

TEST REPORT

FCC ID. :	2AG87ACM-DB-2M-R3
Test Report No..... :	TCT251017E010
Date of issue..... :	Dec. 01, 2025
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..... :	Doodle Labs (SG) Pte Ltd
Address..... :	601 MacPherson Road, Grantral Complex, Suite 07-15, Singapore 368242, Singapore
Manufacturer's name ... :	Doodle Labs (SG) Pte Ltd
Address..... :	601 MacPherson Road, Grantral Complex, Suite 07-15, Singapore 368242, Singapore
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..... :	Wi-Fi® Radio Transceiver
Trade Mark	N/A
Model/Type reference..... :	ACM-DB-2M-R3, ACM-DB-2M-BD-R3
Rating(s)..... :	DC 3.3V
Date of receipt of test item	Oct. 17, 2025
Date (s) of performance of test..... :	Oct. 17, 2025 ~ Dec. 01, 2025
Tested by (+signature) ... :	Rleo LIU
Check by (+signature).... :	Beryl ZHAO
Approved by (+signature):	Tomsin

General disclaimer:

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1. General Product Information

1.1. EUT description

Product Name.....:	Wi-Fi® Radio Transceiver
Model/Type reference.....:	ACM-DB-2M-R3
Sample Number.....:	TCT251017E009-0101
Operation Frequency	Band 1: 5180MHz~5240MHz Band 3: 5745MHz~5825MHz
Channel Bandwidth.....:	802.11a: 20MHz 802.11n: 20MHz, 40MHz 802.11ac: 20MHz, 40MHz, 80MHz
Modulation Technology	Orthogonal Frequency Division Multiplexing (OFDM)
Modulation Type	802.11a/n: 64QAM, 16QAM, QPSK, BPSK 802.11ac: 256QAM, 64QAM, 16QAM, QPSK, BPSK
Antenna Type.....:	External Antenna
Antenna Gain.....:	Antenna 0: 5dBi Antenna 1: 5dBi
Rating(s).....:	DC 3.3V

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

1.2. Model(s) list

No.	Model No.	Tested with
1	ACM-DB-2M-R3	☒
Other models	ACM-DB-2M-BD-R3	☐

Note: ACM-DB-2M-R3 is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names. So the test data of ACM-DB-2M-R3 can represent the remaining models.

1.3. Test Frequency

Band 1

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

Band 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(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. 5. For the band 5.15-5.25GHz, EUT meet the requirements of 15.407(a)(ii).
6. Test result = Output + Cable loss
7. RF conducted direct connection test is conducted on the main model, and the test results have been corrected to match the maximum line loss of the type: 0.8dB for 5G WIFI (test connection cable is provided by the applicant)

3. General Information

3.1. Test environment and mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar
Test Software:	
Software Information:	Atheros Radio Test2(ART2-GUI)
Power Level:	Band 1 ANT 0: 802.11a: L/M/H: 18/19.5/19 802.11n(HT20): L/M/H: 15.5/16/15.5 802.11n(HT40): L/H: 18.5/20 802.11ac(VHT20): L/M/H: 15.5/16/15.5 802.11ac(VHT40): L/H: 18.5/20 802.11ac(VHT80): M: 18 ANT 1: 802.11a: L/M/H: 18.5/20/19.5 802.11n(HT20): L/M/H: 16.5/16.5/16 802.11n(HT40): L/H: 19/21 802.11ac(VHT20): L/M/H: 16.5/17/16 802.11ac(VHT40): L/H: 19/21 802.11ac(VHT80): M: 19 Band 3 ANT 0: 802.11a: L/M/H: 21.5/22/22.5 802.11n(HT20): L/M/H: 21.5/21.5/22.5 802.11n(HT40): L/H: 22/21.5 802.11ac(VHT20): L/M/H: 21.5/21.5/23.5 802.11ac(VHT40): L/H: 22/21.5 802.11ac(VHT80): M: 20.5 ANT 1: 802.11a: L/M/H: 22/22/23.5 802.11n(HT20): L/M/H: 22/22/23.5 802.11n(HT40): L/H: 22.5/22 802.11ac(VHT20): L/M/H: 22/22/23.5 802.11ac(VHT40): L/H: 22.5/22 802.11ac(VHT80): M: 21
Test Mode:	

Engineering 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(SISO)	6 Mbps
802.11n(HT20) (MIMO)	6.5 Mbps
802.11n(HT40) (MIMO)	13.5 Mbps
802.11ac(VHT20) (MIMO)	6.5 Mbps
802.11ac(VHT40) (MIMO)	13.5 Mbps
802.11ac(VHT80) (MIMO)	29.3 Mbps
Final Test Mode:	
Operation mode:	Keep the EUT in continuous transmitting with modulation

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
PC Adapter	HKA12019063-0D6	/	/	Huntkey
PC	NAB7	/	2A49R-MINIPC	Doodle
LCD TV	19PFL3120/T3	AU2A1241000762	/	PHILIPS

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.

- A2LA-No.: 4320.01

SHENZHEN TONGCE TESTING LAB

The testing lab has been accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.

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

5. 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

6. Test Results and Measurement Data

6.1. 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 EUT has two external antennas, and the best case gains of each antenna is 5dBi.

6.2. Conducted Emission

6.2.1. Test Specification

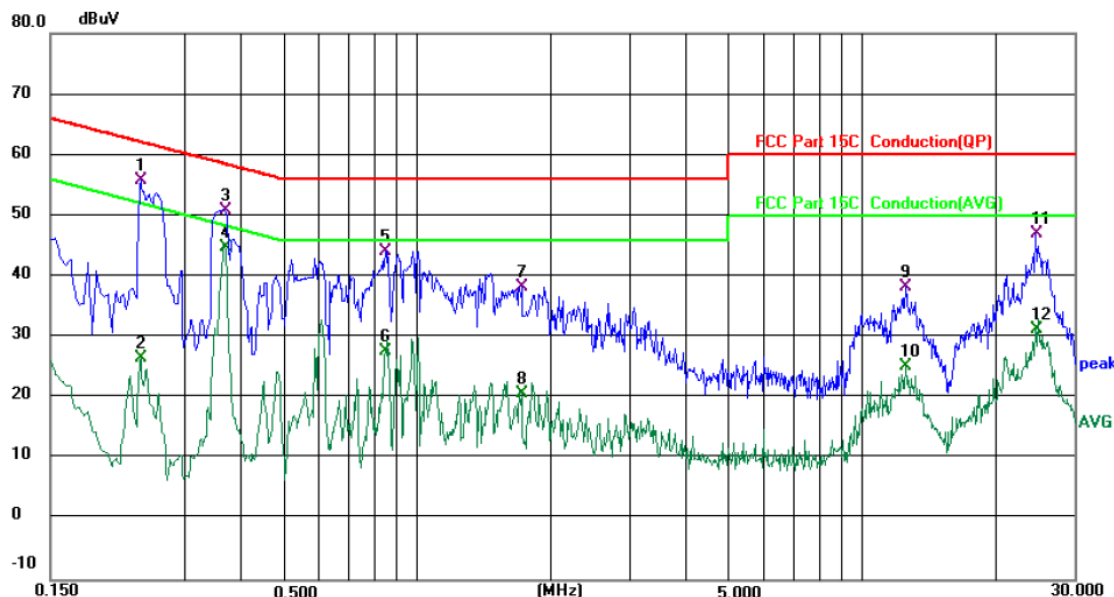
Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10:2020														
Frequency Range:	150 kHz to 30 MHz														
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
Limits:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (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 40cm 80cm E.U.T. AC power LISN Filter AC power EMI Receiver Test table/Insulation plane Remark: E.U.T.: Equipment Under Test LISN: Line Impedance 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 C63.10:2020 on conducted measurement.														
Test Result:	PASS														

6.2.2. Test Instruments

Conducted Emission Shielding Room Test Site (843)					
Equipment	Manufacturer	Model	Serial Number	Date of Cal.	Due Date
EMI Test Receiver	R&S	ESCI3	100898	Jun. 26, 2025	Jun. 25, 2026
LISN	Schwarzbeck	NSLK 8126	8126453	Jan. 21, 2025	Jan. 20, 2026
Attenuator	N/A	10dB	164080	Jun. 26, 2025	Jun. 25, 2026
Line-5	TCT	CE-05	/	Jun. 26, 2025	Jun. 25, 2026
EMI Test Software	EZ EMC	EMEC-3A1	1.1.4.2	/	/

6.2.3. 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: 23.8 (°C)

Humidity: 50 %

Limit: FCC Part 15C Conduction(QP)

Power: DC 3.3 V From PC

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBμV	dB	dBμV	dBμV	dB	Detector	Comment
1		0.2379	47.19	8.52	55.71	62.17	-6.46	QP	
2		0.2379	17.99	8.52	26.51	52.17	-25.66	AVG	
3		0.3692	42.26	8.53	50.79	58.52	-7.73	QP	
4	*	0.3692	36.22	8.53	44.75	48.52	-3.77	AVG	
5		0.8500	35.64	8.51	44.15	56.00	-11.85	QP	
6		0.8500	19.07	8.51	27.58	46.00	-18.42	AVG	
7		1.7179	29.75	8.58	38.33	56.00	-17.67	QP	
8		1.7179	12.10	8.58	20.68	46.00	-25.32	AVG	
9		12.5219	29.32	8.92	38.24	60.00	-21.76	QP	
10		12.5219	16.23	8.92	25.15	50.00	-24.85	AVG	
11		24.5459	37.59	9.34	46.93	60.00	-13.07	QP	
12		24.5459	21.92	9.34	31.26	50.00	-18.74	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

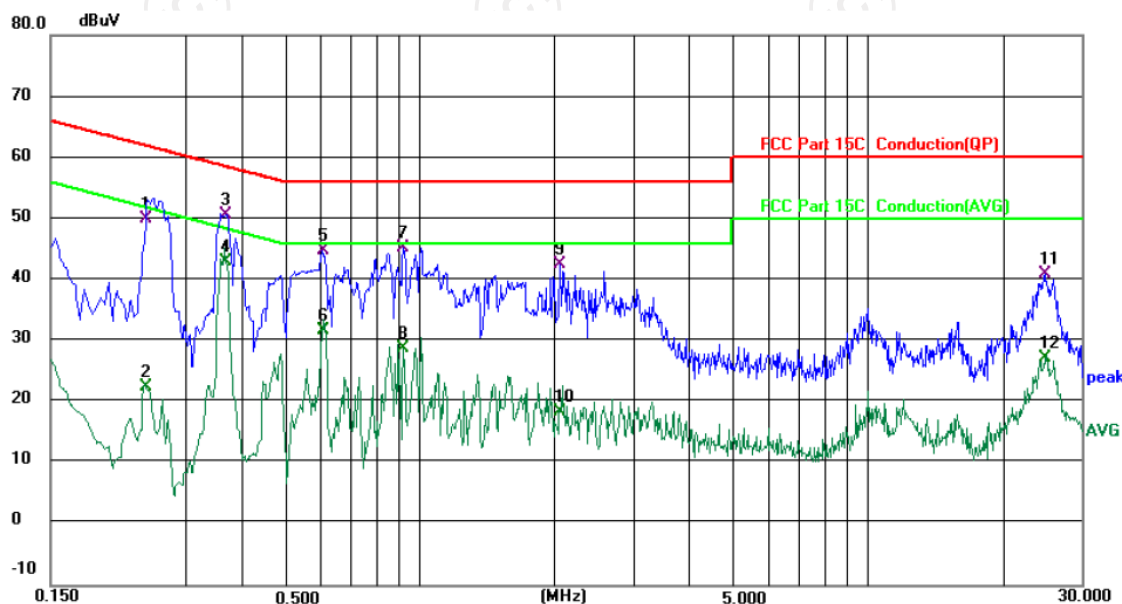
Margin (dB) = Measurement (dBμV) – Limits (dBμV)

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: 23.8 (°C)

Humidity: 50 %

Limit: FCC Part 15C Conduction(QP)

Power: DC 3.3 V From PC

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.2442	41.43	8.52	49.95	61.95	-12.00	QP	
2		0.2442	14.09	8.52	22.61	51.95	-29.34	AVG	
3		0.3692	42.00	8.54	50.54	58.52	-7.98	QP	
4	*	0.3692	34.50	8.54	43.04	48.52	-5.48	AVG	
5		0.6060	36.16	8.54	44.70	56.00	-11.30	QP	
6		0.6060	23.12	8.54	31.66	46.00	-14.34	AVG	
7		0.9220	36.72	8.55	45.27	56.00	-10.73	QP	
8		0.9220	20.31	8.55	28.86	46.00	-17.14	AVG	
9		2.0579	33.86	8.62	42.48	56.00	-13.52	QP	
10		2.0579	9.76	8.62	18.38	46.00	-27.62	AVG	
11		24.8020	31.44	9.48	40.92	60.00	-19.08	QP	
12		24.8020	17.72	9.48	27.20	50.00	-22.80	AVG	

Note: 1. 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.

2. Measurements were conducted in all two 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 (Channel 48 and 802.11a transmit with antenna 1) was submitted only.

6.3. Maximum Conducted Output Power

6.3.1. Test Specification

Test Requirement:	FCC Part15 E Section 15.407(a)& Part 2 J Section 2.1046										
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E										
Limit:	<table border="1"> <thead> <tr> <th>Frequency Band (MHz)</th><th>Limit</th></tr> </thead> <tbody> <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> </tbody> </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:	 Spectrum Analyzer EUT										
Test Mode:	Transmitting mode with modulation										
Test Procedure:	1. The testing follows the Measurement Procedure of KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E, 2, b 2. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement. 3. Set to the maximum power setting and enable the EUT transmit continuously. 5. Measure the conducted output power and record the results in the test report.										
Test Result:	PASS										

6.3.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Date of Cal.	Due Date
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jun. 26, 2025	Jun. 25, 2026
Power detector box	MWRTest	MW100-RFCB	MW210531TCT	Jan. 21, 2025	Jan. 20, 2026

6.3.3. Test Data

Configuration Band 1 (5180 - 5240 MHz) / Antenna 0+Antenna 1						
Mode	Test channel	Maximum Conducted (Average) Output Power (dBm)			Limit (dBm)	Result
		Ant0	Ant1	Total		
11a	CH36	19.22	19.53	/	24	PASS
11a	CH40	21.07	21.31	/	24	PASS
11a	CH48	21.04	21.43	/	24	PASS
11n(HT20)	CH36	17.09	16.17	19.66	24	PASS
11n(HT20)	CH40	17.32	15.85	19.66	24	PASS
11n(HT20)	CH48	17.35	16.13	19.79	24	PASS
11n(HT40)	CH38	18.61	18.40	21.52	24	PASS
11n(HT40)	CH46	20.34	20.65	23.51	24	PASS
11ac(VHT20)	CH36	17.36	16.15	19.81	24	PASS
11ac(VHT20)	CH40	17.28	17.58	20.44	24	PASS
11ac(VHT20)	CH48	17.48	16.26	19.92	24	PASS
11ac(VHT40)	CH38	18.60	18.45	21.54	24	PASS
11ac(VHT40)	CH46	20.28	20.65	23.48	24	PASS
11ac(VHT80)	CH42	17.43	18.24	20.86	24	PASS

Note:

Refer to KDB 662911 D01 Multiple Transmitter Output v02r01:

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.

Because $N_{ANT}=2$, so Array Gain = 0, Directional gain = $G_{ANT} + \text{Array Gain} = 5\text{dBi}$

Configuration Band 3 (5745 - 5825 MHz) / Antenna 0+Antenna 1

Mode	Test channel	Maximum Conducted (Average) Output Power (dBm)			Limit (dBm)	Result
		Ant0	Ant1	Total		
11a	CH149	21.23	21.32	/	30	PASS
11a	CH157	21.07	21.10	/	30	PASS
11a	CH165	20.95	21.38	/	30	PASS
11n(HT20)	CH149	21.14	21.19	24.18	30	PASS
11n(HT20)	CH157	20.83	21.00	23.93	30	PASS
11n(HT20)	CH165	21.1	20.98	24.05	30	PASS
11n(HT40)	CH151	20.81	21.02	23.93	30	PASS
11n(HT40)	CH159	21.38	20.92	24.17	30	PASS
11ac(VHT20)	CH149	21.34	21.26	24.31	30	PASS
11ac(VHT20)	CH157	21.27	21.12	24.21	30	PASS
11ac(VHT20)	CH165	21.18	21.11	24.16	30	PASS
11ac(VHT40)	CH151	20.74	21.03	23.90	30	PASS
11ac(VHT40)	CH159	21.28	20.84	24.08	30	PASS
11ac(VHT80)	CH155	20.03	19.82	22.94	30	PASS

Note:

Refer to KDB 662911 D01 Multiple Transmitter Output v02r01:

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.

Because $N_{ANT}=2$, so Array Gain = 0, Directional gain = $G_{ANT} + \text{Array Gain} = 5\text{dBi}$

6.4. 6dB Emission Bandwidth

6.4.1. Test Specification

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

6.4.2. Test Instruments

Equipment	Manufacturer	Model No.	Serial Number	Date of Cal.	Due Date
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jun. 26, 2025	Jun. 25, 2026
Power detector box	MWRFtest	MW100-RFCB	MW210531TCT	Jan. 21, 2025	Jan. 20, 2026

6.5. 26dB Bandwidth and 99% Occupied Bandwidth

6.5.1. Test Specification

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

6.5.2. Test Instruments

Equipment	Manufacturer	Model No.	Serial Number	Date of Cal.	Due Date
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jun. 26, 2025	Jun. 25, 2026
Power detector box	MWRFtest	MW100-RFCB	MW210531TCT	Jan. 21, 2025	Jan. 20, 2026

6.6. Power Spectral Density

6.6.1. Test Specification

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

6.6.2. Test Instruments

Equipment	Manufacturer	Model No.	Serial Number	Date of Cal.	Due Date
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jun. 26, 2025	Jun. 25, 2026
Power detector box	MWRFTest	MW100-RFCB	MW210531TCT	Jan. 21, 2025	Jan. 20, 2026

6.6.3. Test data

Configuration Band 1 (5180 - 5240 MHz) / Antenna 0+Antenna 1						
Mode	Test channel	Power Spectral Density(dBm/MHz)			Limit (dBm/MHz)	Result
		Ant0	Ant1	Total		
11a	CH36	7.80	7.97	/	11	PASS
11a	CH40	9.53	9.84	/	11	PASS
11a	CH48	9.48	9.80	/	11	PASS
11n(HT20)	CH36	5.45	4.34	7.94	8.99	PASS
11n(HT20)	CH40	5.55	4.24	7.95	8.99	PASS
11n(HT20)	CH48	5.58	4.35	8.02	8.99	PASS
11n(HT40)	CH38	3.83	3.58	6.72	8.99	PASS
11n(HT40)	CH46	5.44	5.76	8.61	8.99	PASS
11ac(VHT20)	CH36	5.62	4.35	8.04	8.99	PASS
11ac(VHT20)	CH40	5.49	5.87	8.69	8.99	PASS
11ac(VHT20)	CH48	5.7	4.41	8.11	8.99	PASS
11ac(VHT40)	CH38	3.76	3.59	6.69	8.99	PASS
11ac(VHT40)	CH46	5.33	5.78	8.57	8.99	PASS
11ac(VHT80)	CH42	-0.78	0.14	2.71	8.99	PASS

Refer to KDB 662911 D01 Multiple Transmitter Output v02r01:

For power spectral density (PSD) measurements on all devices,
Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

Directional gain = $G_{ant} + \text{Array Gain} = 8.01\text{dBi}$, so limit of power spectral density is $11 - (8.01-6) = 8.99$

Configuration Band 3(5745-5825MHz) / Antenna 0+Antenna 1

Mode	Test channel	Power Spectral Density(dBm/500kHz)			Limit (dBm/500kHz)	Result
		Ant0	Ant1	Total		
11a	CH149	7.02	7.09	/	30	PASS
11a	CH157	6.94	6.90	/	30	PASS
11a	CH165	6.76	7.13	/	30	PASS
11n(HT20)	CH149	6.6	6.54	9.58	27.99	PASS
11n(HT20)	CH157	6.5	6.46	9.49	27.99	PASS
11n(HT20)	CH165	6.63	6.51	9.58	27.99	PASS
11n(HT40)	CH151	3.29	3.44	6.38	27.99	PASS
11n(HT40)	CH159	4.01	3.30	6.68	27.99	PASS
11ac(VHT20)	CH149	6.88	6.68	9.79	27.99	PASS
11ac(VHT20)	CH157	6.81	6.60	9.72	27.99	PASS
11ac(VHT20)	CH165	6.7	6.62	9.67	27.99	PASS
11ac(VHT40)	CH151	3.42	3.34	6.39	27.99	PASS
11ac(VHT40)	CH159	3.97	3.14	6.59	27.99	PASS
11ac(VHT80)	CH155	8.71	7.22	11.04	27.99	PASS

Refer to KDB 662911 D01 Multiple Transmitter Output v02r01:

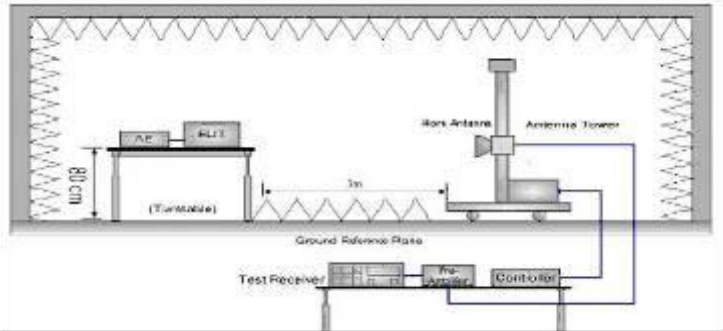
For power spectral density (PSD) measurements on all devices,

Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

Directional gain = $G_{ant} + \text{Array Gain} = 8.01\text{dBi}$, so limit of power spectral density is $30 - (8.01-6) = 27.99$.

