TCT 通测检测 TESTING CENTRE TECHNOLOGY

TEST REPORT

FCC ID. ..... :	2BE6N-W150	
Test Report No..... :	TCT240418E032	
Date of issue..... :	Apr. 29, 2024	
Testing laboratory ..... :	SHENZHEN TONGCE TESTING LAB	
Testing location/ address:	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China	
Applicant's name..... :	GIRAFIT INC	
Address..... :	21642 GOLDEN POPPY COURT, WALNUT, CA 91749, United States	
Manufacturer's name ... :	GIRAFIT INC	
Address..... :	21642 GOLDEN POPPY COURT WALNUT CA 91749 United States	
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	
Product Name..... :	W150 Window Camera	
Trade Mark ..... :	N/A	
Model/Type reference..... :	GRF-W150W	
Rating(s)..... :	Adapter Information: Model: SA0101-0501000UA Input: AC 100–240V, 50/60Hz, 0.35A Max Output: DC 5.0V, 1.0A, 5.0W	
Date of receipt of test item ..... :	Apr. 18, 2024	
Date (s) of performance of test..... :	Apr. 18, 2024 ~ Apr. 29, 2024	
Tested by (+signature) ... :	Yannie ZHONG	Yannie Zhong
Check by (+signature).... :	Beryl ZHAO	Beryl Zhao
Approved by (+signature):	Tomsin	Tomsin

General disclaimer:

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Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com

1. General Product Information

1.1. EUT description

Product Name.....:	W150 Window Camera
Model/Type reference.....:	GRF-W150W
Sample Number.....:	TCT240418E008-0101
Operation Frequency.....:	Band 1: 5180 MHz ~ 5240 MHz Band 3: 5745 MHz ~ 5825 MHz
Channel Bandwidth.....:	802.11a: 20MHz 802.11n: 20MHz, 40MHz 802.11ac: 20MHz, 40MHz 802.11ax: 20MHz, 40MHz
Modulation Technology .....:	Orthogonal Frequency Division Multiplexing(OFDM)
Modulation Type.....:	256QAM, 64QAM, 16QAM, BPSK, QPSK
Antenna Type.....:	Metal Antenna
Antenna Gain.....:	Band 1: 4.09dBi Band 3: 4.54dBi
Rating(s).....:	Adapter Information: Model: SA0101-0501000UA Input: AC 100–240V, 50/60Hz, 0.35A Max Output: DC 5.0V, 1.0A, 5.0W

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.

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1.3. Test Frequency

Band 1

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

Band 3

20MHz		40MHz	
Channel	Frequency	Channel	Frequency
149	5745	151	5755
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:

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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).

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3. General Information

3.1. Test environment and mode

Operating Environment:		
Condition	Conducted Emission	Radiated Emission
Temperature:	23.6 °C	24.9 °C
Humidity:	56 % RH	51 % RH
Atmospheric Pressure:	1010 mbar	1010 mbar
Test Software:		
Software Information:	SSCOM V5.13.1	
Power Level:	15	
Test Mode:		
Engineer mode:	Keep the EUT in continuous transmitting by select channel and modulations with max duty cycle	

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
802.11ax(VHT20)	6.5Mbps
802.11ax(VHT40)	13.5Mbps

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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: 2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

4.3. Measurement Uncertainty

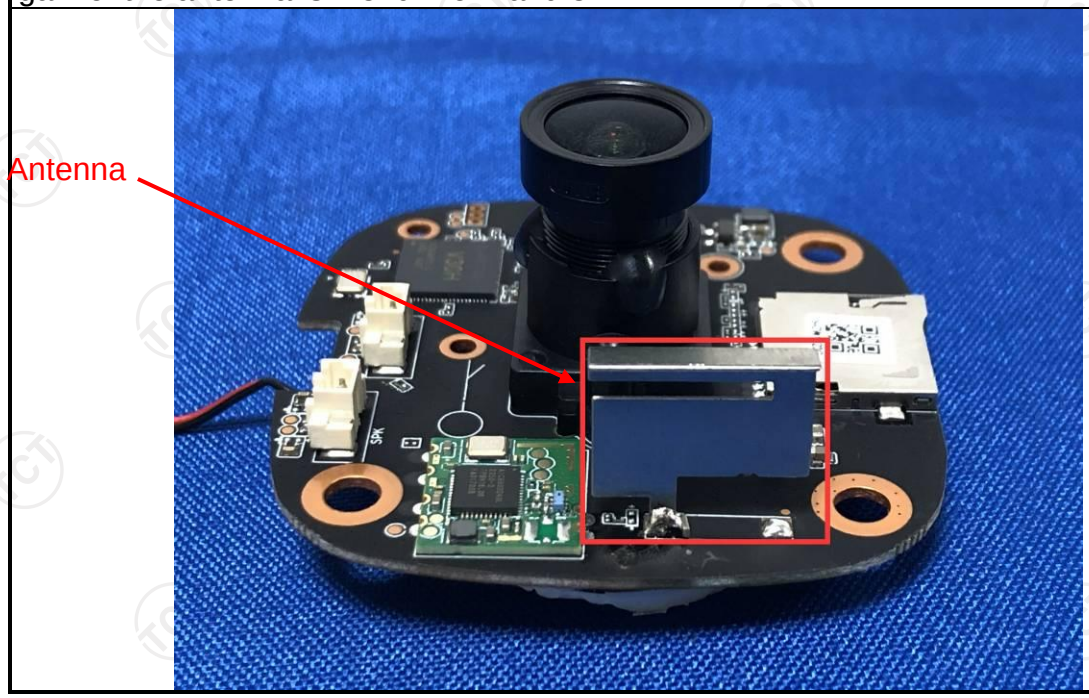
The reported uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

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

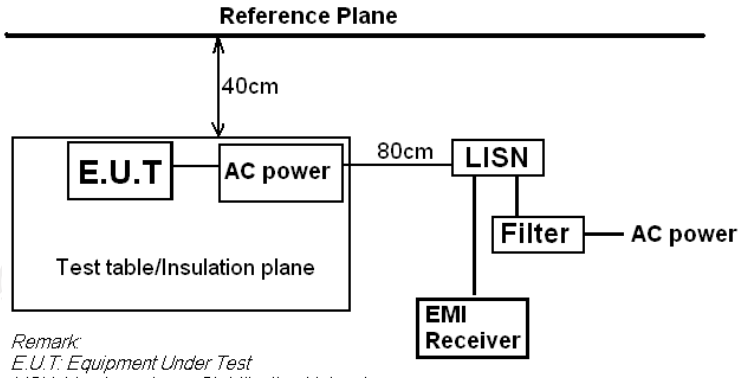
5.1. Antenna requirement

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 WIFI antenna is metal antenna which permanently attached, and the best case gain of the antenna is 4.54dBi of Band 3.	



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:	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:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*
Test Mode:	Transmitting 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

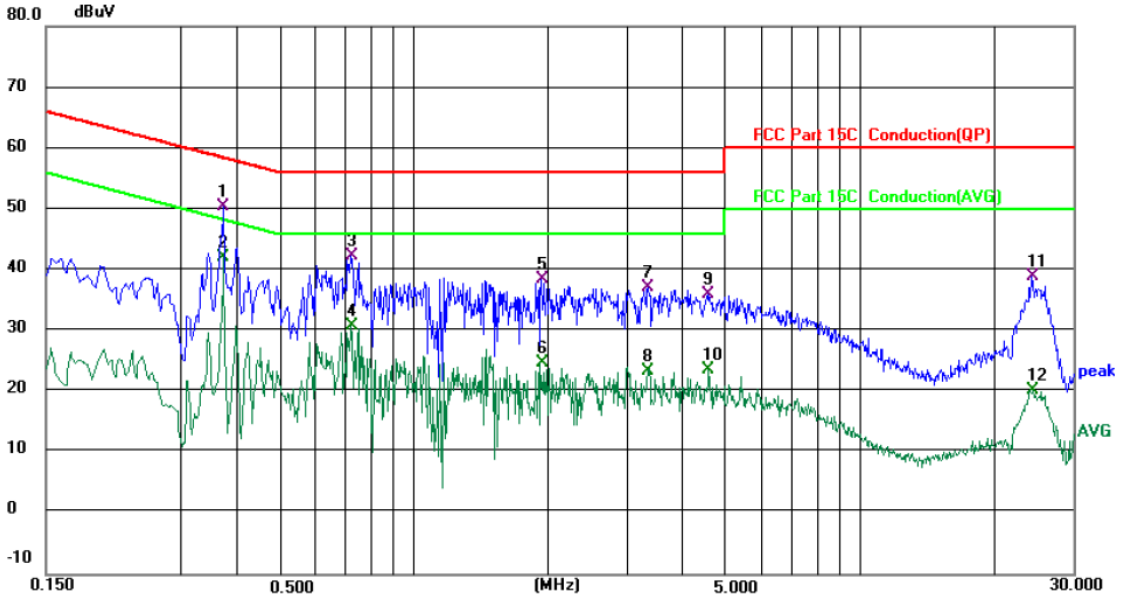
5.2.2. Test Instruments

Conducted Emission Shielding Room Test Site (843)				
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI Test Receiver	R&S	ESCI3	100898	Jun. 29, 2024
Line Impedance Stabilisation Newtork(LISN)	Schwarzbeck	NSLK 8126	8126453	Jan. 31, 2025
Line-5	TCT	CE-05	/	Jul. 03, 2024
EMI Test Software	Shurple Technology	EZ-EMC	/	/

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: 23.6 (℃)
Humidity: 56 %

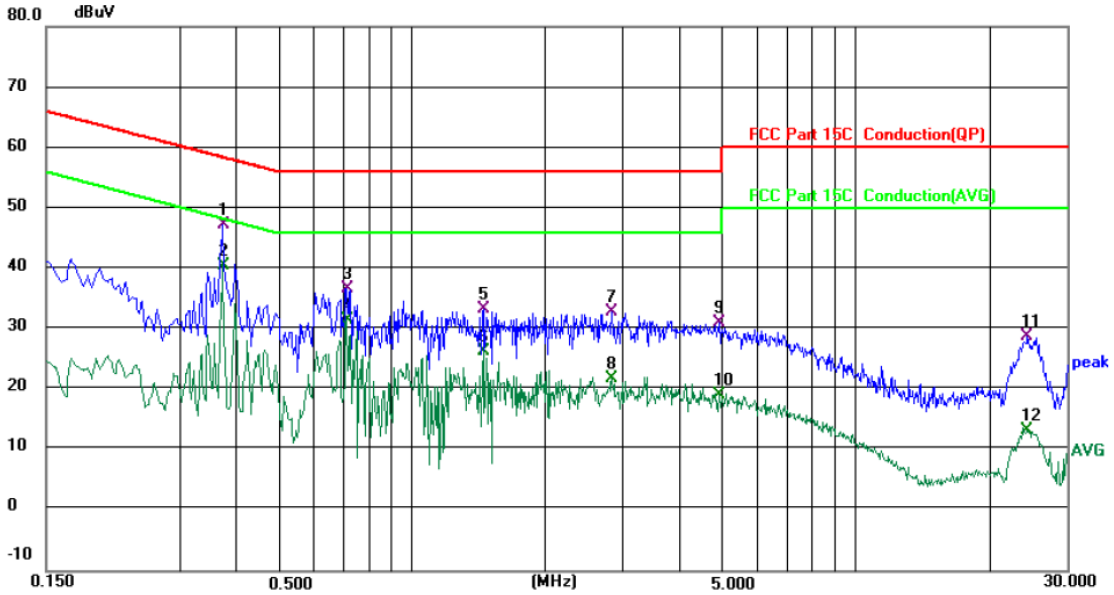
Limit: FCC Part 15C Conduction(QP)
Power: AC 120 V/ 60 Hz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3738	41.02	9.46	50.48	58.42	-7.94	QP	
2	*	0.3738	32.60	9.46	42.06	48.42	-6.36	AVG	
3		0.7259	33.28	9.13	42.41	56.00	-13.59	QP	
4		0.7259	21.66	9.13	30.79	46.00	-15.21	AVG	
5		1.9339	28.57	10.02	38.59	56.00	-17.41	QP	
6		1.9339	14.73	10.02	24.75	46.00	-21.25	AVG	
7		3.3580	26.93	10.22	37.15	56.00	-18.85	QP	
8		3.3580	13.15	10.22	23.37	46.00	-22.63	AVG	
9		4.5939	25.59	10.38	35.97	56.00	-20.03	QP	
10		4.5939	13.26	10.38	23.64	46.00	-22.36	AVG	
11		24.2379	28.14	10.77	38.91	60.00	-21.09	QP	
12		24.2379	9.42	10.77	20.19	50.00	-29.81	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.*

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



Site 844 Shielding Room | Phase: N | Temperature: 23.6 (℃) | Humidity: 56 %

Limit: FCC Part 15C Conduction(QP) | Power: AC 120 V/ 60 Hz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3740	37.76	9.44	47.20	58.41	-11.21	QP	
2	*	0.3740	31.18	9.44	40.62	48.41	-7.79	AVG	
3		0.7140	27.61	9.12	36.73	56.00	-19.27	QP	
4		0.7140	22.43	9.12	31.55	46.00	-14.45	AVG	
5		1.4540	23.44	9.92	33.36	56.00	-22.64	QP	
6		1.4540	16.36	9.92	26.28	46.00	-19.72	AVG	
7		2.8340	22.67	10.10	32.77	56.00	-23.23	QP	
8		2.8340	11.63	10.10	21.73	46.00	-24.27	AVG	
9		4.9420	20.74	10.31	31.05	56.00	-24.95	QP	
10		4.9420	8.72	10.31	19.03	46.00	-26.97	AVG	
11		24.4980	18.14	10.72	28.86	60.00	-31.14	QP	
12		24.4980	2.51	10.72	13.23	50.00	-36.77	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

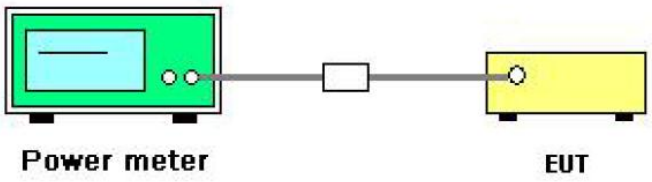
AVG =average

** 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), 802.11ax(VHT20), 802.11ax(VHT40) and the worst case Mode (Lowest channel and 802.11n(HT20)) was submitted only.

5.3. Maximum Conducted Output Power

5.3.1. Test Specification

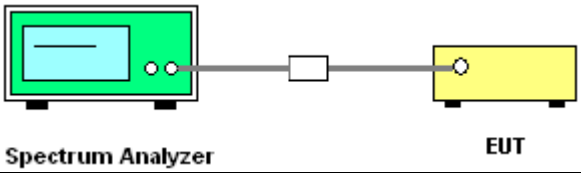
<table>
<tr><td>Test Requirement:</td><td>FCC Part15 E Section 15.407(a)& Part 2 J Section 2.1046</td></tr>
<tr><td>Test Method:</td><td>KDB662911 D01 Multiple Transmitter Output v02r01
KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td>Frequency Band (MHz)</td><td>Limit</td></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>
</td></tr>
<tr><td>Test Setup:</td><td> 
</td></tr>
<tr><td>Test Mode:</td><td>Transmitting mode with modulation</td></tr>
<tr><td>Test Procedure:</td><td>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.</td></tr>
<tr><td>Test Result:</td><td>PASS</td></tr>
<tr><td>Remark:</td><td>Conducted output power= measurement power +10log(1/x) X is duty cycle=1, so 10log(1/1)=0
Conducted output power= measurement power</td></tr>
</table>

5.3.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jun. 28, 2024
Power Meter	Agilent	E4418B	MY45100357	Jun. 27, 2024
Power Sensor	Agilent	8481A	MY41091497	Jun. 27, 2024
Combiner Box	Ascentest	AT890-RFB	/	/

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:	
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	Jun. 28, 2024
Combiner Box	Ascentest	AT890-RFB	/	/

5.5. 26dB Bandwidth and 99% Occupied Bandwidth

5.5.1. Test Specification

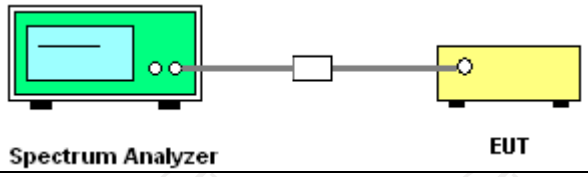
Test Requirement:	47 CFR Part 15C Section 15.407 (a)& Part 2 J Section 2.1049
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section D
Limit:	No restriction limits
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test 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	Jun. 28, 2024
Combiner Box	Ascentest	AT890-RFB	/	/

5.6. Power Spectral Density

5.6.1. Test Specification

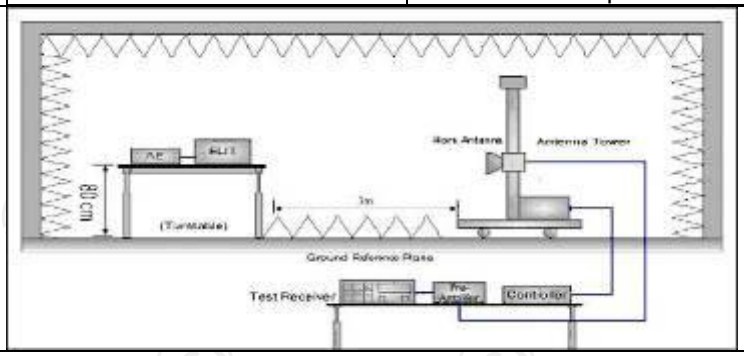
Test Requirement:	FCC Part15 E Section 15.407 (a)
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section F
Limit:	≤11.00dBm/MHz for Band 1 5150MHz-5250MHz(client device) ≤11.00dBm/MHz for Band 2A&2C 5250-5350&5470-5725 ≤30.00dBm/500KHz 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:	
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 ≥ 3*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	Jun. 28, 2024
Combiner Box	Ascentest	AT890-RFB	/	/

5.7. Band edge

5.7.1. Test Specification

<table>
<tr><td>Test Requirement:</td><td>FCC CFR47 Part 15E Section 15.407</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10 2013</td></tr>
<tr><td>Limit:</td><td>In un-restricted band:
For Band 1&2A&2C: -27dBm/MHz
For Band 3:
<table>
<tr><td>Frequency (MHz)</td><td>Limit (dBm/MHz)</td><td>Frequency (MHz)</td><td>Limit (dBm/MHz)</td></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>
E[dBμV/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></td></tr>
<tr><td>Test Setup:</td><td> 
</td></tr>
<tr><td>Test Mode:</td><td>Transmitting mode with modulation</td></tr>
<tr><td>Test Procedure:</td><td>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</td></tr>
</table>

	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

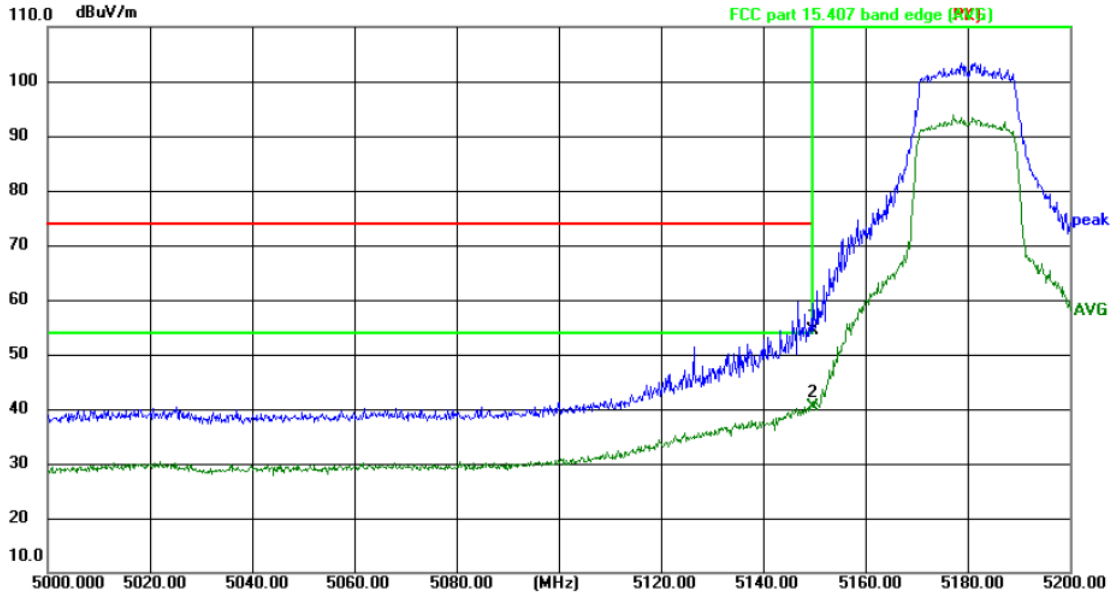
5.7.2. Test Instruments

Radiated Emission Test Site (966)				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI Test Receiver	R&S	ESIB7	100197	Jun. 29, 2024
Spectrum Analyzer	R&S	FSQ40	200061	Jun. 29, 2024
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jun. 28, 2024
Pre-amplifier	SKET	LNPA_0118G-45	SK2021012102	Jan. 31, 2025
Pre-amplifier	SKET	LNPA_1840G-50	SK202109203500	Jan. 31, 2025
Pre-amplifier	HP	8447D	2727A05017	Jun. 27, 2024
Loop antenna	Schwarzbeck	FMZB1519B	00191	Jul. 02, 2024
Broadband Antenna	Schwarzbeck	VULB9163	340	Jul. 01, 2024
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Jul. 01, 2024
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Feb. 02, 2025
Coaxial cable	SKET	RC-18G-N-M	/	Jan. 31, 2025
Coaxial cable	SKET	RC_40G-K-M	/	Jan. 31, 2025
Antenna Mast	Keleto	CC-A-4M	/	/
EMI Test Software	Shurple Technology	EZ-EMC	/	/

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com

5.7.3. Test Data

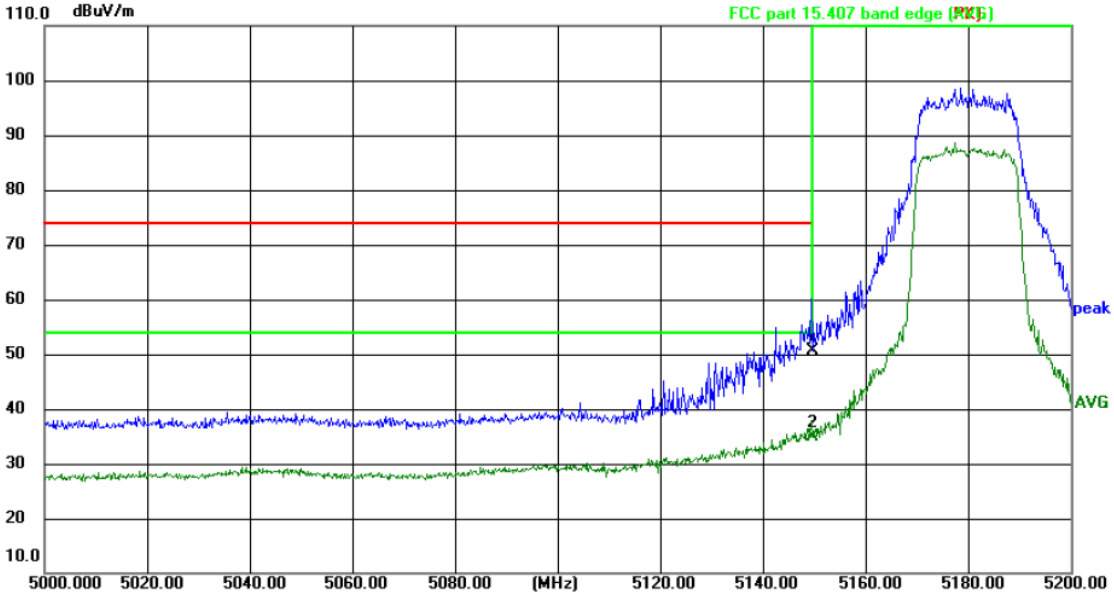
AX20-5180



Site: 3m Anechoic Chamber Polarization: *Horizontal* Temperature: 25(℃) Humidity: 56 %

Limit: FCC part 15.407 band edge (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5150.000	63.53	-9.24	54.29	74.00	-19.71	peak	P	
2 *	5150.000	49.56	-9.24	40.32	54.00	-13.68	AVG	P	

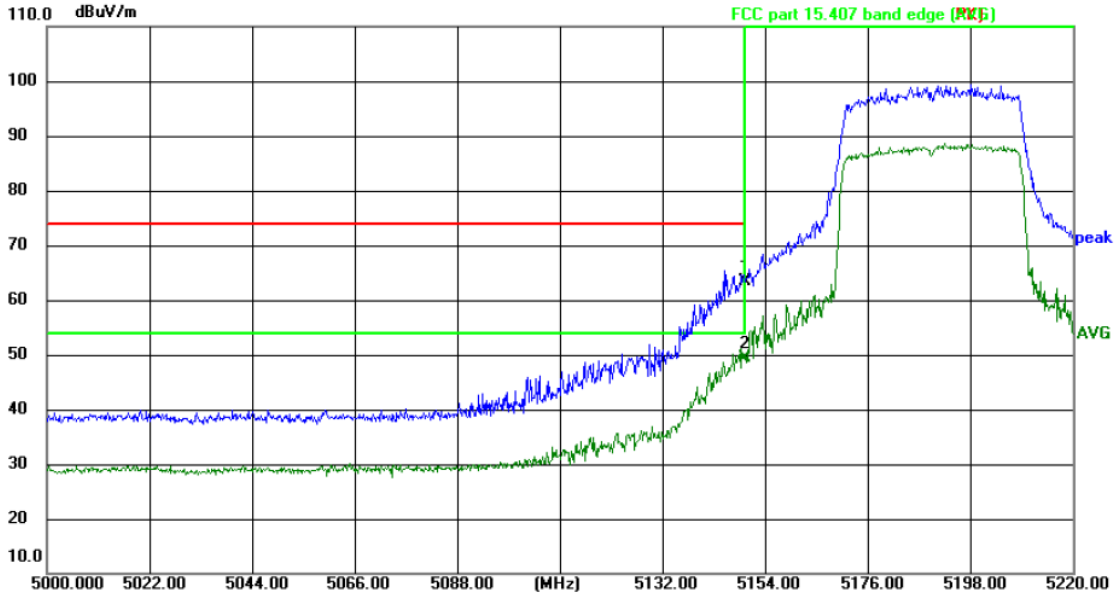


Site: 3m Anechoic Chamber Polarization: *Vertical* Temperature: 25(℃) Humidity: 56 %

Limit: FCC part 15.407 band edge (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5150.000	59.88	-9.24	50.64	74.00	-23.36	peak	P	
2 *	5150.000	44.06	-9.24	34.82	54.00	-19.18	AVG	P	

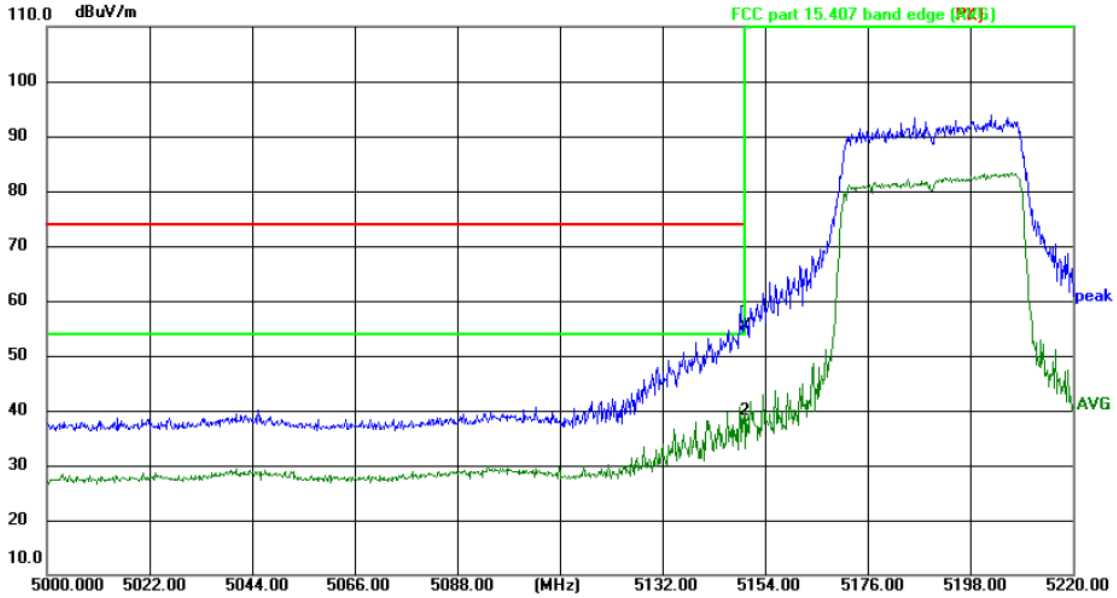
AX40-5190



Site: 3m Anechoic Chamber Polarization: *Horizontal* Temperature: 25(℃) Humidity: 56 %

Limit: FCC part 15.407 band edge (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5150.000	72.69	-9.24	63.45	74.00	-10.55	peak	P	
2 *	5150.000	58.67	-9.24	49.43	54.00	-4.57	AVG	P	

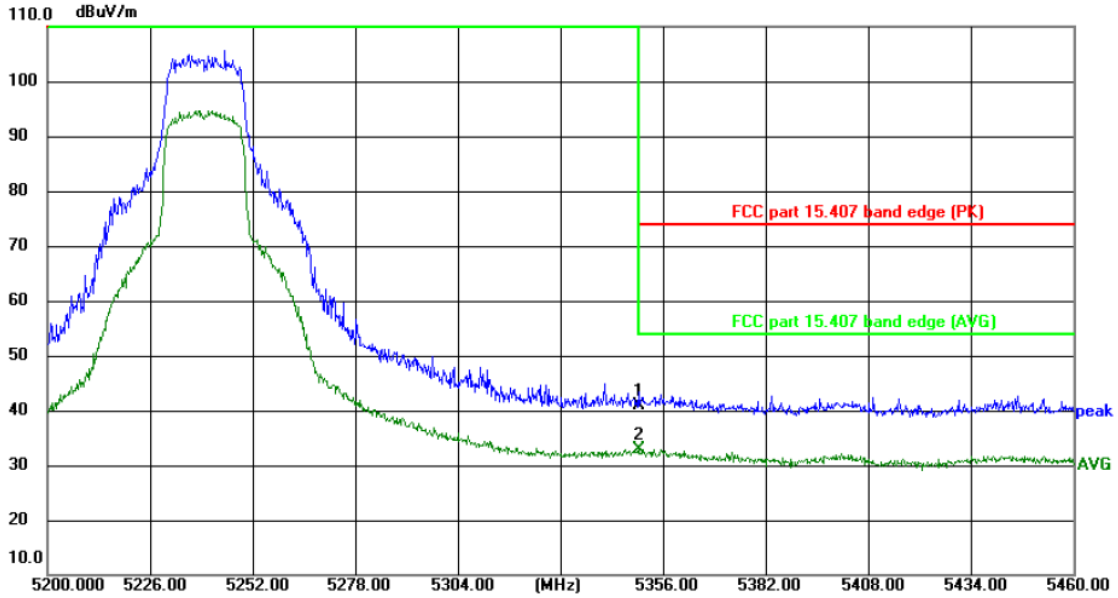


Site: 3m Anechoic Chamber Polarization: *Vertical* Temperature: 25(℃) Humidity: 56 %

