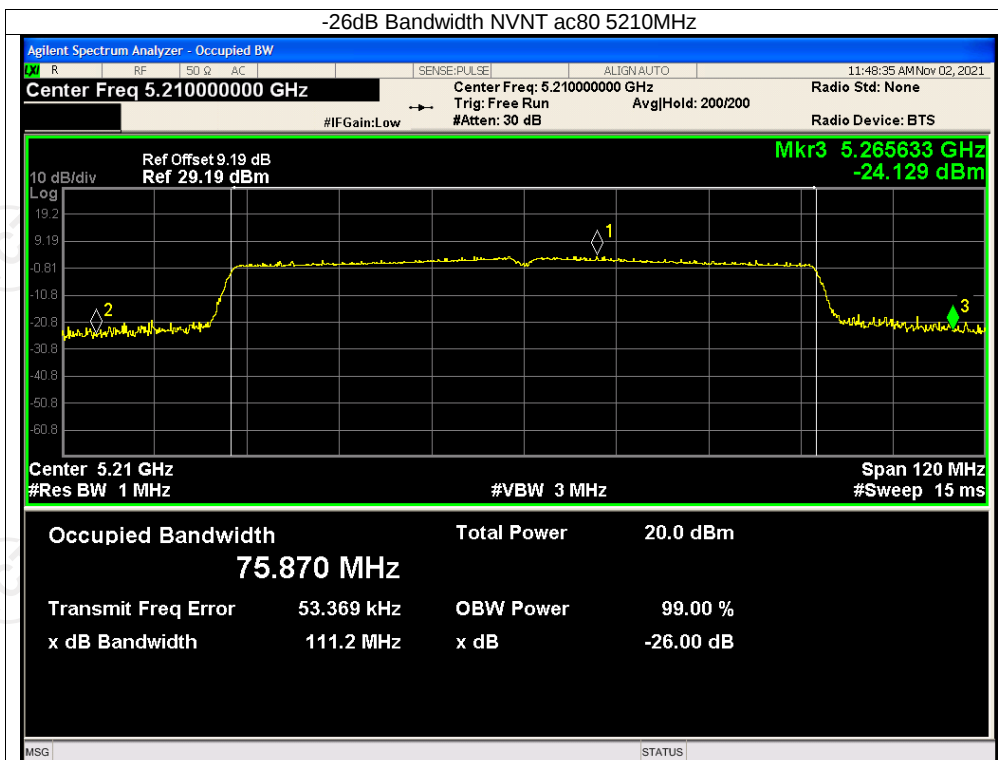
Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	23.068	Pass
NVNT	a	5200	24.519	Pass
NVNT	a	5240	25.696	Pass
NVNT	ac20	5180	23.783	Pass
NVNT	ac20	5200	22.581	Pass
NVNT	ac20	5240	25.665	Pass
NVNT	ac40	5190	42.965	Pass
NVNT	ac40	5230	59.579	Pass
NVNT	ac80	5210	111.159	Pass
NVNT	n20	5180	22.599	Pass
NVNT	n20	5200	22.614	Pass