6.7. Band edge

6.7.1. Test Specification

Test Requirement:	FCC CFR47 Part 15E Section 15.407																				
Test Method:	ANSI C63.10:2020																				
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>< 650</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)	< 650	-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)																	
	< 650	-27	5850~5855	27~15.6																	
	5650~5700	-27~10	5855~5875	15.6~10																	
5700~5720	10~15.6	5875~5925	10~-27																		
5720~5725	15.6~27	> 5925	-27																		
E[dBμV/m] = EIRP[dBm] + 95.2 @3m																					
In restricted band:																					
<table><tr><th>Detector</th><th>Limit@3m</th></tr><tr><td>Peak</td><td>74dBμV/m</td></tr><tr><td>AVG</td><td>54dBμV/m</td></tr></table>				Detector	Limit@3m	Peak	74dBμV/m	AVG	54dBμV/m												
Detector	Limit@3m																				
Peak	74dBμV/m																				
AVG	54dBμV/m																				
Test Setup:																					
Test Mode:	Transmitting mode with modulation																				
Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold																				

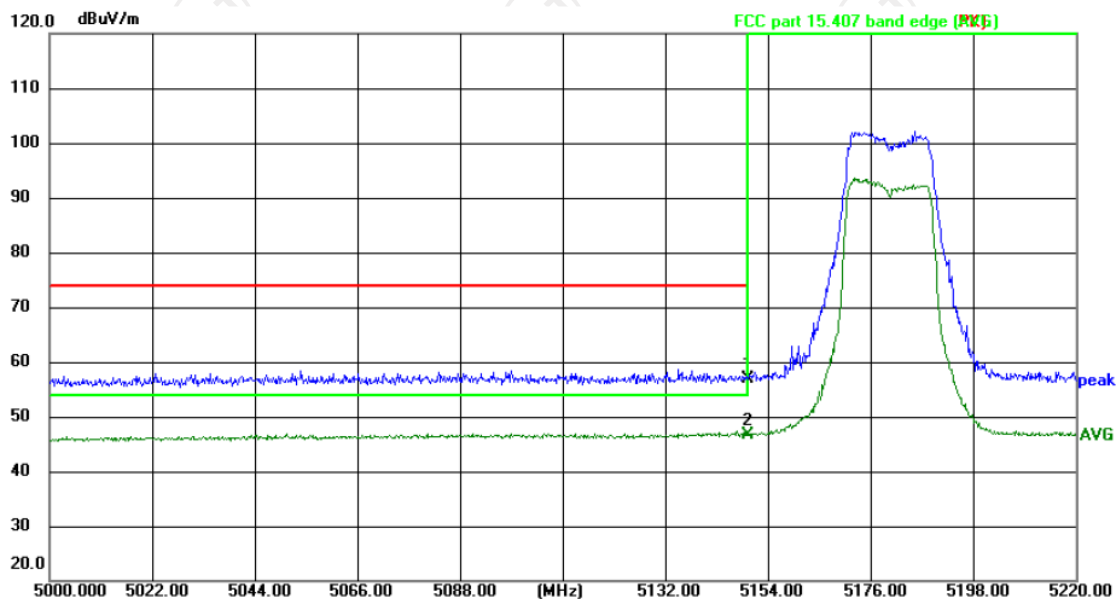
	Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi peak or average method as specified and then reported in a data sheet.
Test Result:	PASS

6.7.2. Test Instruments

Radiated Emission Test Site (966)					
Equipment	Manufacturer	Model	Serial Number	Date of Cal.	Due Date
EMI Test Receiver	R&S	ESCI7	100529	Jan. 21, 2025	Jan. 20, 2026
Spectrum Analyzer	R&S	FSQ40	200061	Jun. 26, 2025	Jun. 25, 2026
Pre-amplifier	SKET	LNPA_0118G-45	SK2021012102	Jan. 21, 2025	Jan. 20, 2026
Pre-amplifier	SKET	LNPA_1840G-50	SK202109203500	Apr. 11, 2025	Apr. 10, 2026
Pre-amplifier	HP	8447D	2727A05017	Jun. 26, 2025	Jun. 25, 2026
Loop antenna	Schwarzbeck	FMZB1519B	00191	Jun. 30, 2025	Jun. 29, 2026
Broadband Antenna	Schwarzbeck	VULB9163	340	Jun. 29, 2025	Jun. 28, 2026
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Jun. 29, 2025	Jun. 28, 2026
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Jan. 24, 2025	Jan. 23, 2026
Coaxial cable	SKET	RE-03-D	/	Jun. 27, 2025	Jun. 26, 2026
Coaxial cable	SKET	RE-03-M	/	Jun. 27, 2025	Jun. 26, 2026
Coaxial cable	SKET	RE-03-L	/	Jun. 27, 2025	Jun. 26, 2026
Coaxial cable	SKET	RE-04-D	/	Jun. 27, 2025	Jun. 26, 2026
Coaxial cable	SKET	RE-04-M	/	Jun. 27, 2025	Jun. 26, 2026
Coaxial cable	SKET	RE-04-L	/	Jun. 27, 2025	Jun. 26, 2026
Antenna Mast	Keleto	RE-AM	/	/	/
EMI Test Software	EZ EMC	FA-03A2 RE+	1.1.4.2	/	/

6.7.3. Test Data

AC20-5180

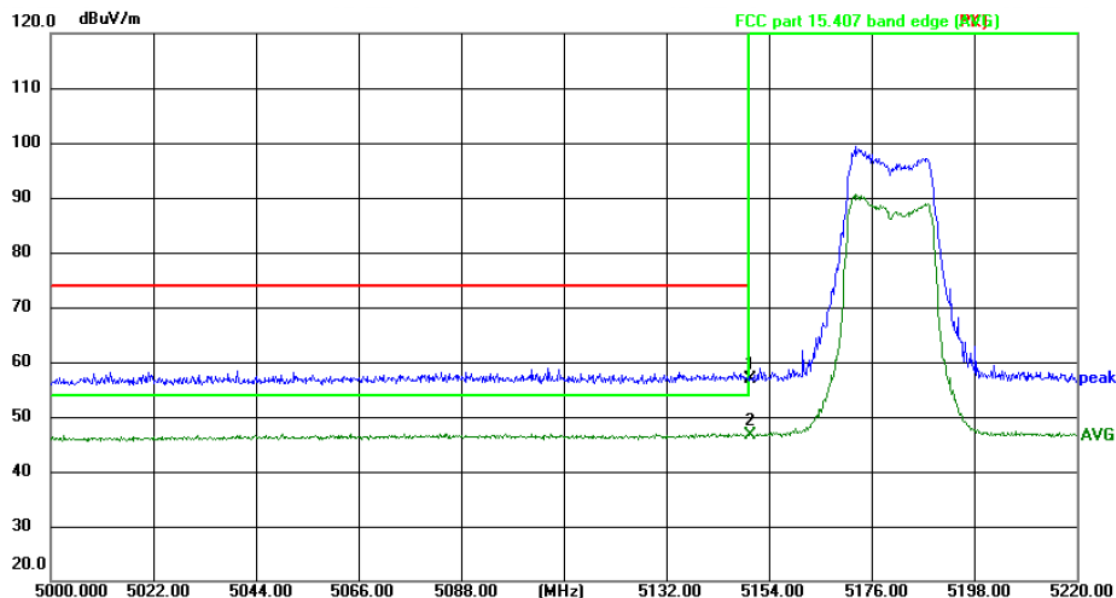


Site: 3m Anechoic Chamber Polarization: **Horizontal** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge (PK)

Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5150.000	41.85	15.07	56.92	74.00	-17.08	peak	P	
2 *	5150.000	31.57	15.07	46.64	54.00	-7.36	AVG	P	



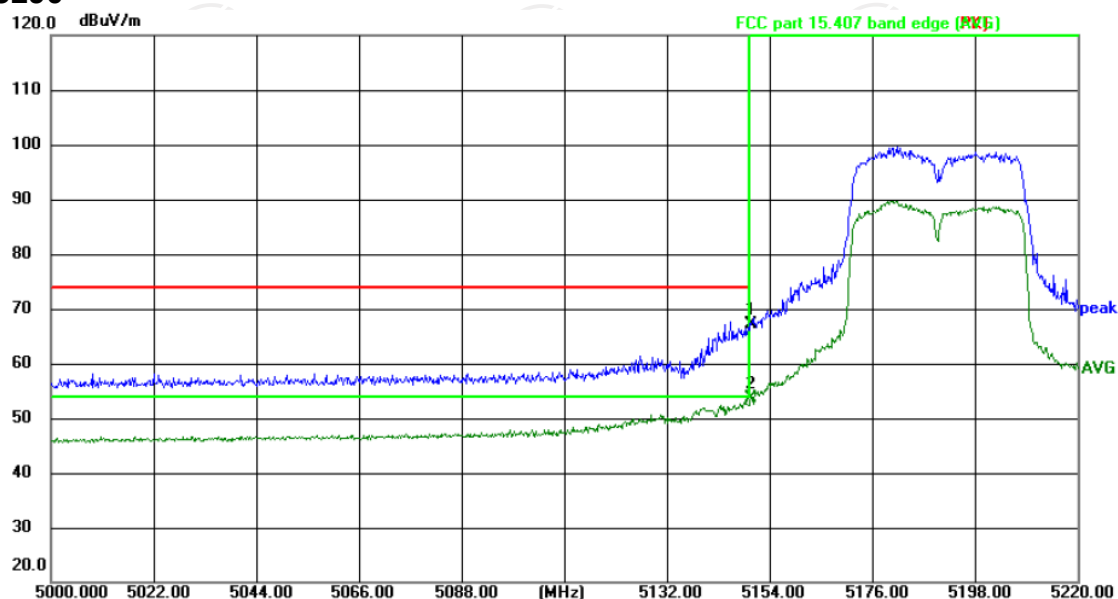
Site: 3m Anechoic Chamber Polarization: **Vertical** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge (PK)

Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5150.000	41.92	15.07	56.99	74.00	-17.01	peak	P	
2 *	5150.000	31.51	15.07	46.58	54.00	-7.42	AVG	P	

AC40-5190

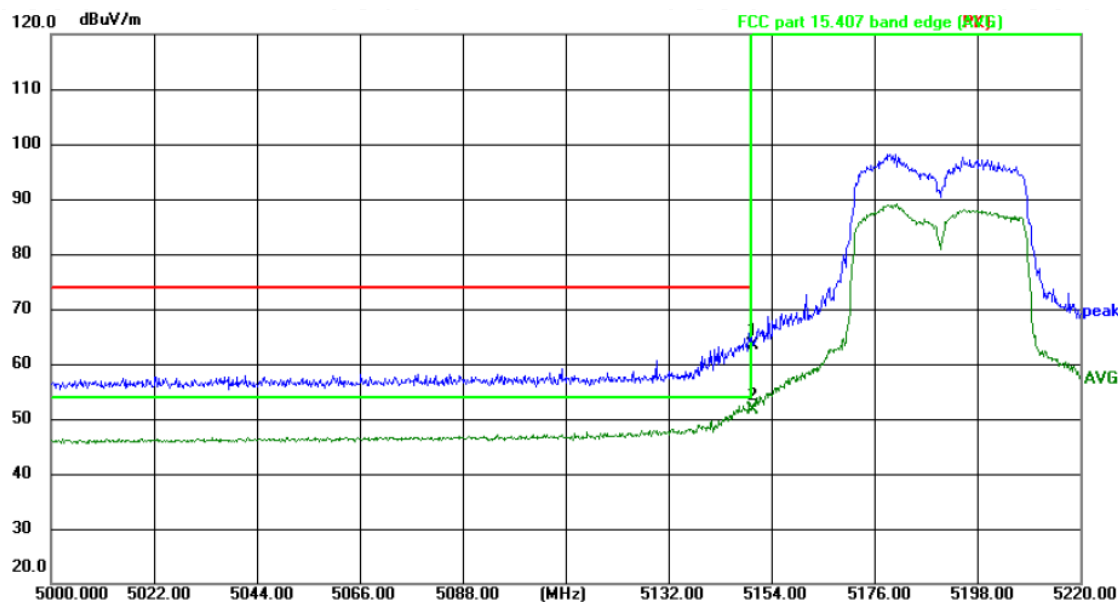


Site: 3m Anechoic Chamber Polarization: **Horizontal** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge (PK)

Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5150.000	52.12	15.07	67.19	74.00	-6.81	peak	P	
2 *	5150.000	38.47	15.07	53.54	54.00	-0.46	AVG	P	



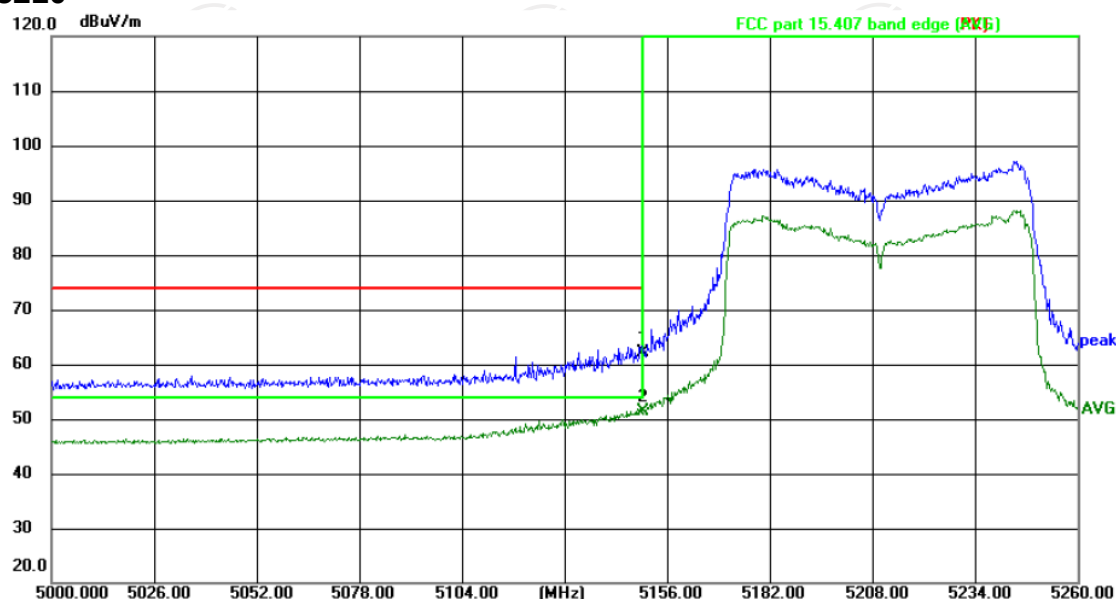
Site: 3m Anechoic Chamber Polarization: **Vertical** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge (PK)

Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5150.000	48.41	15.07	63.48	74.00	-10.52	peak	P	
2 *	5150.000	36.47	15.07	51.54	54.00	-2.46	AVG	P	

AC80-5210

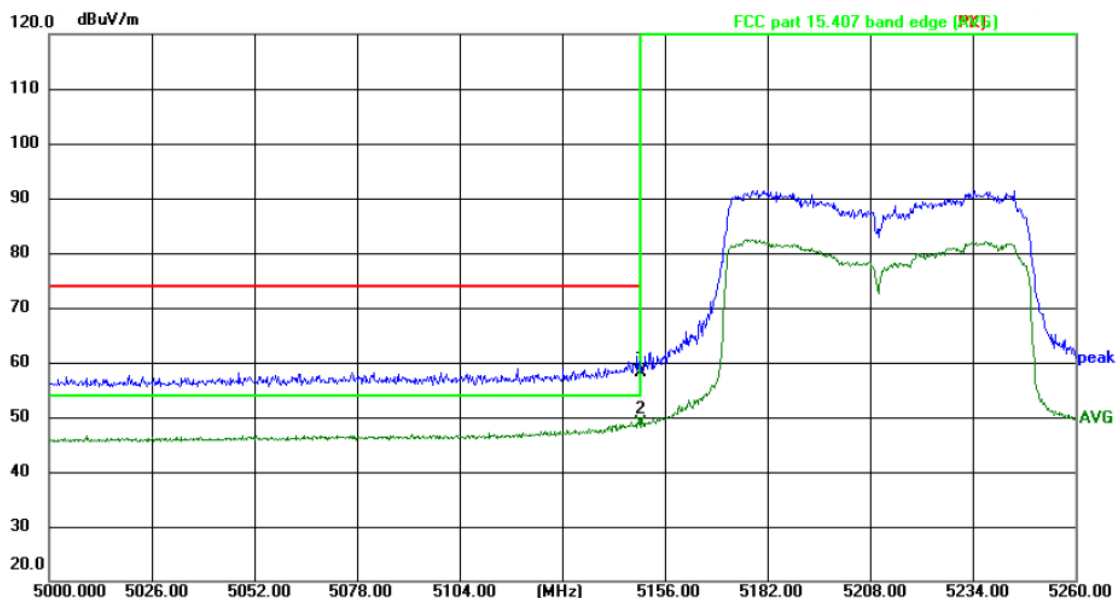


Site: 3m Anechoic Chamber Polarization: **Horizontal** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge (PK)

Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5150.000	46.95	15.07	62.02	74.00	-11.98	peak	P	
2 *	5150.000	36.24	15.07	51.31	54.00	-2.69	AVG	P	



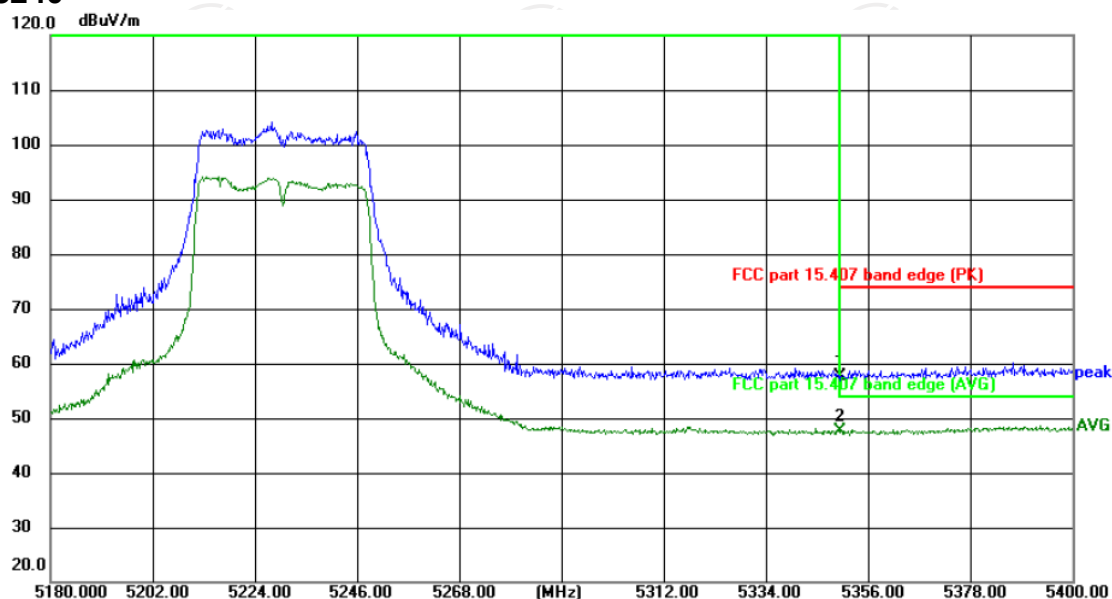
Site: 3m Anechoic Chamber Polarization: **Vertical** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge (PK)

Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5150.000	43.10	15.07	58.17	74.00	-15.83	peak	P	
2 *	5150.000	33.92	15.07	48.99	54.00	-5.01	AVG	P	

AC20-5240

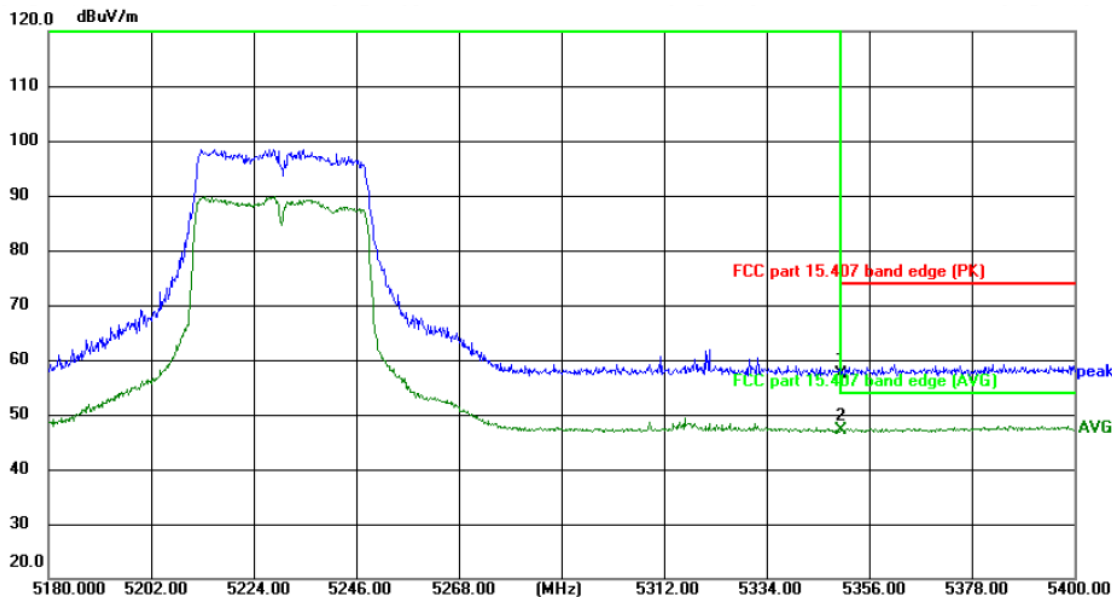


Site: 3m Anechoic Chamber Polarization: **Horizontal** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge (PK)

Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5350.000	42.08	15.45	57.53	74.00	-16.47	peak	P	
2 *	5350.000	32.13	15.45	47.58	54.00	-6.42	AVG	P	



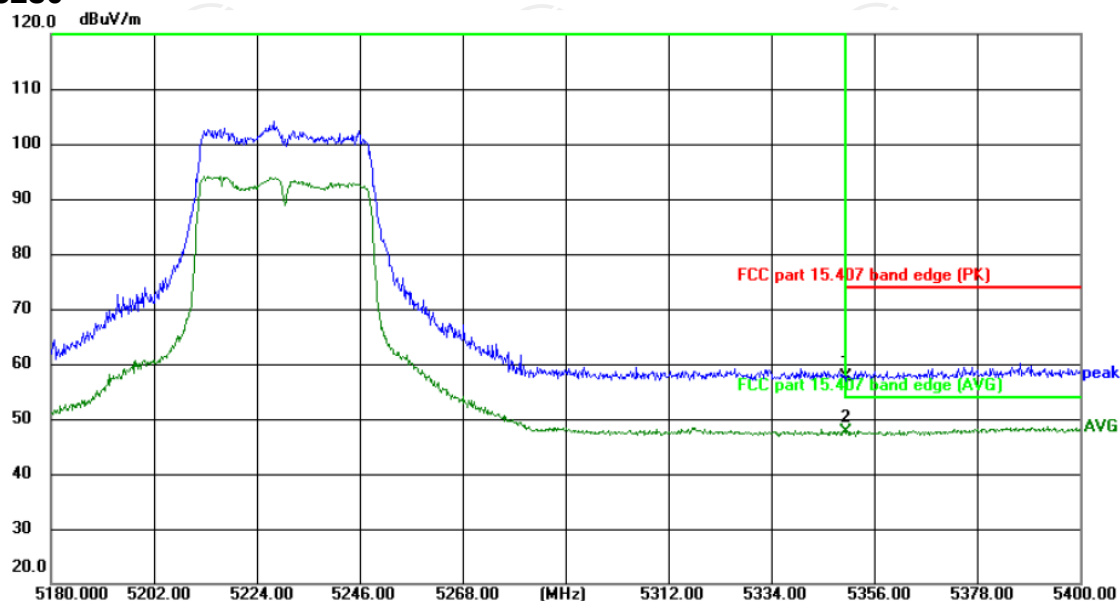
Site: 3m Anechoic Chamber Polarization: **Vertical** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge (PK)

Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5350.000	41.95	15.45	57.40	74.00	-16.60	peak	P	
2 *	5350.000	31.57	15.45	47.02	54.00	-6.98	AVG	P	

AC40-5230

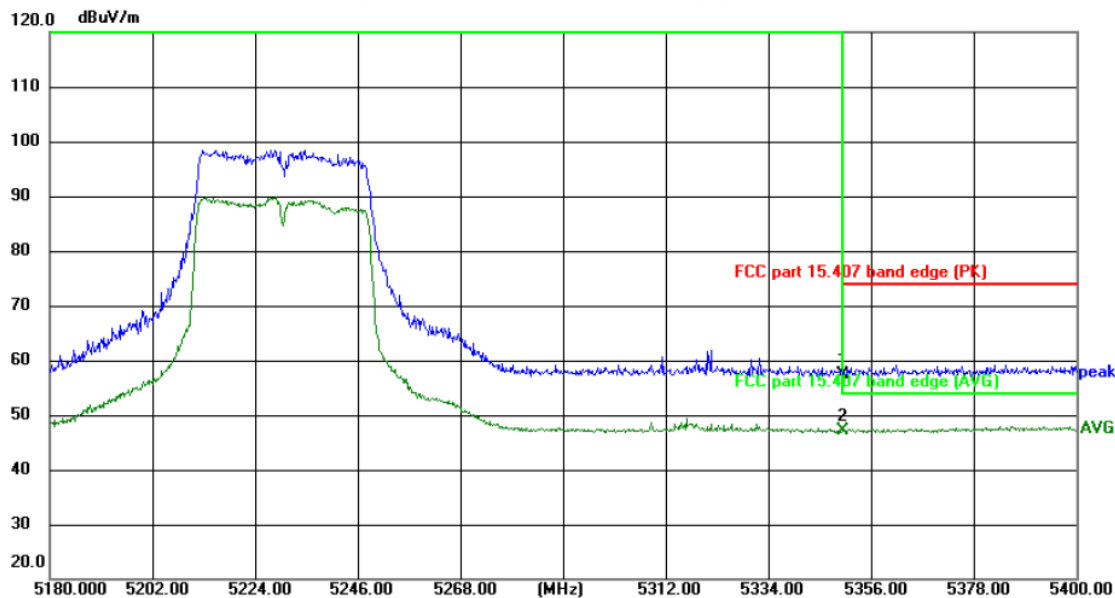


Site: 3m Anechoic Chamber Polarization: **Horizontal** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge (PK)

Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5350.000	42.08	15.45	57.53	74.00	-16.47	peak	P	
2 *	5350.000	32.13	15.45	47.58	54.00	-6.42	AVG	P	



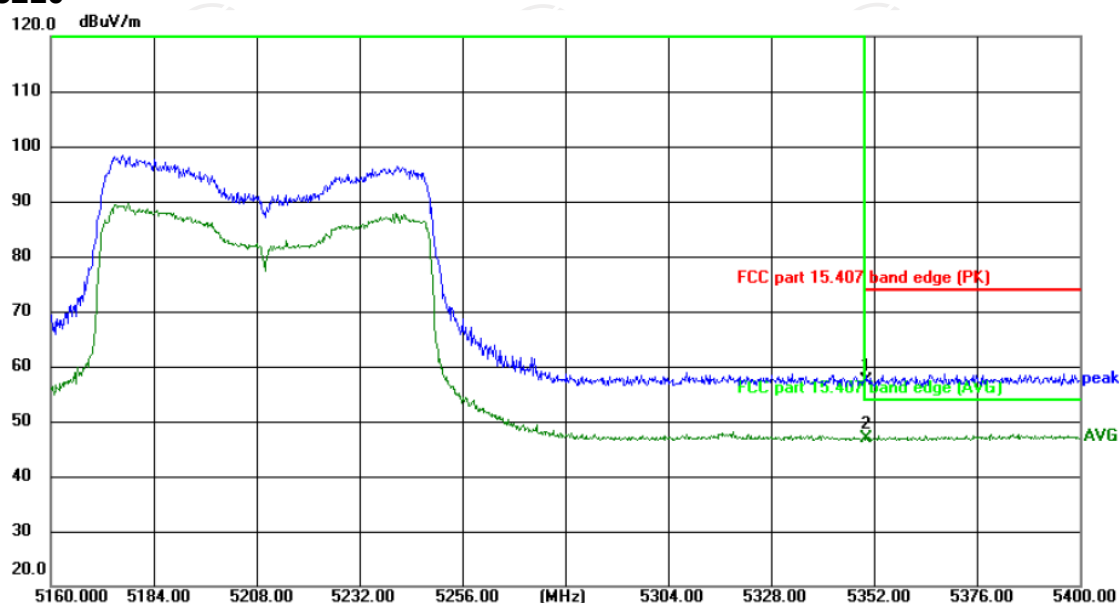
Site: 3m Anechoic Chamber Polarization: **Vertical** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge (PK)

Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5350.000	41.95	15.45	57.40	74.00	-16.60	peak	P	
2 *	5350.000	31.57	15.45	47.02	54.00	-6.98	AVG	P	

AC80-5210

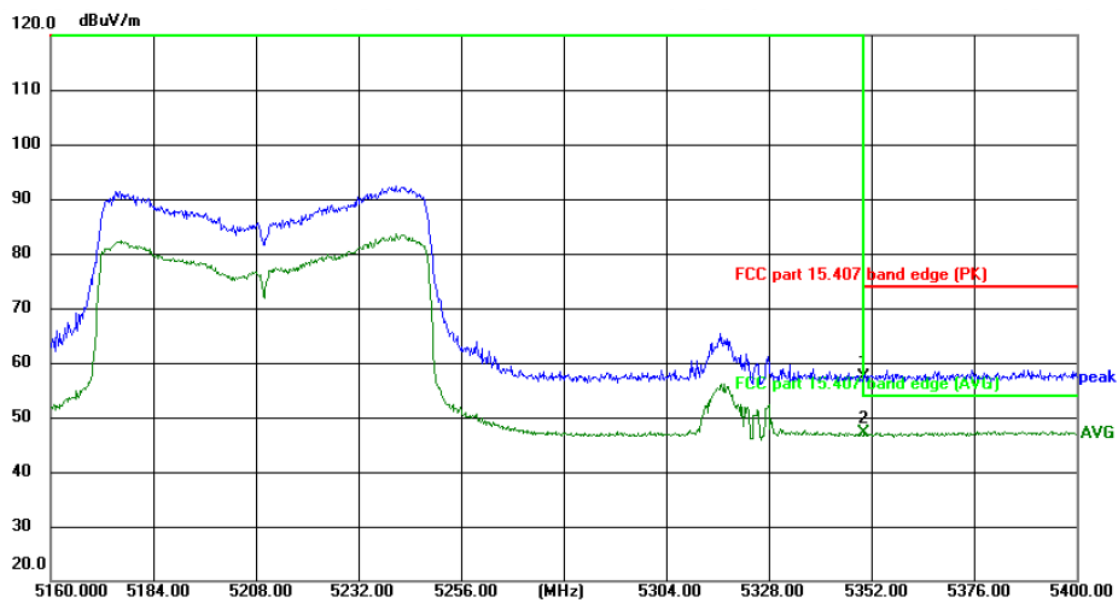


Site: 3m Anechoic Chamber Polarization: **Horizontal** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge (PK)

Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5350.000	41.90	15.45	57.35	74.00	-16.65	peak	P	
2 *	5350.000	31.35	15.45	46.80	54.00	-7.20	AVG	P	



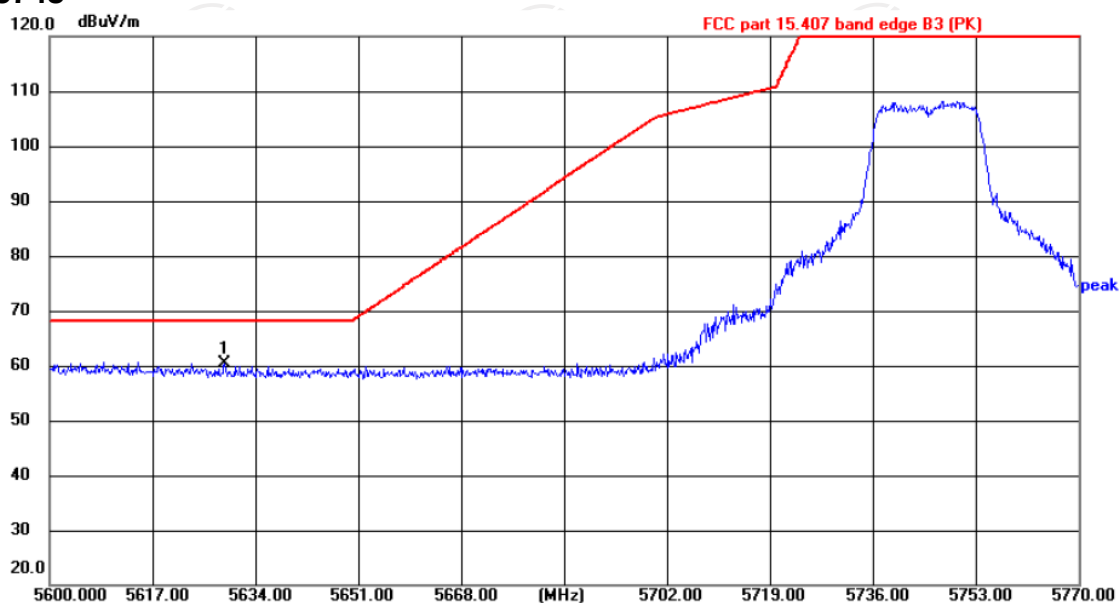
Site: 3m Anechoic Chamber Polarization: **Vertical** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge (PK)

Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	5350.000	41.94	15.45	57.39	74.00	-16.61	peak	P	
2 *	5350.000	31.60	15.45	47.05	54.00	-6.95	AVG	P	

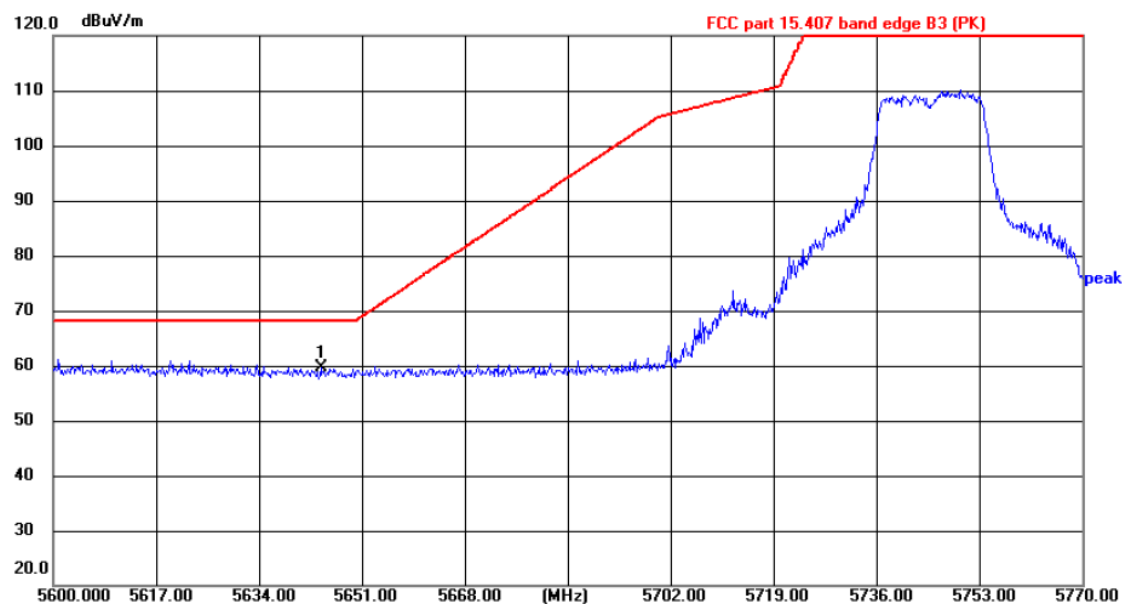
AC20-5745



Site: 3m Anechoic Chamber Polarization: **Horizontal** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge B3 (PK) Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5628.900	43.99	16.28	60.27	68.20	-7.93	peak	P	

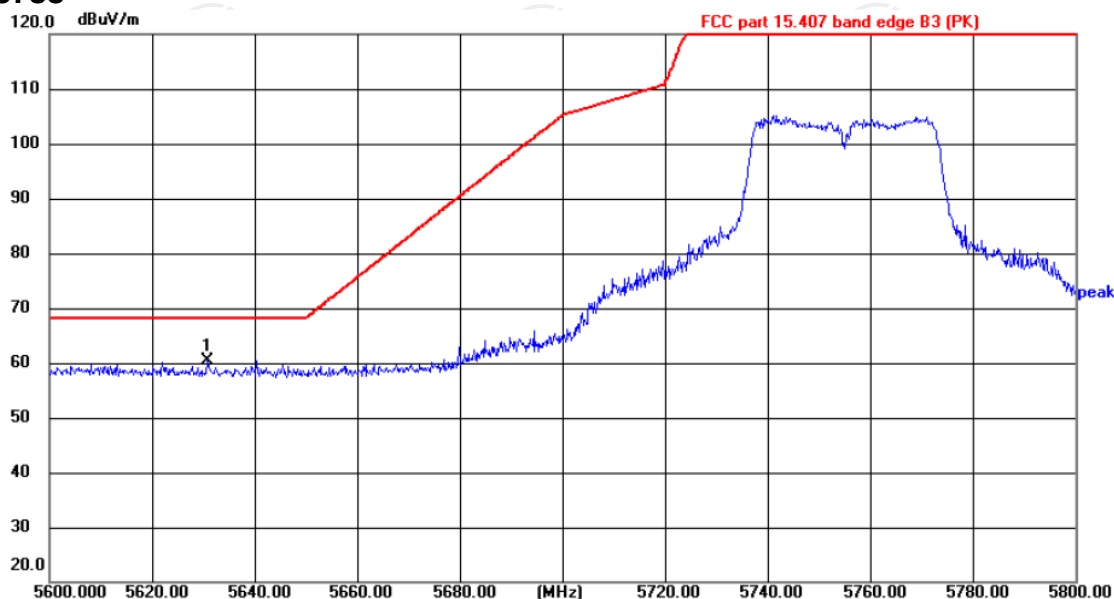


Site: 3m Anechoic Chamber Polarization: **Vertical** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge B3 (PK) Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5644.200	43.29	16.35	59.64	68.20	-8.56	peak	P	

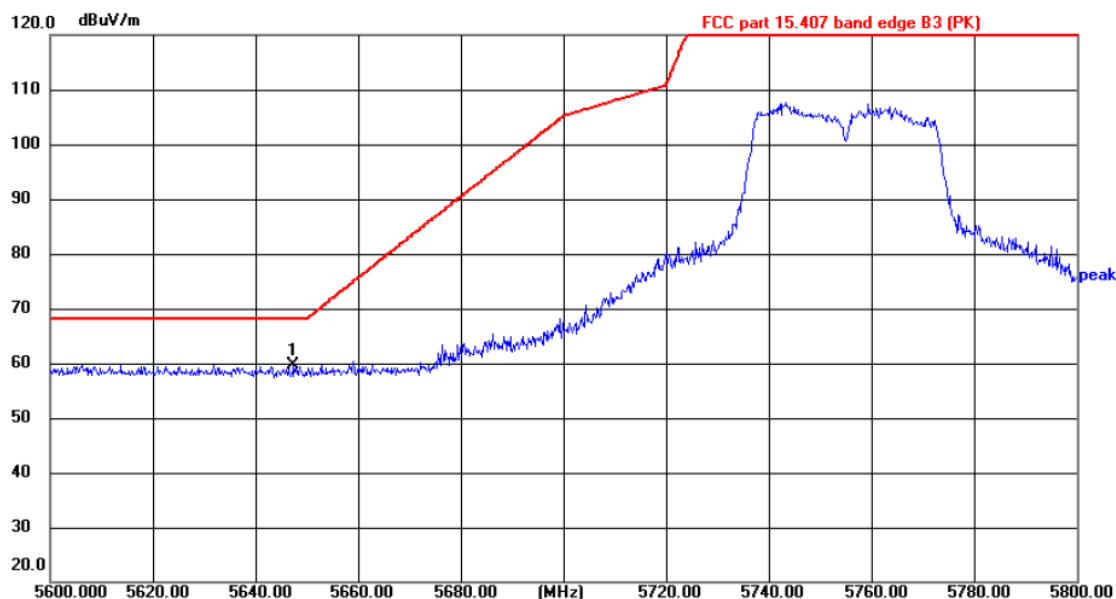
AC40-5755



Site: 3m Anechoic Chamber Polarization: **Horizontal** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge B3 (PK) Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5630.900	43.99	16.28	60.27	68.20	-7.93	peak	P	

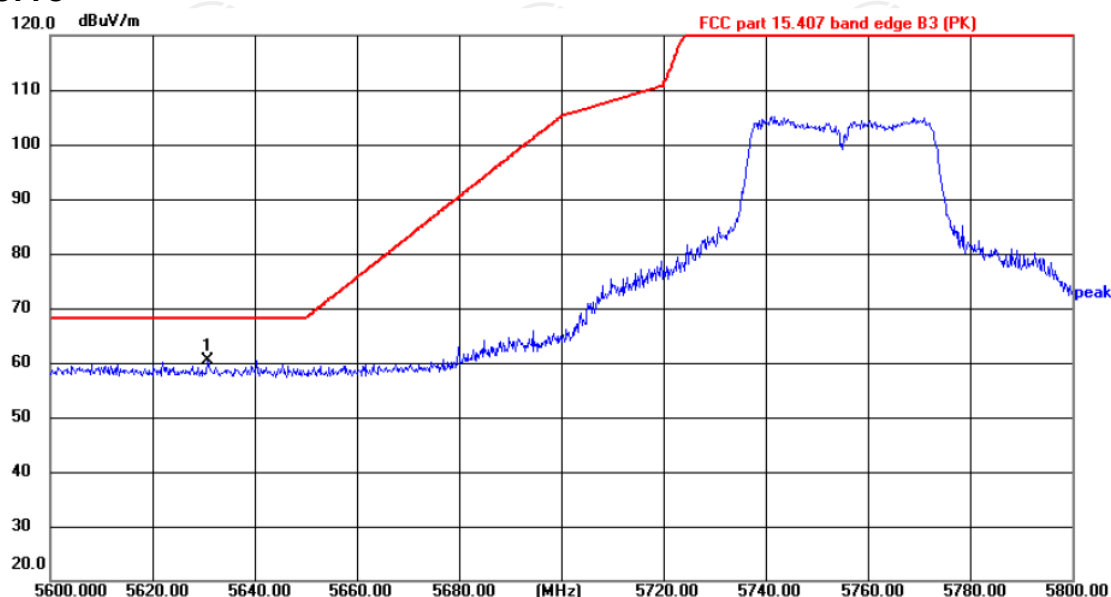


Site: 3m Anechoic Chamber Polarization: **Vertical** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge B3 (PK) Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5647.500	43.34	16.36	59.70	68.20	-8.50	peak	P	