Limit: FCC part 15.407 band edge (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5150.000	64.51	-9.24	55.27	74.00	-18.73	peak	P	
2 *	5150.000	46.55	-9.24	37.31	54.00	-16.69	AVG	P	

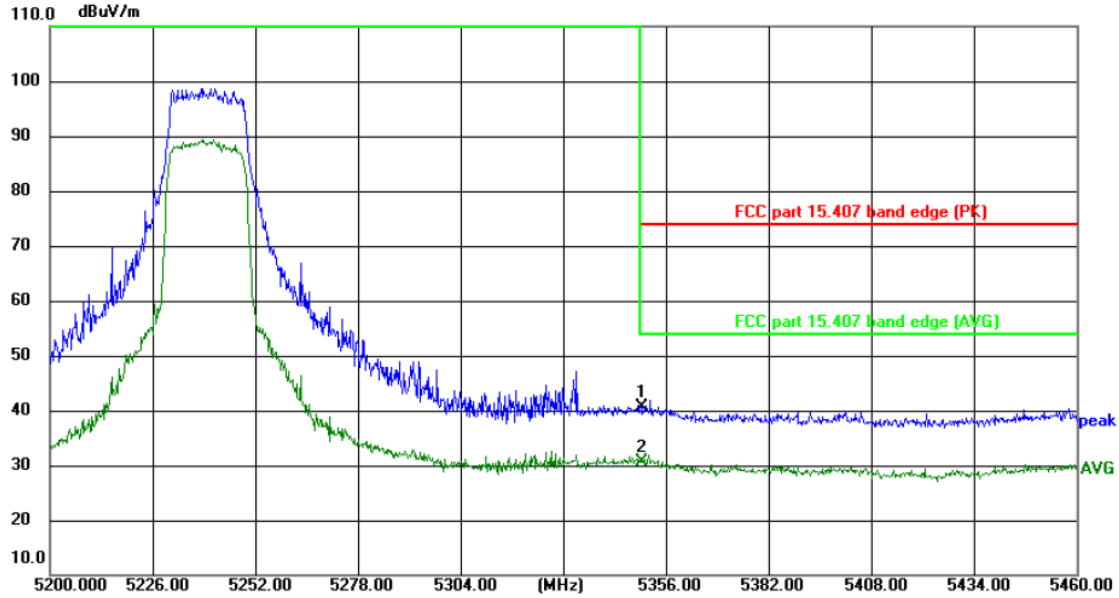
AX20-5240



Site: 3m Anechoic Chamber Polarization: *Horizontal* Temperature: 25(℃) Humidity: 56 %

Limit: FCC part 15.407 band edge (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5350.000	48.96	-8.15	40.81	74.00	-33.19	peak	P	
2 *	5350.000	41.11	-8.15	32.96	54.00	-21.04	AVG	P	

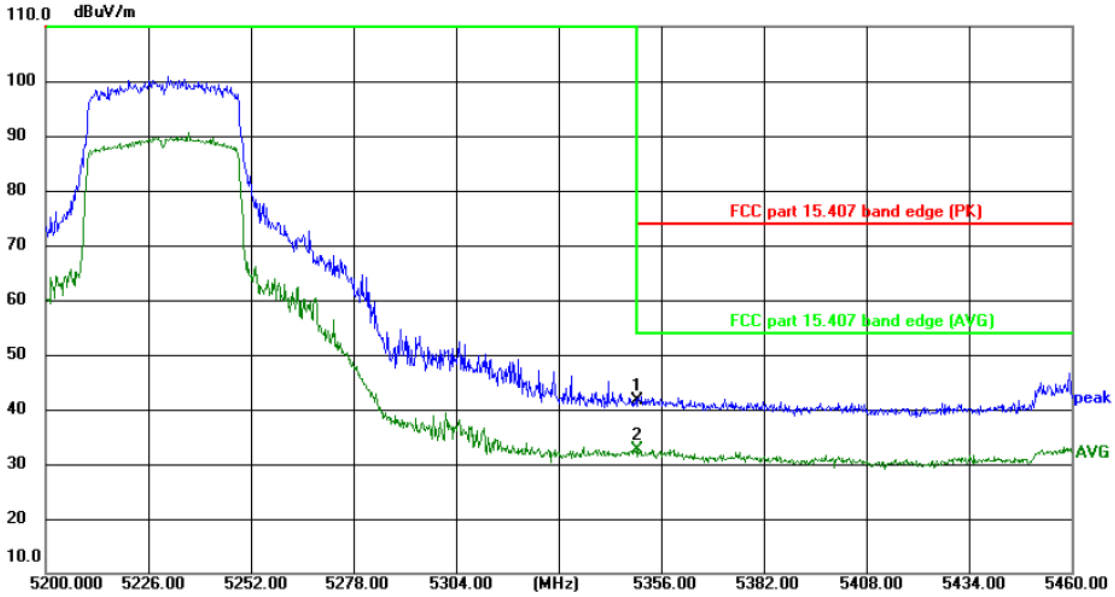


Site: 3m Anechoic Chamber Polarization: *Vertical* Temperature: 25(℃) Humidity: 56 %

Limit: FCC part 15.407 band edge (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5350.000	48.73	-8.15	40.58	74.00	-33.42	peak	P	
2 *	5350.000	38.82	-8.15	30.67	54.00	-23.33	AVG	P	

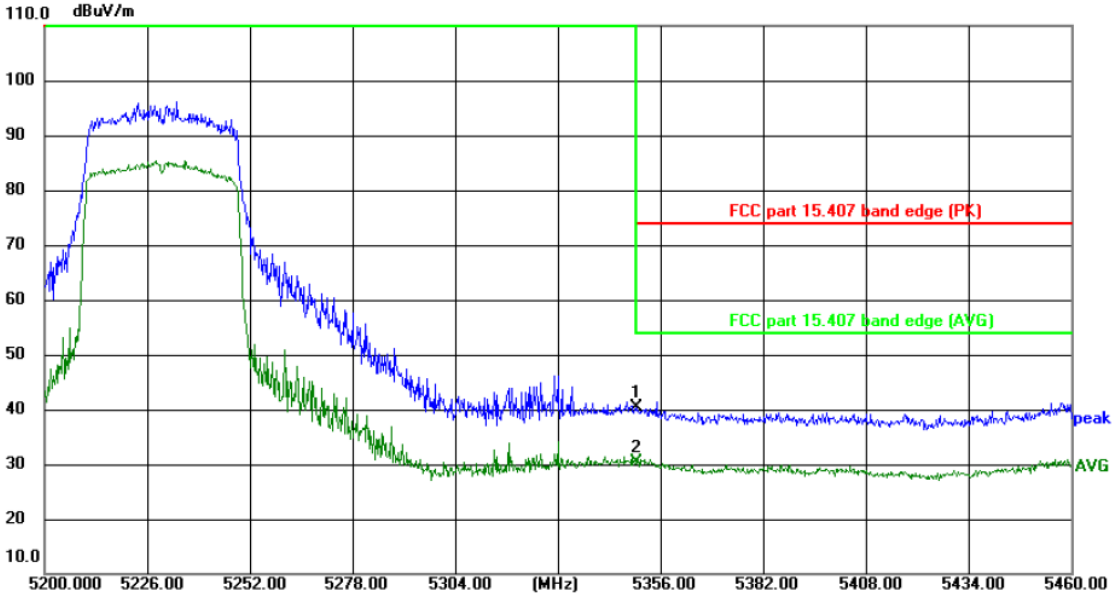
AX40-5230



Site: 3m Anechoic Chamber Polarization: *Horizontal* Temperature: 25(℃) Humidity: 56 %

Limit: FCC part 15.407 band edge (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5350.000	49.77	-8.15	41.62	74.00	-32.38	peak	P	
2 *	5350.000	40.71	-8.15	32.56	54.00	-21.44	AVG	P	

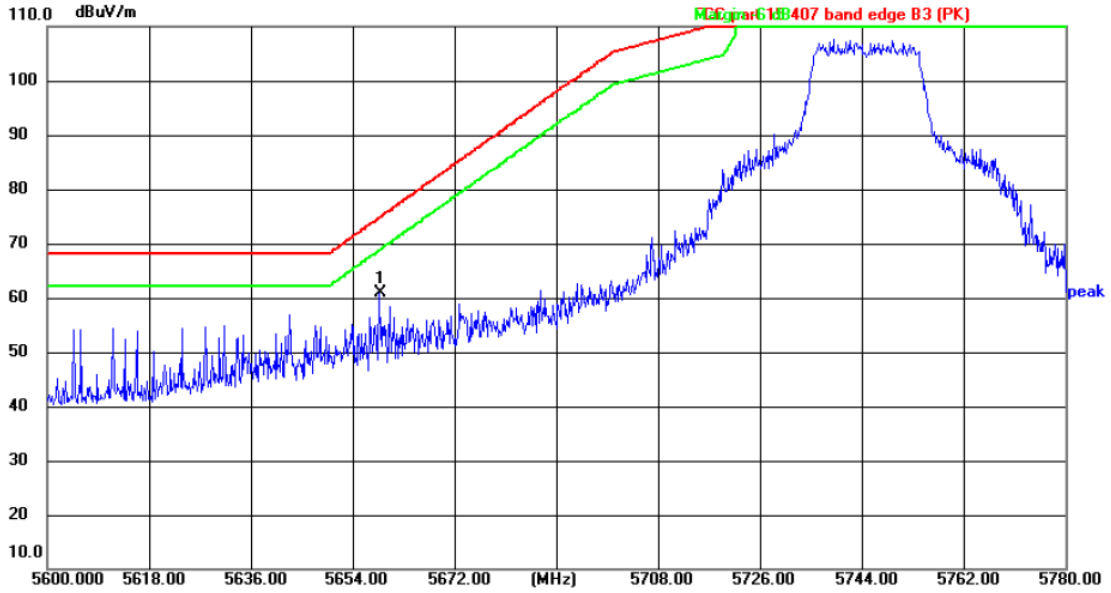


Site: 3m Anechoic Chamber Polarization: *Vertical* Temperature: 25(℃) Humidity: 56 %

Limit: FCC part 15.407 band edge (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5350.000	48.55	-8.15	40.40	74.00	-33.60	peak	P	
2 *	5350.000	38.49	-8.15	30.34	54.00	-23.66	AVG	P	

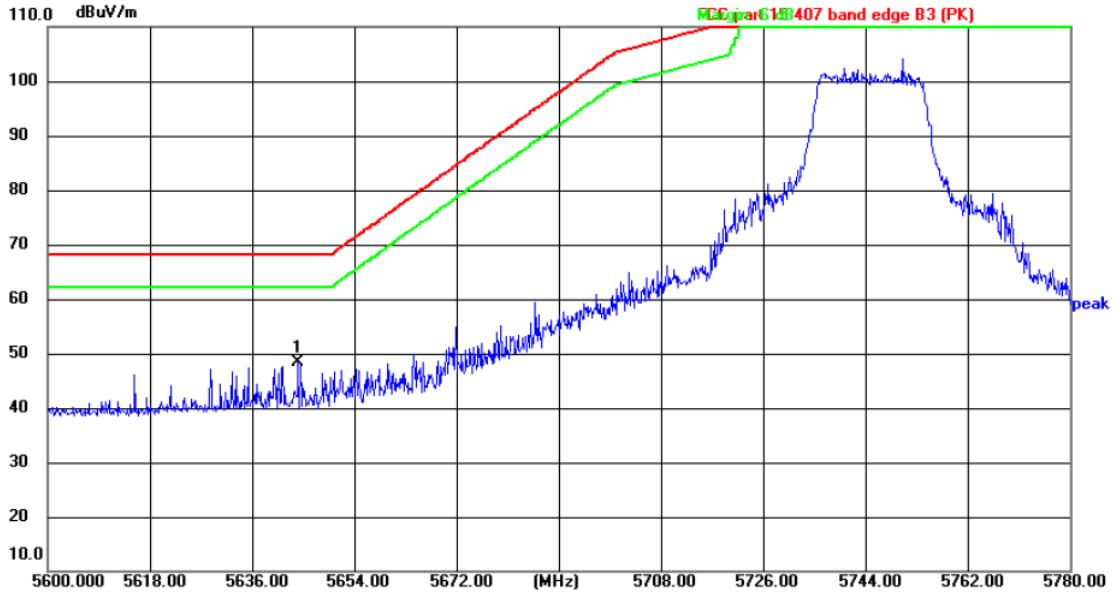
AX20-5745



Site: 3m Anechoic Chamber Polarization: *Horizontal* Temperature: 25(℃) Humidity: 56 %

Limit: FCC part 15.407 band edge B3 (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5658.797	68.17	-7.37	60.80	74.71	-13.91	peak	P	

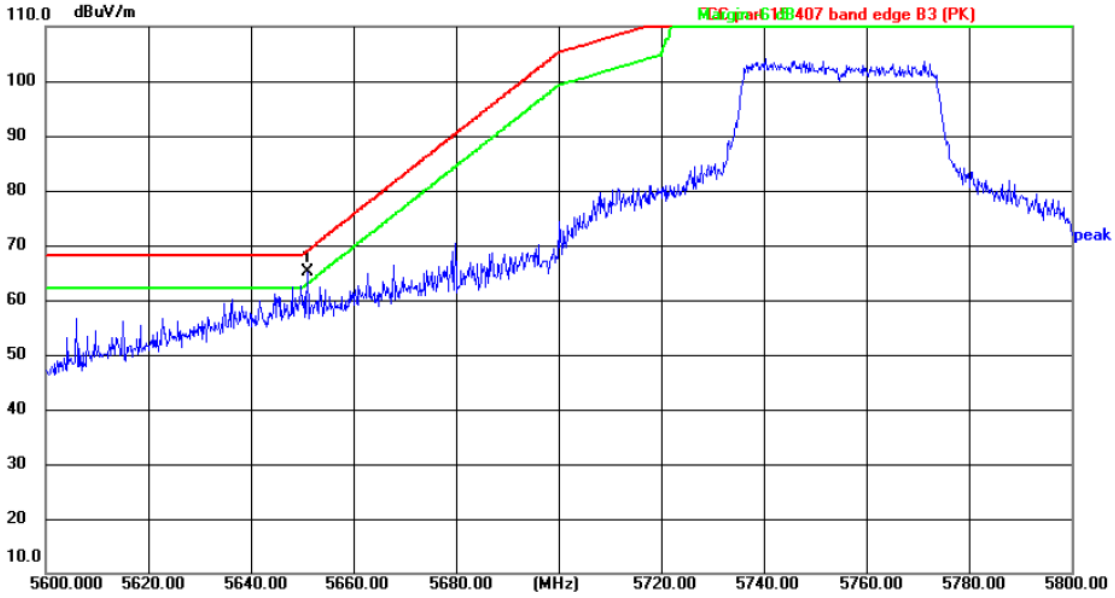


Site: 3m Anechoic Chamber Polarization: *Vertical* Temperature: 25(℃) Humidity: 56 %

Limit: FCC part 15.407 band edge B3 (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5644.154	55.85	-7.35	48.50	68.20	-19.70	peak	P	

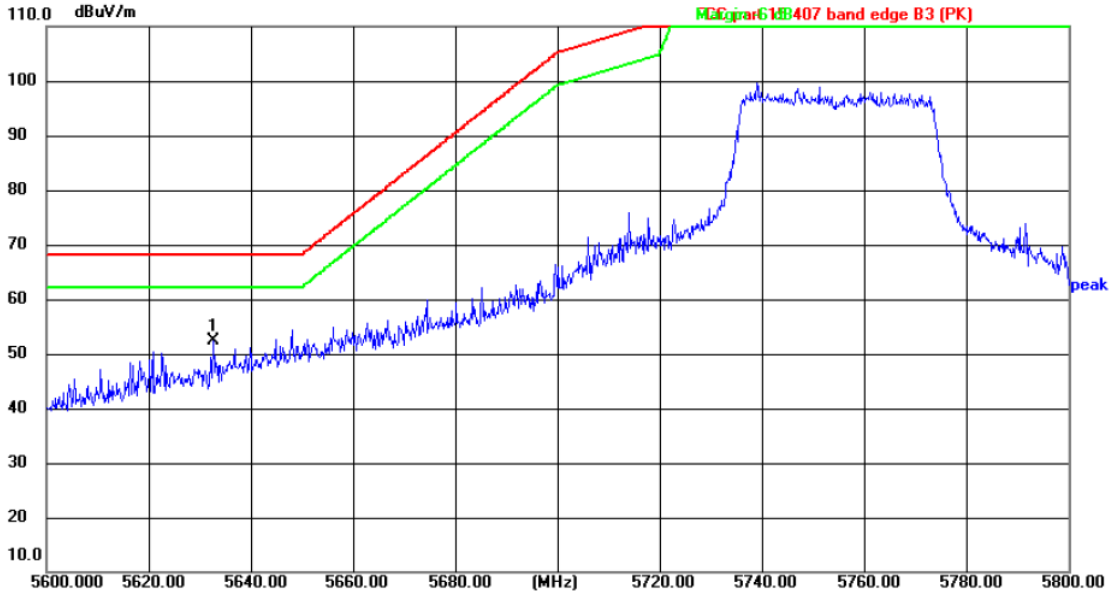
AX40-5755



Site: 3m Anechoic Chamber Polarization: *Horizontal* Temperature: 25(℃) Humidity: 56 %

Limit: FCC part 15.407 band edge B3 (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5651.010	72.51	-7.28	65.23	68.95	-3.72	peak	P	

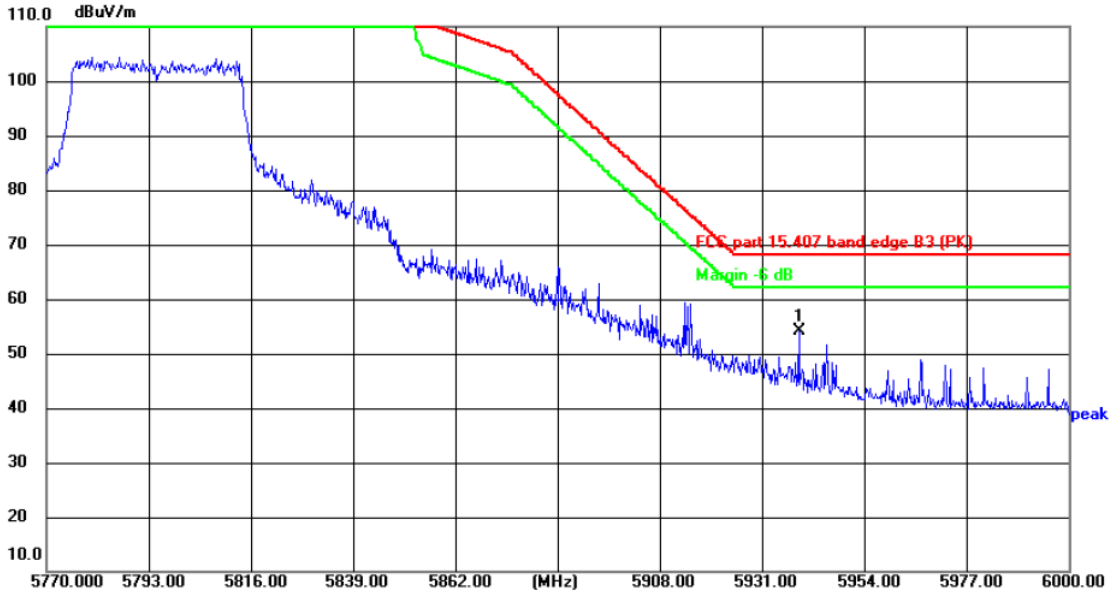


Site: 3m Anechoic Chamber Polarization: *Vertical* Temperature: 25(℃) Humidity: 56 %

Limit: FCC part 15.407 band edge B3 (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5632.730	59.98	-7.52	52.46	68.20	-15.74	peak	P	

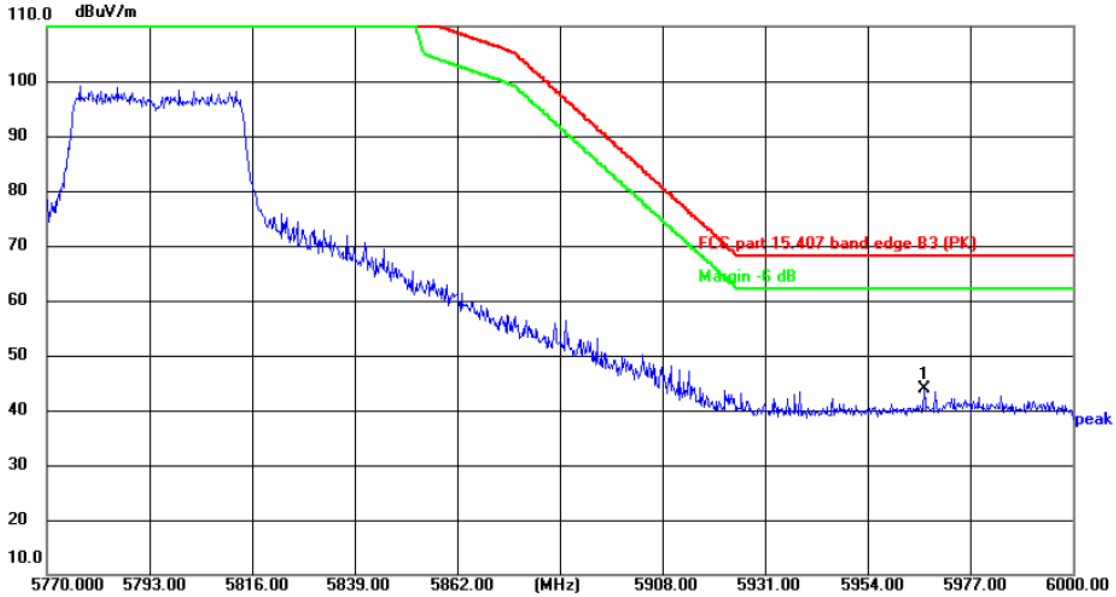
AX40-5795



Site: 3m Anechoic Chamber Polarization: *Horizontal* Temperature: 25(℃) Humidity: 56 %

Limit: FCC part 15.407 band edge B3 (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5939.383	61.02	-6.84	54.18	68.20	-14.02	peak	P	

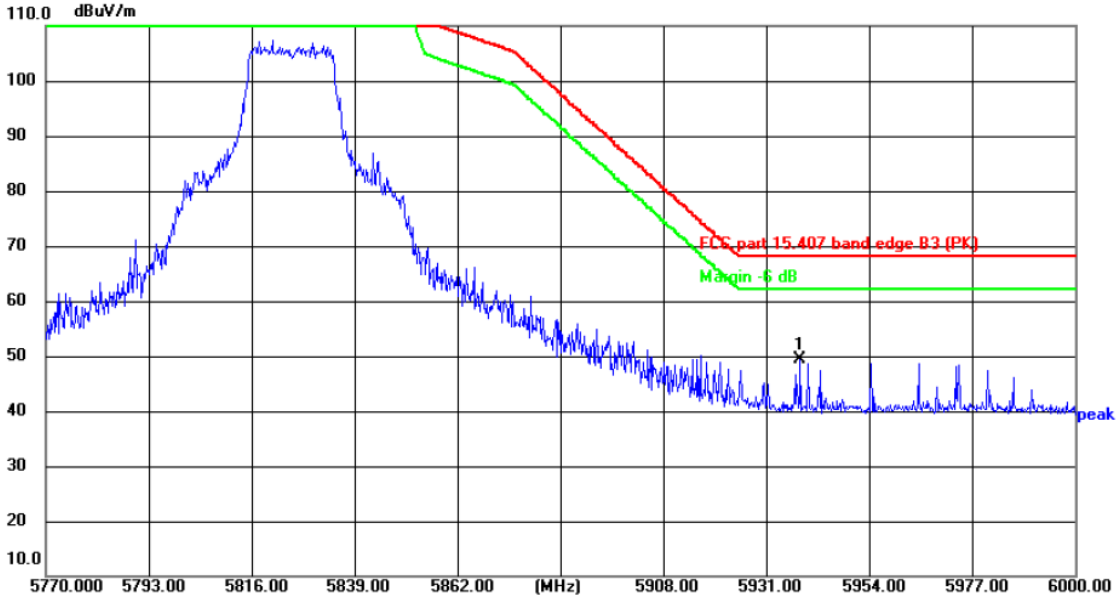


Site: 3m Anechoic Chamber Polarization: *Vertical* Temperature: 25(℃) Humidity: 56 %

Limit: FCC part 15.407 band edge B3 (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5966.868	50.61	-6.69	43.92	68.20	-24.28	peak	P	

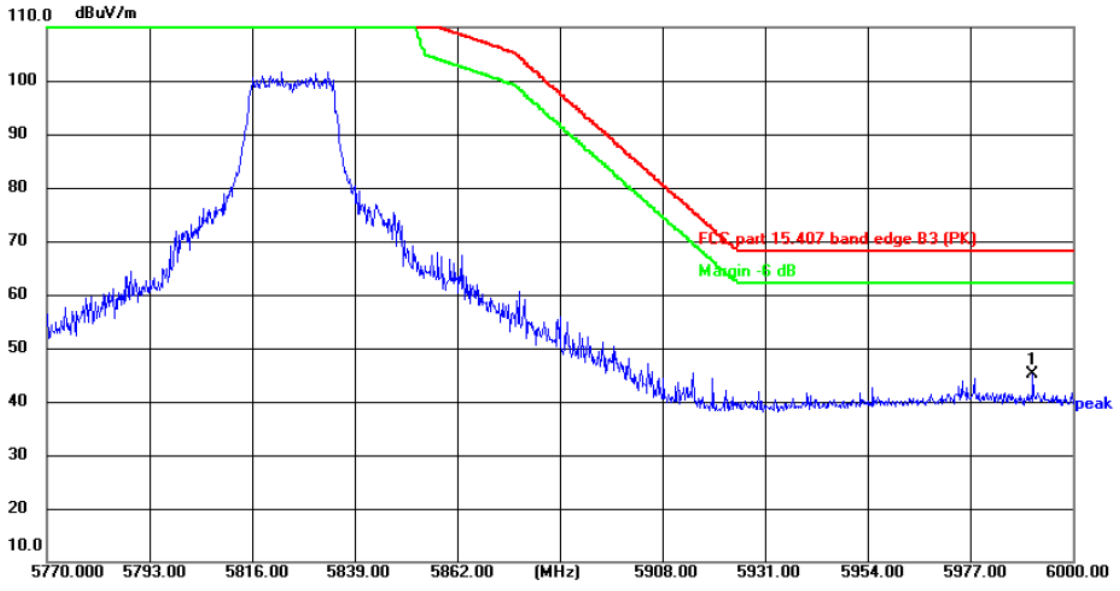
AX20-5825



Site: 3m Anechoic Chamber Polarization: *Horizontal* Temperature: 25(℃) Humidity: 56 %

Limit: FCC part 15.407 band edge B3 (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5938.889	56.10	-6.84	49.26	68.20	-18.94	peak	P	



Site: 3m Anechoic Chamber Polarization: *Vertical* Temperature: 25(℃) Humidity: 56 %

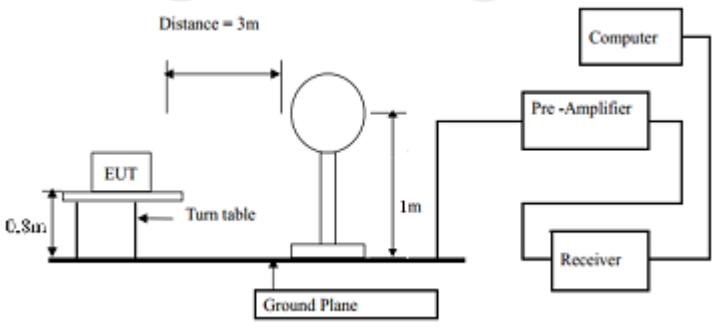
Limit: FCC part 15.407 band edge B3 (PK) Power:AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5991.099	51.63	-6.55	45.08	68.20	-23.12	peak	P	

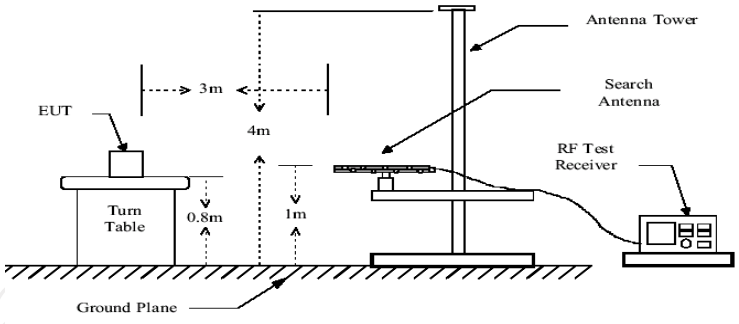
Note: *All modulation (802.11a, 802.11n, 802.11ac, 802.11ax) have been tested, only the worst case in 802.11ax be reported.*

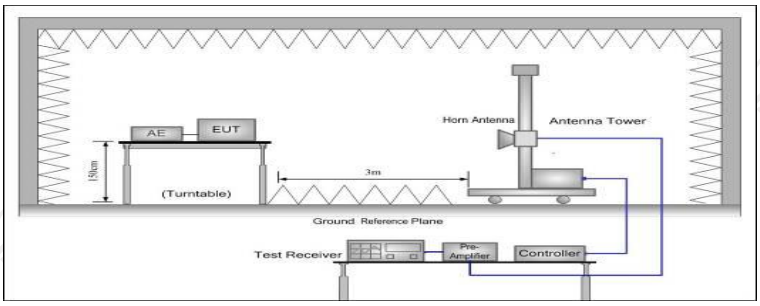
5.8. Unwanted Emissions

5.8.1. Test Specification

<table>
<tr><td>Test Requirement:</td><td>FCC CFR47 Part 15 Section 15.407 & 15.209 & 15.205</td></tr>
<tr><td>Test Method:</td><td>KDB 789033 D02 v02r01</td></tr>
<tr><td>Frequency Range:</td><td>9kHz to 40GHz</td></tr>
<tr><td>Measurement Distance:</td><td>3 m</td></tr>
<tr><td>Antenna Polarization:</td><td>Horizontal & Vertical</td></tr>
<tr><td>Operation mode:</td><td>Transmitting mode with modulation</td></tr>
<tr><td>Receiver Setup:</td><td>
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td>9kHz- 150kHz</td><td>Quasi-peak</td><td>200Hz</td><td>1kHz</td><td>Quasi-peak Value</td></tr>
<tr><td>150kHz-30MHz</td><td>Quasi-peak</td><td>9kHz</td><td>30kHz</td><td>Quasi-peak Value</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>120KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>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:
<table>
<tr><td>Frequency</td><td>Detector</td><td>Limit@3m</td></tr>
<tr><td rowspan="2">Above 1G</td><td>Peak</td><td>74dBμV/m</td></tr>
<tr><td>AVG</td><td>54dBμV/m</td></tr>
</table>
<table>
<tr><td>Frequency</td><td>Field Strength (microvolts/meter)</td><td>Measurement Distance (meters)</td></tr>
<tr><td>0.009-0.490</td><td>2400/F(KHz)</td><td>300</td></tr>
<tr><td>0.49 -1.705</td><td>24000/F(KHz)</td><td>3</td></tr>
<tr><td>1.705-30</td><td>30</td><td>30</td></tr>
<tr><td>30-88</td><td>100</td><td>3</td></tr>
<tr><td>88-216</td><td>150</td><td>3</td></tr>
<tr><td>216-960</td><td>200</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>3</td></tr>
</table>
In un-restricted bands: 68.2dBuV/m</td></tr>
<tr><td>Test setup:</td><td>For radiated emissions below 30MHz
 