NVNT	n20	5240	25.18	Pass
NVNT	n40	5190	59.61	Pass
NVNT	n40	5230	59.732	Pass

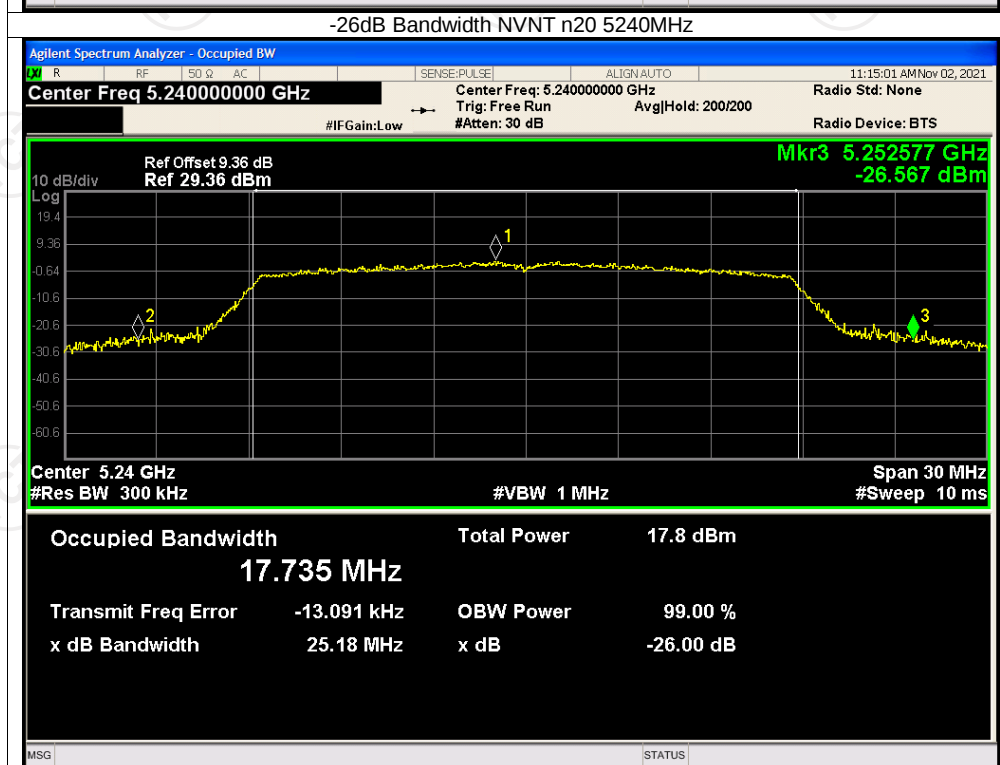
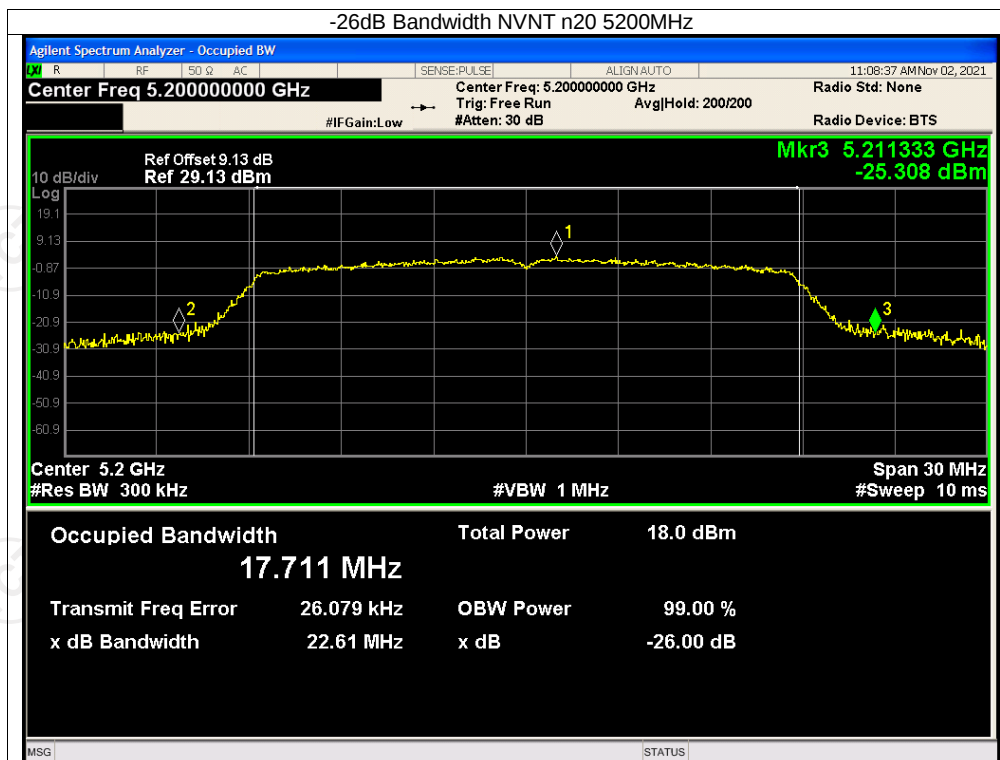


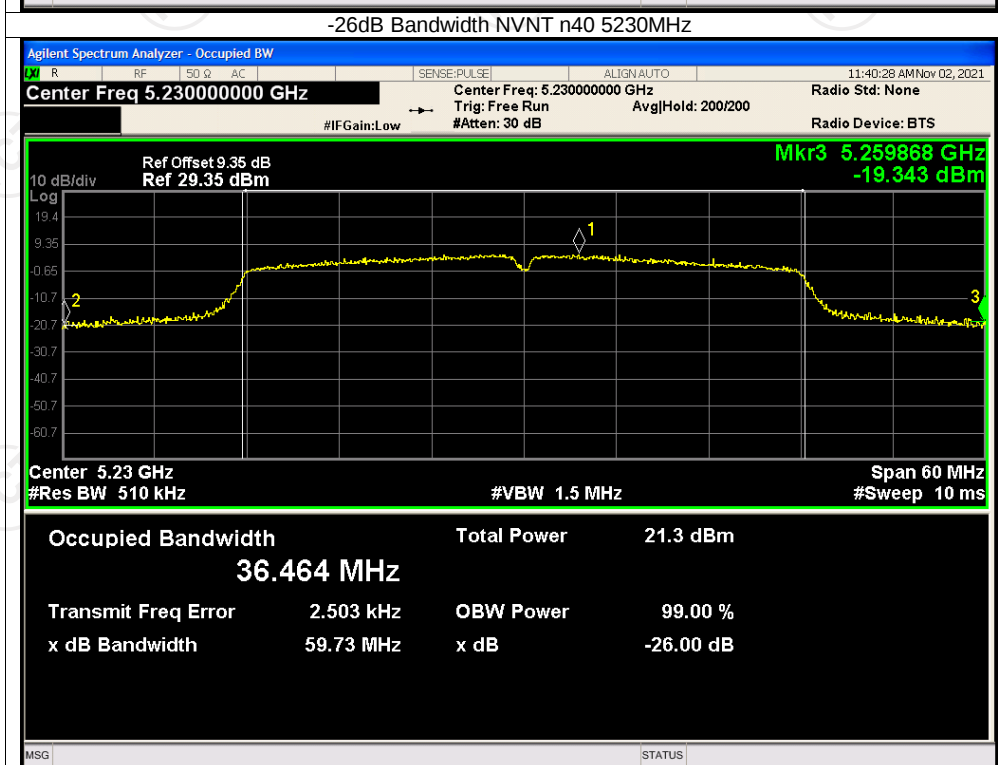
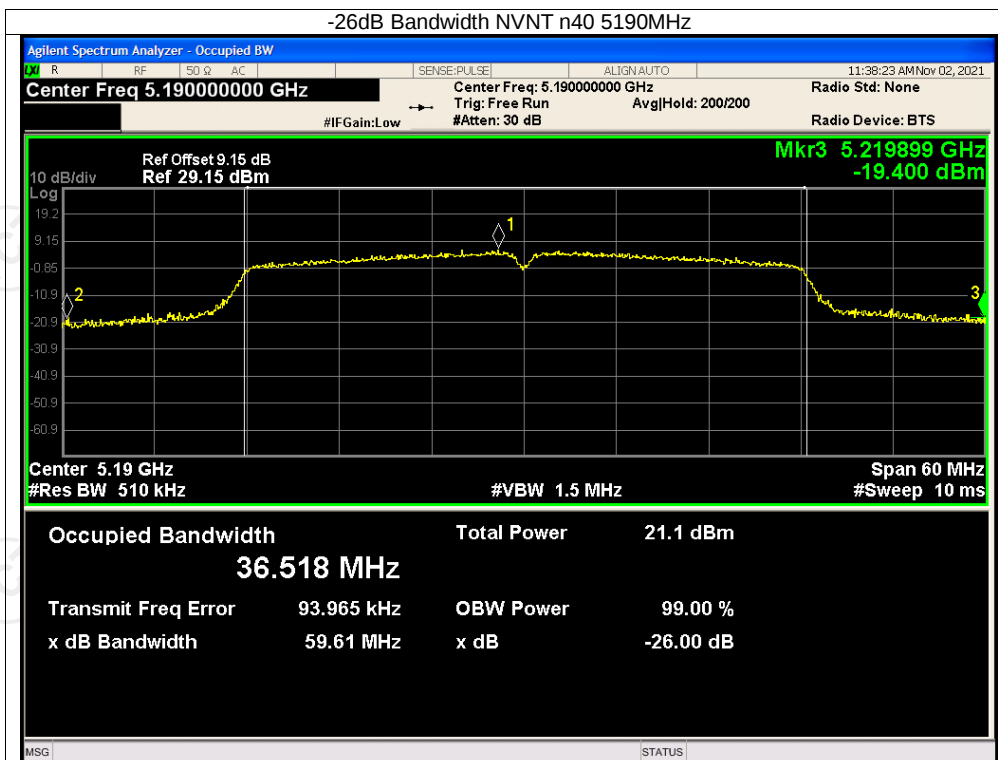












-6dB Bandwidth

Condition	Mode	Frequency (MHz)	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a	5745	16.314	0.5	Pass
NVNT	a	5785	16.315	0.5	Pass
NVNT	a	5825	16.333	0.5	Pass
NVNT	ac20	5745	17.26	0.5	Pass
NVNT	ac20	5785	17.578	0.5	Pass
NVNT	ac20	5825	17.567	0.5	Pass
NVNT	ac40	5755	35.689	0.5	Pass
NVNT	ac40	5795	35.691	0.5	Pass
NVNT	ac80	5775	76.531	0.5	Pass
NVNT	n20	5745	16.779	0.5	Pass
NVNT	n20	5785	17.57	0.5	Pass
NVNT	n20	5825	17.574	0.5	Pass
NVNT	n40	5755	35.7	0.5	Pass
NVNT	n40	5795	35.658	0.5	Pass