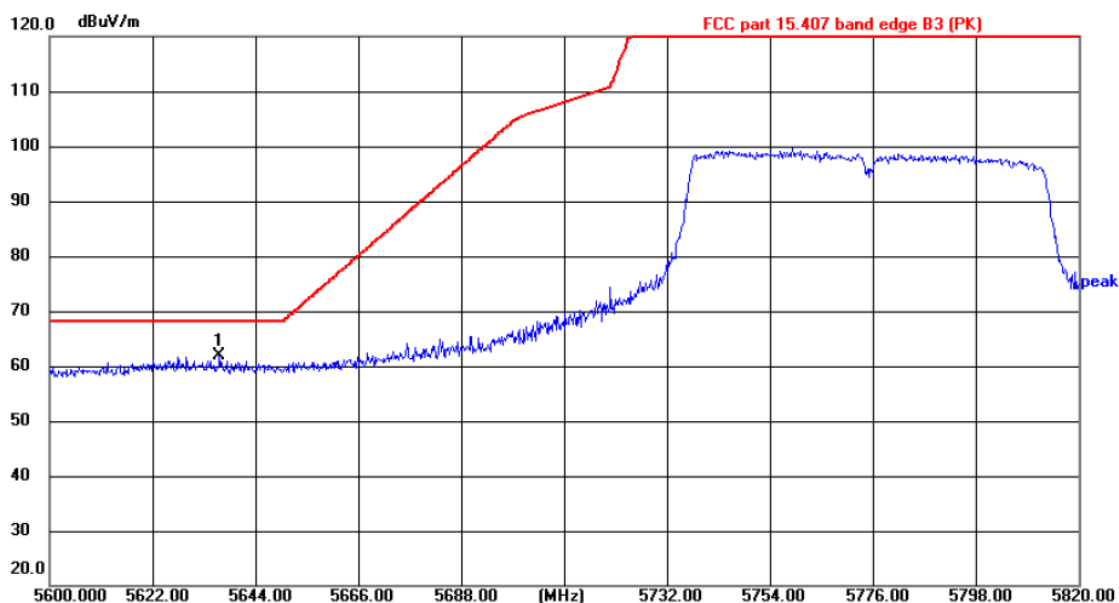
AC80-5775



Site: 3m Anechoic Chamber Polarization: **Horizontal** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge B3 (PK) Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5630.900	43.99	16.28	60.27	68.20	-7.93	peak	P	

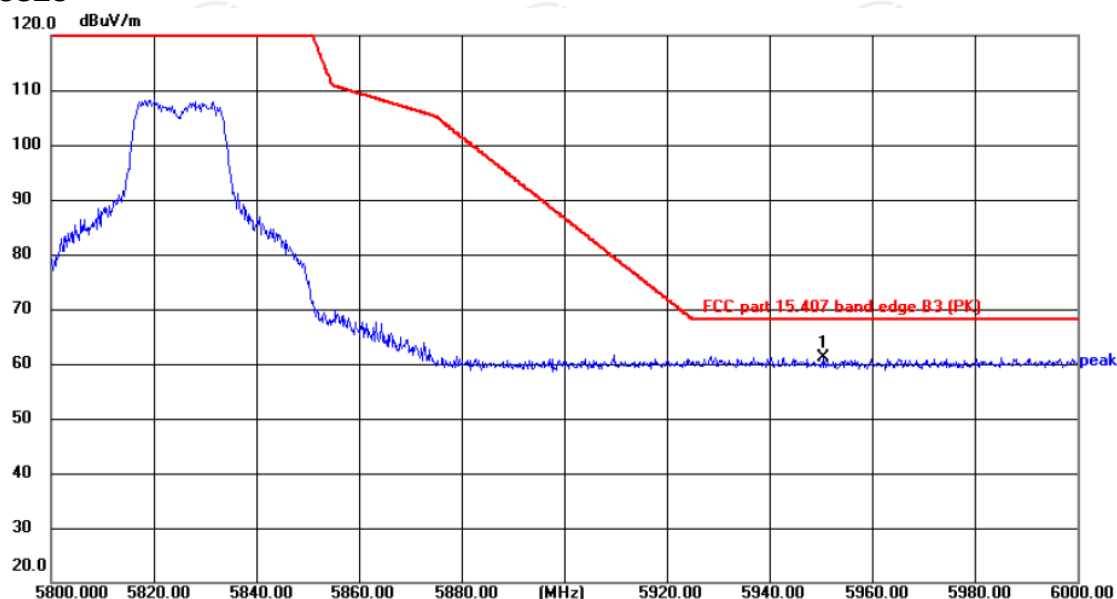


Site: 3m Anechoic Chamber Polarization: **Vertical** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge B3 (PK) Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5636.410	45.68	16.31	61.99	68.20	-6.21	peak	P	

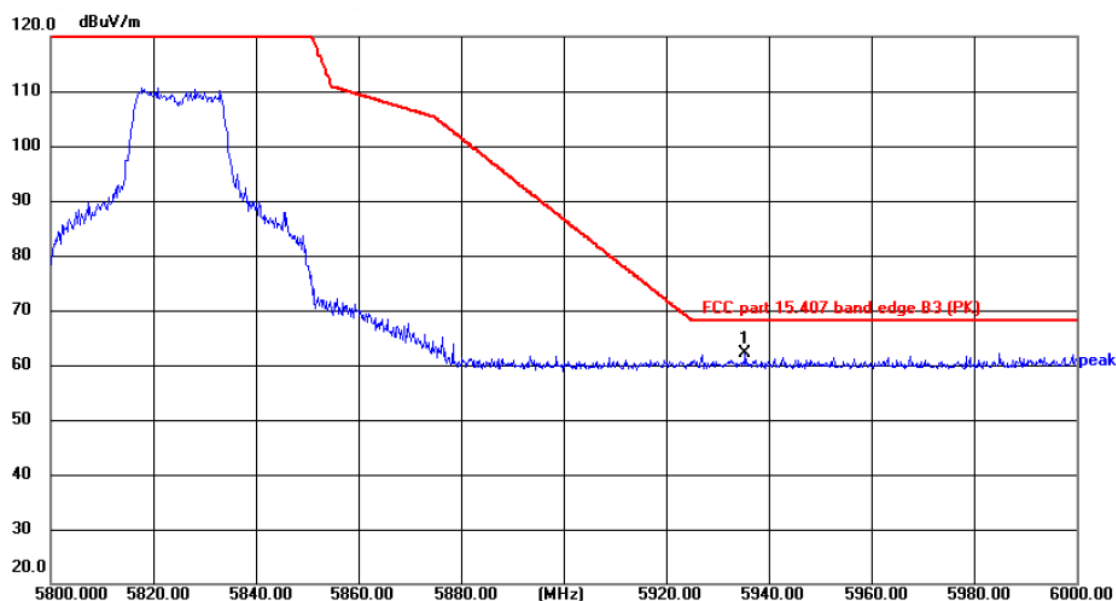
AC20-5825



Site: 3m Anechoic Chamber Polarization: **Horizontal** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge B3 (PK) Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5950.600	43.12	17.99	61.11	68.20	-7.09	peak	P	

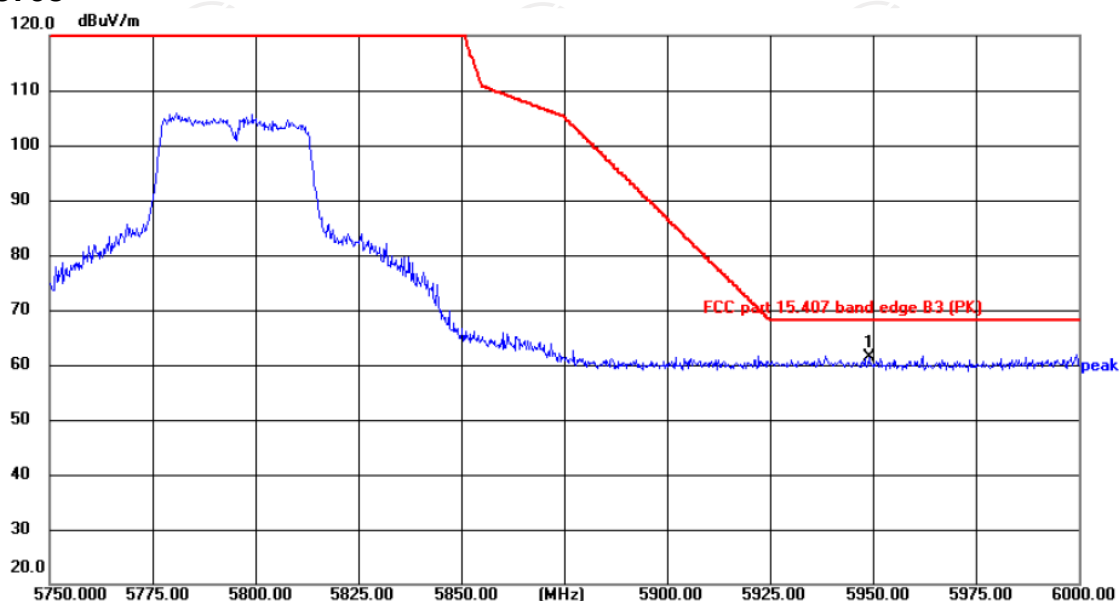


Site: 3m Anechoic Chamber Polarization: **Vertical** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge B3 (PK) Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5935.500	44.19	17.90	62.09	68.20	-6.11	peak	P	

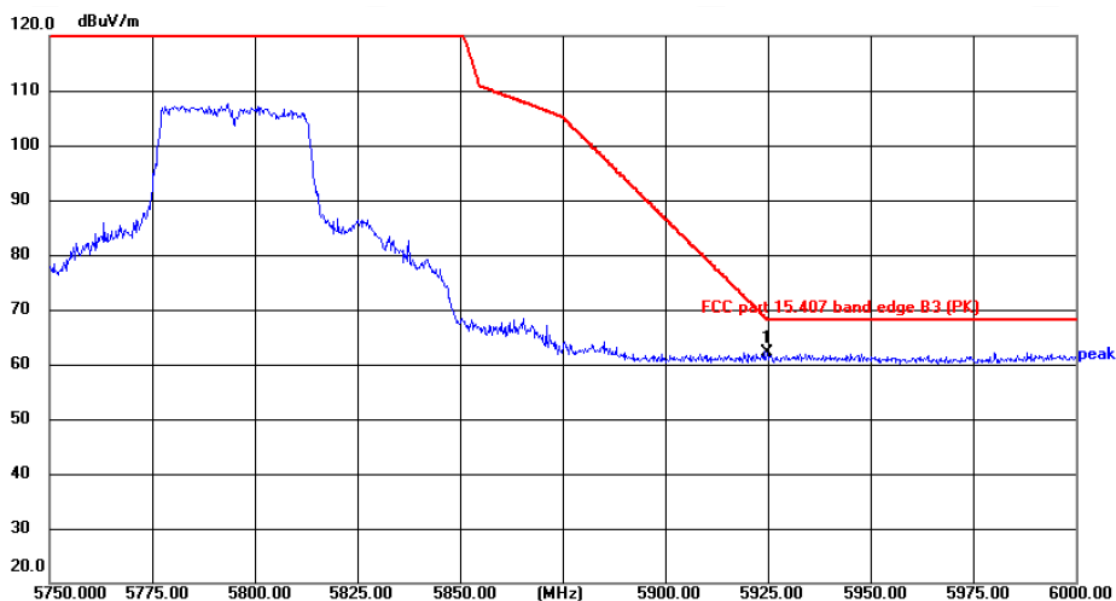
AC40-5795



Site: 3m Anechoic Chamber Polarization: **Horizontal** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge B3 (PK) Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5949.125	43.49	17.99	61.48	68.20	-6.72	peak	P	

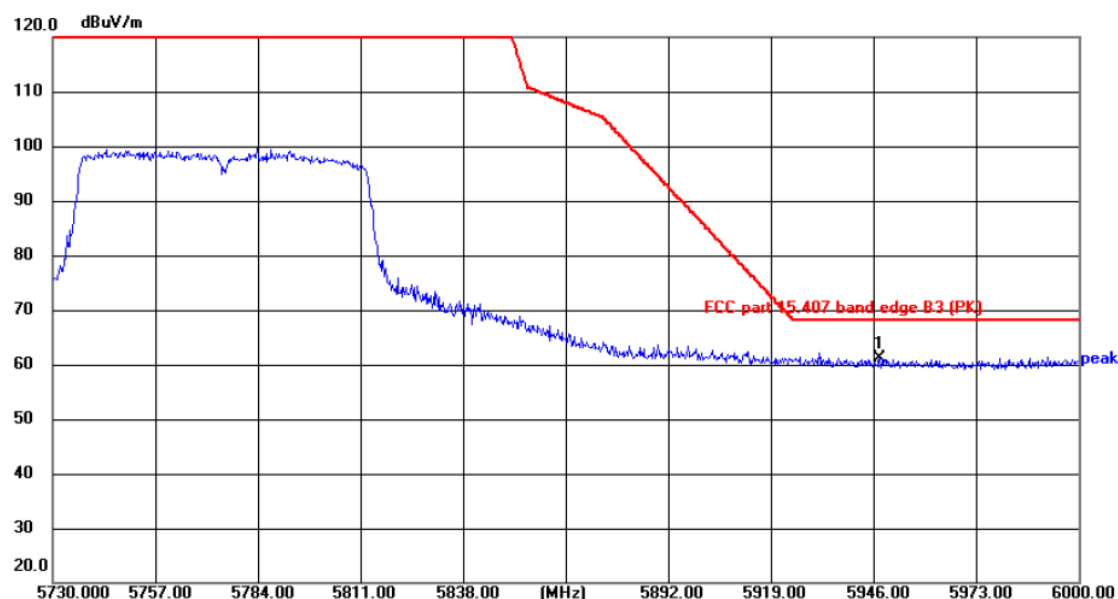
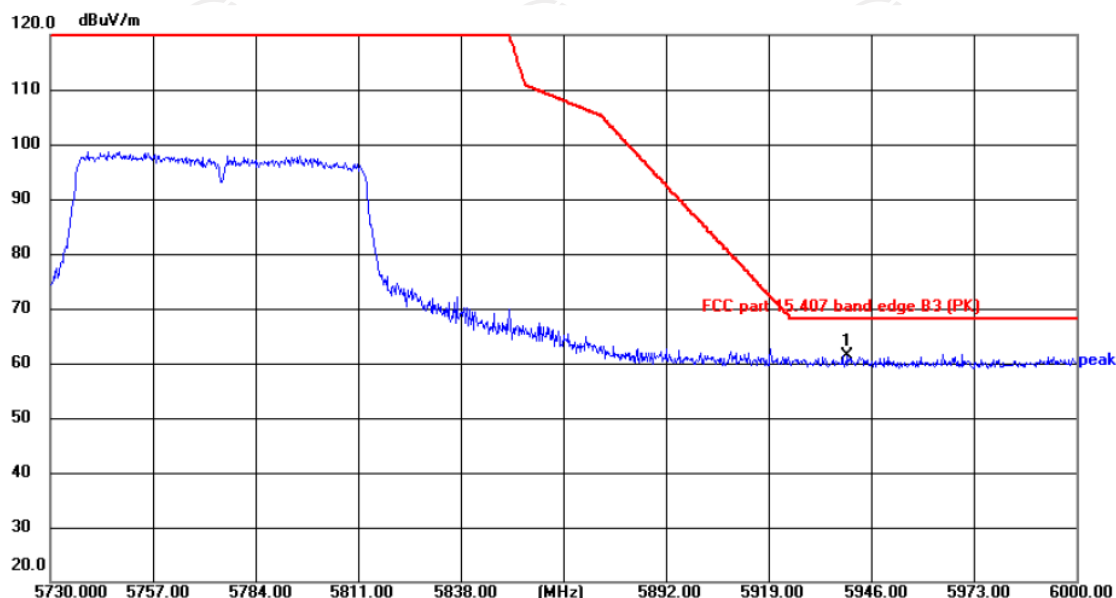


Site: 3m Anechoic Chamber Polarization: **Vertical** Temperature: 22.9(°C) Humidity: 43 %

Limit: FCC part 15.407 band edge B3 (PK) Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5924.750	44.34	17.83	62.17	68.39	-6.22	peak	P	

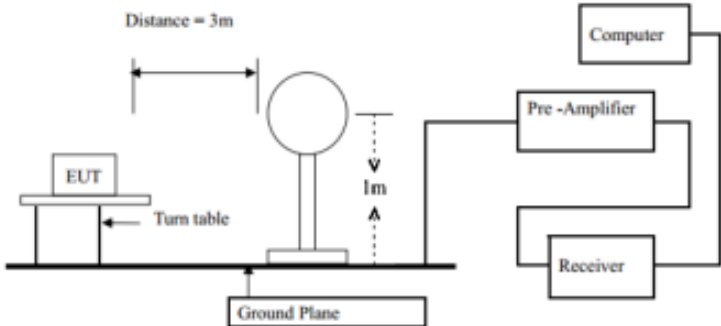
AC80-5775

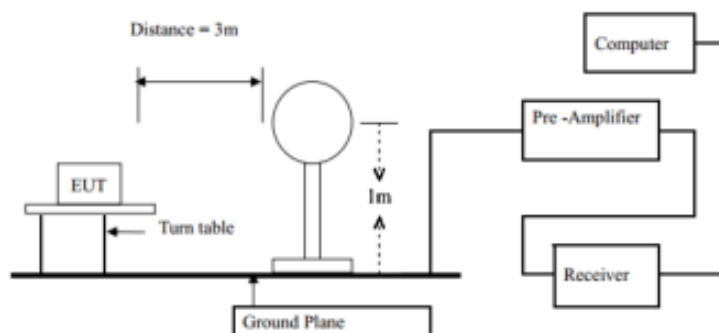


Note: All modulation (802.11a, 802.11n, 802.11ac) have been tested, only the worst case in 802.11ac be reported.

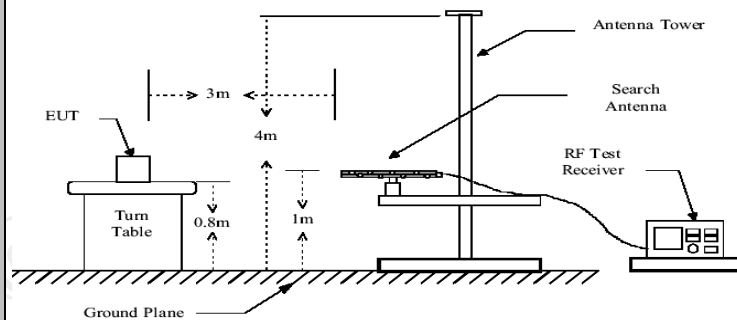
6.8. Unwanted Emissions

6.8.1. Test Specification

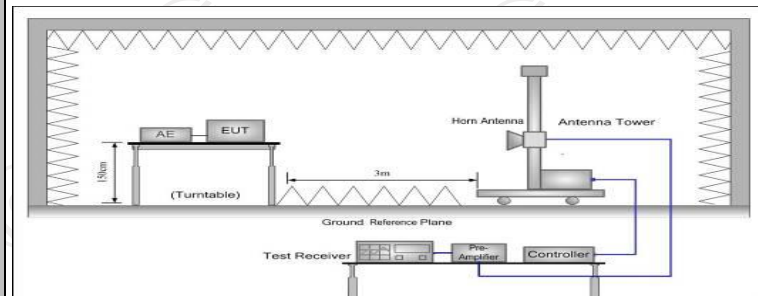
Test Requirement:	FCC CFR47 Part 15 Section 15.407 & 15.209 & 15.205				
Test Method:	KDB 789033 D02 v02r01				
Frequency Range:	9kHz to 40GHz				
Measurement Distance:	3 m				
Antenna Polarization:	Horizontal & Vertical				
Operation mode:	Transmitting mode with modulation				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz- 30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
Peak		1MHz	10Hz	Average Value	
Limit:	Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table, In restricted bands:				
	Frequency		Detector		Limit@3m
	Above 1G		Peak		74dBµV/m
			AVG		54dBµV/m
	Frequency		Field Strength (microvolts/meter)	Measurement Distance (meters)	
	0.009-0.490		2400/F(KHz)	300	
	0.490-1.705		24000/F(KHz)	3	
	1.705-30		30	30	
	30- 8		100	3	
	88-216		150	3	
	216-960		200	3	
	Above 960		500	3	
Test setup:	In un-restricted bands: 68.2dBµV/m				
	For radiated emissions below 30MHz				
Test setup:					
	30MHz to 1GHz				



30MHz to 1GHz



Above 1GHz



Test Procedure:

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Test results:

PASS

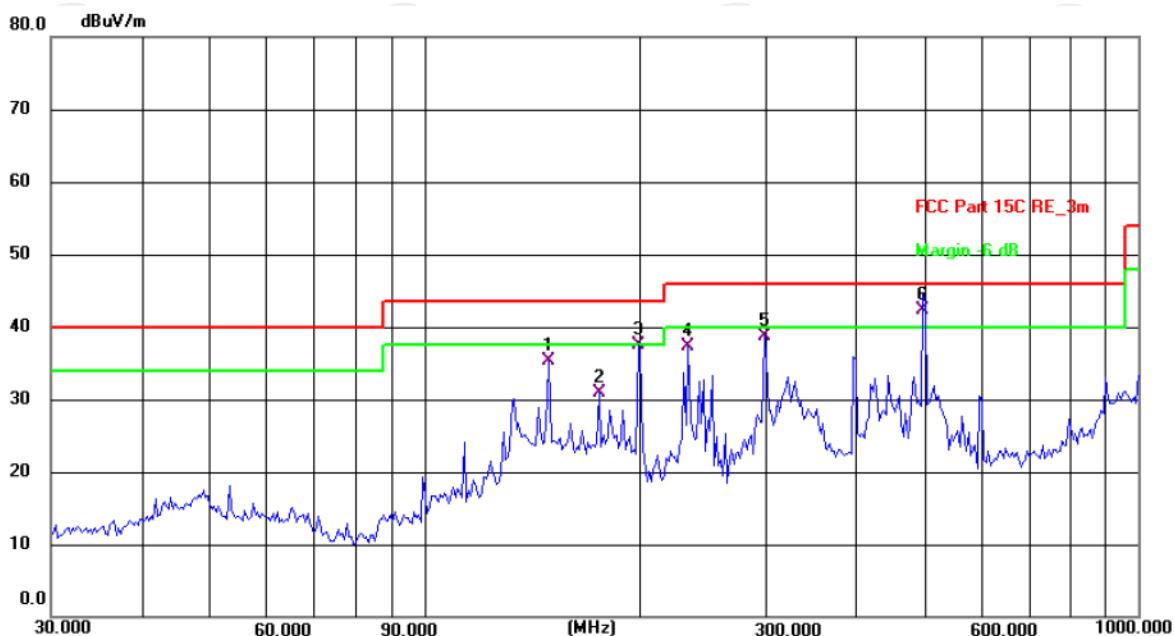
6.8.2. Test Instruments

Radiated Emission Test Site (966)					
Equipment	Manufacturer	Model	Serial Number	Date of Cal.	Due Date
EMI Test Receiver	R&S	ESCI7	100529	Jan. 21, 2025	Jan. 20, 2026
Spectrum Analyzer	R&S	FSQ40	200061	Jun. 26, 2025	Jun. 25, 2026
Pre-amplifier	SKET	LNPA_0118G-45	SK2021012102	Jan. 21, 2025	Jan. 20, 2026
Pre-amplifier	SKET	LNPA_1840G-50	SK202109203500	Apr. 11, 2025	Apr. 10, 2026
Pre-amplifier	HP	8447D	2727A05017	Jun. 26, 2025	Jun. 25, 2026
Loop antenna	Schwarzbeck	FMZB1519B	00191	Jun. 30, 2025	Jun. 29, 2026
Broadband Antenna	Schwarzbeck	VULB9163	340	Jun. 29, 2025	Jun. 28, 2026
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Jun. 29, 2025	Jun. 28, 2026
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Jan. 24, 2025	Jan. 23, 2026
Coaxial cable	SKET	RE-03-D	/	Jun. 27, 2025	Jun. 26, 2026
Coaxial cable	SKET	RE-03-M	/	Jun. 27, 2025	Jun. 26, 2026
Coaxial cable	SKET	RE-03-L	/	Jun. 27, 2025	Jun. 26, 2026
Coaxial cable	SKET	RE-04-D	/	Jun. 27, 2025	Jun. 26, 2026
Coaxial cable	SKET	RE-04-M	/	Jun. 27, 2025	Jun. 26, 2026
Coaxial cable	SKET	RE-04-L	/	Jun. 27, 2025	Jun. 26, 2026
Antenna Mast	Keleto	RE-AM	/	/	/
EMI Test Software	EZ_EMCC	FA-03A2 RE+	1.1.4.2	/	/

6.8.3. Test Data

Please refer to following diagram for individual
Below 1GHz

Horizontal:



Site: 3m Anechoic Chamber1

Polarization: **Horizontal**

Temperature: 24.3(C)

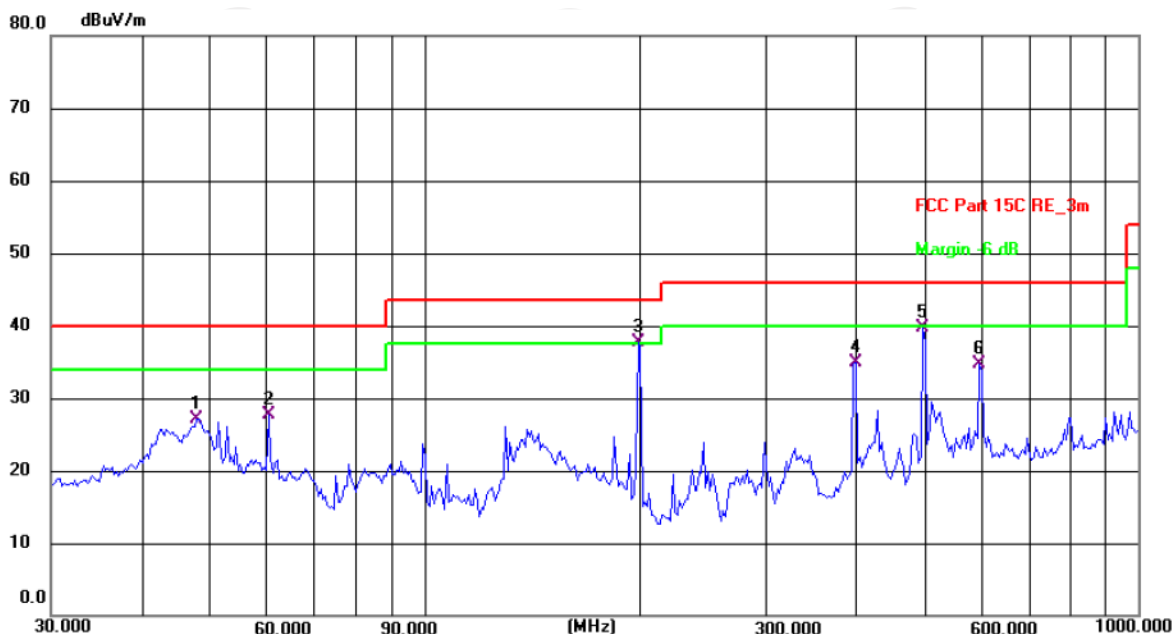
Humidity: 53 %

Limit: FCC Part 15C RE_3m

Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	149.4857	46.71	-11.38	35.33	43.50	-8.17	QP	P	
2	175.6516	43.40	-12.54	30.86	43.50	-12.64	QP	P	
3	199.2855	52.31	-14.90	37.41	43.50	-6.09	QP	P	
4	234.1682	51.63	-14.23	37.40	46.00	-8.60	QP	P	
5	299.3158	49.65	-10.98	38.67	46.00	-7.33	QP	P	
6 *	499.4245	50.19	-7.83	42.36	46.00	-3.64	QP	P	

Vertical:



Site: 3m Anechoic Chamber1

Polarization: **Vertical**

Temperature: 24.3(C) Humidity: 53 %

Limit: FCC Part 15C RE_3m

Power: DC 3.3 V From PC

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	47.9938	39.42	-12.28	27.14	40.00	-12.86	QP	P	
2	60.4917	40.76	-12.98	27.78	40.00	-12.22	QP	P	
3 *	199.2855	52.53	-14.90	37.63	43.50	-5.87	QP	P	
4	401.8383	43.98	-9.17	34.81	46.00	-11.19	QP	P	
5	499.4245	47.56	-7.83	39.73	46.00	-6.27	QP	P	
6	599.3211	39.87	-5.21	34.66	46.00	-11.34	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 two 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 (Channel 48 and 802.11a transmit with antenna 1) 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	---	1.78	39.92	---	68.2	---	-28.28
15540	H	39.08	---	5.21	44.29	---	74	54	-9.71
---	H	---	---	---	---	---	---	---	---
10360	V	38.66	---	1.78	40.44	---	68.2	---	-27.76
15540	V	40.22	---	5.21	45.43	---	74	54	-8.57
---	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	39.59	---	1.83	41.42	---	68.2	---	-26.78
15600	H	40.24	---	5.23	45.47	---	74	54	-8.53
---	H	---	---	---	---	---	---	---	---
10400	V	40.35	---	1.83	42.18	---	68.2	---	-26.02
15600	V	41.48	---	5.23	46.71	---	74	54	-7.29
---	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	38.00	---	1.85	39.85	---	68.2	---	-28.35
15720	H	39.82	---	5.25	45.07	---	74	54	-8.93
---	H	---	---	---	---	---	---	---	---
10480	V	38.21	---	1.85	40.06	---	68.2	---	-28.14
15720	V	40.97	---	5.25	46.22	---	74	54	-7.78
---	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	41.93	---	1.78	43.71	---	68.2	---	-24.49
15540	H	40.26	---	5.21	45.47	---	74	54	-8.53
---	H	---	---	---	---	---	---	---	---
10360	V	42.39	---	1.78	44.17	---	68.2	---	-24.03
15540	V	41.55	---	5.21	46.76	---	74	54	-7.24
---	V	---	---	---	---	---	---	---	---

11n(HT20) CH40: 5200MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
10400	H	40.05	---	1.83	41.88	---	68.2	---	-26.32
15600	H	41.59	---	5.23	46.82	---	74	54	-7.18
---	H	---	---	---	---	---	---	---	---
10400	V	40.16	---	1.83	41.99	---	68.2	---	-26.21
15600	V	39.67	---	5.23	44.90	---	74	54	-9.10
---	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	41.75	---	1.85	43.60	---	68.2	---	-24.60
15720	H	41.18	---	5.25	46.43	---	74	54	-7.57
---	H	---	---	---	---	---	---	---	---
10480	V	40.40	---	1.85	42.25	---	68.2	---	-25.95
15720	V	39.83	---	5.25	45.08	---	74	54	-8.92
---	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	39.66	---	1.80	41.46	---	68.2	---	-26.74
15570	H	41.74	---	5.22	46.96	---	74	54	-7.04
---	H	---	---	---	---	---	---	---	---
10380	V	40.29	---	1.80	42.09	---	68.2	---	-26.11
15570	V	39.08	---	5.22	44.30	---	74	54	-9.70
---	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	41.62	---	1.85	43.47	---	68.2	---	-24.73
15690	H	39.14	---	5.08	44.22	---	74	54	-9.78
---	H	---	---	---	---	---	---	---	---
10460	V	41.57	---	1.85	43.42	---	68.2	---	-24.78
15690	V	40.45	---	5.08	45.53	---	74	54	-8.47
---	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	40.45	---	1.78	42.23	---	68.2	---	-25.97
15540	H	39.16	---	5.21	44.37	---	74	54	-9.63
---	H	---	---	---	---	---	---	---	---
10360	V	38.69	---	1.78	40.47	---	68.2	---	-27.73
15540	V	39.77	---	5.21	44.98	---	74	54	-9.02
---	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	39.08	---	1.83	40.91	---	68.2	---	-27.29
15600	H	40.22	---	5.23	45.45	---	74	54	-8.55
---	H	---	---	---	---	---	---	---	---
10400	V	39.73	---	1.83	41.56	---	68.2	---	-26.64
15600	V	39.36	---	5.23	44.59	---	74	54	-9.41
---	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	37.47	---	1.85	39.32	---	68.2	---	-28.88
15720	H	38.04	---	5.25	43.29	---	74	54	-10.71
---	H	---	---	---	---	---	---	---	---
10480	V	38.15	---	1.85	40.00	---	68.2	---	-28.20
15720	V	39.61	---	5.25	44.86	---	74	54	-9.14
---	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	40.62	---	1.80	42.42	---	68.2	---	-25.78
15570	H	39.48	---	5.22	44.70	---	74	54	-9.30
---	H	---	---	---	---	---	---	---	---
10380	V	38.96	---	1.80	40.76	---	68.2	---	-27.44
15570	V	39.22	---	5.22	44.44	---	74	54	-9.56
---	V	---	---	---	---	---	---	---	---

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	38.66	---	1.85	40.51	---	68.2	---	-27.69
15690	H	39.11	---	5.08	44.19	---	74	54	-9.81
---	H	---	---	---	---	---	---	---	---
10460	V	39.70	---	1.85	41.55	---	68.2	---	-26.65
15690	V	40.33	---	5.08	45.41	---	74	54	-8.59
---	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	41.29	---	1.84	43.13	---	68.2	---	-25.07
15630	H	39.77	---	5.17	44.94	---	74	54	-9.06
---	H	---	---	---	---	---	---	---	---
10420	V	41.35	---	1.84	43.19	---	68.2	---	-25.01
15630	V	39.92	---	5.17	45.09	---	74	54	-8.91
---	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	44.07	---	2.48	46.55	---	74	54	-7.45
17235	H	37.64	---	6.50	44.14	---	68.2	---	-24.06
---	H	---	---	---	---	---	---	---	---
11490	V	45.76	---	2.48	48.24	---	74	54	-5.76
17235	V	38.59	---	6.50	45.09	---	68.2	---	-23.11
---	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	43.23	---	2.42	45.65	---	74	54	-8.35
17355	H	38.11	---	7.03	45.14	---	68.2	---	-23.06
---	H	---	---	---	---	---	---	---	---
11570	V	43.65	---	2.42	46.07	---	74	54	-7.93
17355	V	39.32	---	7.03	46.35	---	68.2	---	-21.85
---	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	43.70	---	2.41	46.11	---	74	54	-7.89
17475	H	36.38	---	7.41	43.79	---	68.2	---	-24.41
---	H	---	---	---	---	---	---	---	---
11650	V	43.66	---	2.41	46.07	---	74	54	-7.93
17475	V	38.07	---	7.41	45.48	---	68.2	---	-22.72
---	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	44.89	---	2.48	47.37	---	74	54	-6.63
17235	H	38.28	---	6.50	44.78	---	68.2	---	-23.42
---	H	---	---	---	---	---	---	---	---
11490	V	44.62	---	2.48	47.10	---	74	54	-6.90
17235	V	37.54	---	6.50	44.04	---	68.2	---	-24.16
---	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	44.35	---	2.42	46.77	---	74	54	-7.23
17355	H	39.49	---	7.03	46.52	---	68.2	---	-21.68
---	H	---	---	---	---	---	---	---	---
11570	V	44.54	---	2.42	46.96	---	74	54	-7.04
17355	V	39.02	---	7.03	46.05	---	68.2	---	-22.15
---	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	45.53	---	2.41	47.94	---	74	54	-6.06
17475	H	37.66	---	7.41	45.07	---	68.2	---	-23.13
---	H	---	---	---	---	---	---	---	---
11650	V	45.38	---	2.41	47.79	---	74	54	-6.21
17475	V	39.79	---	7.41	47.20	---	68.2	---	-21.00
---	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	44.04	---	2.47	46.51	---	74	54	-7.49
17265	H	37.27	---	6.62	43.89	---	68.2	---	-24.31
---	H	---	---	---	---	---	---	---	---
11510	V	44.50	---	2.47	46.97	---	74	54	-7.03
17265	V	38.42	---	6.62	45.04	---	68.2	---	-23.16
---	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	44.66	---	2.40	47.06	---	74	54	-6.94
17385	H	38.13	---	7.15	45.28	---	68.2	---	-22.92
---	H	---	---	---	---	---	---	---	---
11590	V	44.58	---	2.40	46.98	---	74	54	-7.02
17385	V	37.44	---	7.15	44.59	---	68.2	---	-23.61
---	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	44.94	---	2.48	47.42	---	74	54	-6.58
17235	H	37.46	---	6.50	43.96	---	68.2	---	-24.24
---	H	---	---	---	---	---	---	---	---
11490	V	44.09	---	2.48	46.57	---	74	54	-7.43
17235	V	38.53	---	6.50	45.03	---	68.2	---	-23.17
---	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	43.18	---	2.42	45.60	---	74	54	-8.40
17355	H	36.45	---	7.03	43.48	---	68.2	---	-24.72
---	H	---	---	---	---	---	---	---	---
11570	V	43.07	---	2.42	45.49	---	74	54	-8.51
17355	V	38.11	---	7.03	45.14	---	68.2	---	-23.06
---	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	44.10	---	2.41	46.51	---	74	54	-7.49
17475	H	38.32	---	7.41	45.73	---	68.2	---	-22.47
---	H	---	---	---	---	---	---	---	---
11650	V	44.56	---	2.41	46.97	---	74	54	-7.03
17475	V	40.89	---	7.41	48.30	---	68.2	---	-19.90
---	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	44.23	---	2.47	46.70	---	74	54	-7.30
17265	H	37.77	---	6.62	44.39	---	68.2	---	-23.81
---	H	---	---	---	---	---	---	---	---
11510	V	43.55	---	2.47	46.02	---	74	54	-7.98
17265	V	36.48	---	6.62	43.10	---	68.2	---	-25.10
---	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	43.24	---	2.40	45.64	---	74	54	-8.36
17385	H	37.75	---	7.15	44.90	---	68.2	---	-23.30
---	H	---	---	---	---	---	---	---	---
11590	V	42.61	---	2.40	45.01	---	74	54	-8.99
17385	V	38.09	---	7.15	45.24	---	68.2	---	-22.96
---	V	---	---	---	---	---	---	---	---

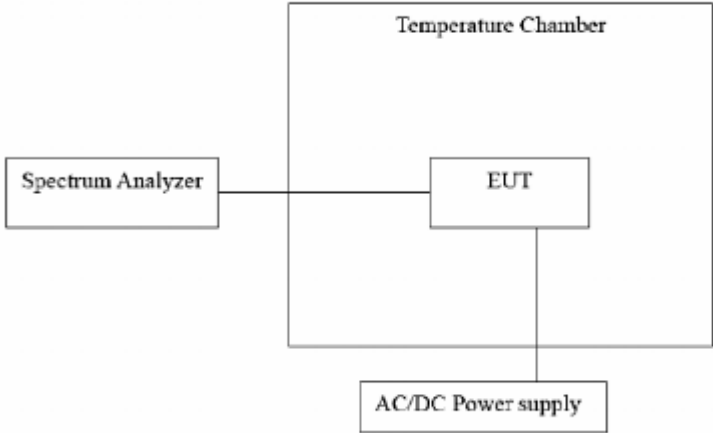
11ac(VHT80) CH155: 5775MHz									
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBμV)	AV reading (dBμV)	Correction Factor (dB/m)	Emission Level		Peak limit (dBμV/m)	AV limit (dBμV/m)	Margin (dB)
					Peak (dBμV/m)	AV (dBμV/m)			
11550	H	44.53	---	2.44	46.97	---	74	54	-7.03
17325	H	38.27	---	6.89	45.16	---	68.2	---	-23.04
---	H	---	---	---	---	---	---	---	---
11550	V	44.88	---	2.44	47.32	---	74	54	-6.68
17325	V	38.45	---	6.89	45.34	---	68.2	---	-22.86
---	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.

6.9. Frequency Stability Measurement

6.9.1. Test Specification

Test Requirement:	FCC Part15 Section 15.407(g) &Part2 J Section 2.1055
Test Method:	ANSI C63.10:2020
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 Antenna 0, Antenna 1, the worst case was found. Only the test data of Antenna 1 was shown in this report.