30MHz to 1GHz</td></tr>
</table>

<table>
<tr><td></td><td> 

Above 1GHz

</td></tr>
<tr><td>Test Procedure:</td><td>1. The EUT was placed on the top of a rotating table 0.8 meters above the groundat a 3 meter camber. The table was rotated 360 degrees todetermine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, whichwas 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 thenthe antenna was tuned to heights from 1 meter to 4 meters and the rotatablewas turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and SpecifiedBandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limitspecified, then testing could be stopped and the peak values of the EUT wouldbe reported. Otherwise the emissions that did not have 10dB margin would bere-tested one by one using peak, quasi-peak or average method as specified andthen reported in a data sheet.</td></tr>
<tr><td>Test results:</td><td>PASS</td></tr>
</table>

5.8.2. Test Instruments

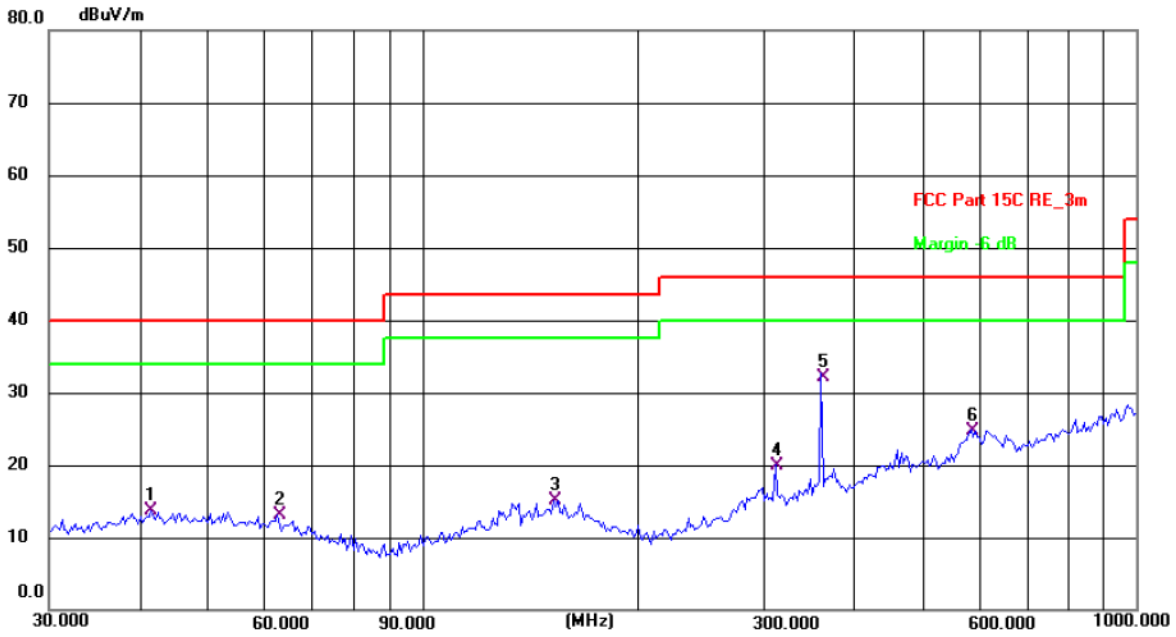
Radiated Emission Test Site (966)				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI Test Receiver	R&S	ESIB7	100197	Jun. 29, 2024
Spectrum Analyzer	R&S	FSQ40	200061	Jun. 29, 2024
Pre-amplifier	SKET	LNPA_0118G-45	SK2021012102	Jan. 31, 2025
Pre-amplifier	SKET	LNPA_1840G-50	SK202109203500	Jan. 31, 2025
Pre-amplifier	HP	8447D	2727A05017	Jun. 27, 2024
Loop antenna	Schwarzbeck	FMZB1519B	00191	Jul. 02, 2024
Broadband Antenna	Schwarzbeck	VULB9163	340	Jul. 01, 2024
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Jul. 01, 2024
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Feb. 02, 2025
Antenna Mast	Keleto	RE-AM	/	/
Coaxial cable	SKET	RC-18G-N-M	/	Jan. 31, 2025
Coaxial cable	SKET	RC_40G-K-M	/	Jan. 31, 2025
EMI Test Software	Shurple Technology	EZ-EMC	/	/

5.8.3. Test Data

Please refer to following diagram for individual

Below 1GHz

Horizontal:



Site: 3m Anechoic Chamber Polarization: *Horizontal* Temperature: 24.9(C) Humidity: 51 %

Limit: FCC Part 15C RE_3m Power: AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	41.7129	26.06	-12.34	13.72	40.00	-26.28	QP	P	
2	62.6507	26.33	-13.32	13.01	40.00	-26.99	QP	P	
3	152.6641	26.05	-10.89	15.16	43.50	-28.34	QP	P	
4	312.1794	29.90	-9.90	20.00	46.00	-26.00	QP	P	
5 *	361.7139	41.35	-9.21	32.14	46.00	-13.86	QP	P	
6	586.8437	29.62	-4.86	24.76	46.00	-21.24	QP	P	

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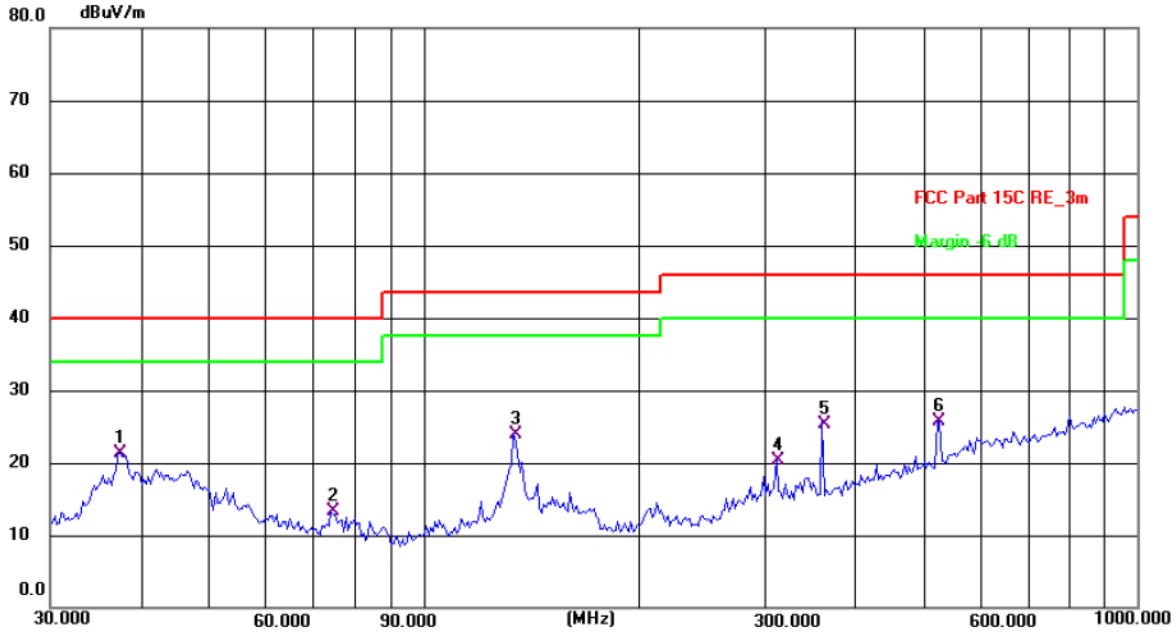
Vertical:



Site: 3m Anechoic Chamber Polarization: *Vertical* Temperature: 24.9(C) Humidity: 51 %

Limit: FCC Part 15C RE_3m Power: AC 120 V/60 Hz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	37.5478	33.98	-12.68	21.30	40.00	-18.70	QP	P	
2	74.1351	28.21	-14.91	13.30	40.00	-26.70	QP	P	
3	133.6188	36.02	-12.18	23.84	43.50	-19.66	QP	P	
4	312.1794	30.17	-9.90	20.27	46.00	-25.73	QP	P	
5	361.7138	34.61	-9.21	25.40	46.00	-20.60	QP	P	
6	528.2458	31.91	-6.25	25.66	46.00	-20.34	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), 802.11ax(VHT20), 802.11ax(VHT40) and the worst case Mode (Lowest channel and 802.11n(HT20)) was submitted only.

3.Measurement (dBμV) = 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	38.14	---	8.02	46.16	---	68.2	---	-22.04
15540	H	38.06	---	9.87	47.93	---	74	54	-6.07
---	H	---	---	---	---	---	---	---	---
10360	V	38.39	---	8.02	46.41	---	68.2	---	-21.79
15540	V	38.63	---	9.87	48.5	---	74	54	-5.5
---	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	39.48	---	7.97	47.45	---	68.2	---	-20.75
15600	H	39.32	---	9.83	49.15	---	74	54	-4.85
---	H	---	---	---	---	---	---	---	---
10400	V	41.36	---	7.97	49.33	---	68.2	---	-18.87
15600	V	38.67	---	9.83	48.5	---	74	54	-5.5
---	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	38.27	---	7.97	46.24	---	68.2	---	-21.96
15720	H	37.86	---	9.83	47.69	---	74	54	-6.31
---	H	---	---	---	---	---	---	---	---
10480	V	39.51	---	7.97	47.48	---	68.2	---	-20.72
15720	V	36.45	---	9.83	46.28	---	74	54	-7.72
---	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	41.23	---	8.02	49.25	---	68.2	---	-18.95
15540	H	38.74	---	9.87	48.61	---	74	54	-5.39
---	H	---	---	---	---	---	---	---	---
10360	V	42.38	---	8.02	50.4	---	68.2	---	-17.8
15540	V	38.15	---	9.87	48.02	---	74	54	-5.98
---	V	---	---	---	---	----	---	---	---

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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	40.14	---	7.97	48.11	---	68.2	---	-20.09
15600	H	38.32	---	9.83	48.15	---	74	54	-5.85
---	H	---	---	---	---	---	---	---	---
10400	V	40.56	---	7.97	48.53	---	68.2	---	-19.67
15600	V	38.08	---	9.83	47.91	---	74	54	-6.09
---	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	41.7	---	7.97	49.67	---	68.2	---	-18.53
15720	H	40.44	---	9.83	50.27	---	74	54	-3.73
---	H	---	---	---	---	---	---	---	---
10480	V	41.66	---	7.97	49.63	---	68.2	---	-18.57
15720	V	40.13	---	9.83	49.96	---	74	54	-4.04
---	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	39.02	---	7.75	46.77	---	68.2	---	-21.43
15570	H	37.94	---	9.87	47.81	---	74	54	-6.19
---	H	---	---	---	---	---	---	---	---
10380	V	40.98	---	7.75	48.73	---	68.2	---	-19.47
15570	V	38.19	---	9.87	48.06	---	74	54	-5.94
---	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	41.24	---	7.97	49.21	---	68.2	---	-18.99
15690	H	39.85	---	9.83	49.68	---	74	54	-4.32
---	H	---	---	---	---	---	---	---	---
10460	V	42.47	---	7.97	50.44	---	68.2	---	-17.76
15690	V	39.11	---	9.83	48.94	---	74	54	-5.06
---	V	---	---	---	---	----	---	---	---

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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	41.43	---	8.02	49.45	---	68.2	---	-18.75
15540	H	37.16	---	9.87	47.03	---	74	54	-6.97
---	H	---	---	---	---	---	---	---	---
10360	V	38.64	---	8.02	46.66	---	68.2	---	-21.54
15540	V	40.18	---	9.87	50.05	---	74	54	-3.95
---	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	39.25	---	7.97	47.22	---	68.2	---	-20.98
15600	H	39.02	---	9.83	48.85	---	74	54	-5.15
---	H	---	---	---	---	---	---	---	---
10400	V	40.19	---	7.97	48.16	---	68.2	---	-20.04
15600	V	38.01	---	9.83	47.84	---	74	54	-6.16
---	V	---	---	---	---	----	---	---	---
11ac(VHT20) CH48:5240									
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	38.36	---	7.97	46.33	---	68.2	---	-21.87
15720	H	38.03	---	9.83	47.86	---	74	54	-6.14
---	H	---	---	---	---	---	---	---	---
10480	V	39.15	---	7.97	47.12	---	68.2	---	-21.08
15720	V	38.62	---	9.83	48.45	---	74	54	-5.55
---	V	---	---	---	---	----	---	---	---
11ac(VHT40) CH38:5190									
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	40.28	---	7.75	48.03	---	68.2	---	-20.17
15570	H	40.11	---	9.87	49.98	---	74	54	-4.02
---	H	---	---	---	---	---	---	---	---
10380	V	39.33	---	7.75	47.08	---	68.2	---	-21.12
15570	V	38.56	---	9.87	48.43	---	74	54	-5.57
---	V	---	---	---	---	----	---	---	---

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11ac(VHT40) CH46:5230									
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	38.77	---	7.97	46.74	---	68.2	---	-21.46
15690	H	39.16	---	9.83	48.99	---	74	54	-5.01
---	H	---	---	---	---	---	---	---	---
10460	V	40.59	---	7.97	48.56	---	68.2	---	-19.64
15690	V	37.12	---	9.83	46.95	---	74	54	-7.05
---	V	---	---	---	---	----	---	---	---

11ax(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	41.21	---	8.02	49.23	---	68.2	---	-18.97
15540	H	37.56	---	9.87	47.43	---	74	54	-6.57
---	H	---	---	---	---	---	---	---	---
10360	V	38.19	---	8.02	46.21	---	68.2	---	-21.99
15540	V	40.53	---	9.87	50.4	---	74	54	-3.6
---	V	---	---	---	---	----	---	---	---

11ax(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	39.98	---	7.97	47.95	---	68.2	---	-20.25
15600	H	39.22	---	9.83	49.05	---	74	54	-4.95
---	H	---	---	---	---	---	---	---	---
10400	V	40.01	---	7.97	47.98	---	68.2	---	-20.22
15600	V	38.37	---	9.83	48.2	---	74	54	-5.8
---	V	---	---	---	---	----	---	---	---

11ax(VHT20) CH48:5240									
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	38.28	---	7.97	46.25	---	68.2	---	-21.95
15720	H	38.26	---	9.83	48.09	---	74	54	-5.91
---	H	---	---	---	---	---	---	---	---
10480	V	39.33	---	7.97	47.3	---	68.2	---	-20.9
15720	V	39.07	---	9.83	48.9	---	74	54	-5.1
---	V	---	---	---	---	----	---	---	---

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11ax(VHT40) CH38:5190									
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	40.29	---	7.75	48.04	---	68.2	---	-20.16
15570	H	40.13	---	9.87	50	---	74	54	-4
---	H	---	---	---	---	---	---	---	---
10380	V	39.36	---	7.75	47.11	---	68.2	---	-21.09
15570	V	38.45	---	9.87	48.32	---	74	54	-5.68
---	V	---	---	---	---	----	---	---	---
11ax(VHT40) CH46:5230									
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	38.04	---	7.97	46.01	---	68.2	---	-22.19
15690	H	39.11	---	9.83	48.94	---	74	54	-5.06
---	H	---	---	---	---	---	---	---	---
10460	V	40.55	---	7.97	48.52	---	68.2	---	-19.68
15690	V	37.68	---	9.83	47.51	---	74	54	-6.49
---	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 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	39.44	---	8.09	47.53	---	74	54	-6.47
17235	H	37.92	---	9.67	47.59	---	68.2	---	-20.61
---	H	---	---	---	---	---	---	---	---
11490	V	41.58	---	8.09	49.67	---	74	54	-4.33
17235	V	39.46	---	9.67	49.13	---	68.2	---	-19.07
---	V	---	---	---	---	----	---	---	---
11a 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	39.03	---	8.10	47.13	---	74	54	-6.87
17355	H	38.35	---	9.65	48	---	68.2	---	-20.2
---	H	---	---	---	---	---	---	---	---
11570	V	38.08	---	8.10	46.18	---	74	54	-7.82
17355	V	40.16	---	9.65	49.81	---	68.2	---	-18.39
---	V	---	---	---	---	----	---	---	---
11a 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	37.44	---	8.12	45.56	---	74	54	-8.44
17475	H	36.29	---	9.62	45.91	---	68.2	---	-22.29
---	H	---	---	---	---	---	---	---	---
11650	V	39.07	---	8.12	47.19	---	74	54	-6.81
17475	V	38.66	---	9.62	48.28	---	68.2	---	-19.92
---	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	39.27	---	8.09	47.36	---	74	54	-6.64
17235	H	38.55	---	9.67	48.22	---	68.2	---	-19.98
---	H	---	---	---	---	---	---	---	---
11490	V	40.18	---	8.09	48.27	---	74	54	-5.73
17235	V	38.21	---	9.67	47.88	---	68.2	---	-20.32
---	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	38.58	---	8.10	46.68	---	74	54	-7.32
17355	H	39.16	---	9.65	48.81	---	68.2	---	-19.39
---	H	---	---	---	---	---	---	---	---
11570	V	39.23	---	8.10	47.33	---	74	54	-6.67
17355	V	39.12	---	9.65	48.77	---	68.2	---	-19.43
---	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	39.18	---	8.12	47.3	---	74	54	-6.7
17475	H	37.49	---	9.62	47.11	---	68.2	---	-21.09
---	H	---	---	---	---	---	---	---	---
11650	V	38.51	---	8.12	46.63	---	74	54	-7.37
17475	V	39.04	---	9.62	48.66	---	68.2	---	-19.54
---	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	41.07	---	8.09	49.16	---	74	54	-4.84
17265	H	37.94	---	9.67	47.61	---	68.2	---	-20.59
---	H	---	---	---	---	---	---	---	---
11510	V	42.85	---	8.09	50.94	---	74	54	-3.06
17265	V	39.02	---	9.67	48.69	---	68.2	---	-19.51
---	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	39.66	---	8.10	47.76	---	74	54	-6.24
17385	H	38.43	---	9.65	48.08	---	68.2	---	-20.12
---	H	---	---	---	---	---	---	---	---
11590	V	39.04	---	8.10	47.14	---	74	54	-6.86
17385	V	38.16	---	9.65	47.81	---	68.2	---	-20.39
---	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	41.31	---	8.09	49.4	---	74	54	-4.6
17235	H	38.65	---	9.67	48.32	---	68.2	---	-19.88
---	H	---	---	---	---	---	---	---	---
11490	V	40.59	---	8.09	48.68	---	74	54	-5.32
17235	V	39.13	---	9.67	48.8	---	68.2	---	-19.4
---	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	38.14	---	8.10	46.24	---	74	54	-7.76
17355	H	36.68	---	9.65	46.33	---	68.2	---	-21.87
---	H	---	---	---	---	---	---	---	---
11570	V	38.22	---	8.10	46.32	---	74	54	-7.68
17355	V	38.01	---	9.65	47.66	---	68.2	---	-20.54
---	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	40.08	---	8.12	48.2	---	74	54	-5.8
17475	H	38.84	---	9.62	48.46	---	68.2	---	-19.74
---	H	---	---	---	---	---	---	---	---
11650	V	39.31	---	8.12	47.43	---	74	54	-6.57
17475	V	40.83	---	9.62	50.45	---	68.2	---	-17.75
---	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	39.78	---	8.09	47.87	---	74	54	-6.13
17265	H	38.99	---	9.67	48.66	---	68.2	---	-19.54
---	H	---	---	---	---	---	---	---	---
11510	V	40.06	---	8.09	48.15	---	74	54	-5.85
17265	V	36.87	---	9.67	46.54	---	68.2	---	-21.66
---	V	---	---	---	---	----	---	---	---

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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	40.25	---	8.10	48.35	---	74	54	-5.65
17385	H	38.66	---	9.65	48.31	---	68.2	---	-19.89
---	H	---	---	---	---	---	---	---	---
11590	V	39.78	---	8.10	47.88	---	74	54	-6.12
17385	V	38.19	---	9.65	47.84	---	68.2	---	-20.36
---	V	---	---	---	---	----	---	---	---

11ax(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	39.44	---	8.09	47.53	---	74	54	-6.47
17235	H	38.37	---	9.67	48.04	---	68.2	---	-20.16
---	H	---	---	---	---	---	---	---	---
11490	V	40.95	---	8.09	49.04	---	74	54	-4.96
17235	V	39.18	---	9.67	48.85	---	68.2	---	-19.35
---	V	---	---	---	---	----	---	---	---

11ax(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	38.26	---	8.10	46.36	---	74	54	-7.64
17355	H	36.33	---	9.65	45.98	---	68.2	---	-22.22
---	H	---	---	---	---	---	---	---	---
11570	V	38.74	---	8.10	46.84	---	74	54	-7.16
17355	V	39.49	---	9.65	49.14	---	68.2	---	-19.06
---	V	---	---	---	---	----	---	---	---

11ax(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	40.38	---	8.12	48.5	---	74	54	-5.5
17475	H	38.07	---	9.62	47.69	---	68.2	---	-20.51
---	H	---	---	---	---	---	---	---	---
11650	V	39.95	---	8.12	48.07	---	74	54	-5.93
17475	V	40.01	---	9.62	49.63	---	68.2	---	-18.57
---	V	---	---	---	---	----	---	---	---

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11ax(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	39.34	---	8.09	47.43	---	74	54	-6.57
17265	H	38.42	---	9.67	48.09	---	68.2	---	-20.11
---	H	---	---	---	---	---	---	---	---
11510	V	40.89	---	8.09	48.98	---	74	54	-5.02
17265	V	36.46	---	9.67	46.13	---	68.2	---	-22.07
---	V	---	---	---	---	----	---	---	---

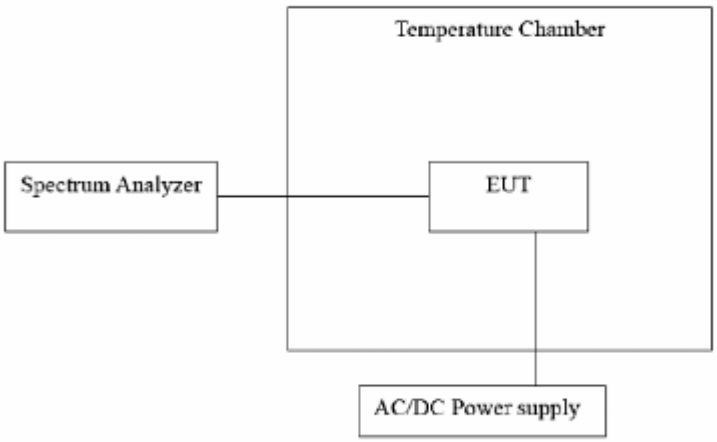
11ax(VHT40) CH159: 5795MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11590	H	40.07	---	8.10	48.17	---	74	54	-5.83
17385	H	38.54	---	9.65	48.19	---	68.2	---	-20.01
---	H	---	---	---	---	---	---	---	---
11590	V	39.33	---	8.10	47.43	---	74	54	-6.57
17385	V	38.52	---	9.65	48.17	---	68.2	---	-20.03
---	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:	
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, 11ax), 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(V_{AC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120V	5179.98	-20000	PASS
35		5180	0	PASS
25		5180	0	PASS
15		5180	0	PASS
5		5180	0	PASS
0		5179.98	-20000	PASS
25	102V	5180	0	PASS
	120V	5179.98	-20000	PASS
	138V	5179.98	-20000	PASS

Test mode:	802.11ac(VHT20)	Frequency(MHz):	5200

Temperature (°C)	Voltage(V_{AC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120V	5200.02	20000	PASS
35		5200.02	20000	PASS
25		5200	0	PASS
15		5199.98	-20000	PASS
5		5200	0	PASS
0		5200	0	PASS
25	102V	5200	0	PASS
	120V	5200	0	PASS
	138V	5200	0	PASS

Test mode:	802.11ac(VHT20)	Frequency(MHz):	5240

Temperature (°C)	Voltage(V_{AC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120V	5240	0	PASS
35		5240	0	PASS
25		5239.98	-20000	PASS
15		5240	0	PASS
5		5239.98	-20000	PASS
0		5240	0	PASS
25	102V	5240	0	PASS
	120V	5240	0	PASS
	138V	5240	0	PASS

Test mode:	802.11ac(VHT20)	Frequency(MHz):	5745

Temperature (°C)	Voltage(V_{AC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120V	5745	0	PASS
35		5745	0	PASS
25		5745	0	PASS
15		5745.02	20000	PASS
5		5745	0	PASS
0		5745	0	PASS
25	102V	5744.98	-20000	PASS
	120V	5745	0	PASS
	138V	5744.98	-20000	PASS

Test mode:	802.11ac(VHT20)	Frequency(MHz):	5785

Temperature (°C)	Voltage(V_{AC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120V	5785	0	PASS
35		5785	0	PASS
25		5785.02	20000	PASS
15		5785	0	PASS
5		5785	0	PASS
0		5784.98	-20000	PASS
25	102V	5784.98	-20000	PASS
	120V	5784.98	-20000	PASS
	138V	5784.98	-20000	PASS

Test mode:	802.11ac(VHT20)	Frequency(MHz):	5825

Temperature (°C)	Voltage(V_{AC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120V	5824.98	-20000	PASS
35		5825	0	PASS
25		5824.98	-20000	PASS
15		5824.98	-20000	PASS
5		5825	0	PASS
0		5825	0	PASS
25	102V	5825.02	20000	PASS
	120V	5825	0	PASS
	138V	5825.02	20000	PASS

Test mode:	802.11ac(VHT40)	Frequency(MHz):	5190

Temperature (°C)	Voltage(V_{AC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120V	5190	0	PASS
35		5190	0	PASS
25		5190	0	PASS
15		5189.96	-40000	PASS
5		5190	0	PASS
0		5190	0	PASS
25	102V	5190	0	PASS
	120V	5190	0	PASS
	138V	5190	0	PASS

Test mode:	802.11ac(VHT40)	Frequency(MHz):	5230

Temperature (°C)	Voltage(V_{AC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120V	5230	0	PASS
35		5230	0	PASS
25		5230	0	PASS
15		5230	0	PASS
5		5230	0	PASS
0		5230	0	PASS
25	102V	5230	0	PASS
	120V	5230	0	PASS
	138V	5230	0	PASS

Test mode:	802.11ac(VHT40)	Frequency(MHz):	5755

Temperature (°C)	Voltage(V_{AC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120V	5755	0	PASS
35		5755	0	PASS
25		5755	0	PASS
15		5755	0	PASS
5		5755.04	40000	PASS
0		5755	0	PASS
25	102V	5755	0	PASS
	120V	5754.96	-40000	PASS
	138V	5755	0	PASS

Test mode:	802.11ac(VHT40)	Frequency(MHz):	5795

Temperature (°C)	Voltage(V_{AC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	120V	5795	0	PASS
35		5795	0	PASS
25		5795	0	PASS
15		5795.04	40000	PASS
5		5795	0	PASS
0		5794.96	-40000	PASS
25	102V	5795	0	PASS
	120V	5794.96	-40000	PASS
	138V	5795	0	PASS

Appendix A: Test Result of Conducted Test

Duty Cycle

Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)
NVNT	a	5180	93.18	0.31
NVNT	a	5200	93.06	0.31
NVNT	a	5240	94.26	0.26
NVNT	n20	5180	94.96	0.22
NVNT	n20	5200	96.45	0.16
NVNT	n20	5240	96.51	0.15
NVNT	n40	5190	96.74	0.14
NVNT	n40	5230	93.54	0.29
NVNT	ac20	5180	95.59	0.2
NVNT	ac20	5200	96.12	0.17
NVNT	ac20	5240	97.02	0.13
NVNT	ac40	5190	96.16	0.17
NVNT	ac40	5230	98.08	0
NVNT	ax20	5180	92.97	0.32
NVNT	ax20	5200	96.41	0.16
NVNT	ax20	5240	94.89	0.23
NVNT	ax40	5190	95.40	0.2
NVNT	ax40	5230	97.31	0.12
NVNT	a	5745	98.34	0
NVNT	a	5785	97.37	0.12
NVNT	a	5825	96.30	0.16
NVNT	n20	5745	99.05	0
NVNT	n20	5785	98.39	0
NVNT	n20	5825	97.87	0.09
NVNT	n40	5755	99.39	0
NVNT	n40	5795	99.25	0
NVNT	ac20	5745	98.99	0
NVNT	ac20	5785	98.97	0
NVNT	ac20	5825	97.80	0.10
NVNT	ac40	5755	99.66	0
NVNT	ac40	5795	99.17	0
NVNT	ax20	5745	99.08	0
NVNT	ax20	5785	98.37	0
NVNT	ax20	5825	98.16	0
NVNT	ax40	5755	99.50	0
NVNT	ax40	5795	99.04	0

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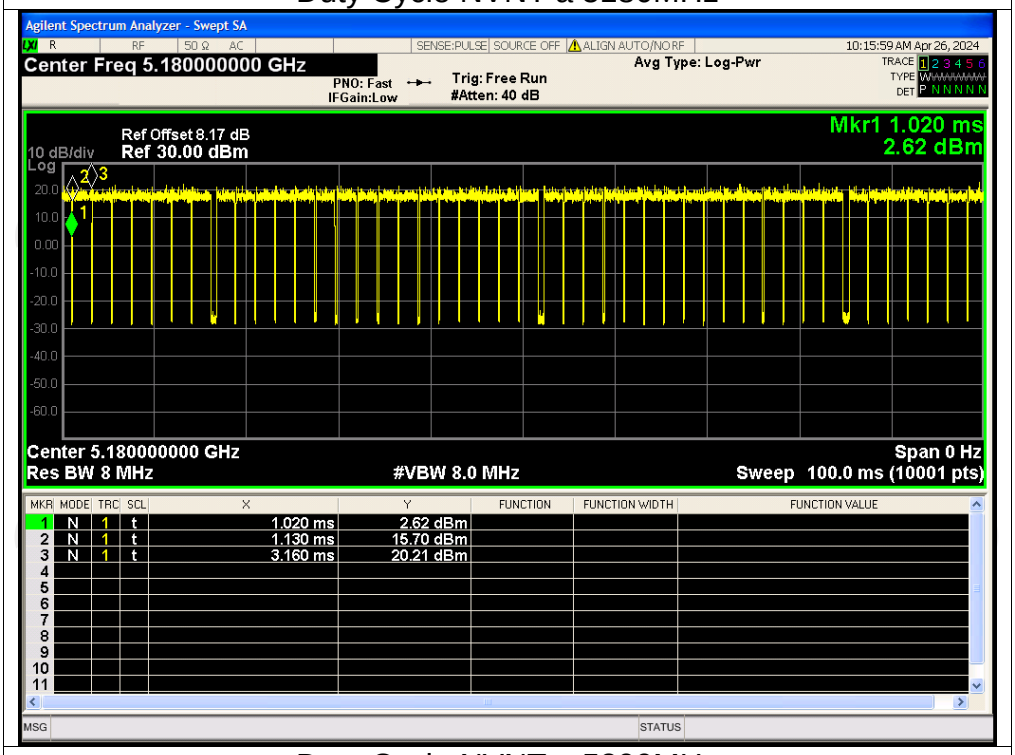
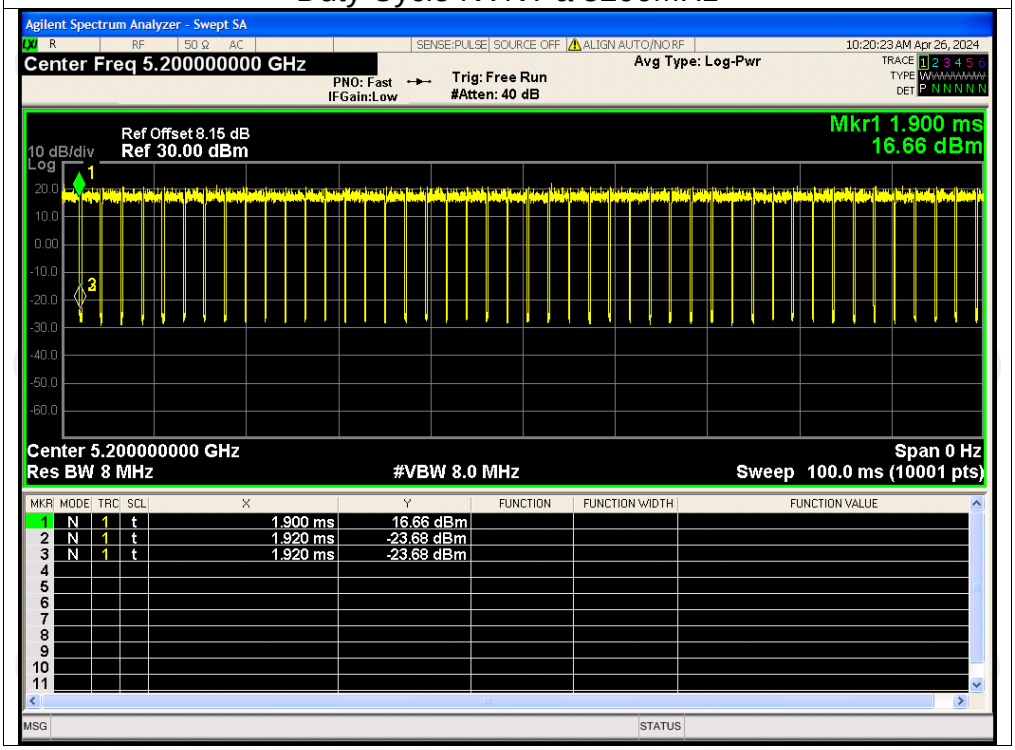
Test Graphs

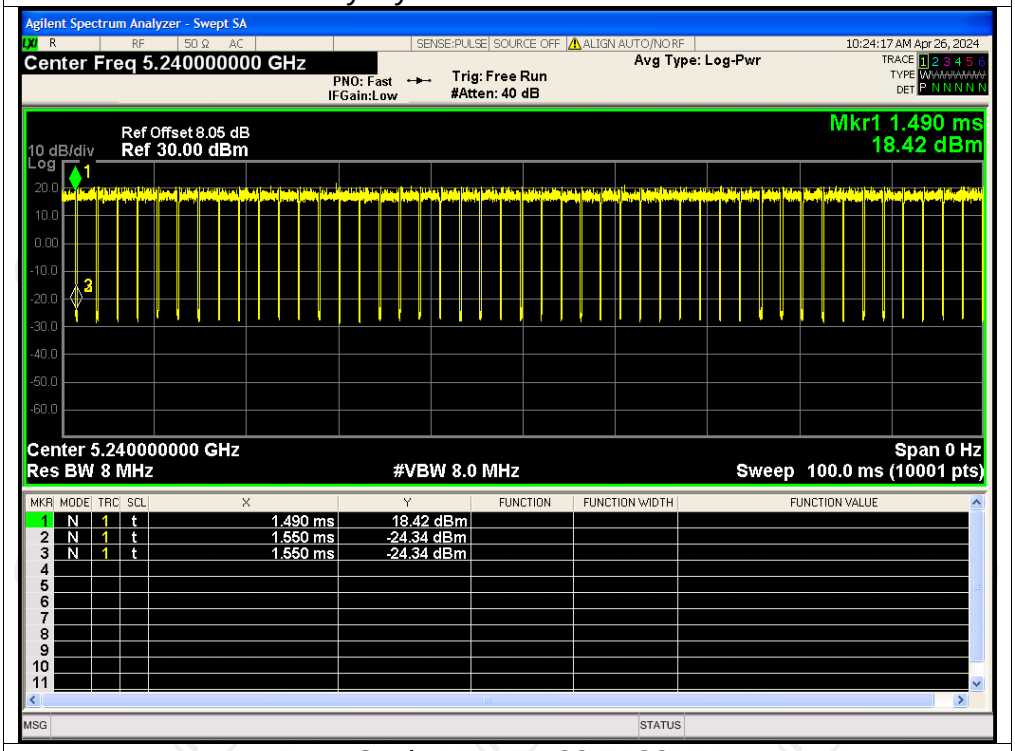
Duty Cycle NVNT a 5180MHz



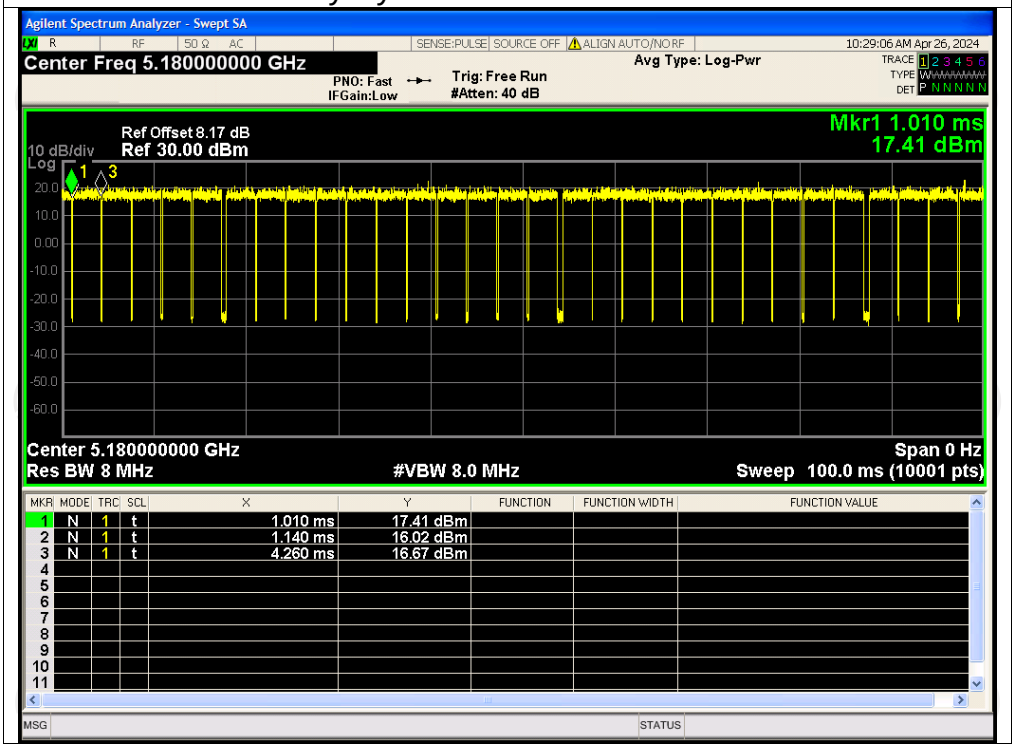
Duty Cycle NVNT a 5200MHz



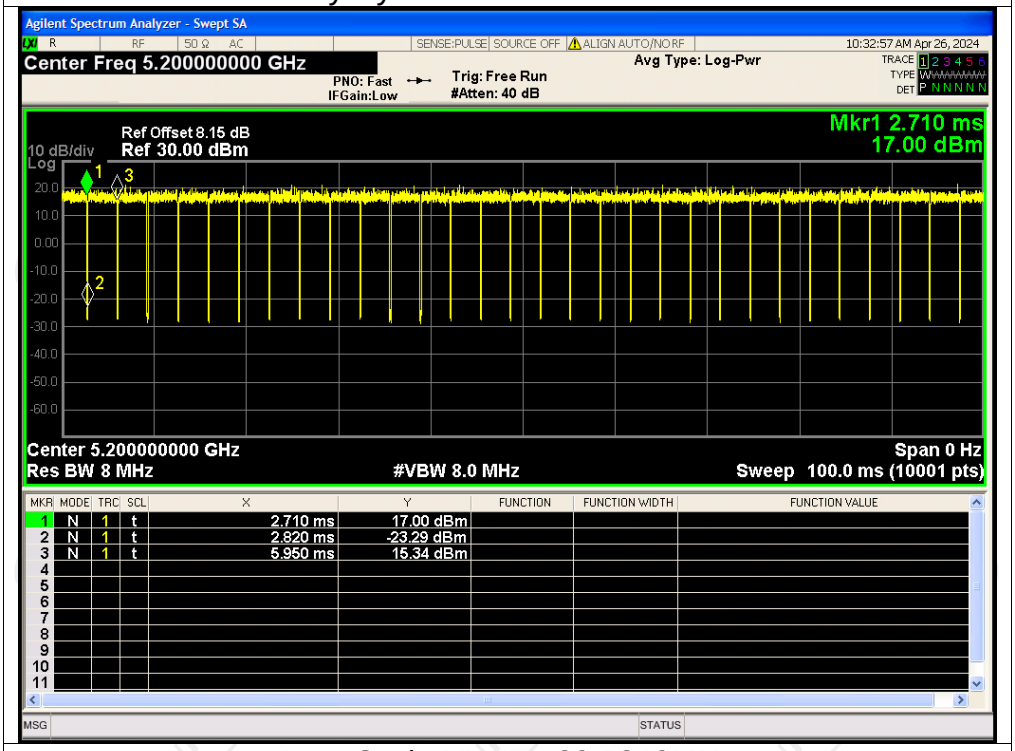
Duty Cycle NVNT a 5240MHz



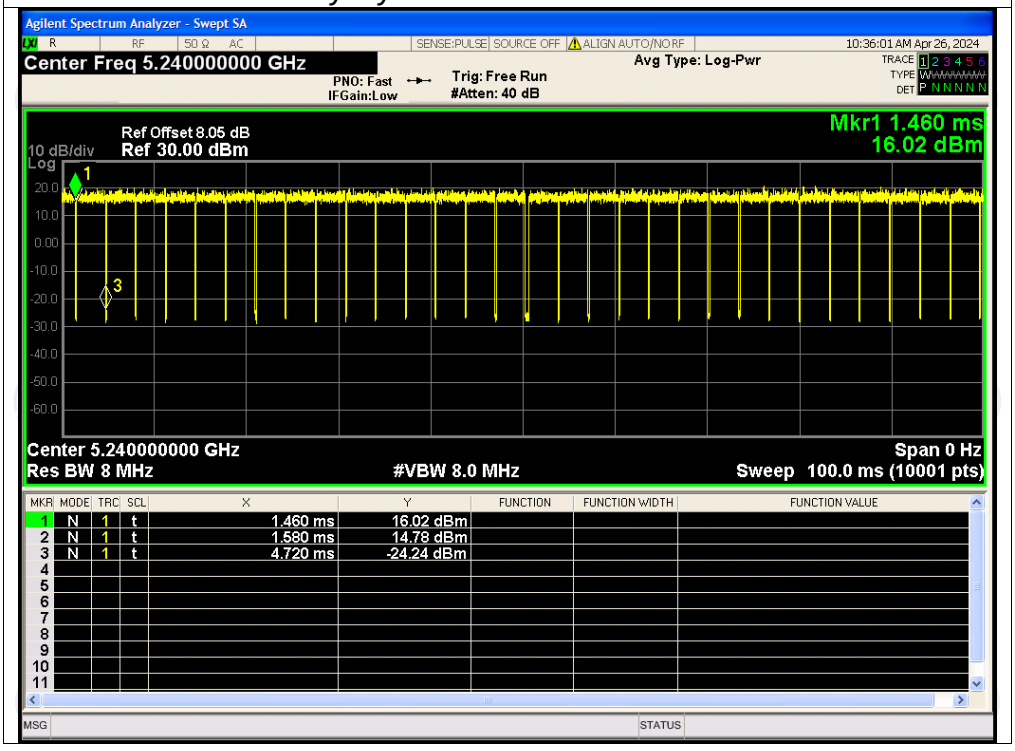
Duty Cycle NVNT n20 5180MHz



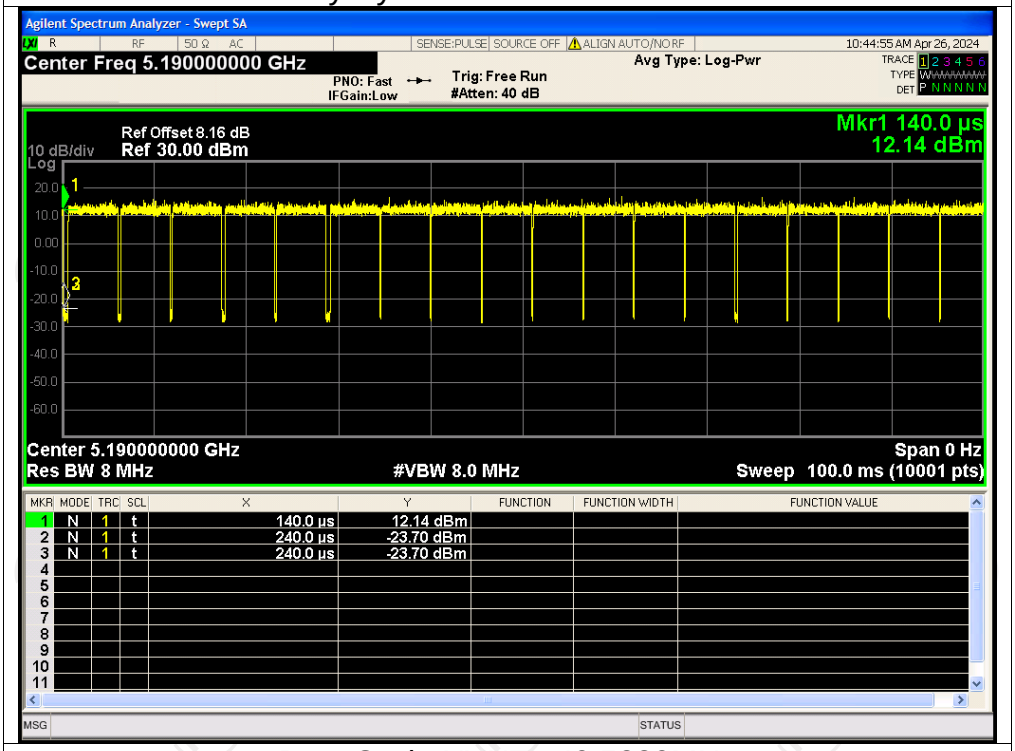
Duty Cycle NVNT n20 5200MHz



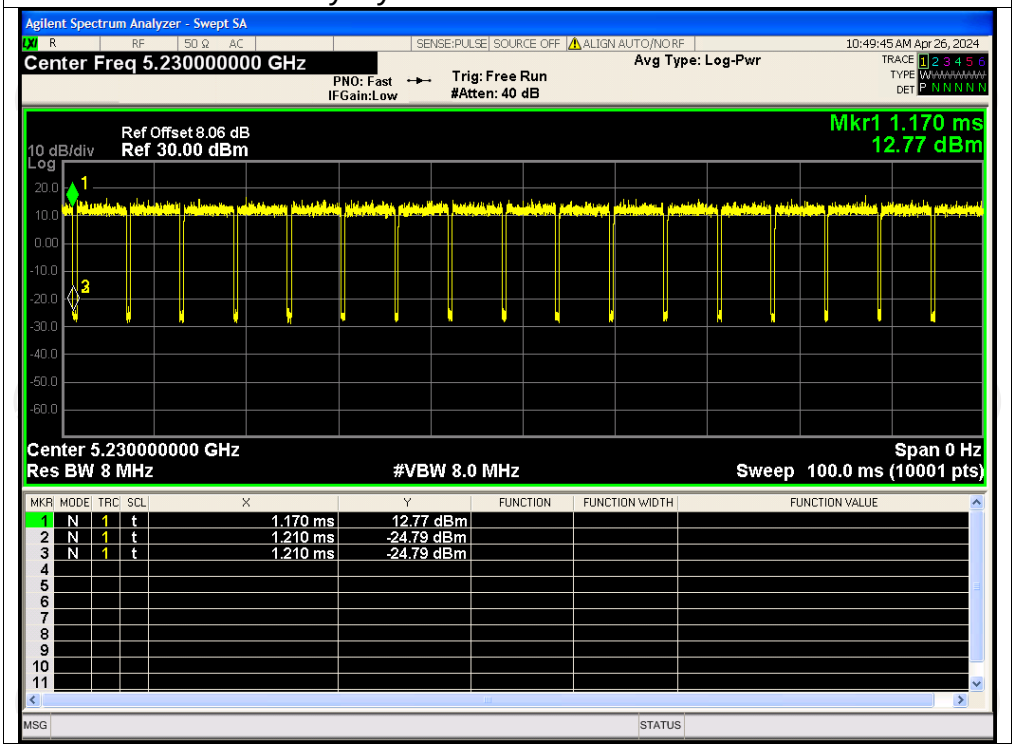
Duty Cycle NVNT n20 5240MHz



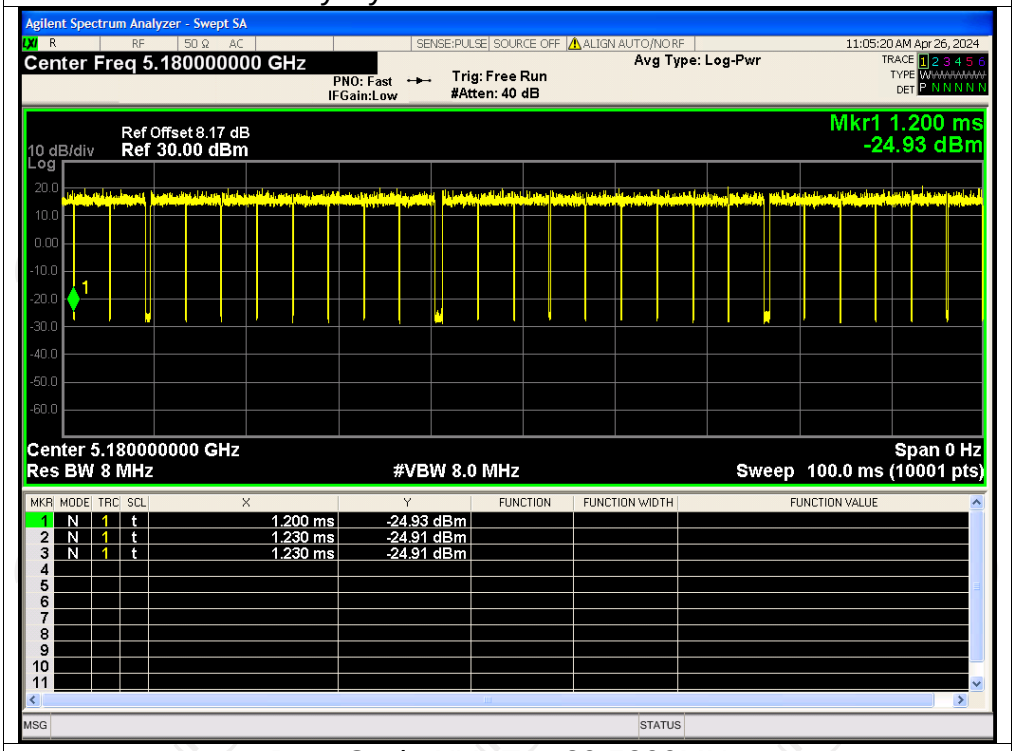
Duty Cycle NVNT n40 5190MHz



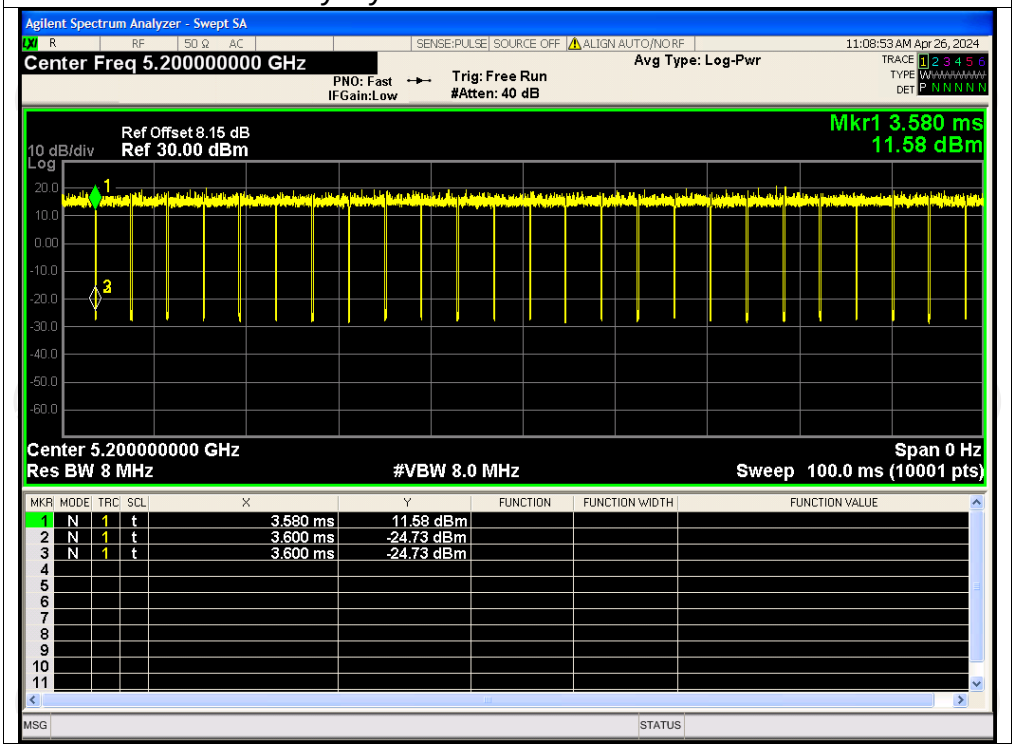
Duty Cycle NVNT n40 5230MHz



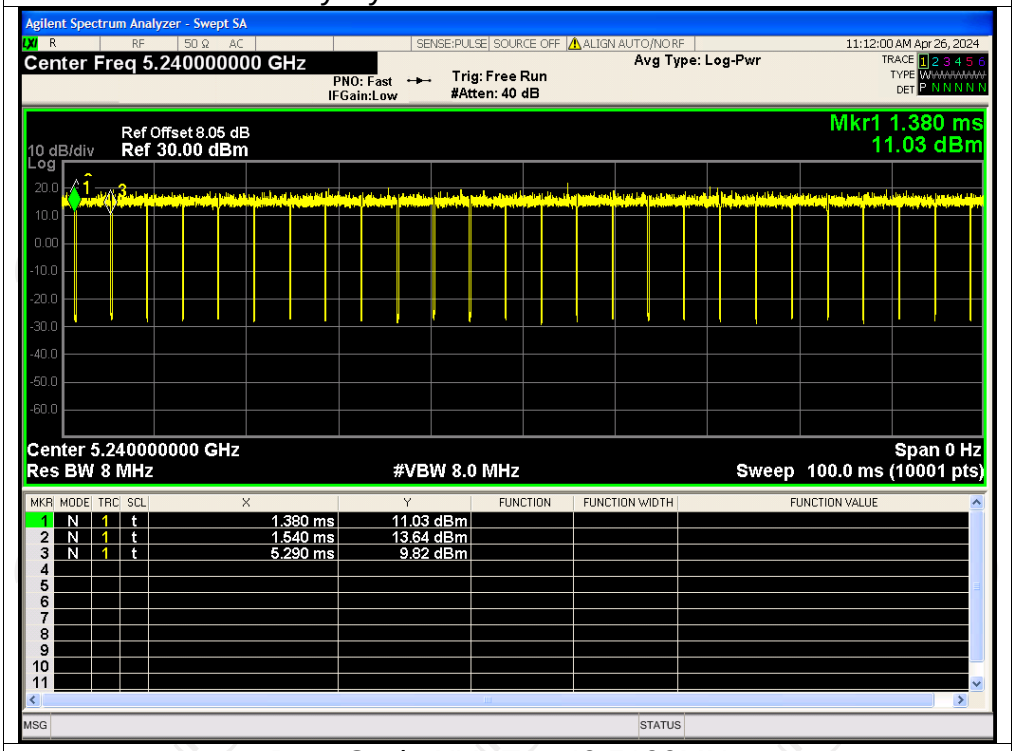
Duty Cycle NVNT ac20 5180MHz



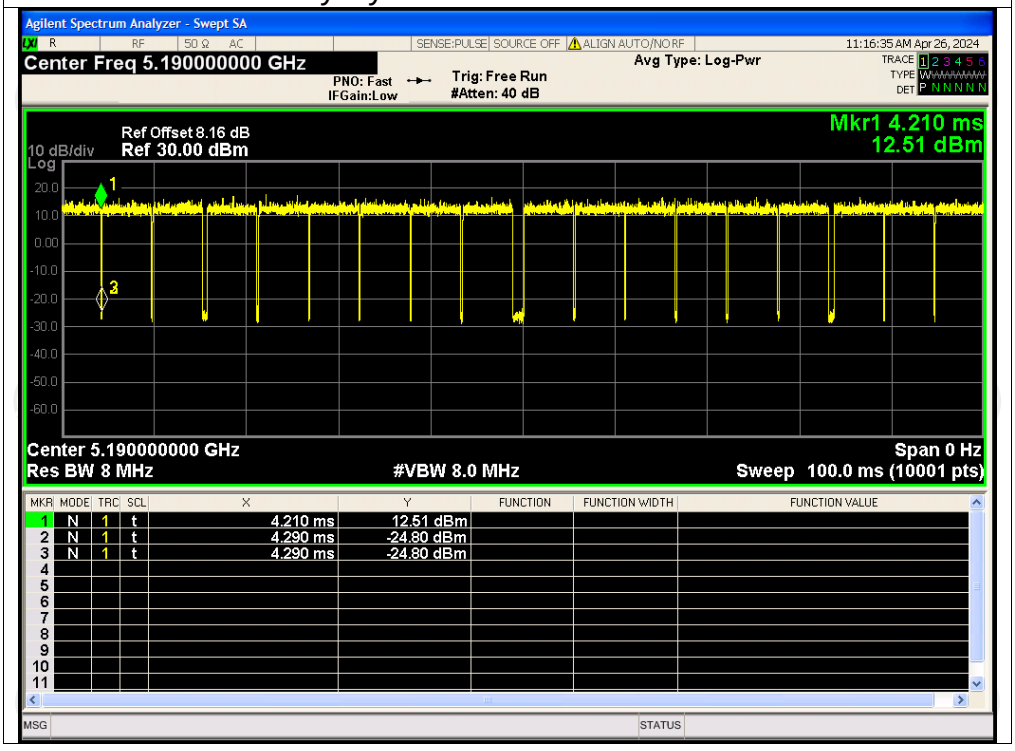
Duty Cycle NVNT ac20 5200MHz



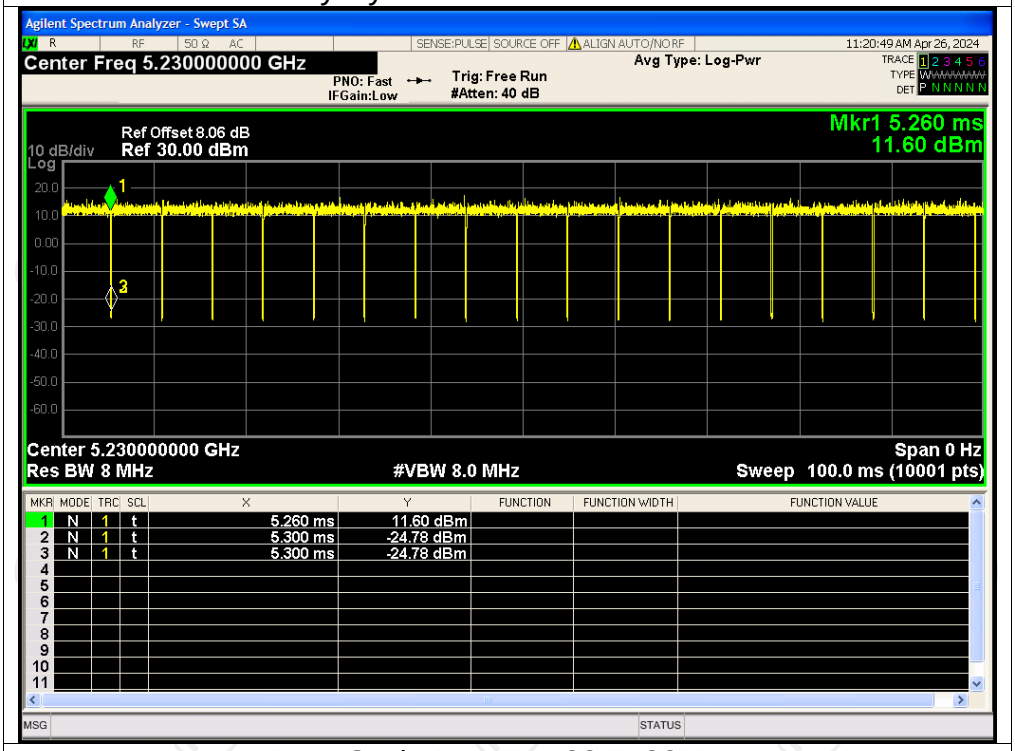
Duty Cycle NVNT ac20 5240MHz



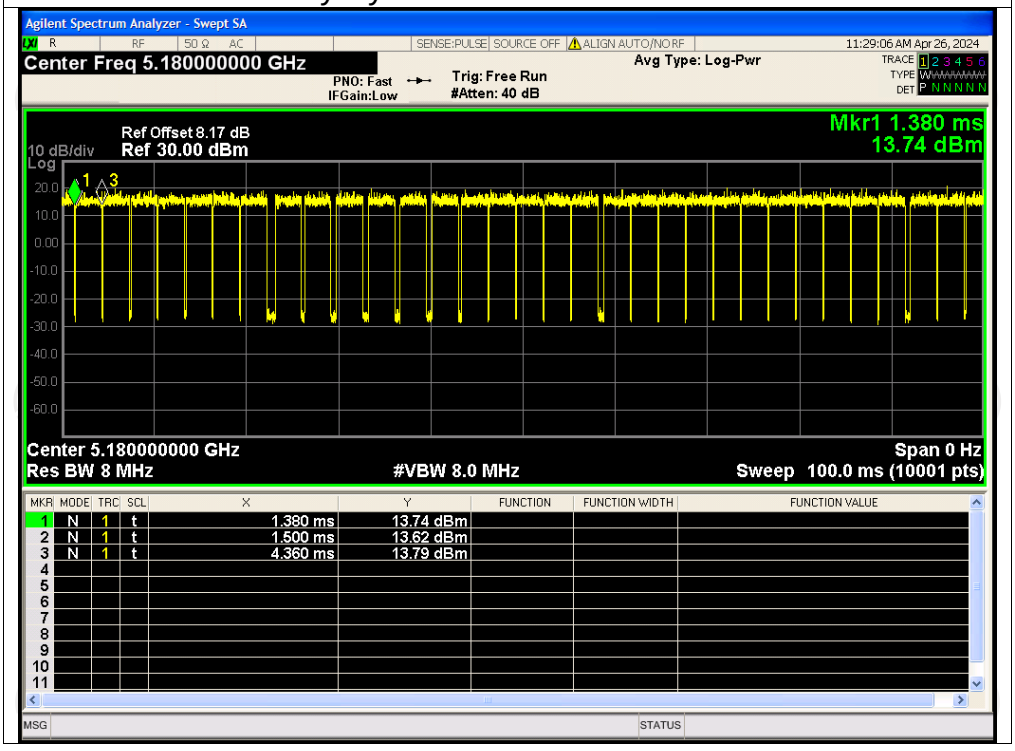
Duty Cycle NVNT ac40 5190MHz



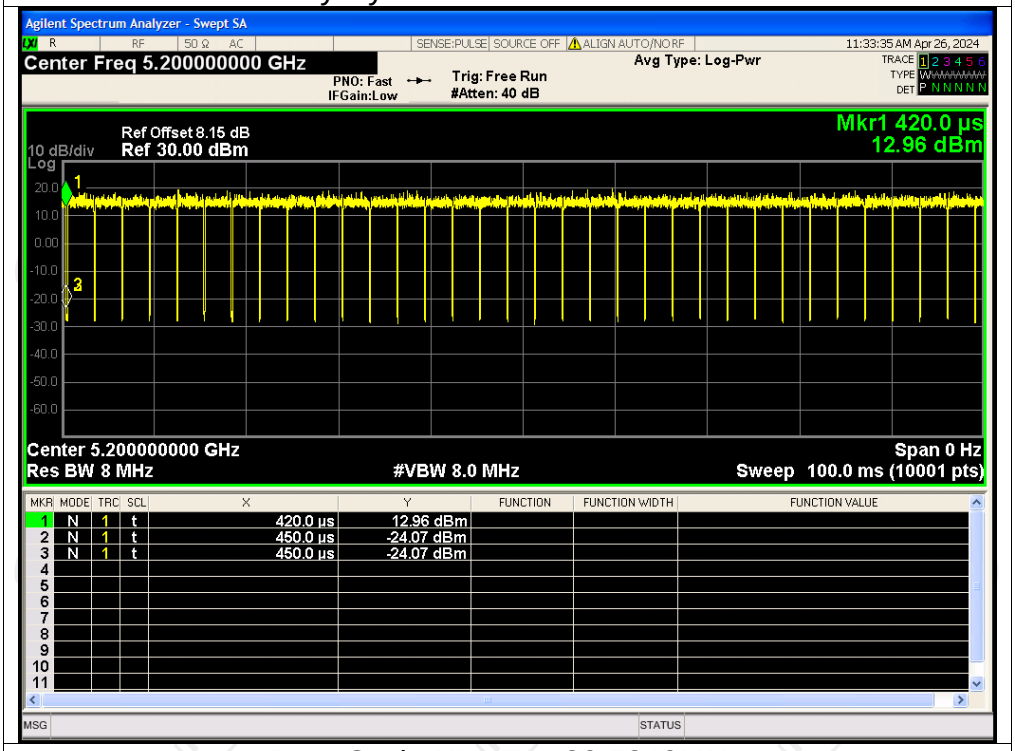
Duty Cycle NVNT ac40 5230MHz



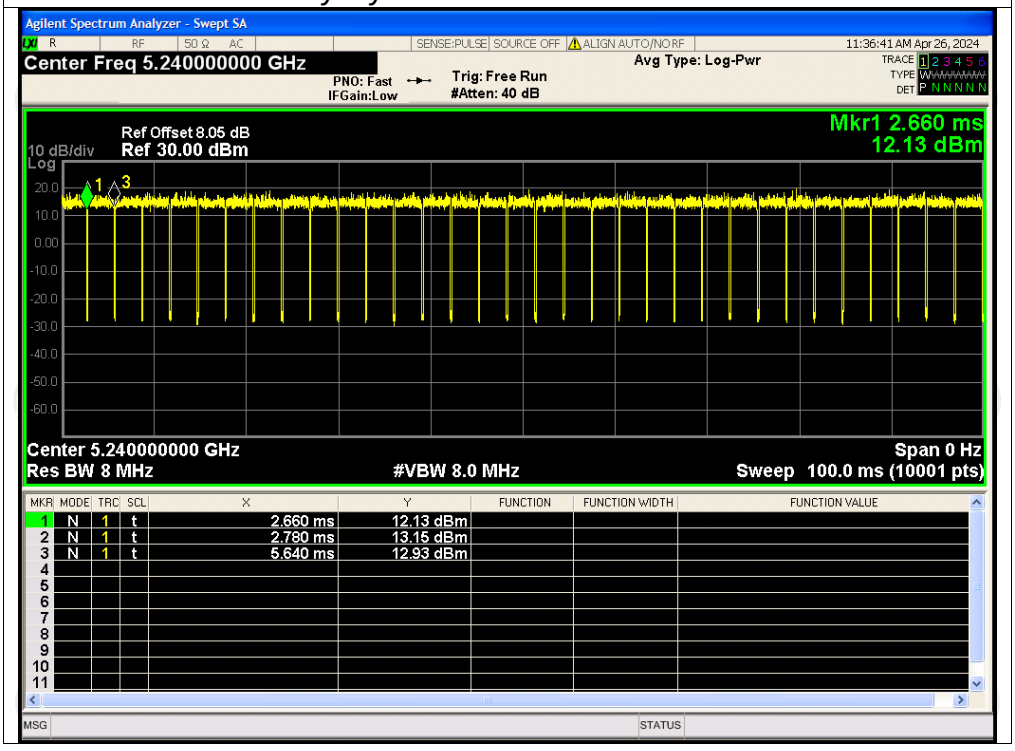
Duty Cycle NVNT ax20 5180MHz



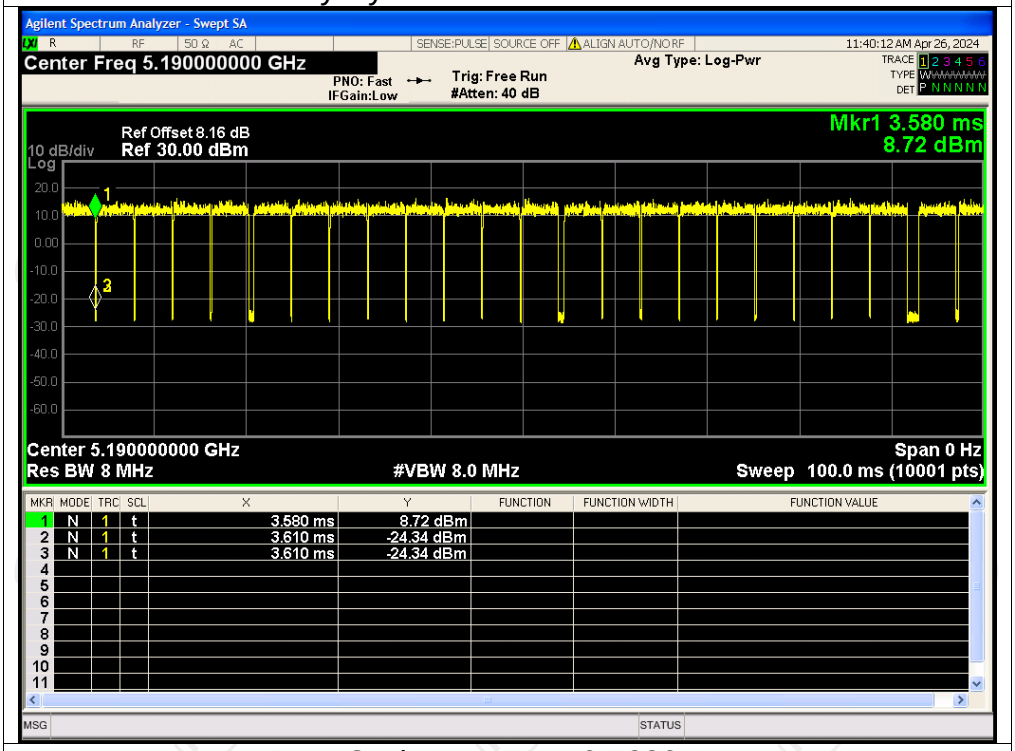
Duty Cycle NVNT ax20 5200MHz



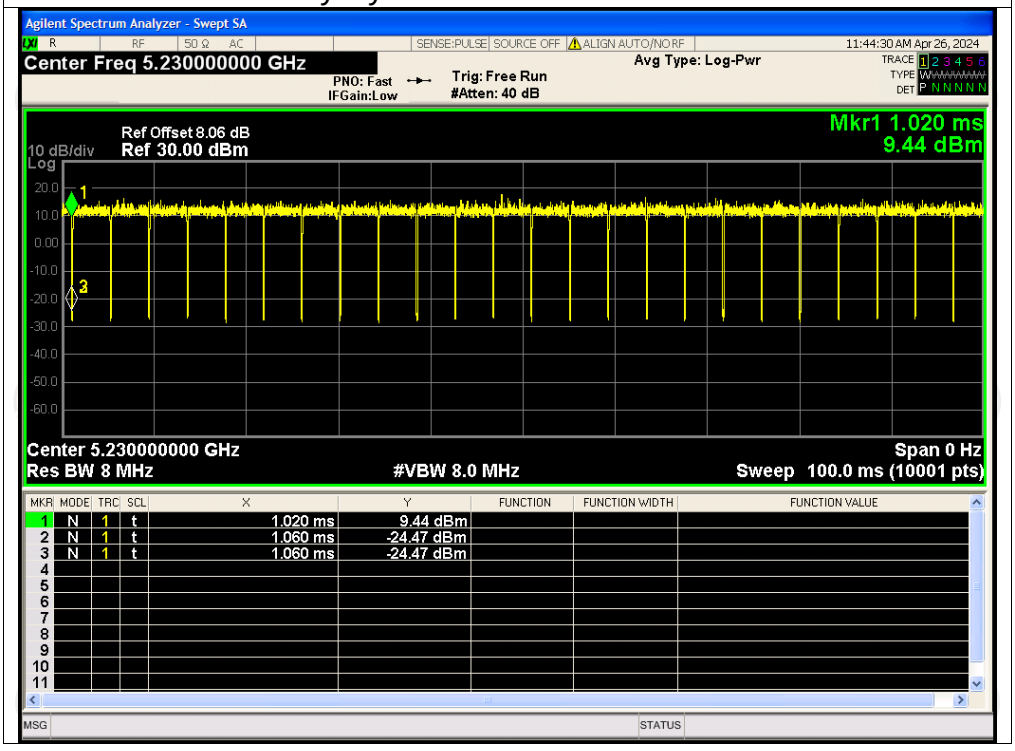
Duty Cycle NVNT ax20 5240MHz



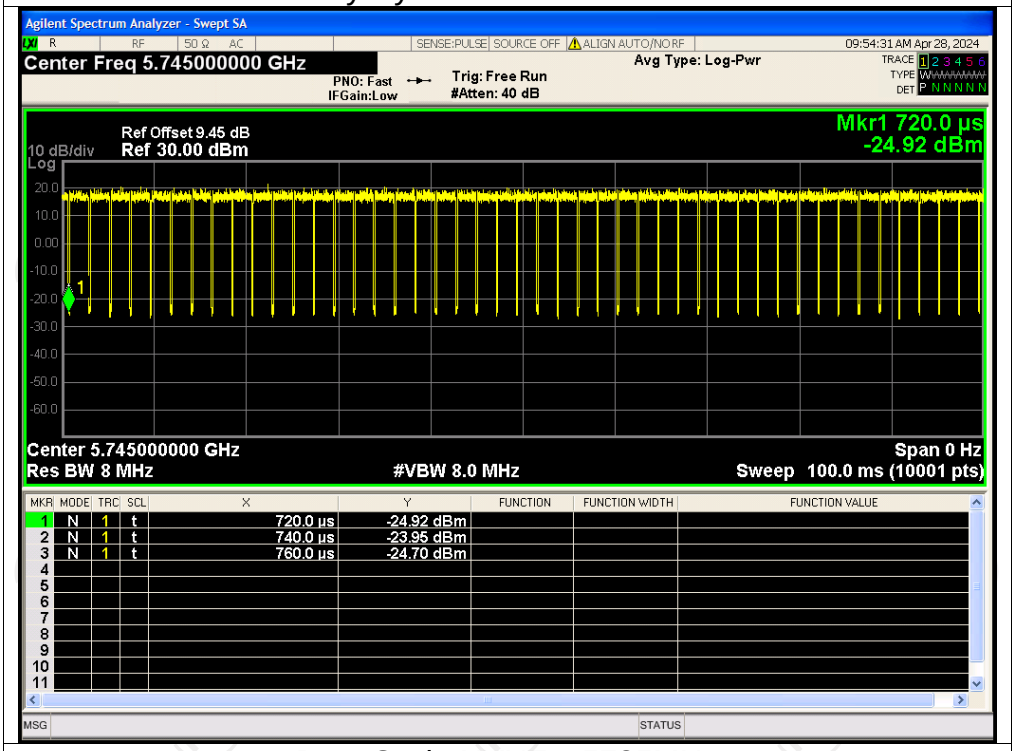
Duty Cycle NVNT ax40 5190MHz



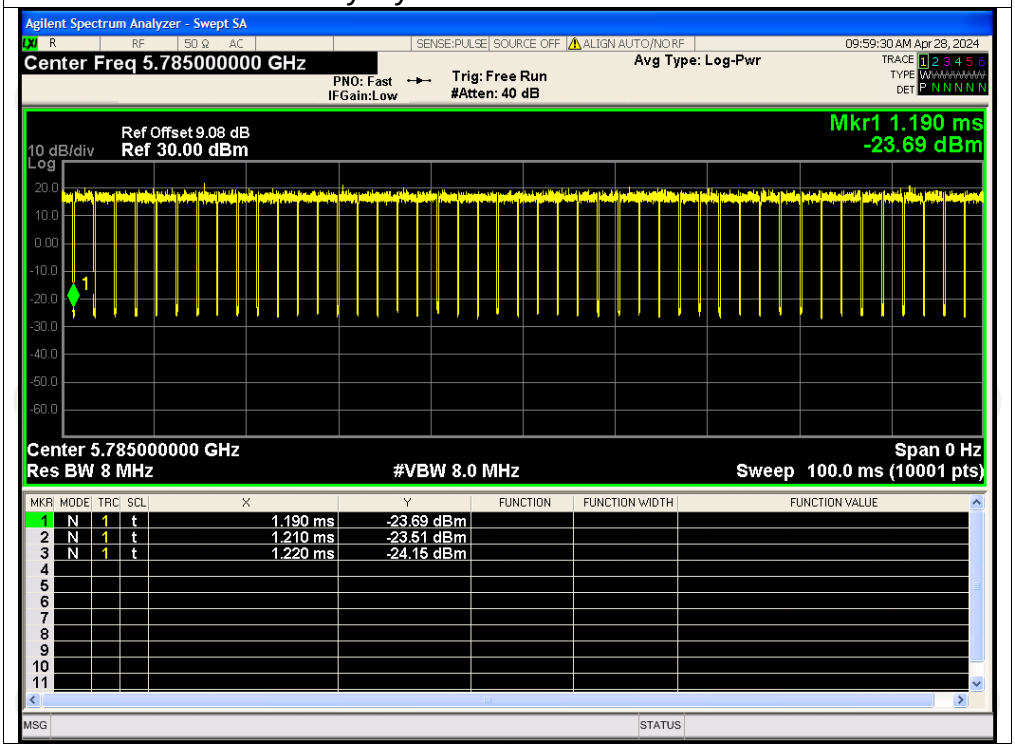
Duty Cycle NVNT ax40 5230MHz



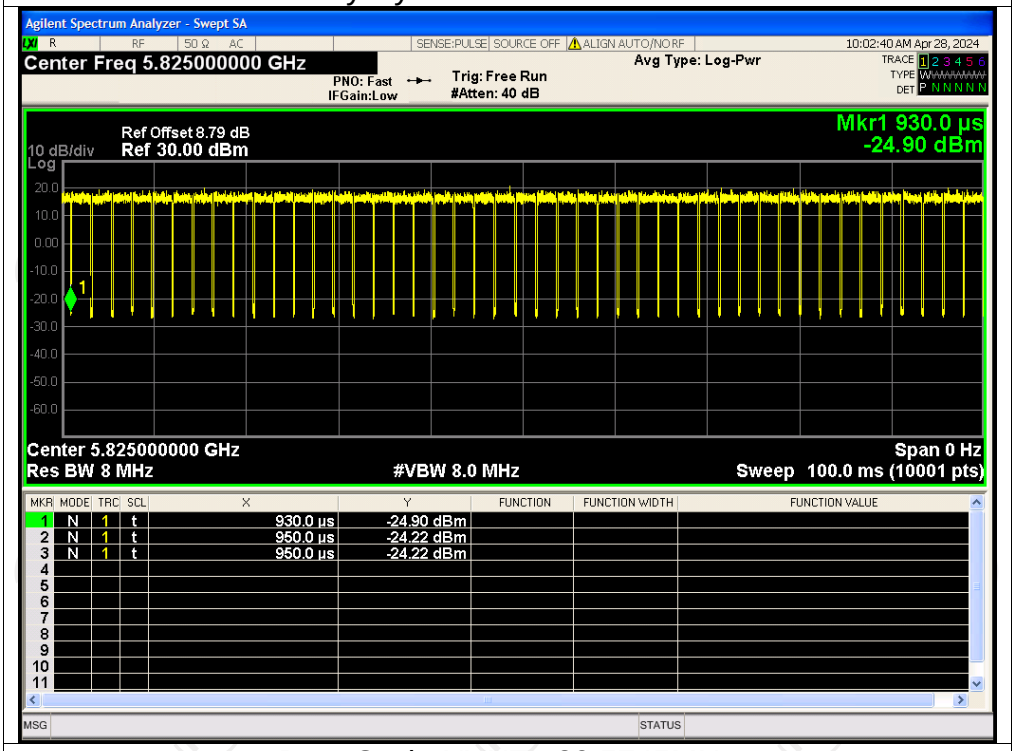
Duty Cycle NVNT a 5745MHz