6.9.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Date of Cal.	Due Date
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jun. 26, 2025	Jun. 25, 2026
DC power supply	Kingrang	KR3005K	/	Jun. 26, 2025	Jun. 25, 2026
Programable temprature and humidity chamber	JQ	JQ-2000	510101234	Jun. 26, 2025	Jun. 25, 2026

Test plots as follows:

Test mode:		802.11ac(VHT20)	Frequency(MHz):	5180
Temperature (°C)	Voltage(V _{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5180.08	80000	PASS
35		5180.06	60000	PASS
25		5180.08	80000	PASS
15		5180.06	60000	PASS
5		5180.08	80000	PASS
0		5180.08	80000	PASS
20	2.805V	5180.10	100000	PASS
	3.3V	5180.06	60000	PASS
	3.795V	5180.10	100000	PASS

Test mode:		802.11ac(VHT20)	Frequency(MHz):	5200
Temperature (°C)	Voltage(V _{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5200.08	80000	PASS
35		5200.10	100000	PASS
25		5200.08	80000	PASS
15		5200.08	80000	PASS
5		5200.10	100000	PASS
0		5200.10	100000	PASS
20	2.805V	5200.08	80000	PASS
	3.3V	5200.10	100000	PASS
	3.795V	5200.08	80000	PASS

Test mode:		802.11ac(VHT20)	Frequency(MHz):	5240
Temperature (°C)	Voltage(V _{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5240.08	80000	PASS
35		5240.08	80000	PASS
25		5240.10	100000	PASS
15		5240.10	100000	PASS
5		5240.10	100000	PASS
0		5240.10	100000	PASS
20	2.805V	5240.10	100000	PASS
	3.3V	5240.08	80000	PASS
	3.795V	5240.12	120000	PASS

Test mode:		802.11ac(VHT20)	Frequency(MHz):	5745
Temperature (°C)	Voltage(V _{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5745.10	100000	PASS
35		5745.08	80000	PASS
25		5745.10	100000	PASS
15		5745.08	80000	PASS
5		5745.10	100000	PASS
0		5745.10	100000	PASS
20	2.805V	5745.10	100000	PASS
	3.3V	5745.08	80000	PASS
	3.795V	5745.10	100000	PASS

Test mode:		802.11ac(VHT20)	Frequency(MHz):	5785
Temperature (°C)	Voltage(V _{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5785.08	80000	PASS
35		5785.08	80000	PASS
25		5785.10	100000	PASS
15		5785.10	100000	PASS
5		5785.10	100000	PASS
0		5785.08	80000	PASS
20	2.805V	5785.12	120000	PASS
	3.3V	5785.08	80000	PASS
	3.795V	5785.10	100000	PASS

Test mode:		802.11ac(VHT20)	Frequency(MHz):	5825
Temperature (°C)	Voltage(V _{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5825.10	100000	PASS
35		5825.10	100000	PASS
25		5825.10	100000	PASS
15		5825.10	100000	PASS
5		5825.12	120000	PASS
0		5825.10	100000	PASS
20	2.805V	5825.10	100000	PASS
	3.3V	5825.10	100000	PASS
	3.795V	5825.10	100000	PASS

Test mode:		802.11ac(VHT40)	Frequency(MHz):	5190
Temperature (°C)	Voltage(V _{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5190.08	80000	PASS
35		5190.08	80000	PASS
25		5190.12	120000	PASS
15		5190.12	120000	PASS
5		5190.08	80000	PASS
0		5190.12	120000	PASS
20	2.805V	5190.08	80000	PASS
	3.3V	5190.08	80000	PASS
	3.795V	5190.08	80000	PASS

Test mode:		802.11ac(VHT40)	Frequency(MHz):	5230
Temperature (°C)	Voltage(V _{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5230.08	80000	PASS
35		5230.08	80000	PASS
25		5230.08	80000	PASS
15		5230.08	80000	PASS
5		5230.08	80000	PASS
0		5230.12	120000	PASS
20	2.805V	5230.08	80000	PASS
	3.3V	5230.08	80000	PASS
	3.795V	5230.08	80000	PASS

Test mode:		802.11ac(VHT40)	Frequency(MHz):	5755
Temperature (°C)	Voltage(V _{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5755.08	80000	PASS
35		5755.08	80000	PASS
25		5755.08	80000	PASS
15		5755.08	80000	PASS
5		5755.08	80000	PASS
0		5755.12	120000	PASS
20	2.805V	5755.12	120000	PASS
	3.3V	5755.08	80000	PASS
	3.795V	5755.12	120000	PASS

Test mode:		802.11ac(VHT40)	Frequency(MHz):	5795
Temperature (°C)	Voltage(V _{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5795.08	80000	PASS
35		5795.08	80000	PASS
25		5795.08	80000	PASS
15		5795.08	80000	PASS
5		5795.12	120000	PASS
0		5795.12	120000	PASS
20	2.805V	5795.08	80000	PASS
	3.3V	5795.08	80000	PASS
	3.795V	5795.08	80000	PASS

Test mode:		802.11ac(VHT80)	Frequency(MHz):	5210
Temperature (°C)	Voltage(V _{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5210.16	160000	PASS
35		5210	0	PASS
25		5210	0	PASS
15		5210.08	80000	PASS
5		5210.24	240000	PASS
0		5210.16	160000	PASS
20	2.805V	5210.24	240000	PASS
	3.3V	5210.08	80000	PASS
	3.795V	5210.08	80000	PASS

Test mode:		802.11ac(VHT80)	Frequency(MHz):	5775
Temperature (°C)	Voltage(V _{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	3.3V	5775.08	80000	PASS
35		5775.08	80000	PASS
25		5775.08	80000	PASS
15		5775.16	160000	PASS
5		5775.16	160000	PASS
0		5775.08	80000	PASS
20	2.805V	5775.08	80000	PASS
	3.3V	5775.08	80000	PASS
	3.795V	5775.08	80000	PASS

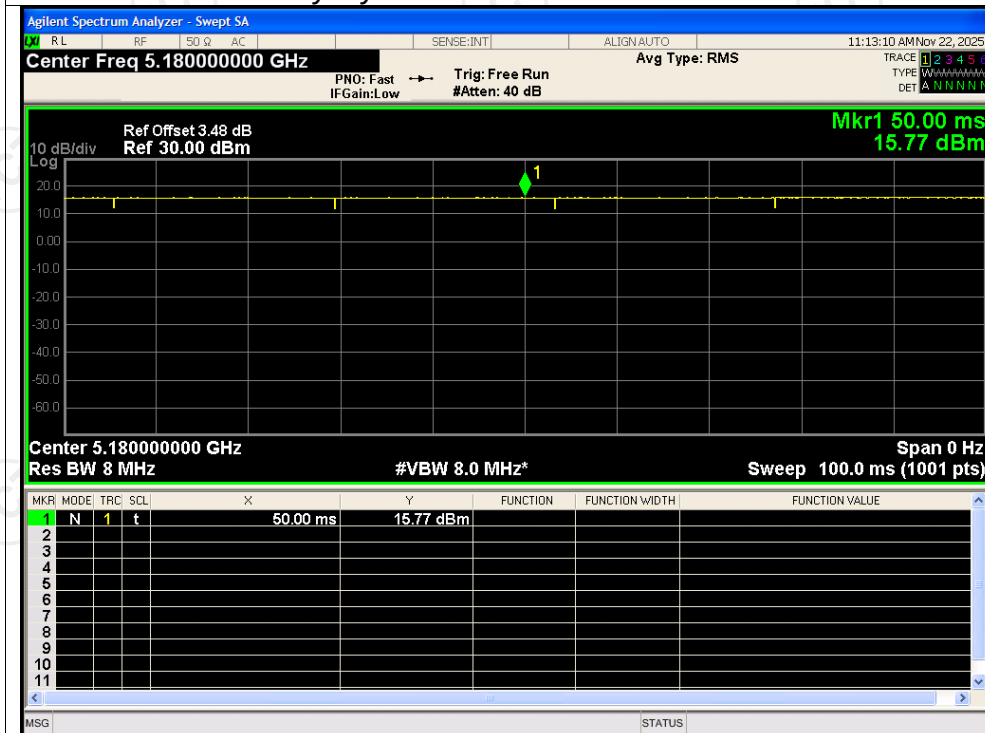
Appendix A: Test Result of Conducted Test

Antenna 0

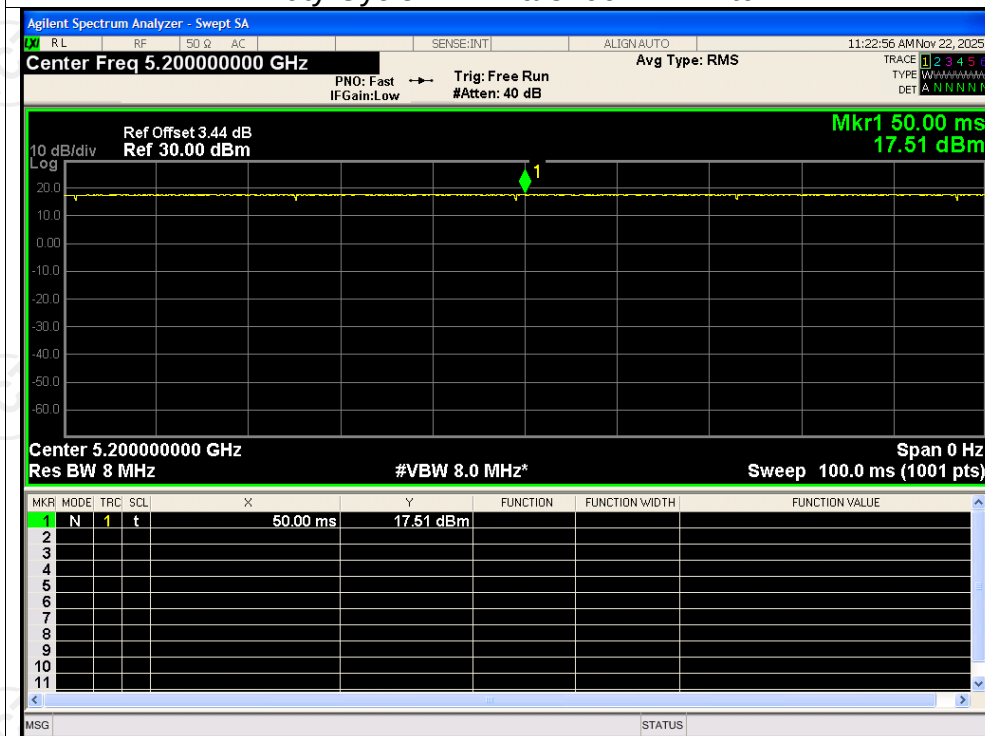
Duty Cycle				
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)
NVNT	a	5180	Ant0	100
NVNT	a	5200	Ant0	100
NVNT	a	5240	Ant0	100
NVNT	n20	5180	Ant0	100
NVNT	n20	5200	Ant0	100
NVNT	n20	5240	Ant0	100
NVNT	n40	5190	Ant0	100
NVNT	n40	5230	Ant0	100
NVNT	ac20	5180	Ant0	100
NVNT	ac20	5200	Ant0	100
NVNT	ac20	5240	Ant0	100
NVNT	ac40	5190	Ant0	100
NVNT	ac40	5230	Ant0	100
NVNT	ac80	5210	Ant0	100
NVNT	a	5745	Ant0	100
NVNT	a	5785	Ant0	100
NVNT	a	5825	Ant0	100
NVNT	n20	5745	Ant0	100
NVNT	n20	5785	Ant0	100
NVNT	n20	5825	Ant0	100
NVNT	n40	5755	Ant0	100
NVNT	n40	5795	Ant0	100
NVNT	ac20	5745	Ant0	100
NVNT	ac20	5785	Ant0	100
NVNT	ac20	5825	Ant0	100
NVNT	ac40	5755	Ant0	100
NVNT	ac40	5795	Ant0	100
NVNT	ac80	5775	Ant0	100

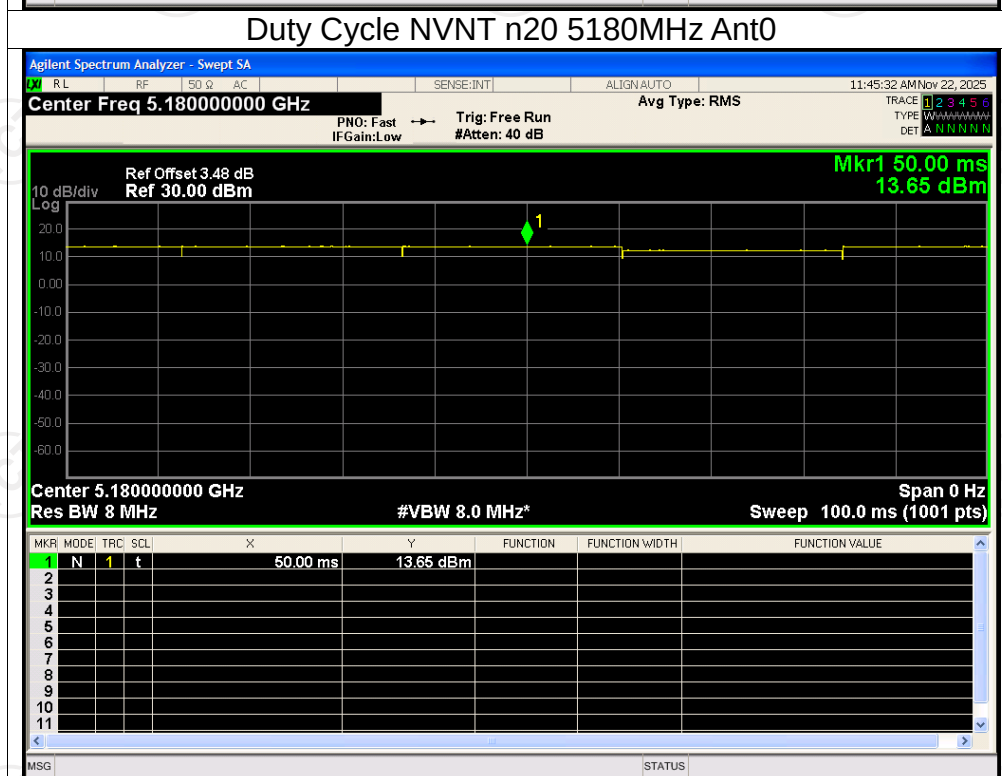
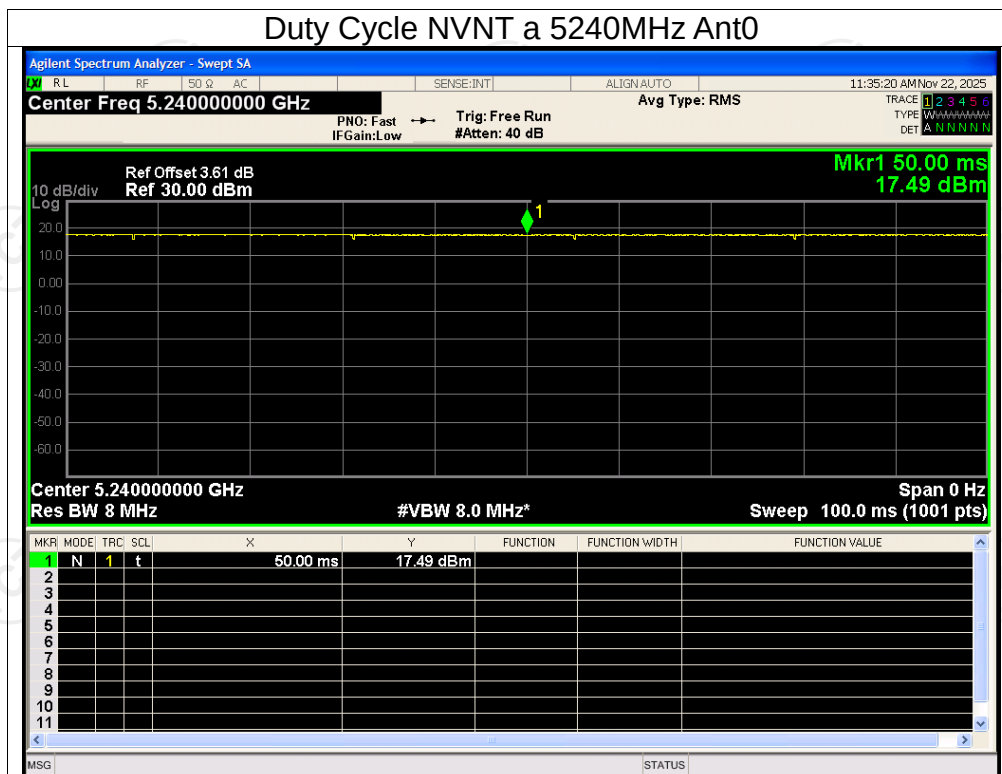
Test Graphs