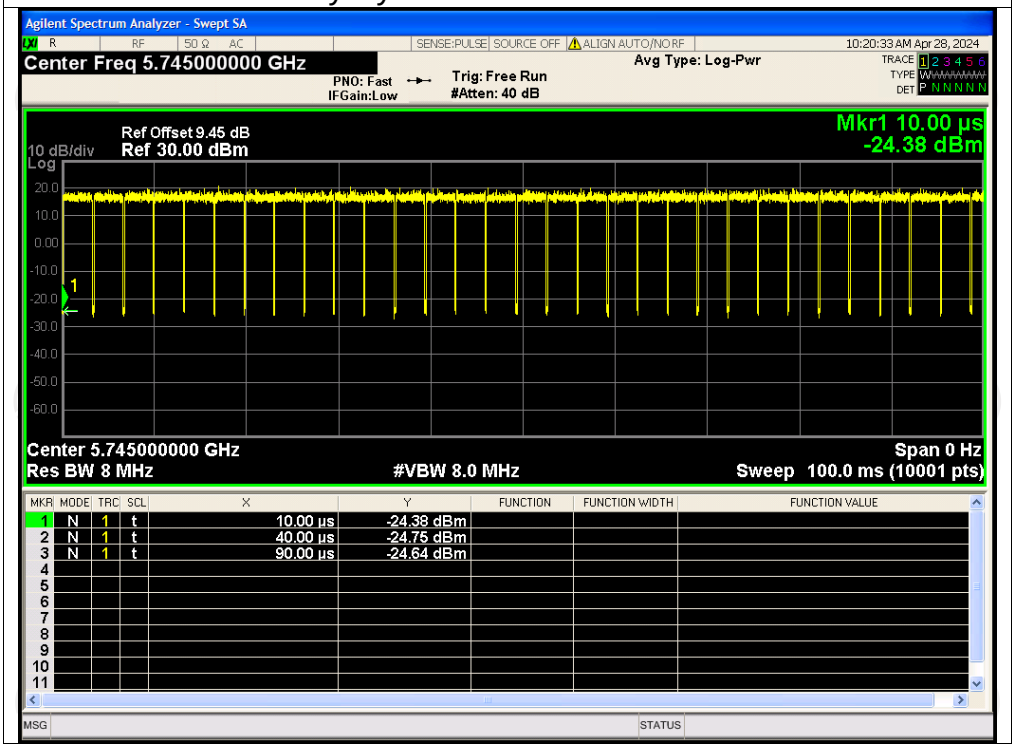
Duty Cycle NVNT a 5785MHz



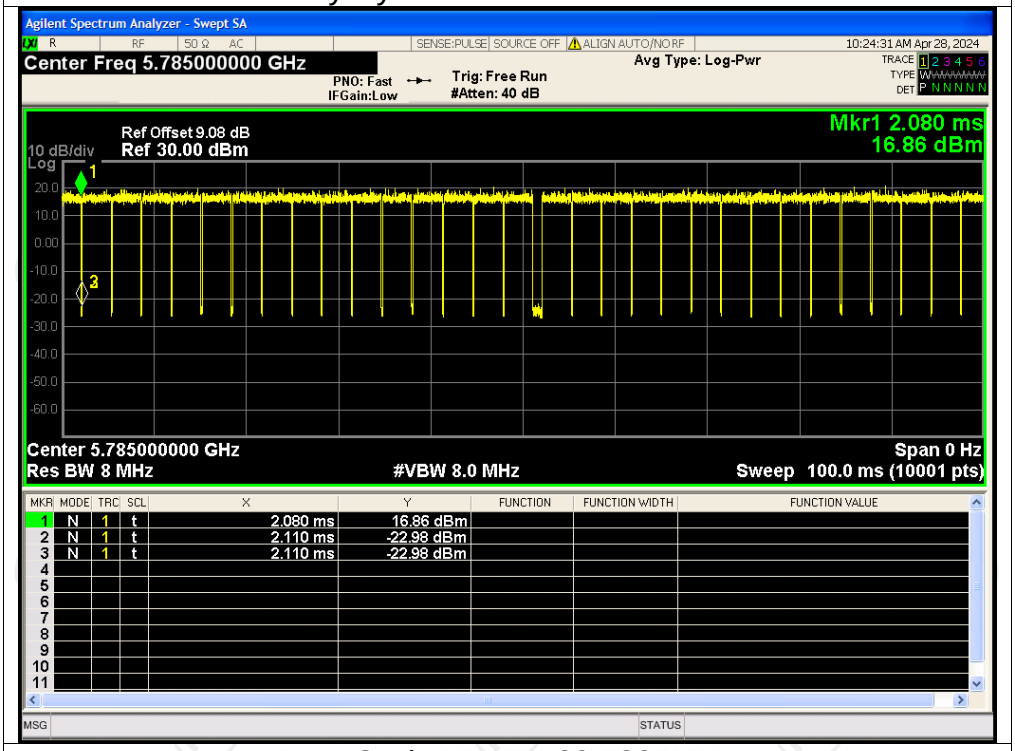
Duty Cycle NVNT a 5825MHz



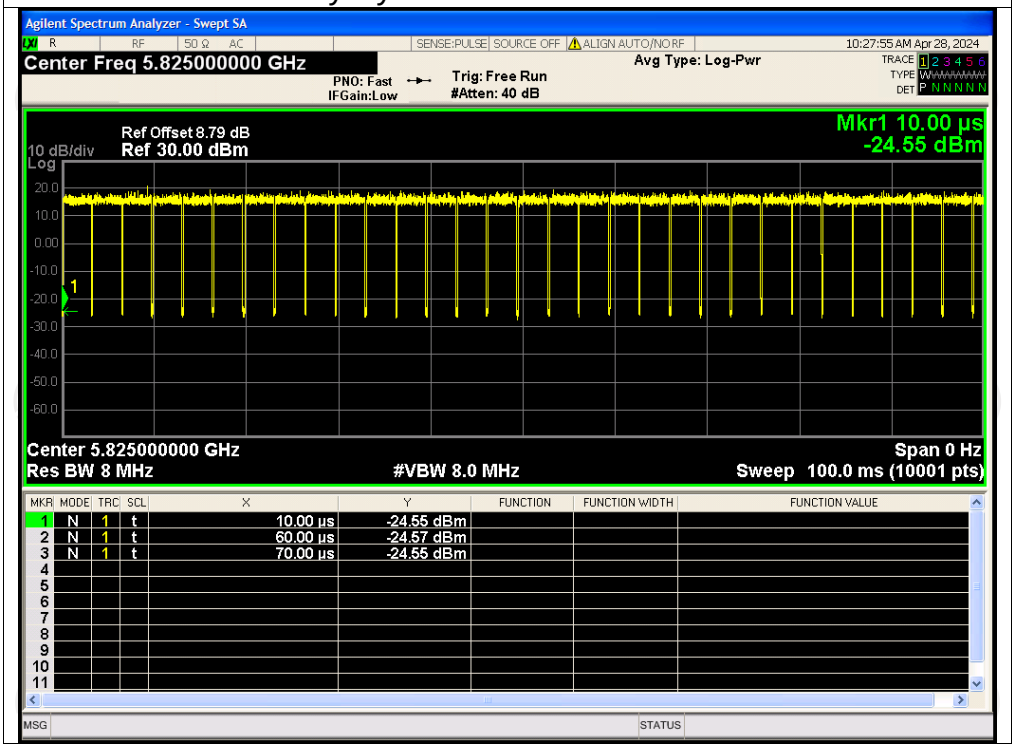
Duty Cycle NVNT n20 5745MHz



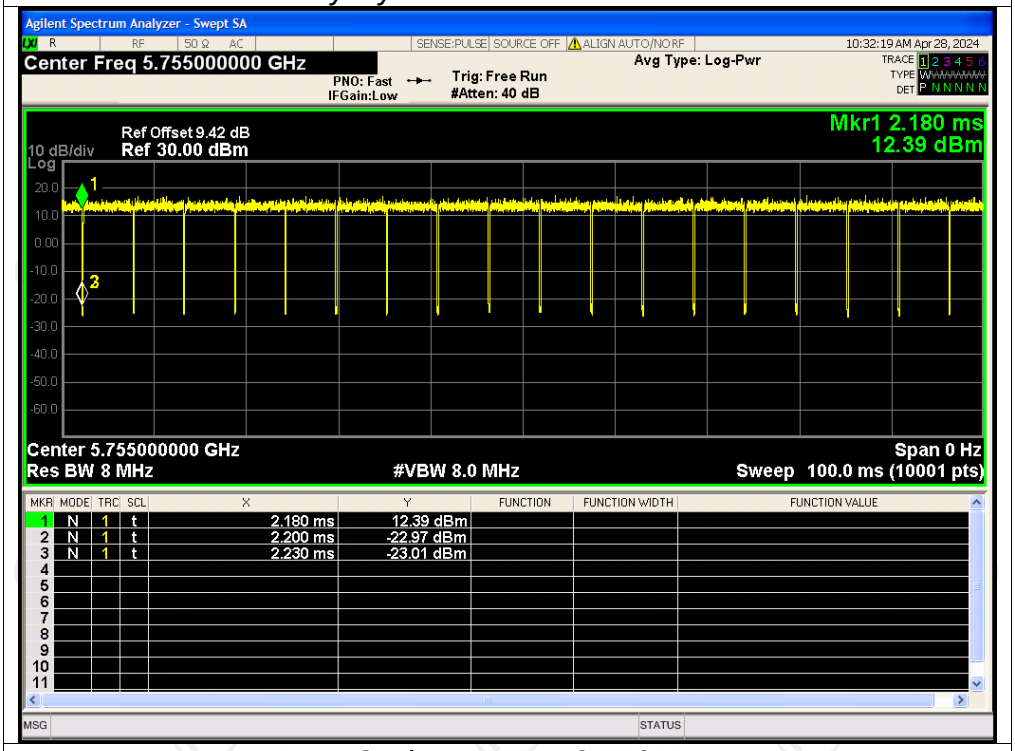
Duty Cycle NVNT n20 5785MHz



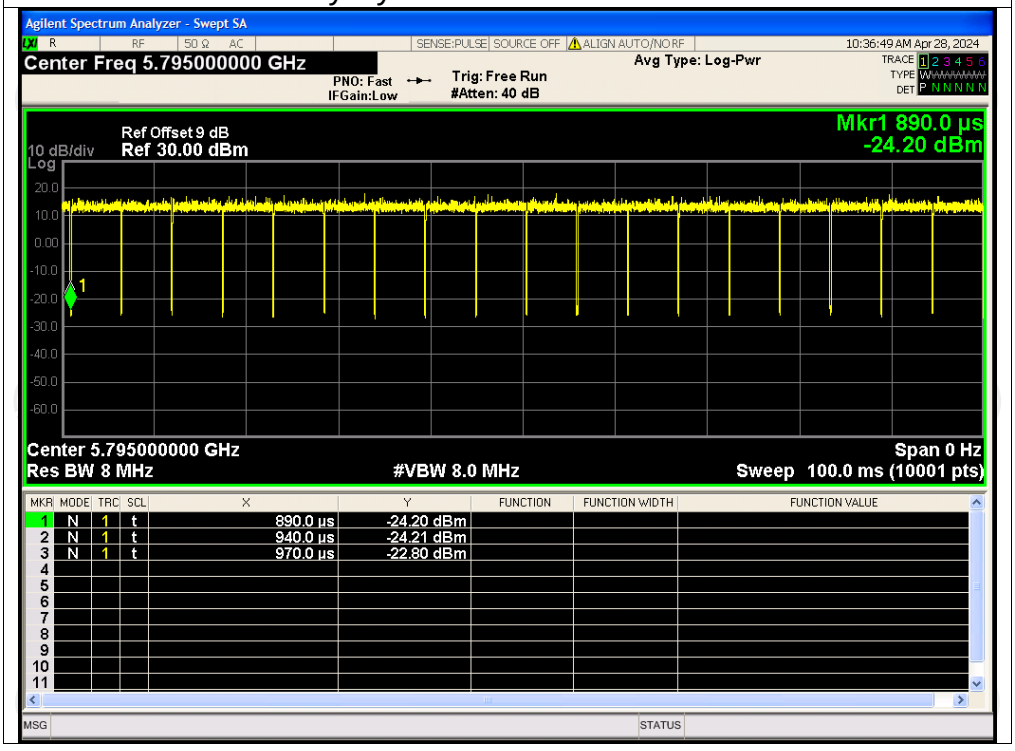
Duty Cycle NVNT n20 5825MHz



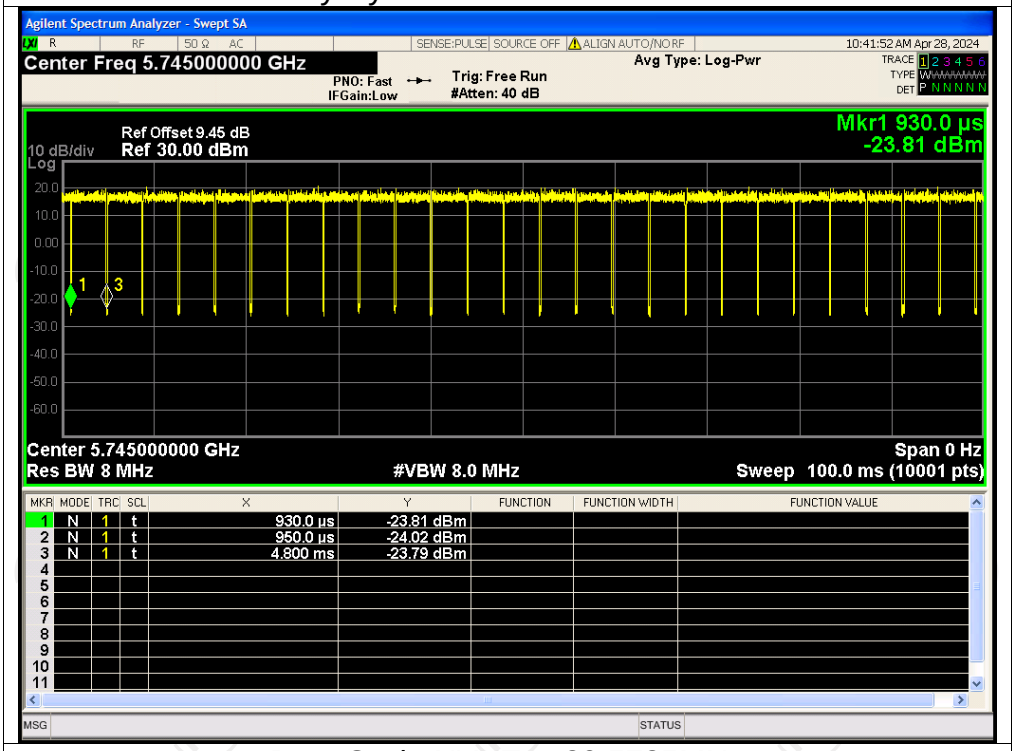
Duty Cycle NVNT n40 5755MHz



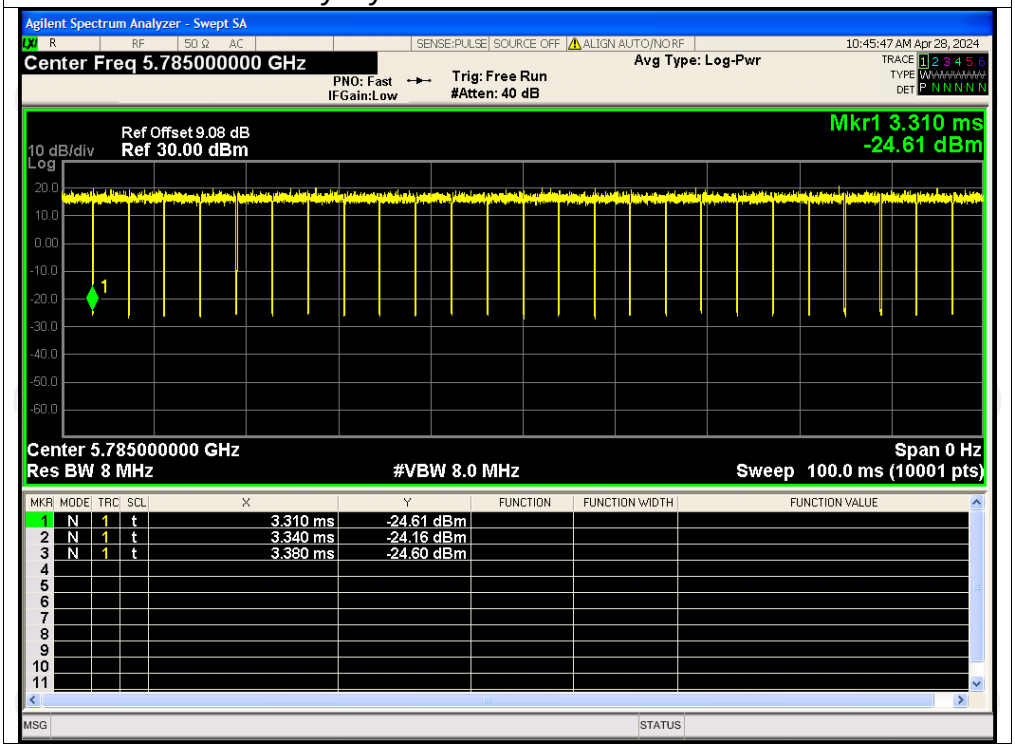
Duty Cycle NVNT n40 5795MHz



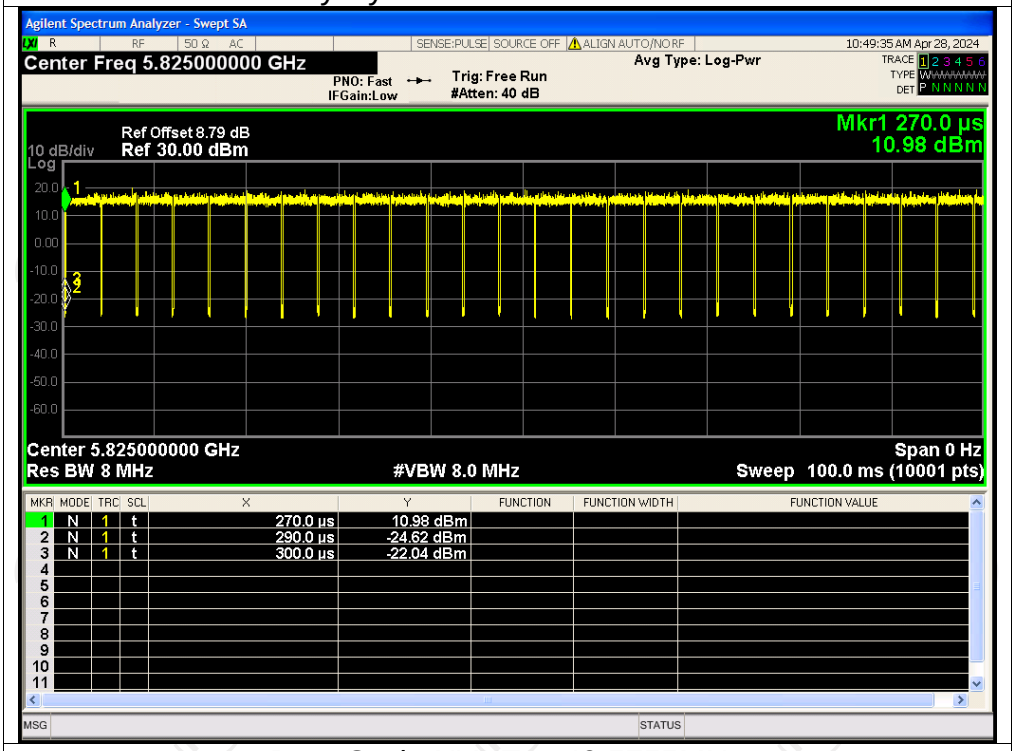
Duty Cycle NVNT ac20 5745MHz



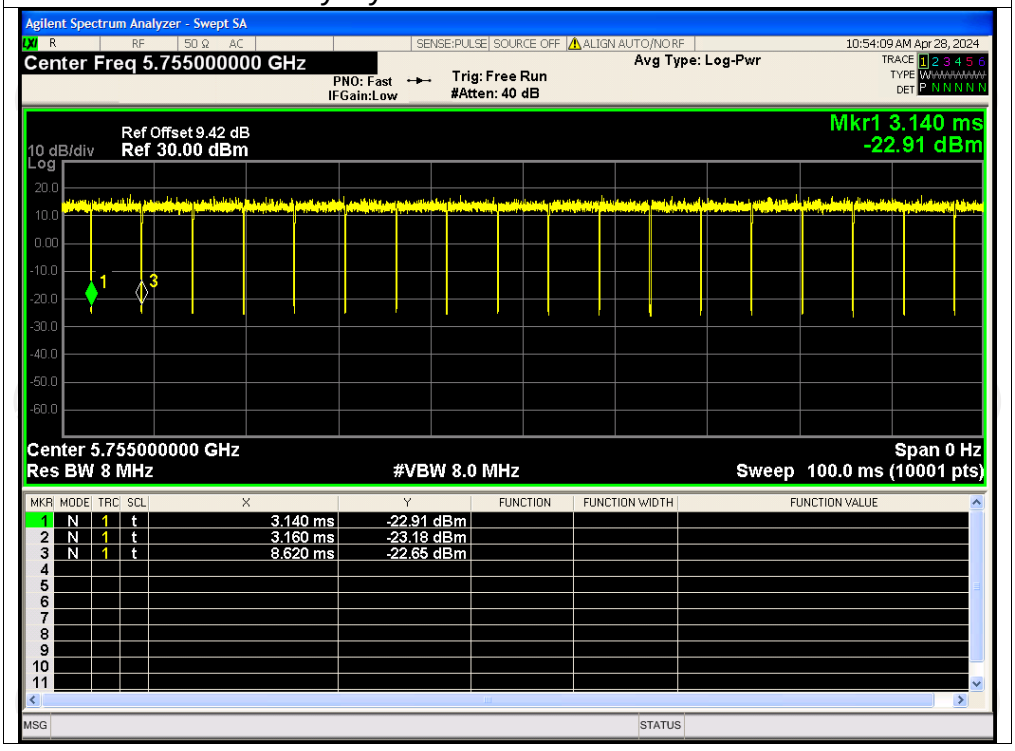
Duty Cycle NVNT ac20 5785MHz



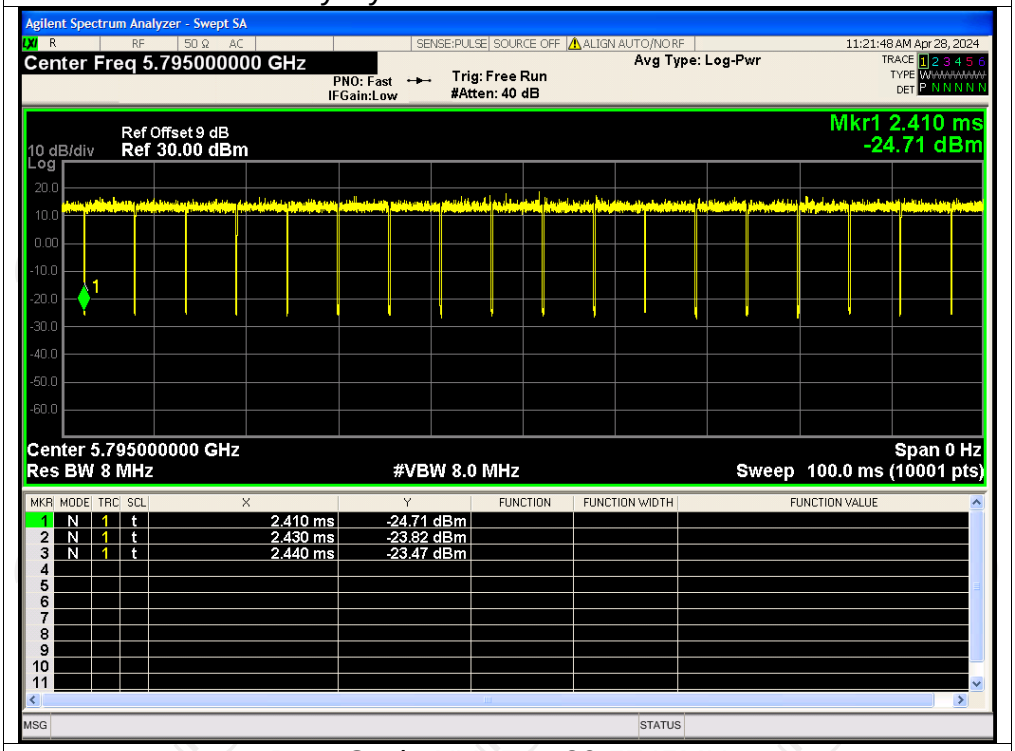
Duty Cycle NVNT ac20 5825MHz



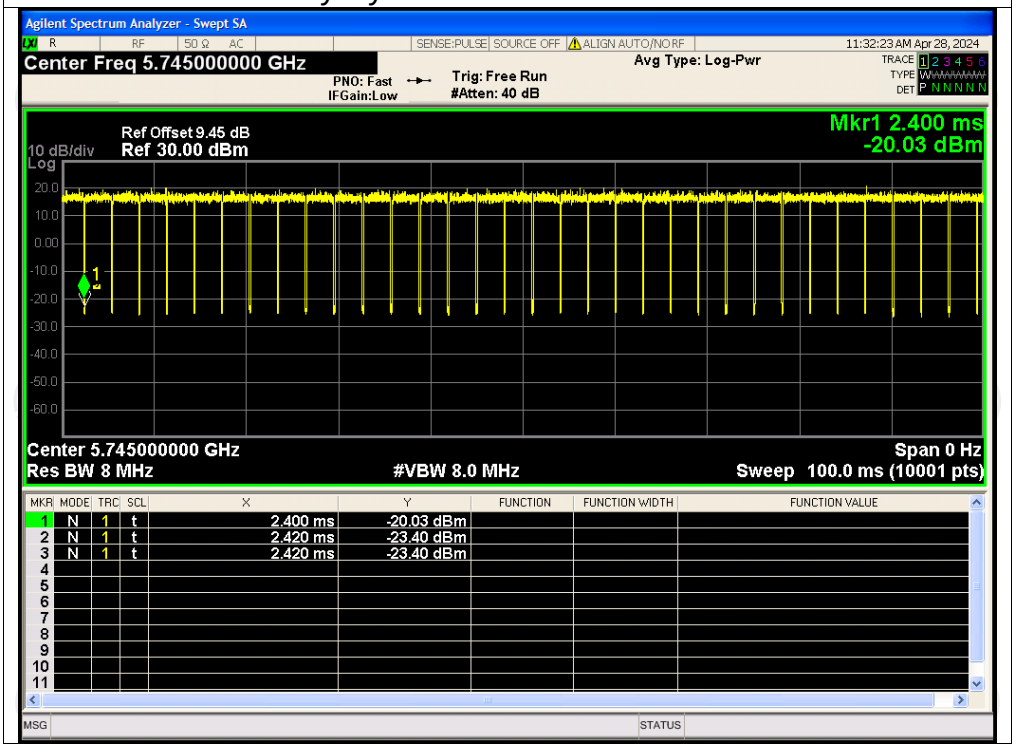
Duty Cycle NVNT ac40 5755MHz



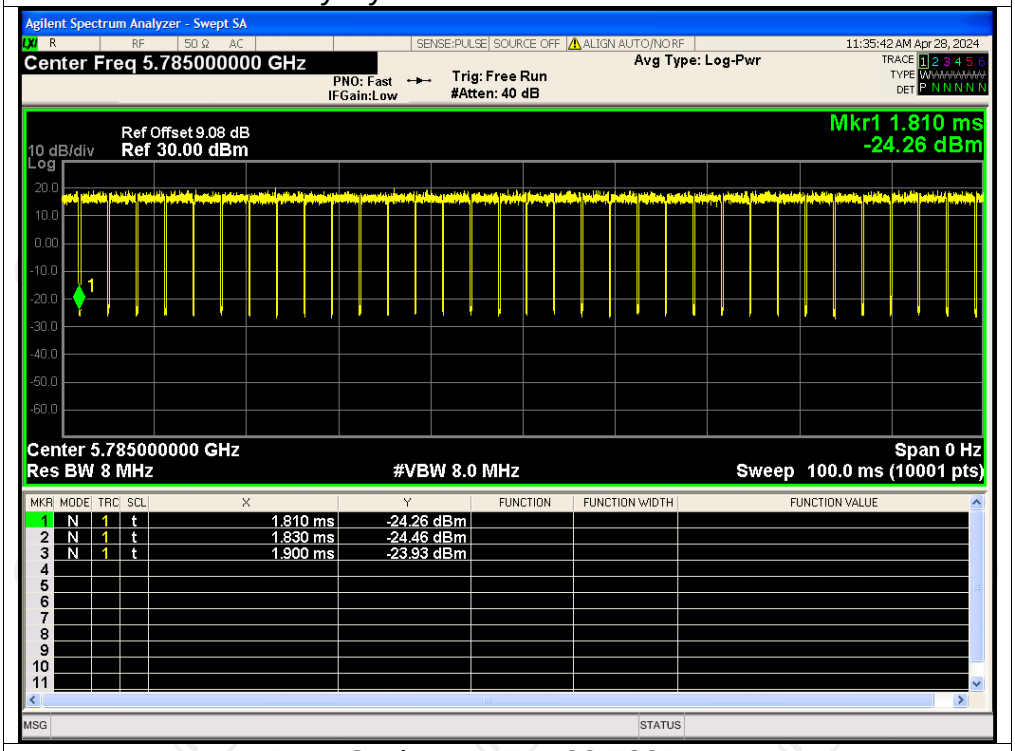
Duty Cycle NVNT ac40 5795MHz



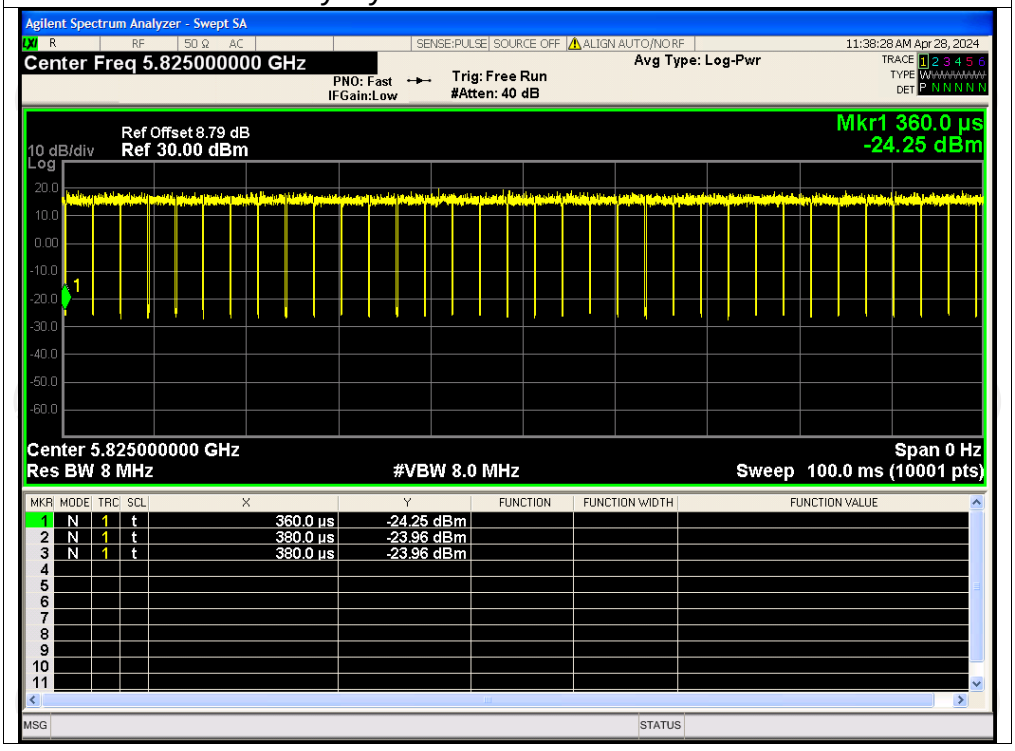
Duty Cycle NVNT ax20 5745MHz



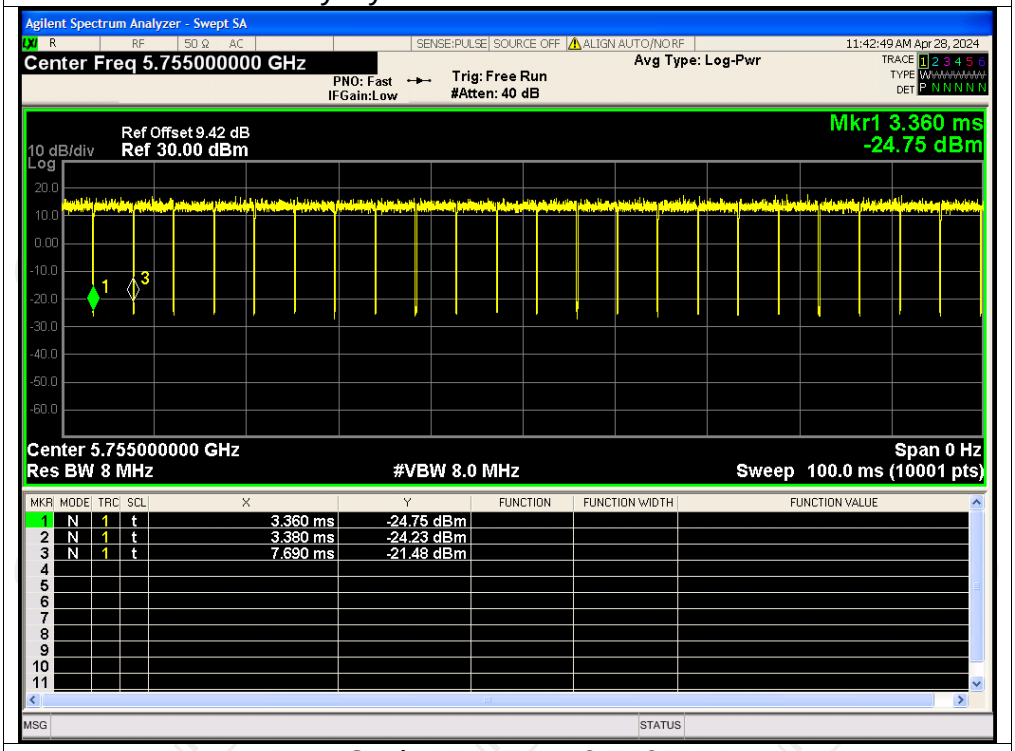
Duty Cycle NVNT ax20 5785MHz



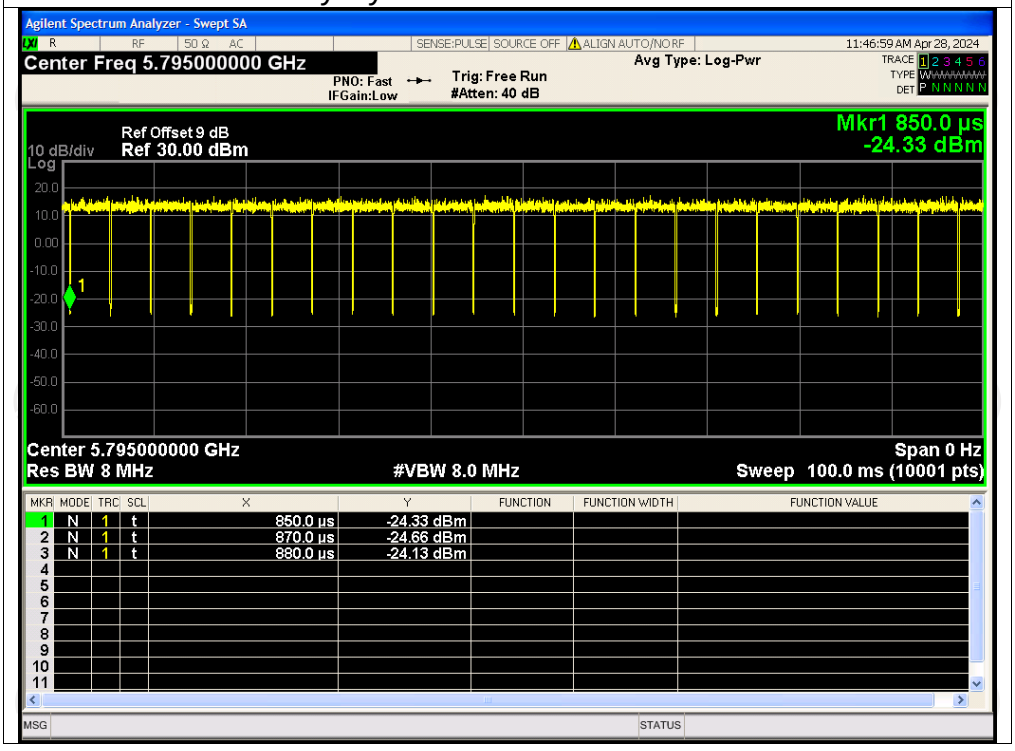
Duty Cycle NVNT ax20 5825MHz



Duty Cycle NVNT ax40 5755MHz



Duty Cycle NVNT ax40 5795MHz



Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	12.49	0.31	12.80	24	Pass
NVNT	a	5200	12.77	0.31	13.08	24	Pass
NVNT	a	5240	12.66	0.26	12.92	24	Pass
NVNT	n20	5180	13.11	0.22	13.33	24	Pass