Duty Cycle NVNT a 5180MHz Ant0

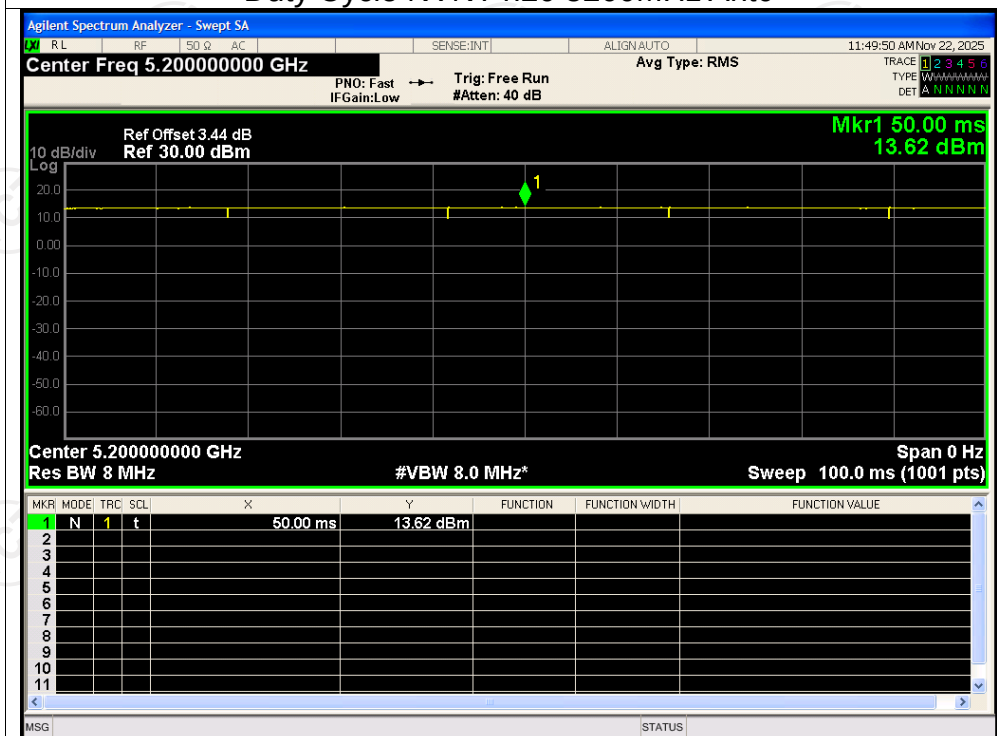


Duty Cycle NVNT a 5200MHz Ant0

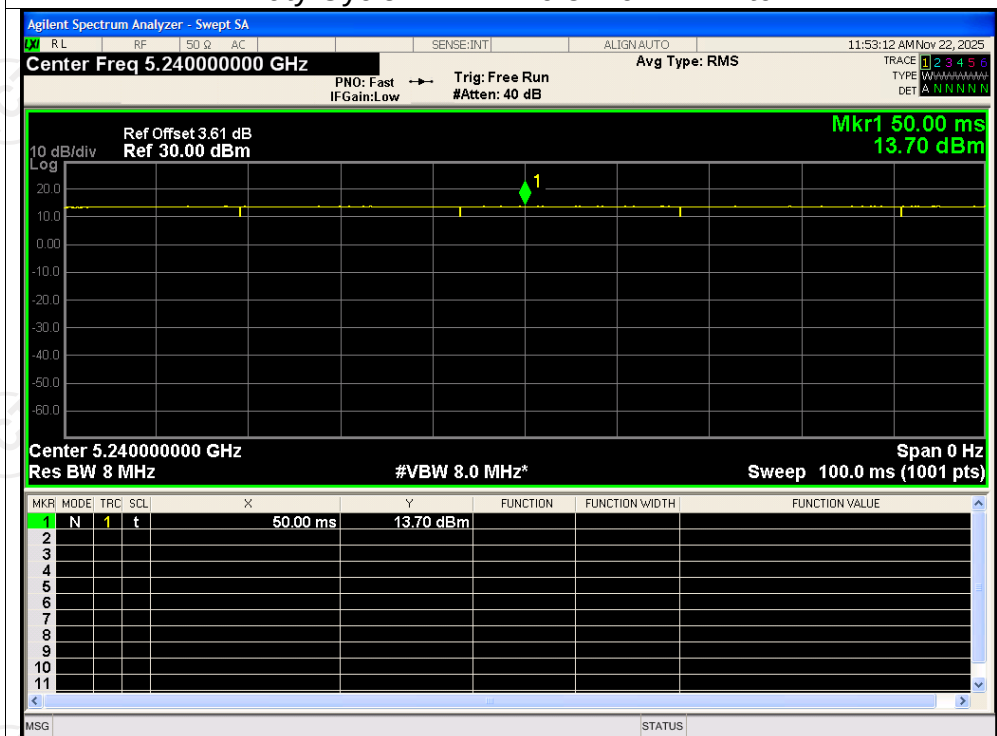




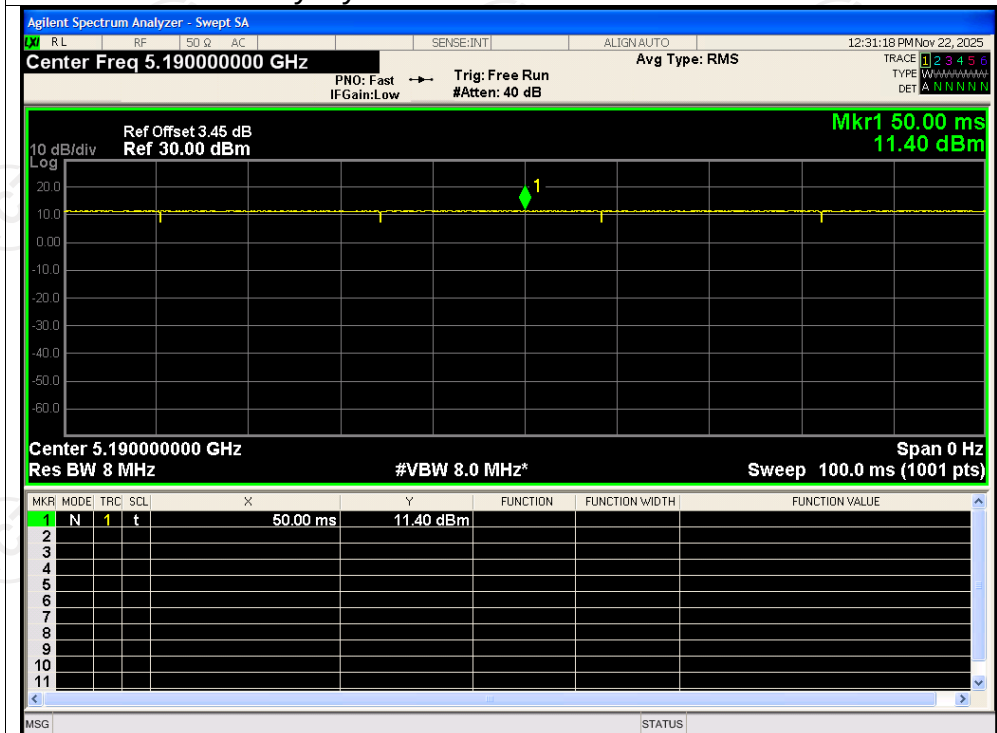
Duty Cycle NVNT n20 5200MHz Ant0



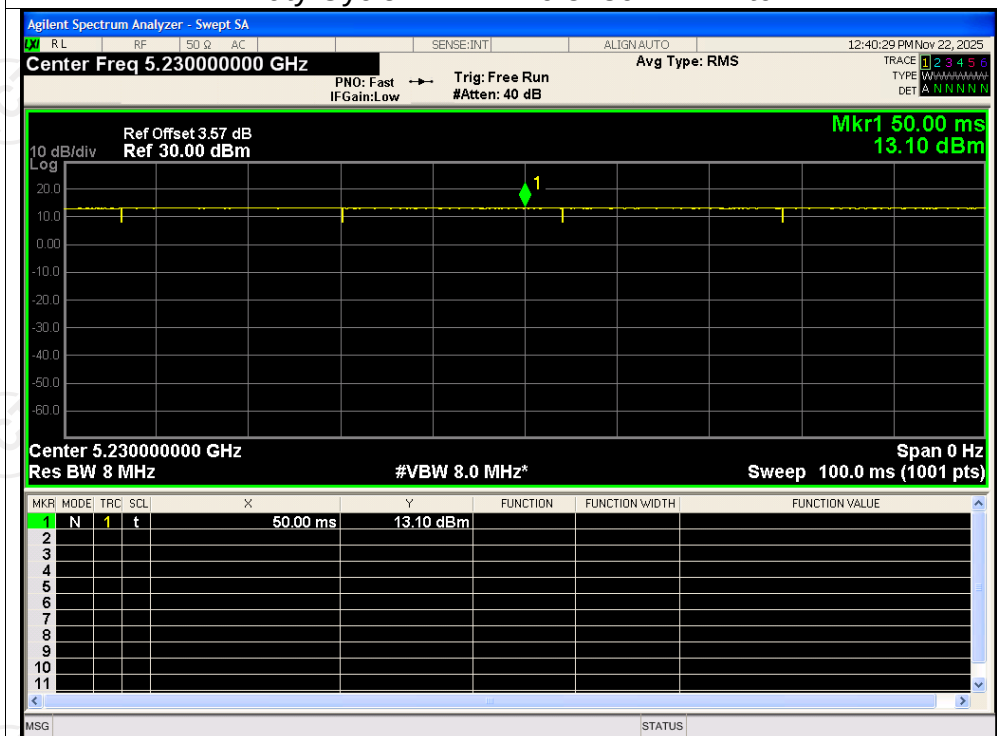
Duty Cycle NVNT n20 5240MHz Ant0

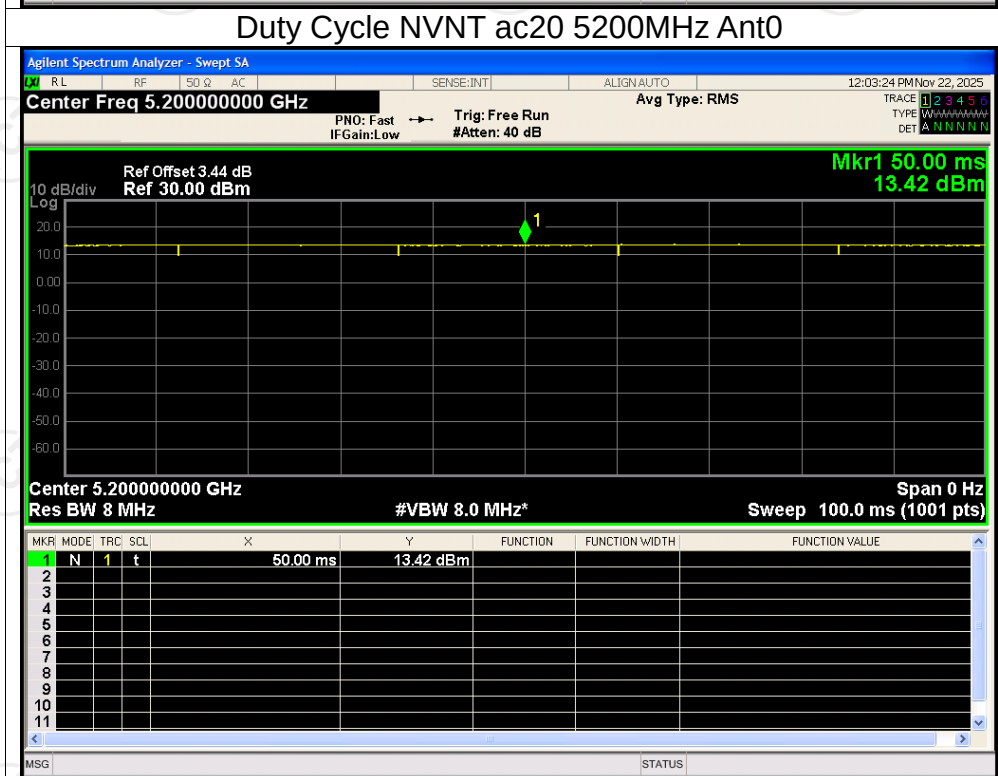
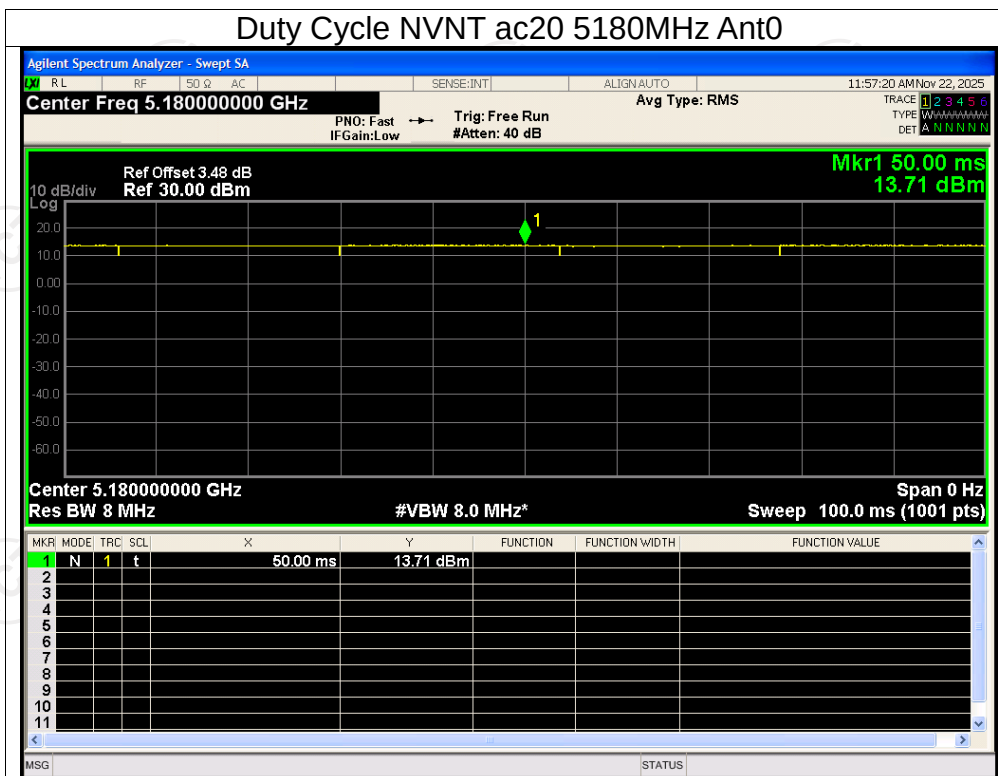


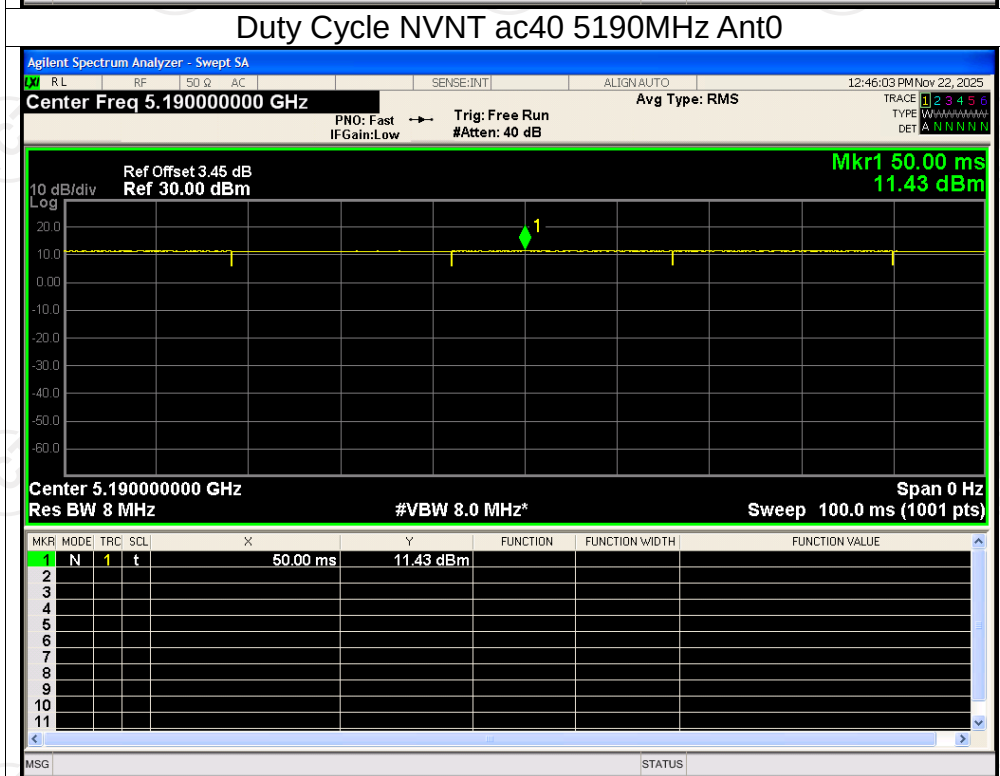
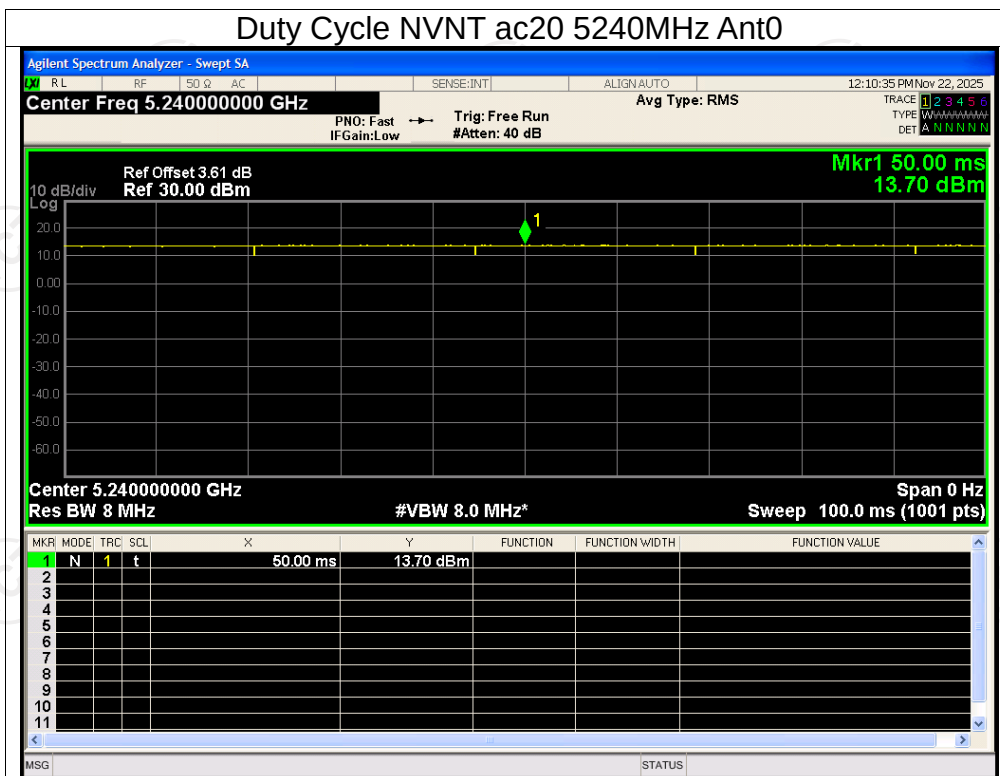
Duty Cycle NVNT n40 5190MHz Ant0

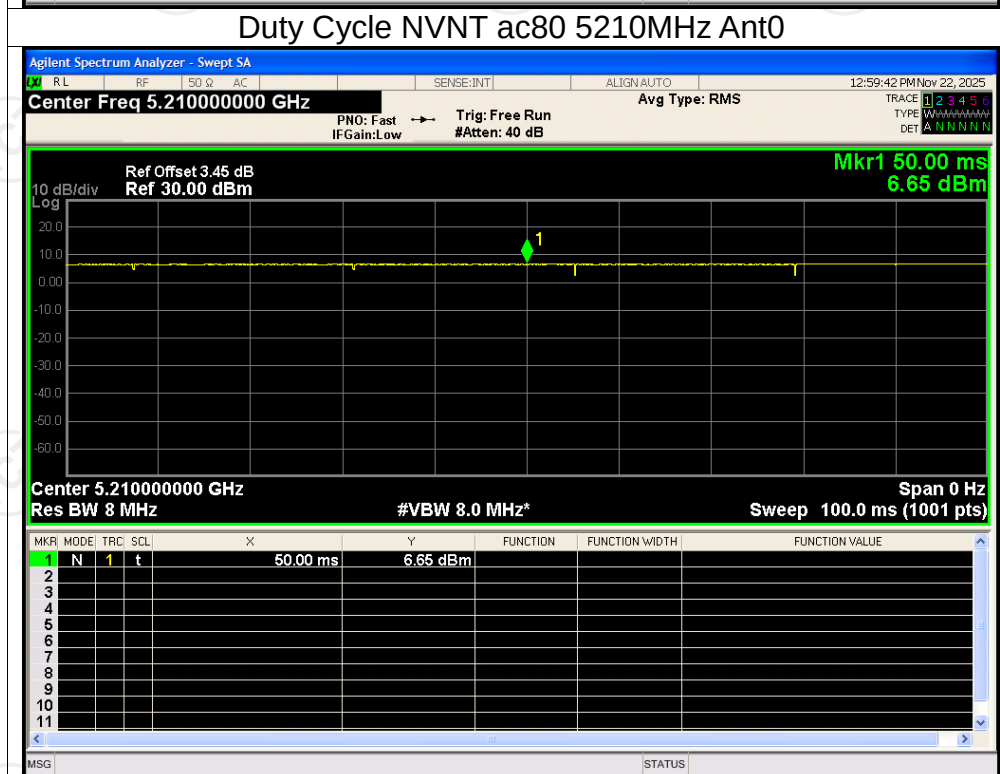
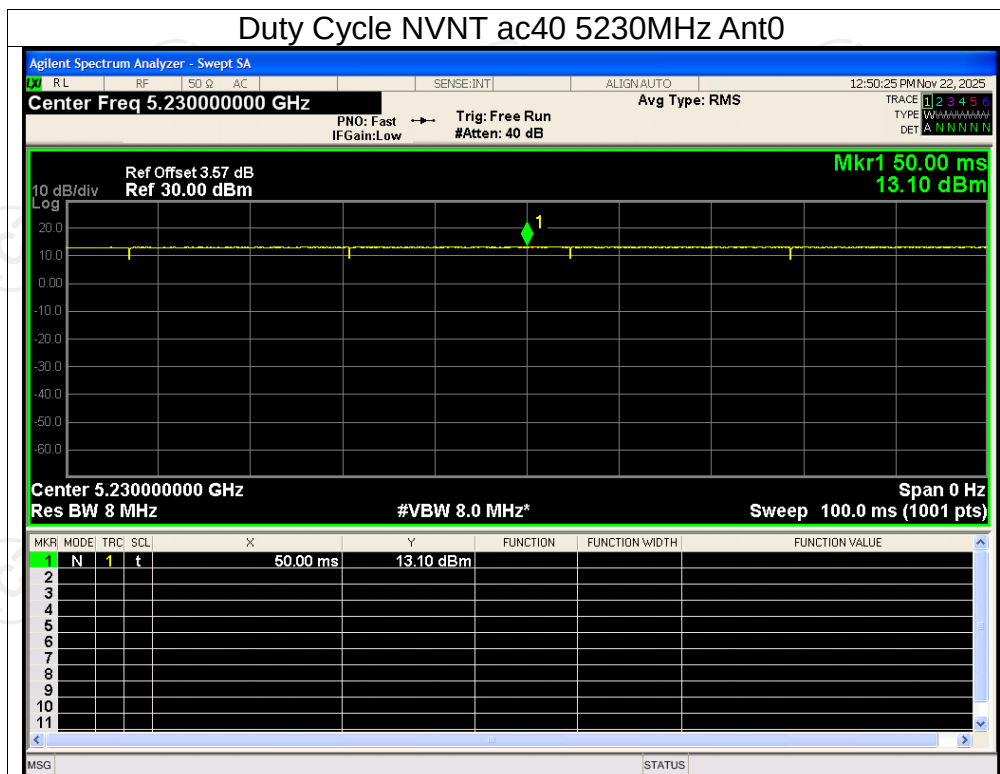


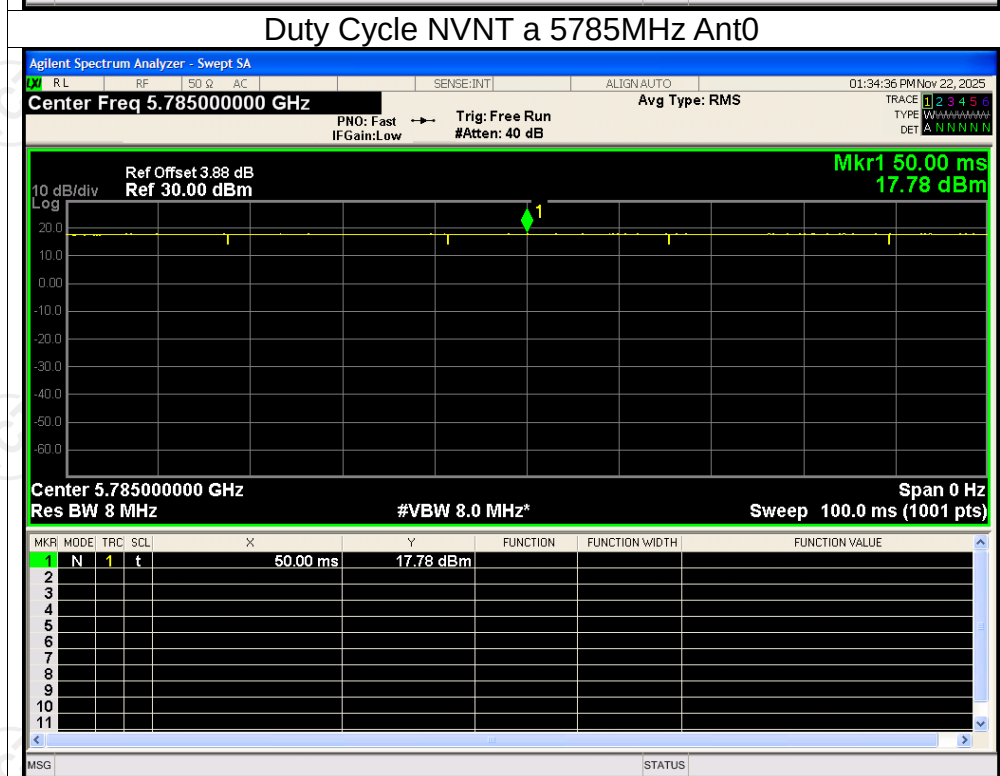
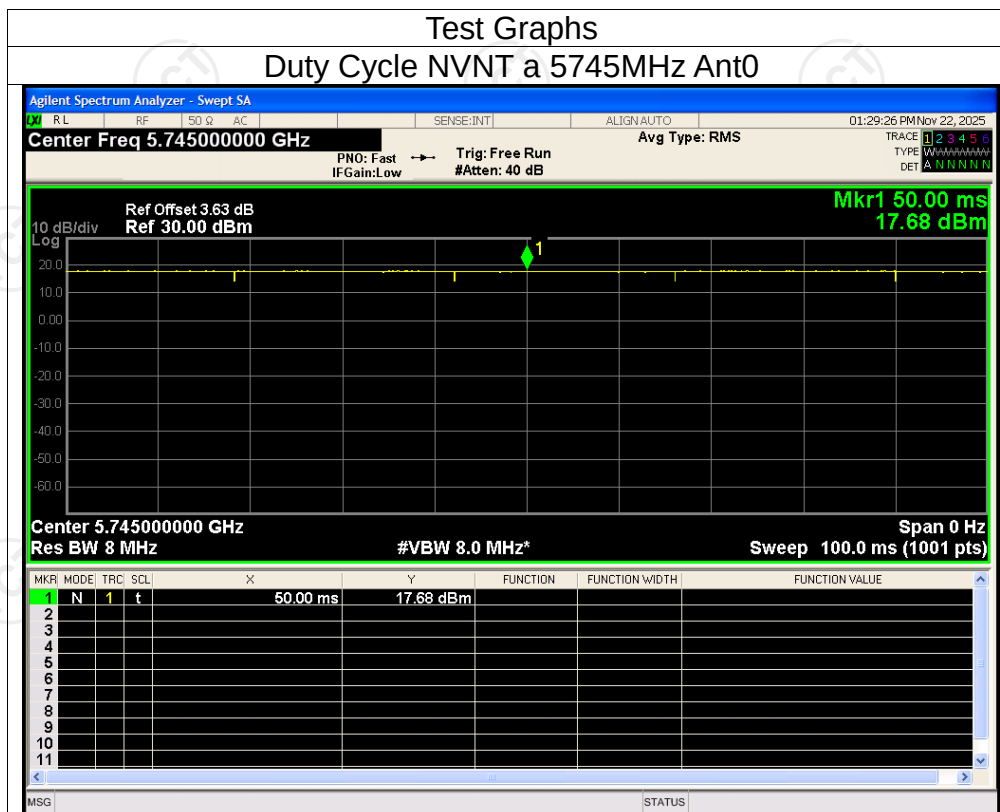
Duty Cycle NVNT n40 5230MHz Ant0