NVNT	n20	5200	12.59	0.16	12.75	24	Pass
NVNT	n20	5240	12.51	0.15	12.66	24	Pass
NVNT	n40	5190	11.20	0.14	11.34	24	Pass
NVNT	n40	5230	11.01	0.29	11.30	24	Pass
NVNT	ac20	5180	11.46	0.20	11.66	24	Pass
NVNT	ac20	5200	11.15	0.17	11.32	24	Pass
NVNT	ac20	5240	11.11	0.13	11.24	24	Pass
NVNT	ac40	5190	11.34	0.17	11.51	24	Pass
NVNT	ac40	5230	11.10	0	11.10	24	Pass
NVNT	ax20	5180	11.06	0.32	11.38	24	Pass
NVNT	ax20	5200	10.65	0.16	10.81	24	Pass
NVNT	ax20	5240	10.52	0.23	10.75	24	Pass
NVNT	ax40	5190	10.86	0.2	11.06	24	Pass
NVNT	ax40	5230	10.50	0.12	10.62	24	Pass
NVNT	a	5745	13.05	0	13.05	30	Pass
NVNT	a	5785	12.76	0.12	12.88	30	Pass
NVNT	a	5825	12.58	0.16	12.74	30	Pass
NVNT	n20	5745	13.40	0	13.40	30	Pass
NVNT	n20	5785	13.04	0	13.04	30	Pass
NVNT	n20	5825	12.38	0.09	12.47	30	Pass
NVNT	n40	5755	13.34	0	13.34	30	Pass
NVNT	n40	5795	13.02	0	13.02	30	Pass
NVNT	ac20	5745	13.30	0	13.30	30	Pass
NVNT	ac20	5785	12.92	0	12.92	30	Pass
NVNT	ac20	5825	12.29	0.10	12.39	30	Pass
NVNT	ac40	5755	13.20	0	13.20	30	Pass
NVNT	ac40	5795	13.01	0	13.01	30	Pass
NVNT	ax20	5745	13.19	0	13.19	30	Pass
NVNT	ax20	5785	12.93	0	12.93	30	Pass
NVNT	ax20	5825	12.28	0	12.28	30	Pass
NVNT	ax40	5755	13.23	0	13.23	30	Pass
NVNT	ax40	5795	12.96	0	12.96	30	Pass

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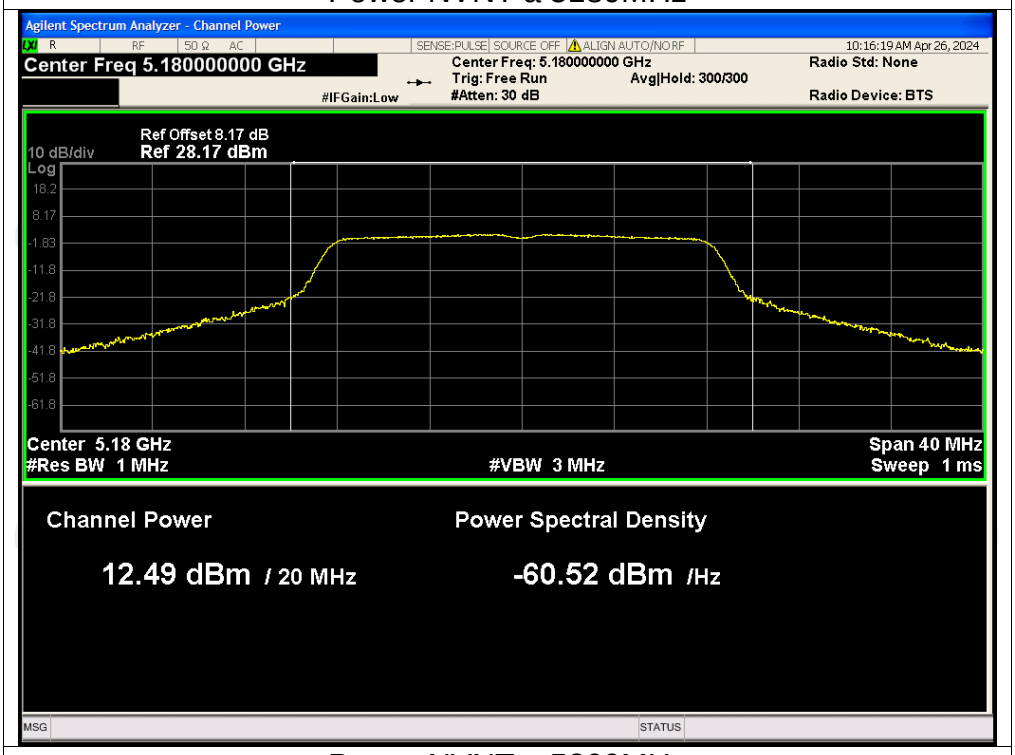
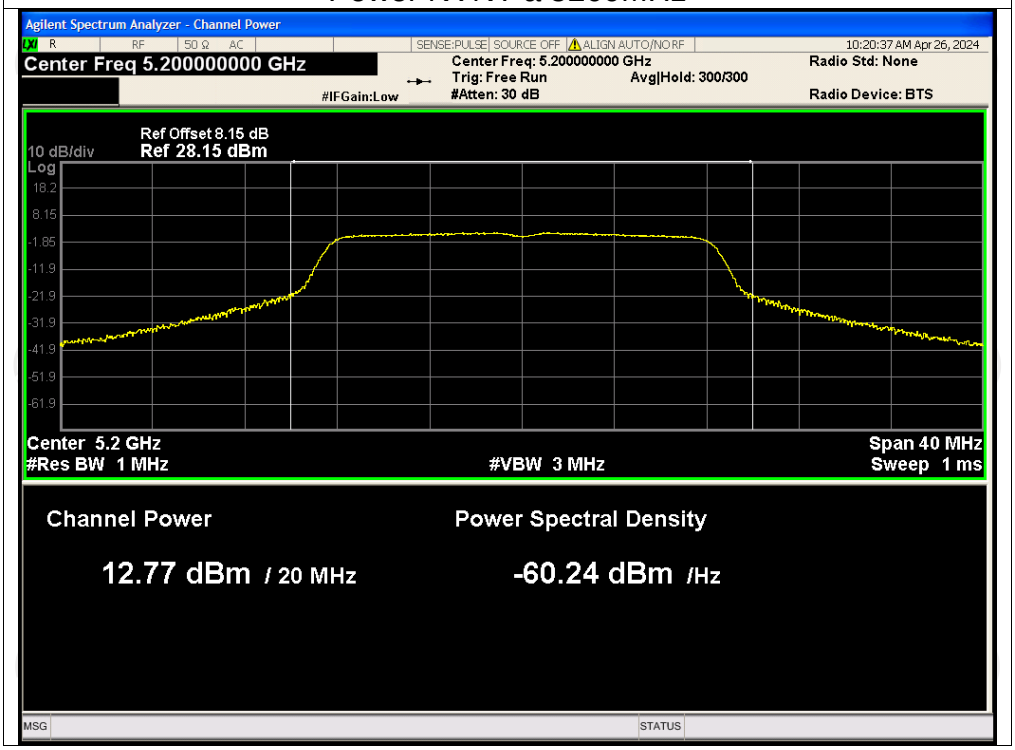
Test Graphs

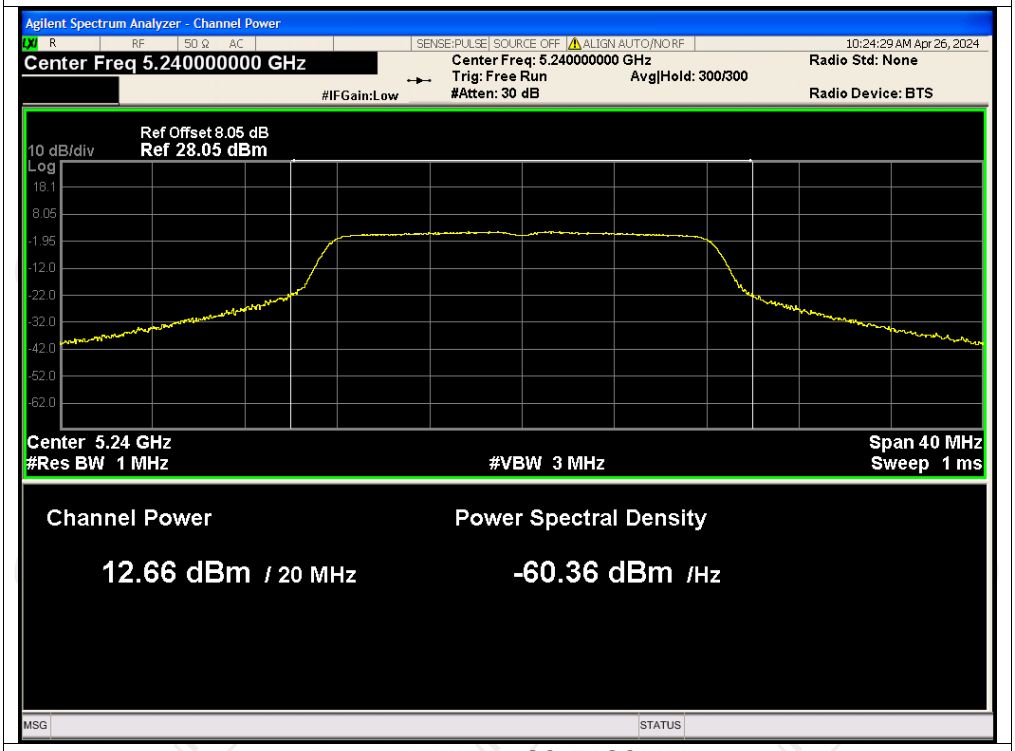
Power NVNT a 5180MHz



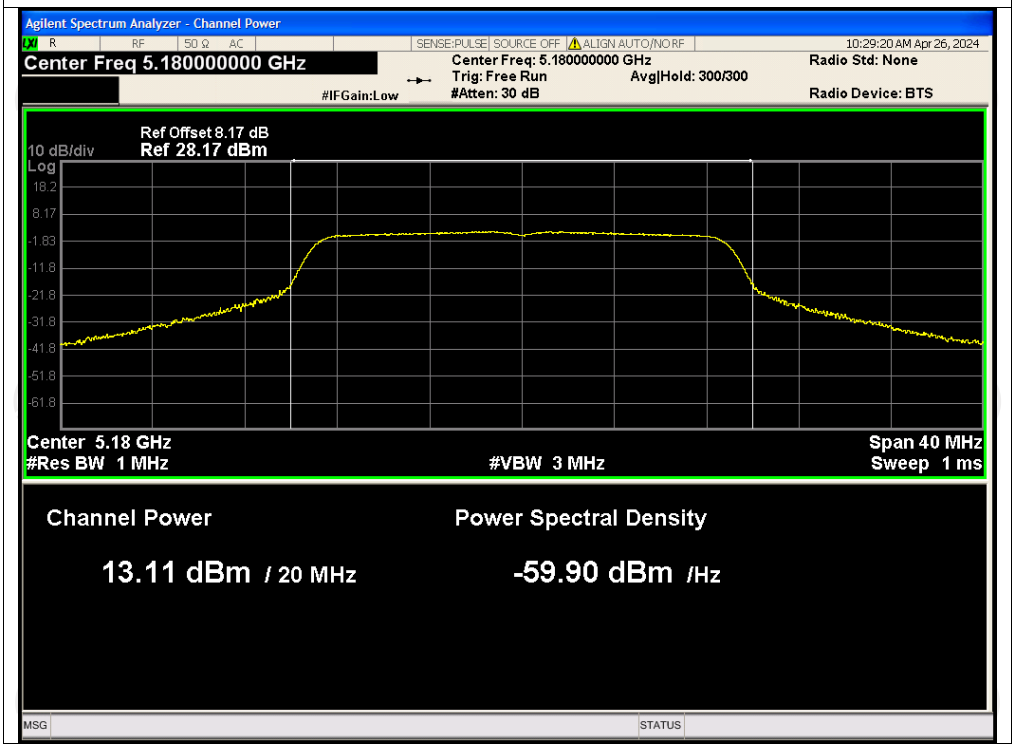
Power NVNT a 5200MHz



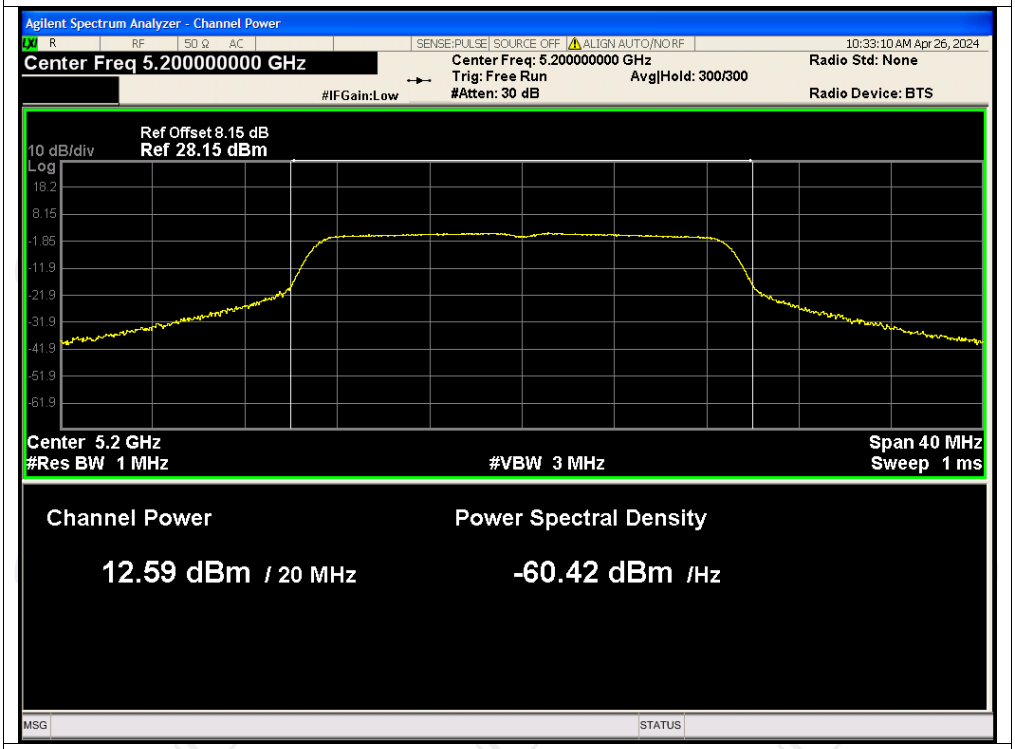
Power NVNT a 5240MHz



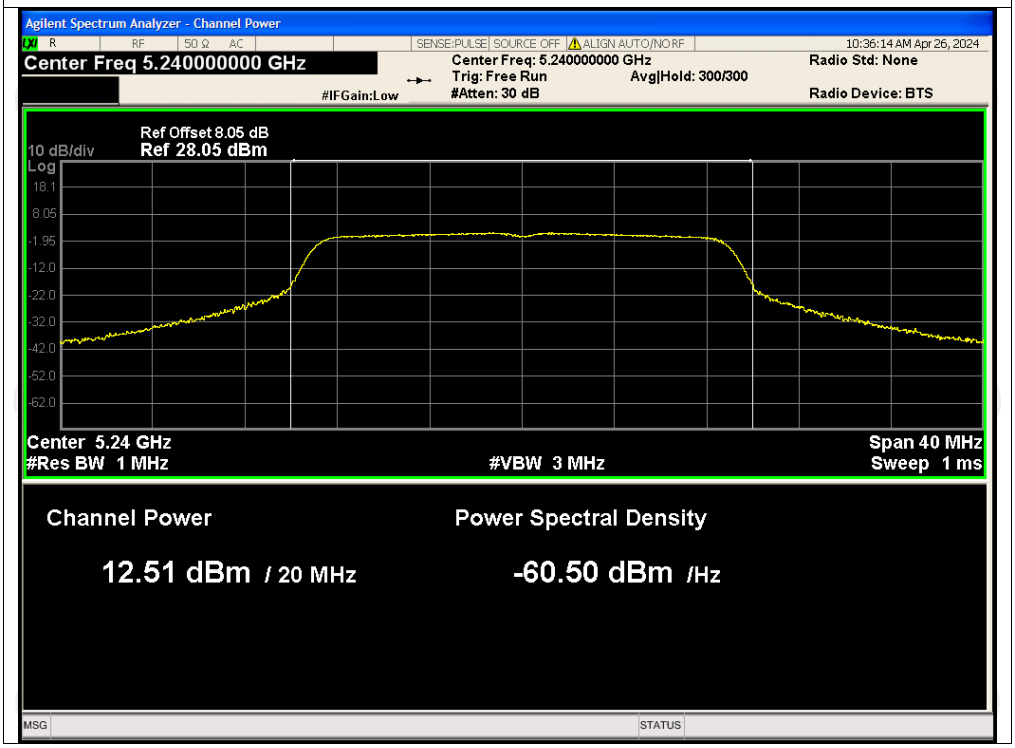
Power NVNT n20 5180MHz



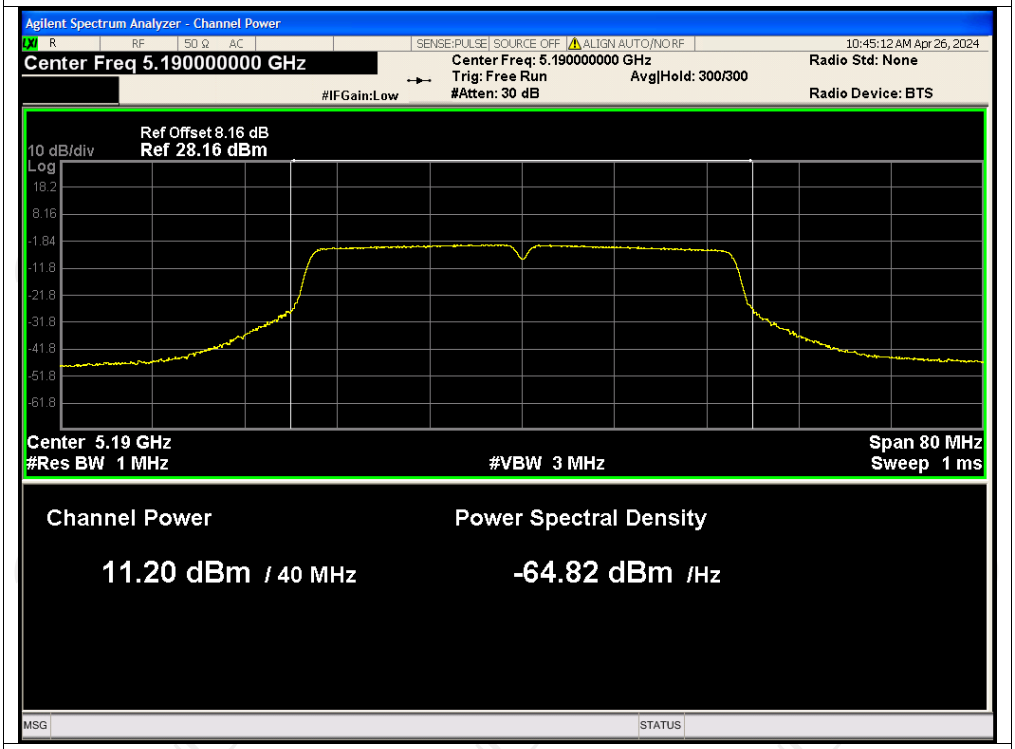
Power NVNT n20 5200MHz



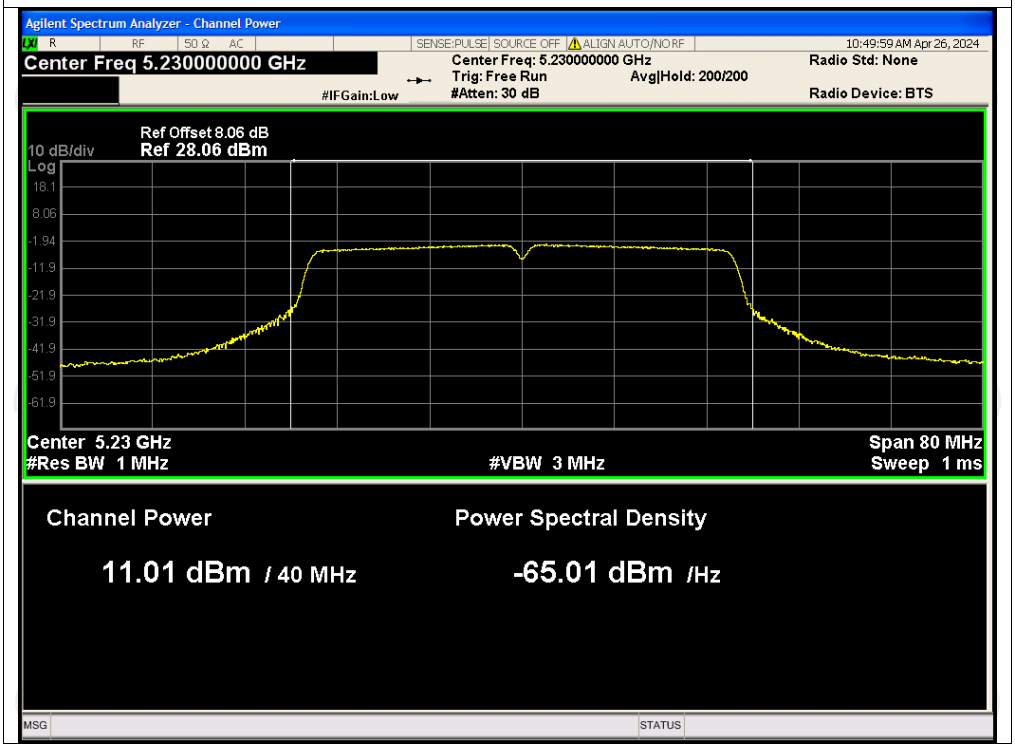
Power NVNT n20 5240MHz



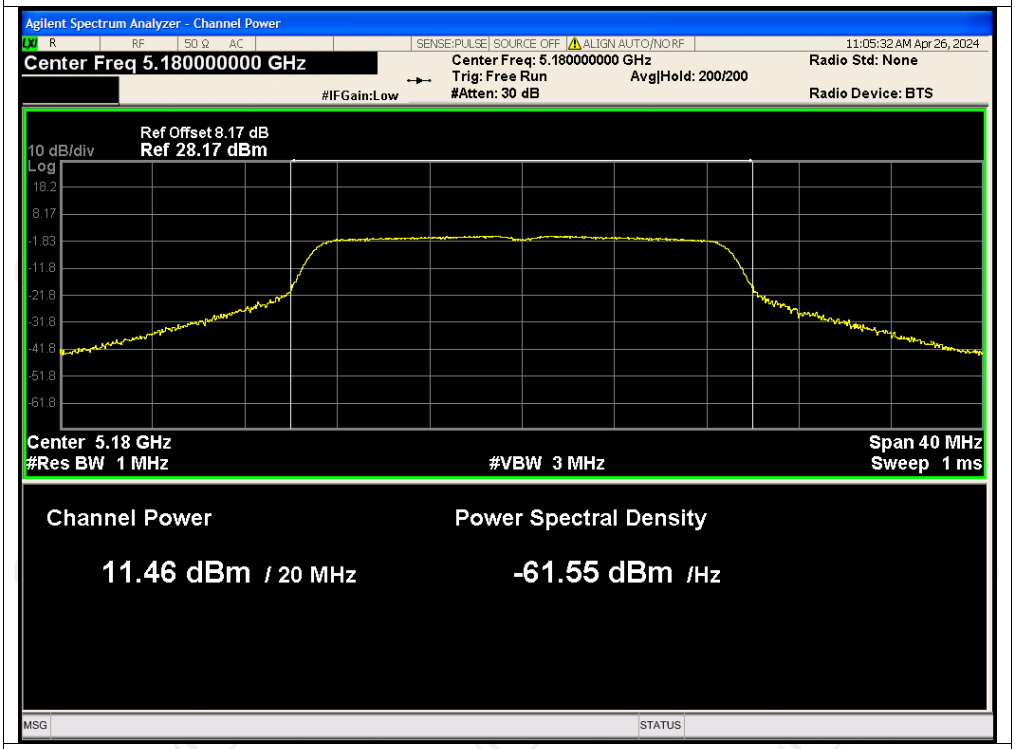
Power NVNT n40 5190MHz



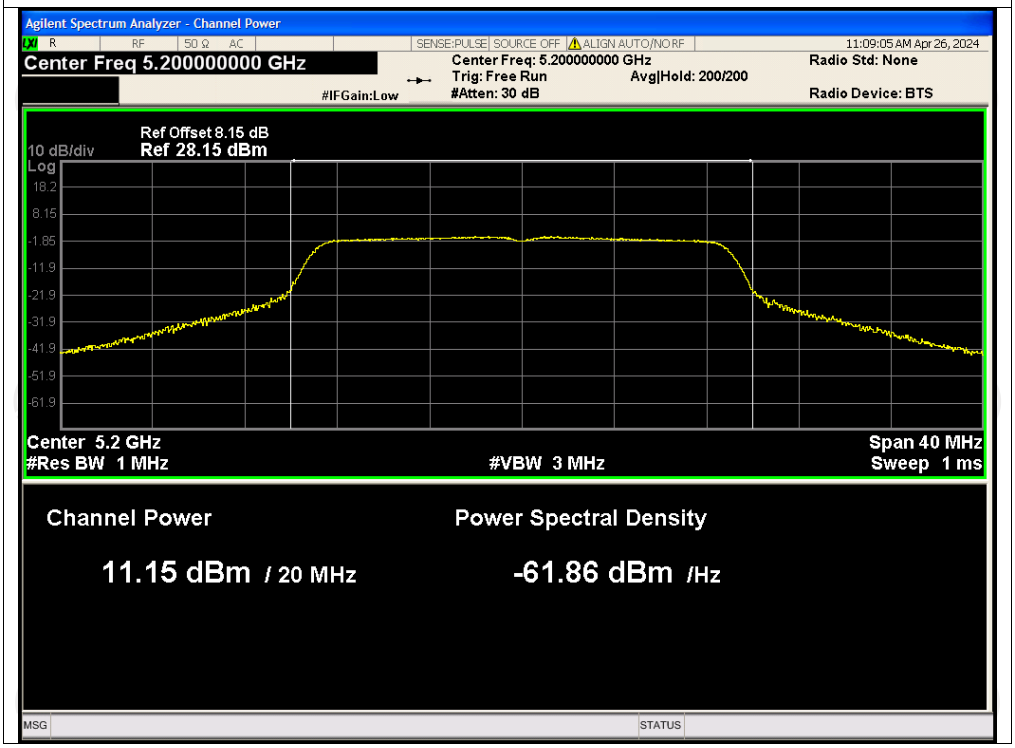
Power NVNT n40 5230MHz



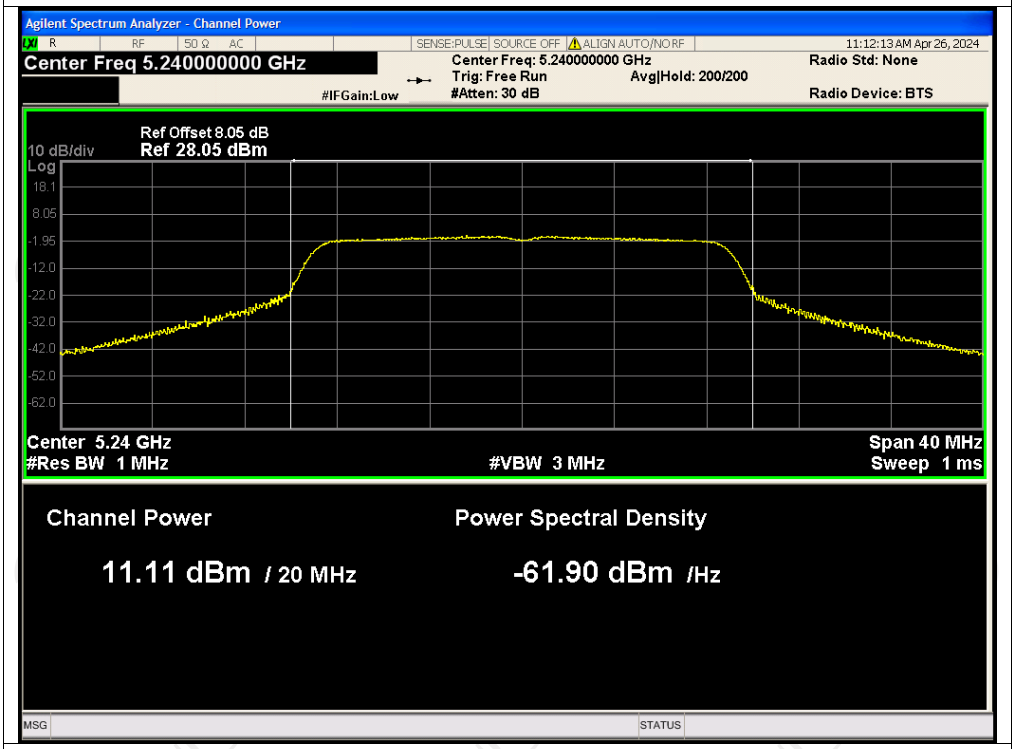
Power NVNT ac20 5180MHz



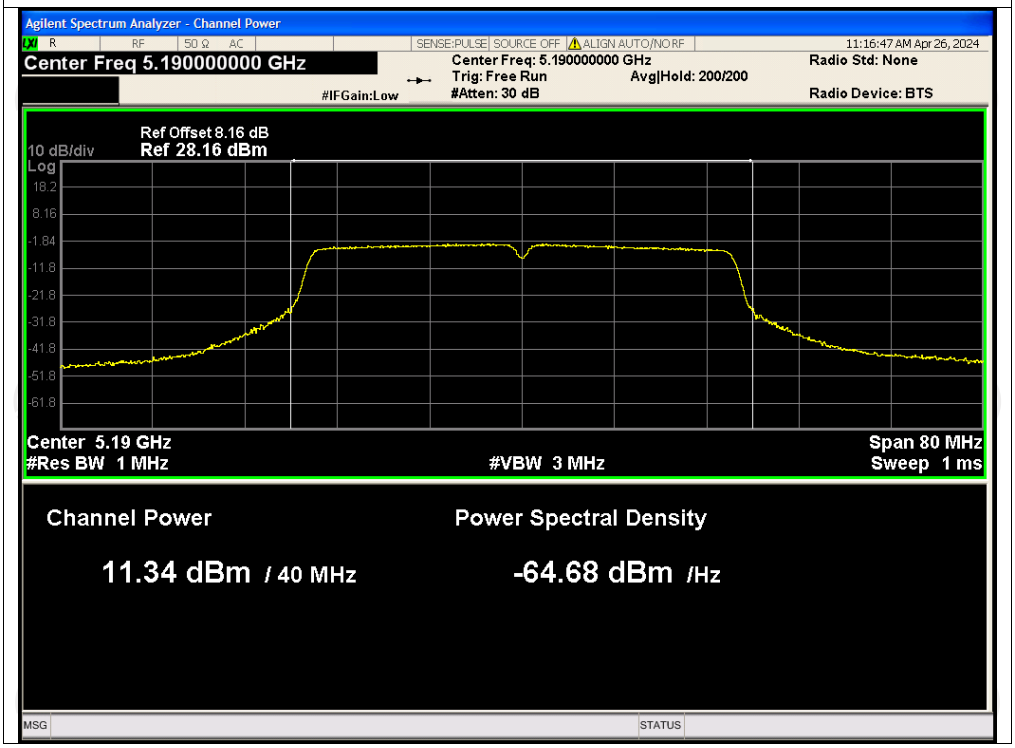
Power NVNT ac20 5200MHz



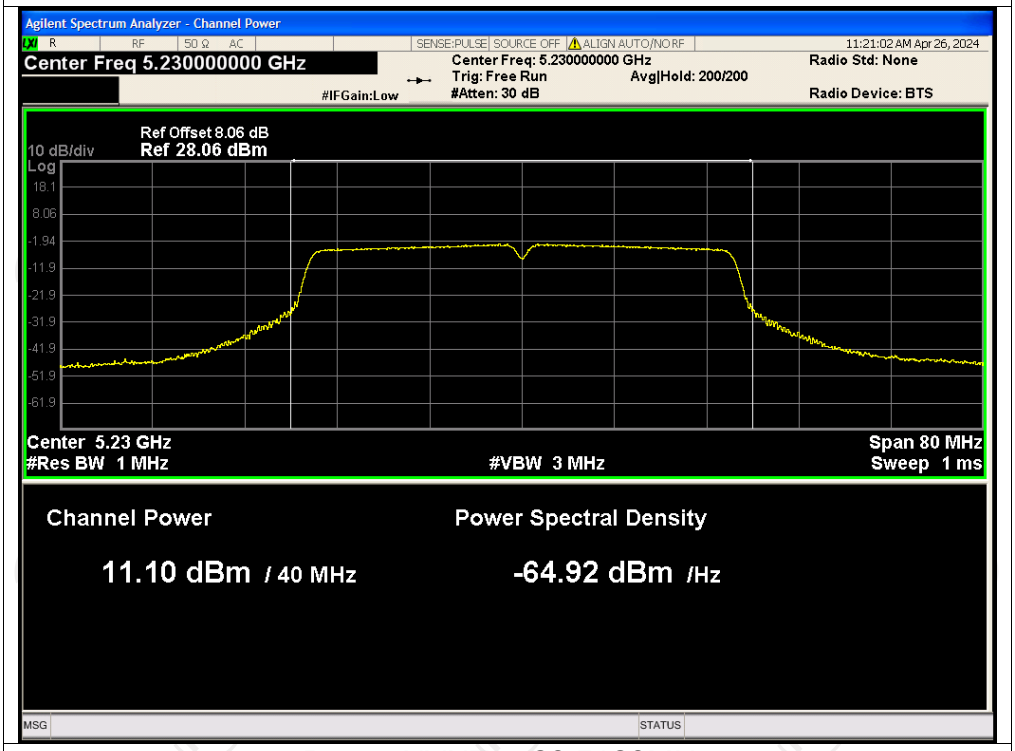
Power NVNT ac20 5240MHz



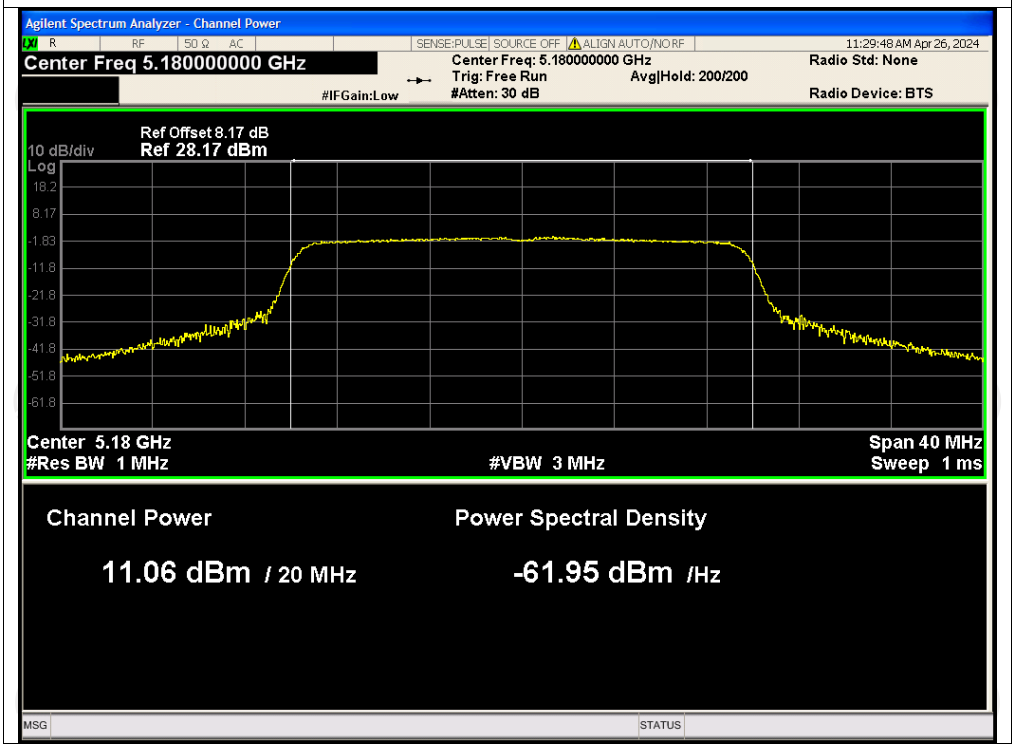
Power NVNT ac40 5190MHz



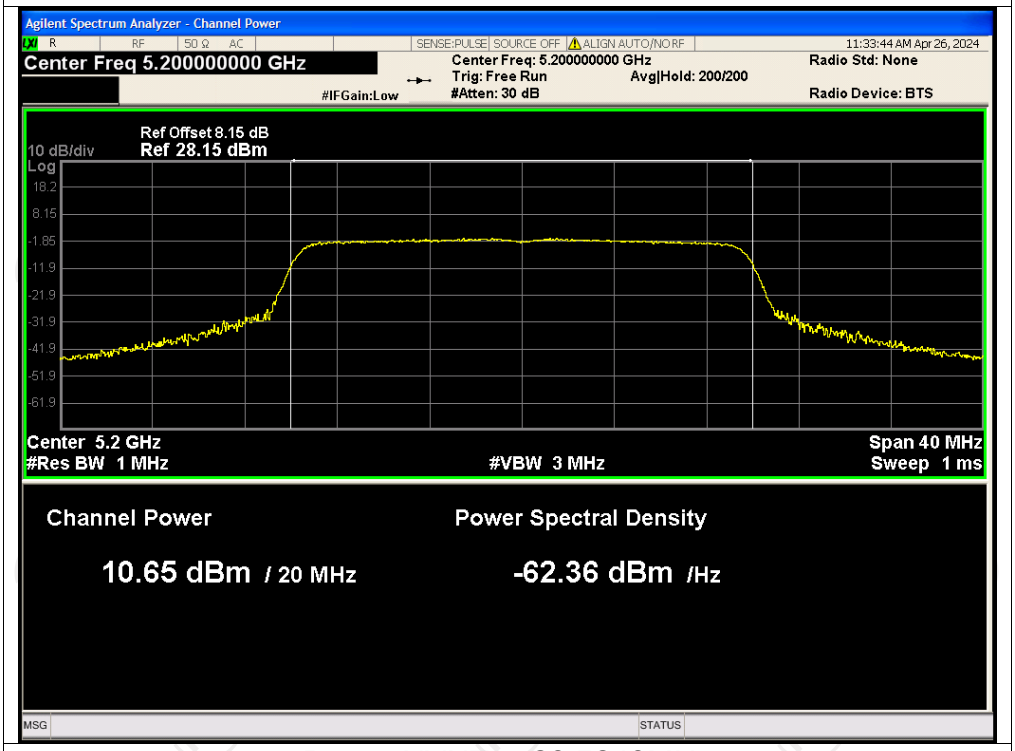
Power NVNT ac40 5230MHz



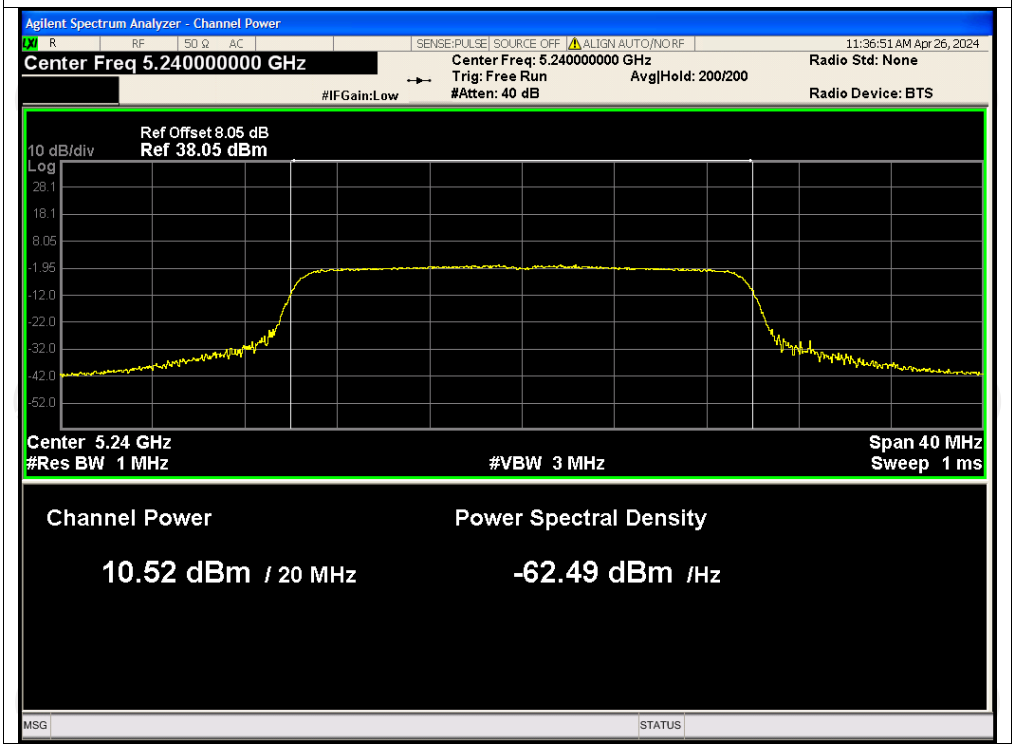
Power NVNT ax20 5180MHz



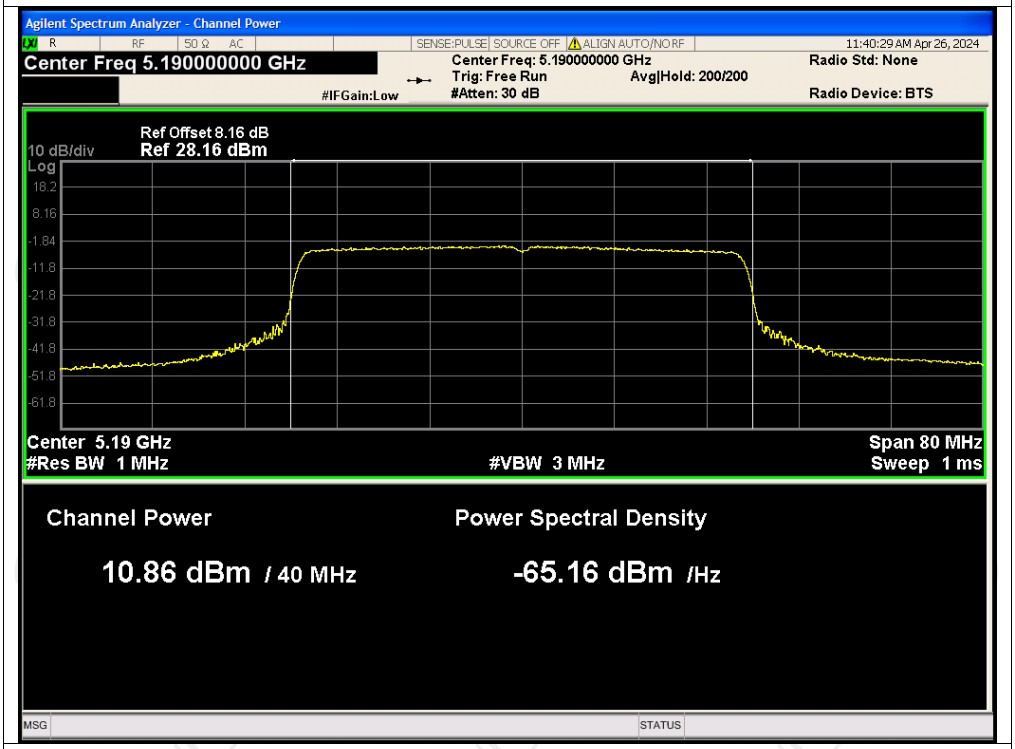
Power NVNT ax20 5200MHz



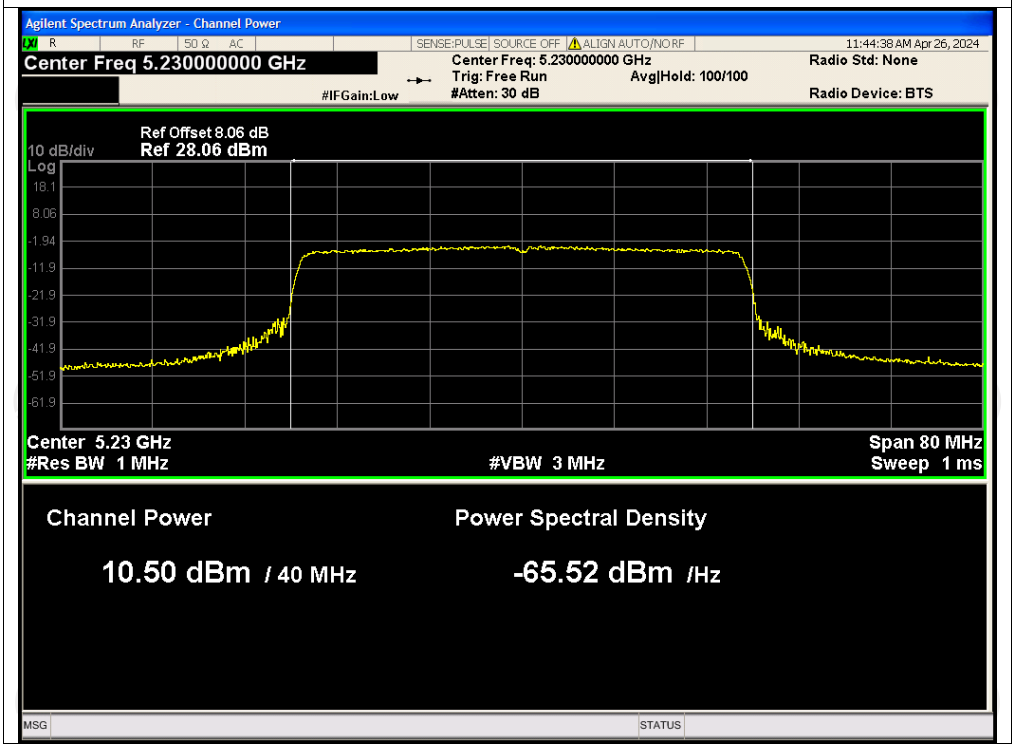
Power NVNT ax20 5240MHz



Power NVNT ax40 5190MHz



Power NVNT ax40 5230MHz



-26dB Bandwidth

Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	27.161	Pass
NVNT	a	5200	27.245	Pass
NVNT	a	5240	27.806	Pass
NVNT	n20	5180	27.270	Pass
NVNT	n20	5200	28.869	Pass
NVNT	n20	5240	27.297	Pass
NVNT	n40	5190	47.969	Pass
NVNT	n40	5230	47.319	Pass
NVNT	ac20	5180	27.611	Pass
NVNT	ac20	5200	27.998	Pass
NVNT	ac20	5240	27.817	Pass
NVNT	ac40	5190	47.283	Pass
NVNT	ac40	5230	47.853	Pass
NVNT	ax20	5180	26.924	Pass
NVNT	ax20	5200	25.362	Pass
NVNT	ax20	5240	26.330	Pass
NVNT	ax40	5190	44.071	Pass
NVNT	ax40	5230	42.018	Pass

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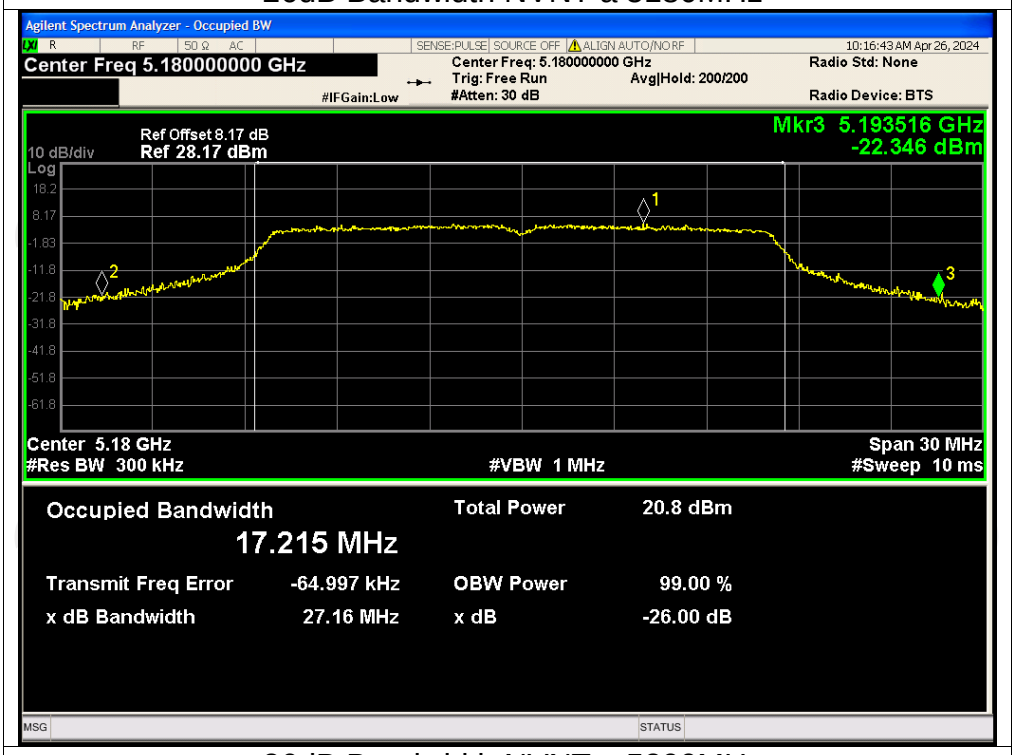
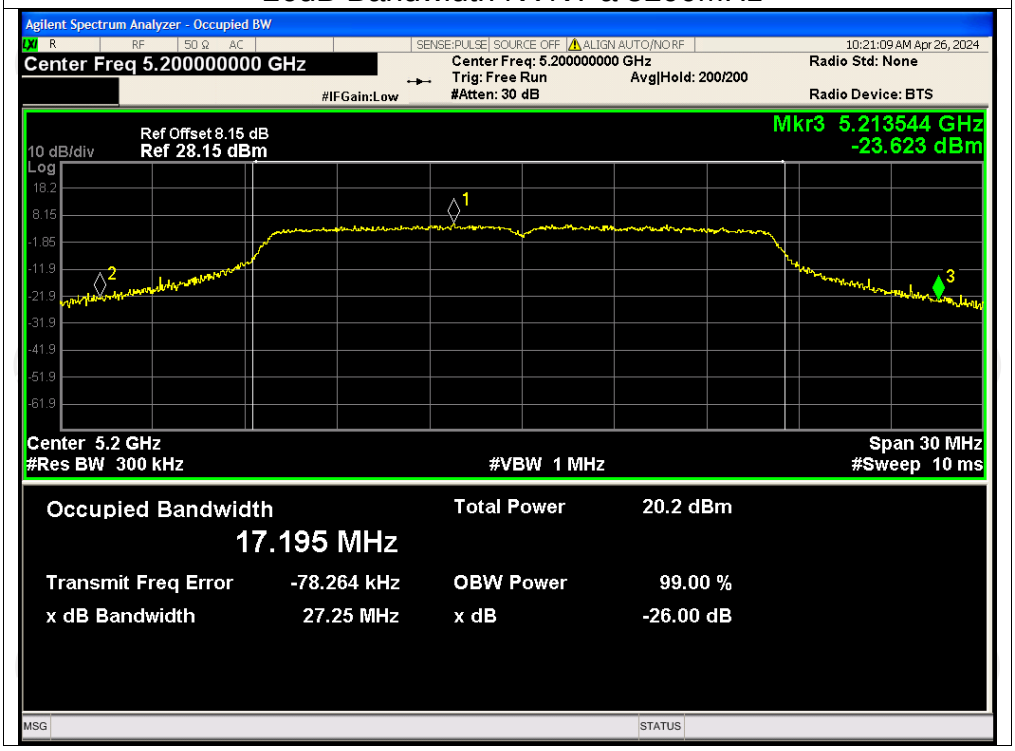
Test Graphs

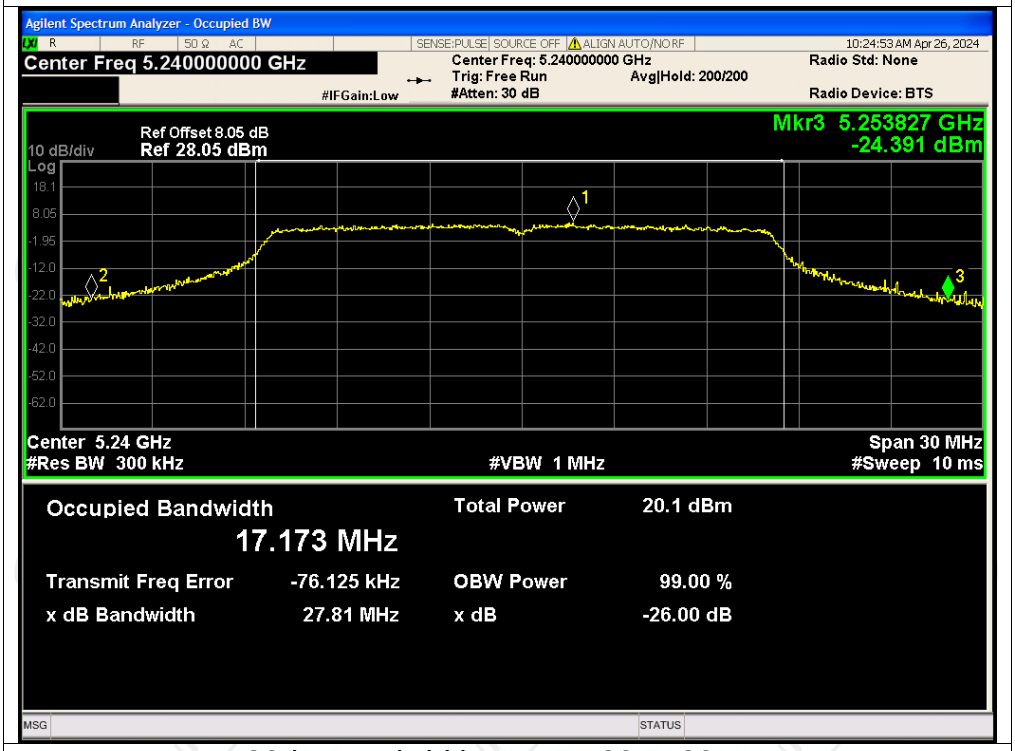
-26dB Bandwidth NVNT a 5180MHz



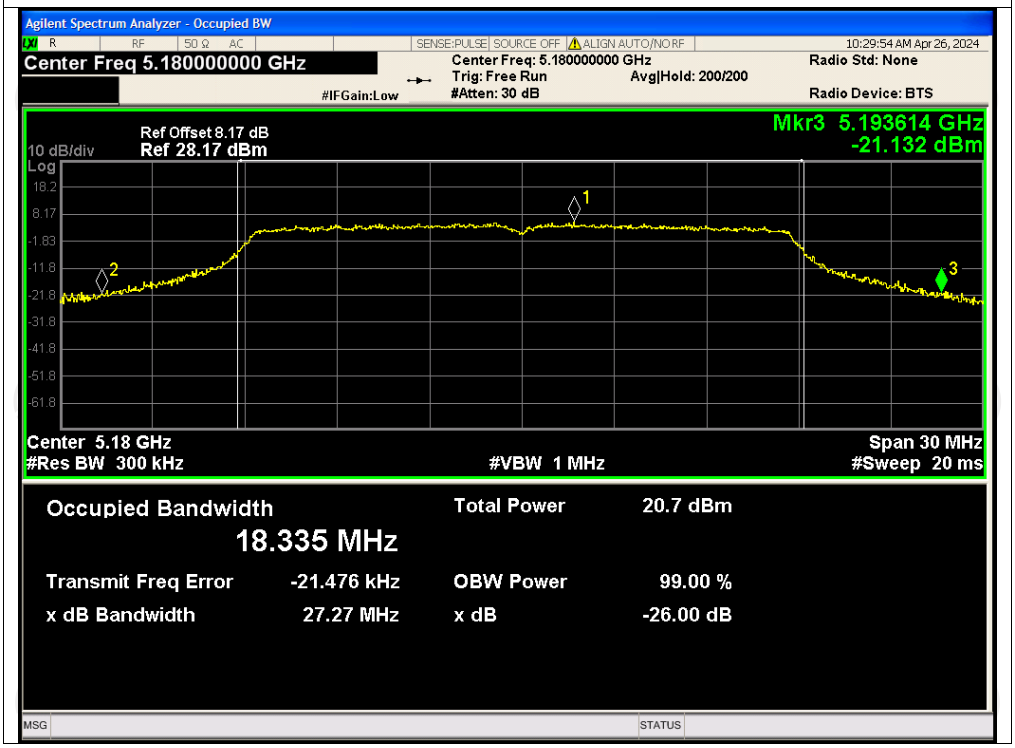
-26dB Bandwidth NVNT a 5200MHz



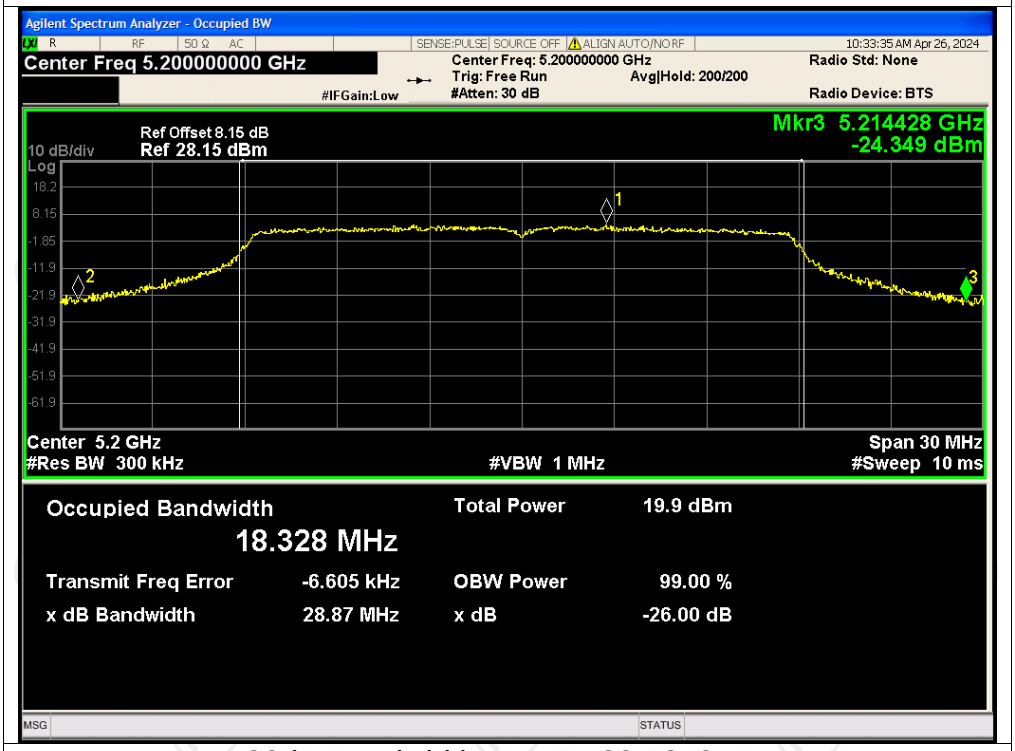
-26dB Bandwidth NVNT a 5240MHz



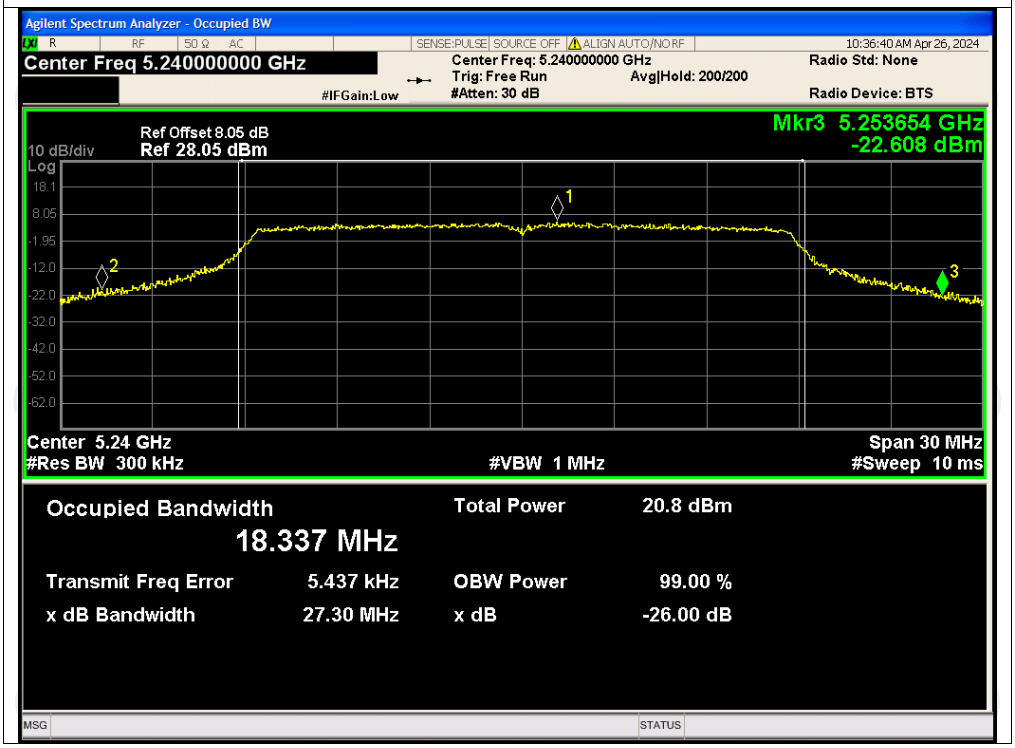
-26dB Bandwidth NVNT n20 5180MHz



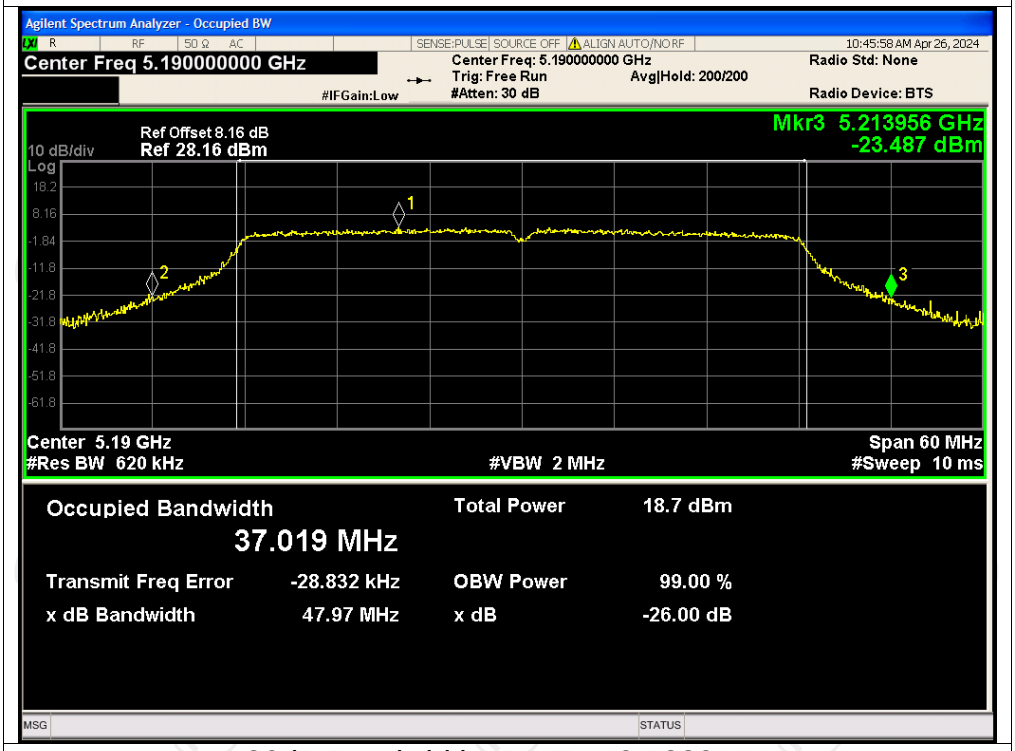
-26dB Bandwidth NVNT n20 5200MHz



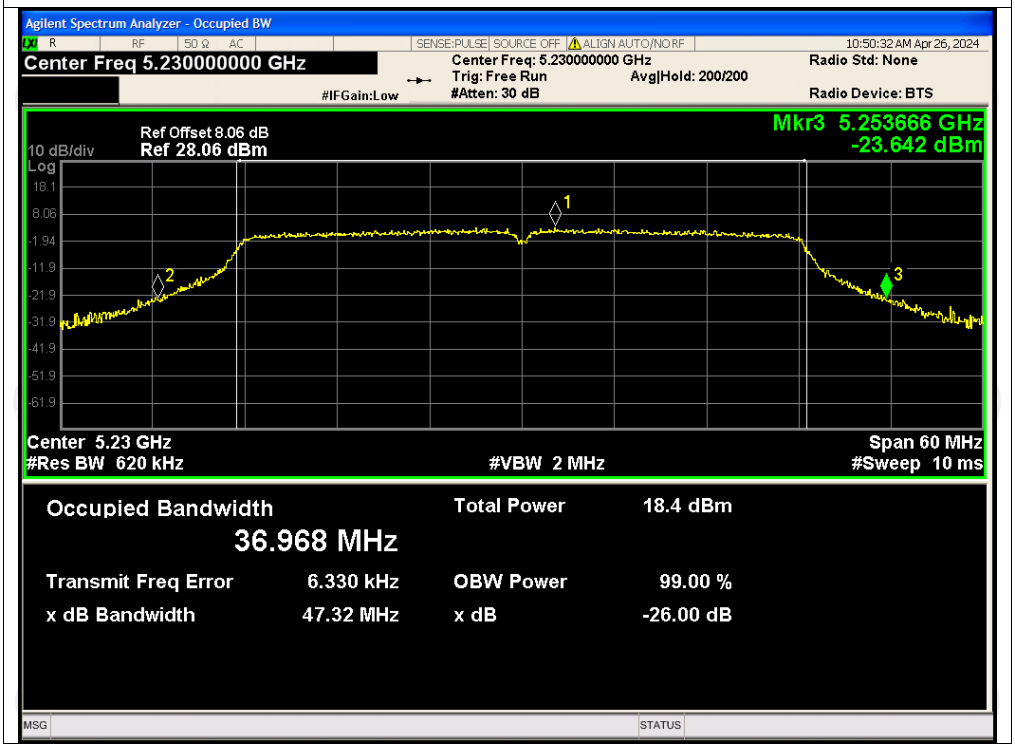
-26dB Bandwidth NVNT n20 5240MHz



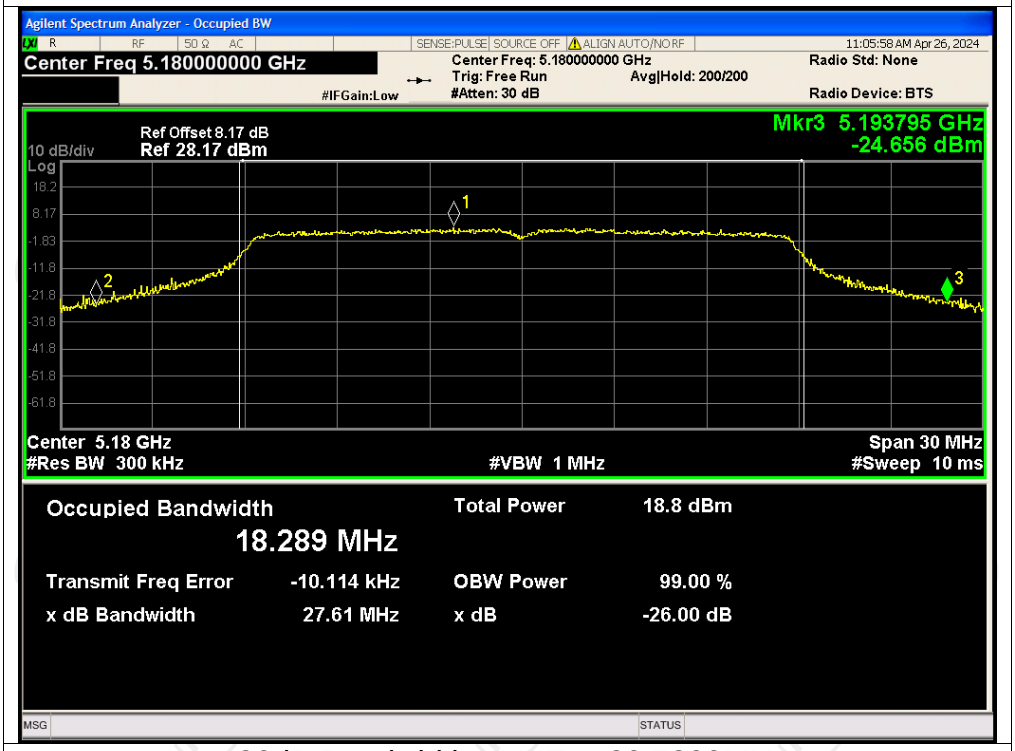
-26dB Bandwidth NVNT n40 5190MHz



-26dB Bandwidth NVNT n40 5230MHz



-26dB Bandwidth NVNT ac20 5180MHz



-26dB Bandwidth NVNT ac20 5200MHz