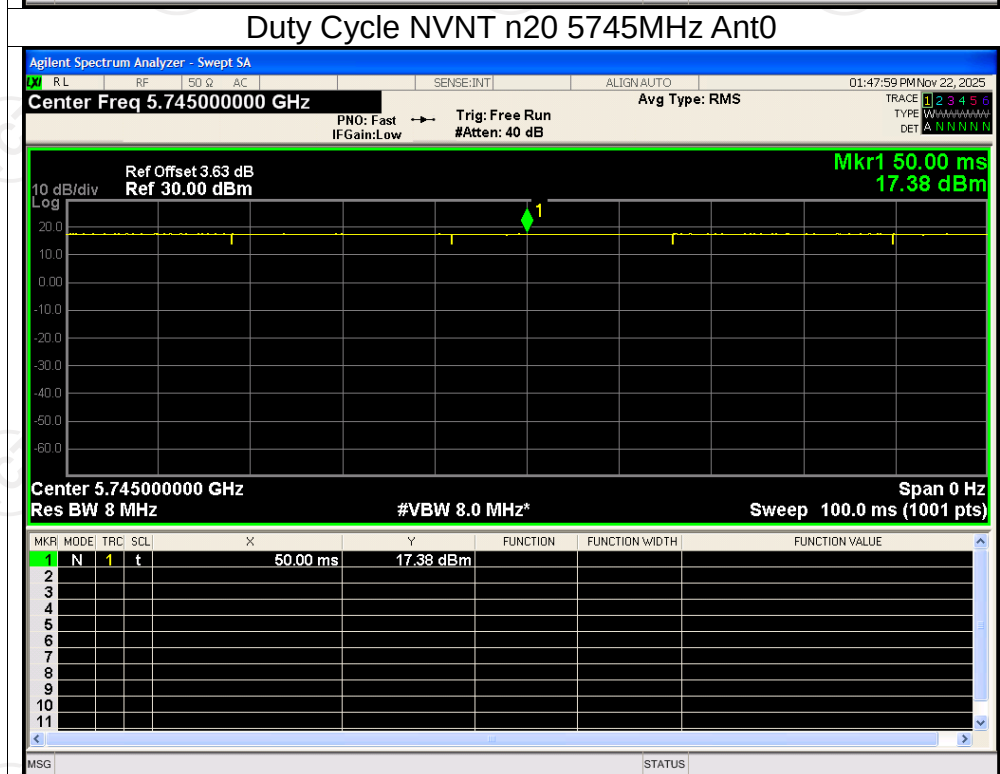
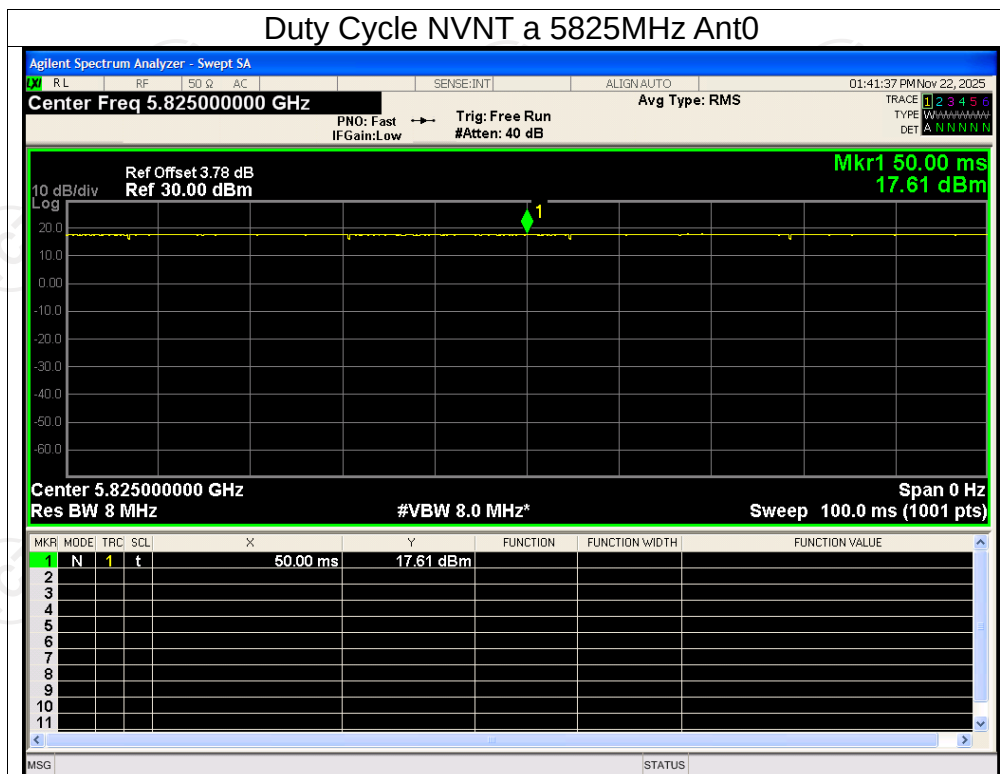




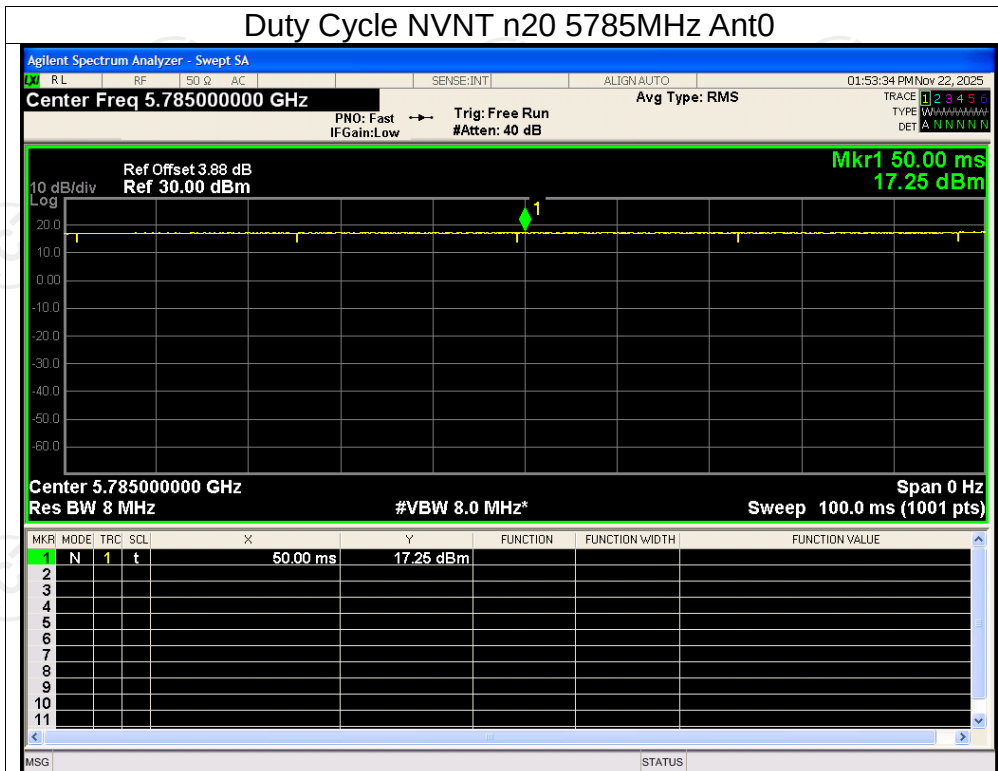




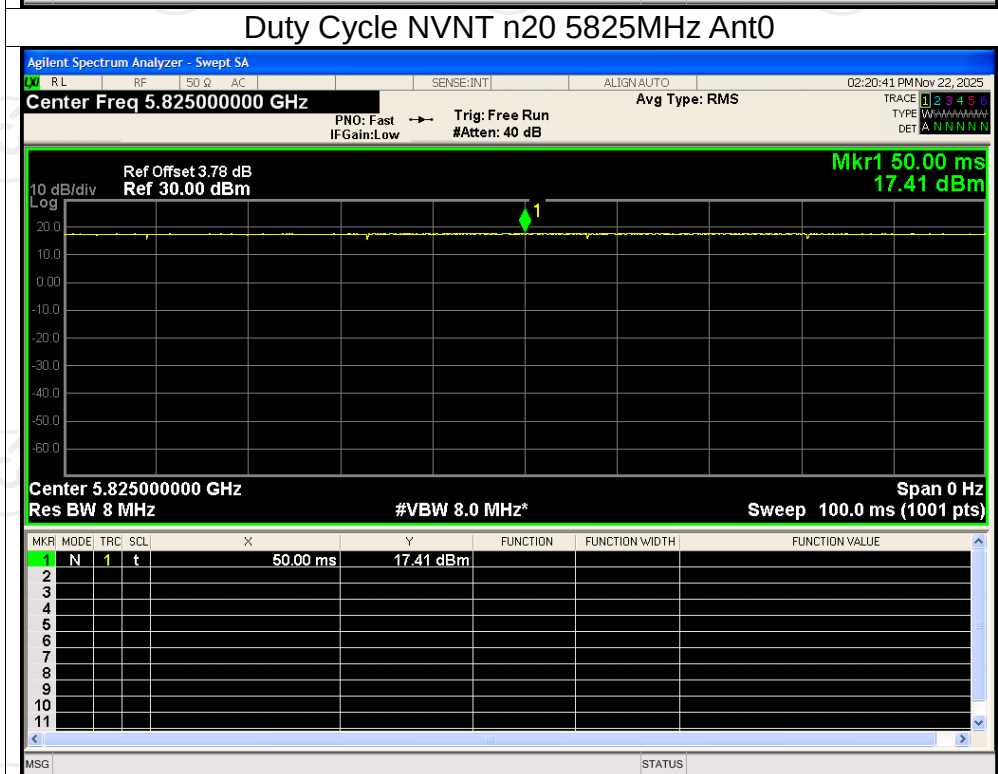




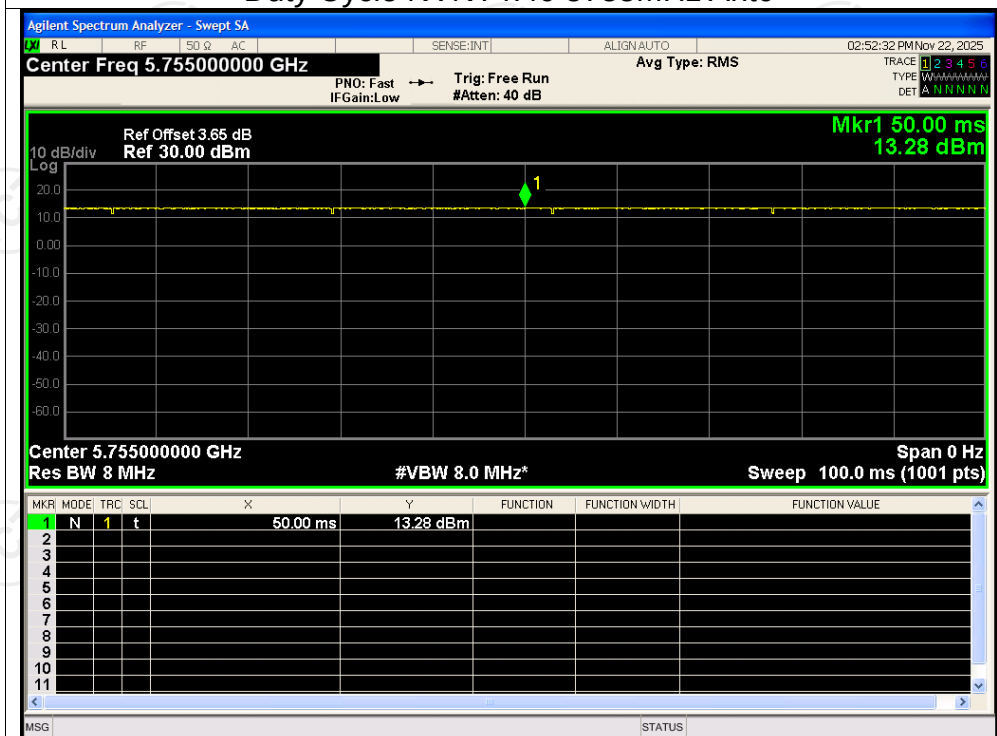
Duty Cycle NVNT n20 5785MHz Ant0



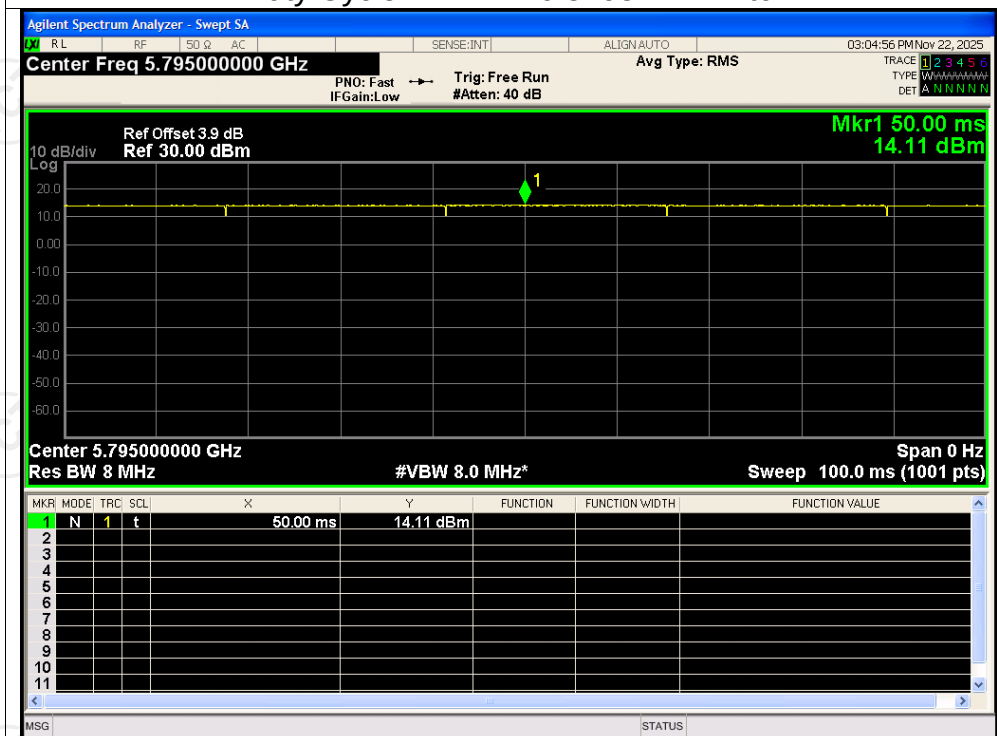
Duty Cycle NVNT n20 5825MHz Ant0

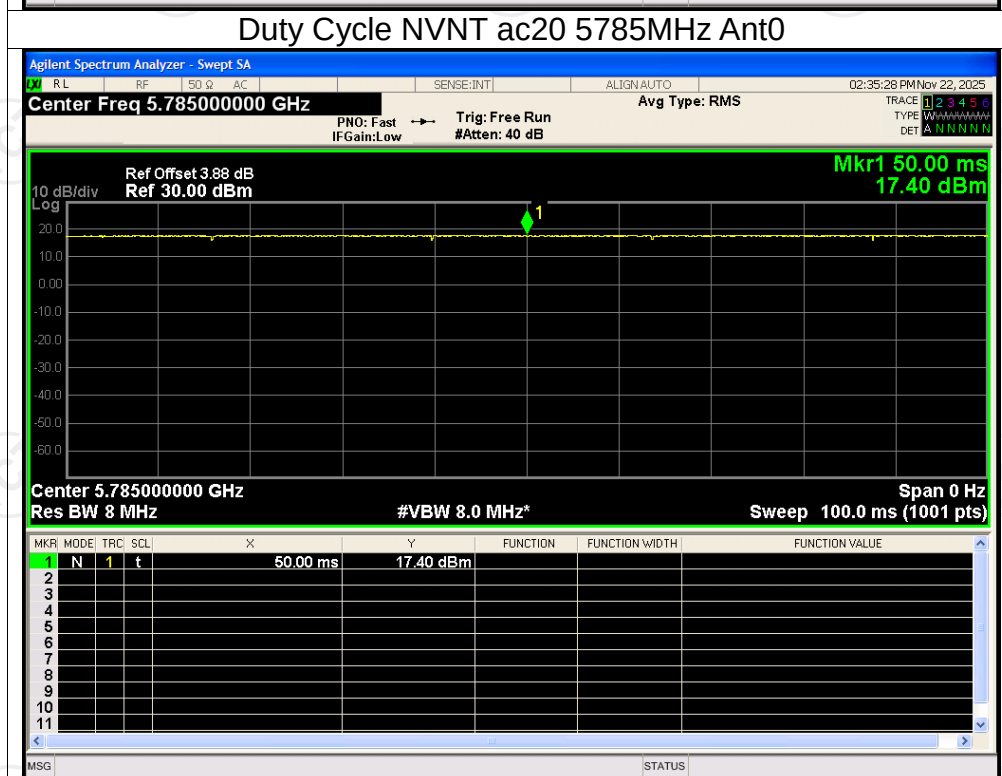
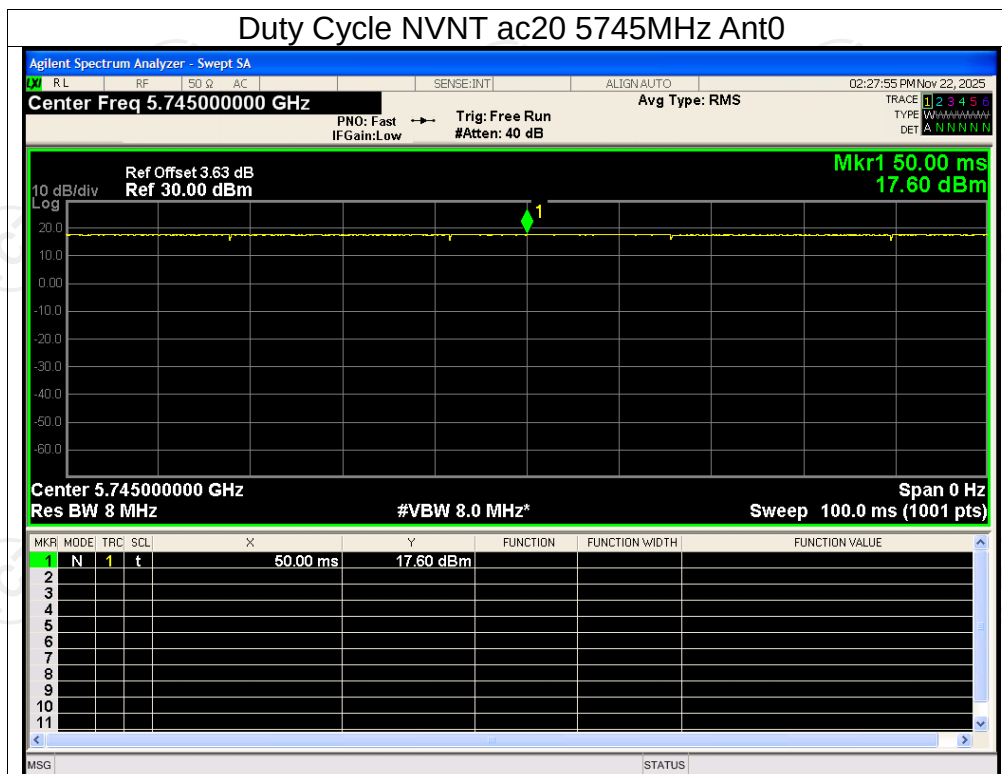


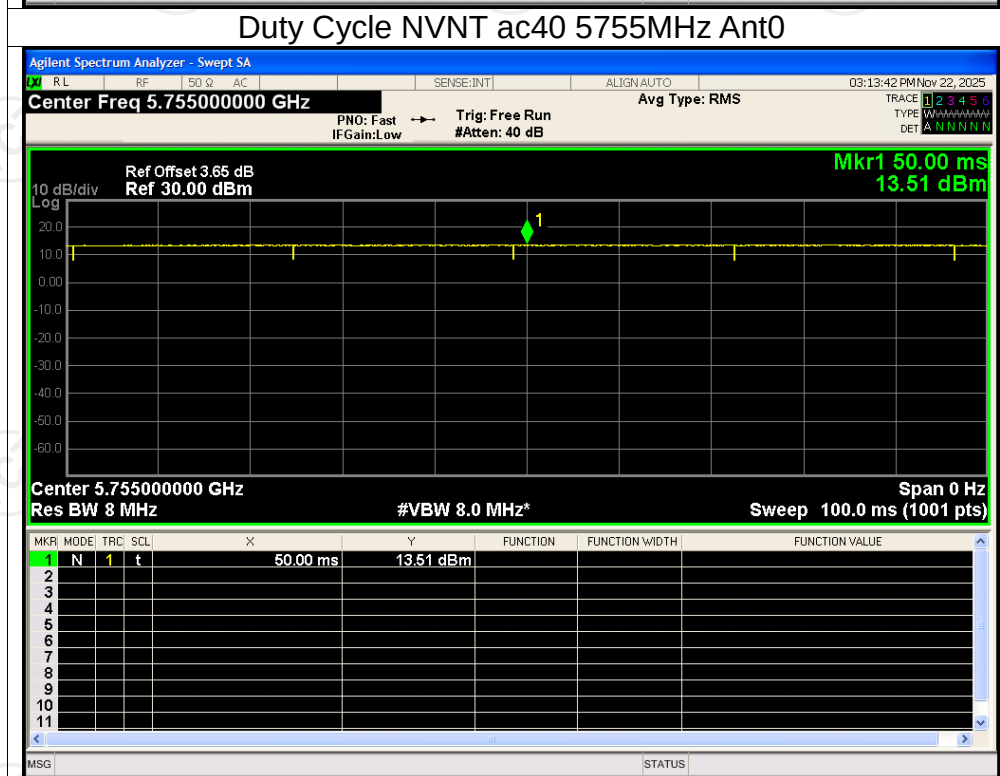
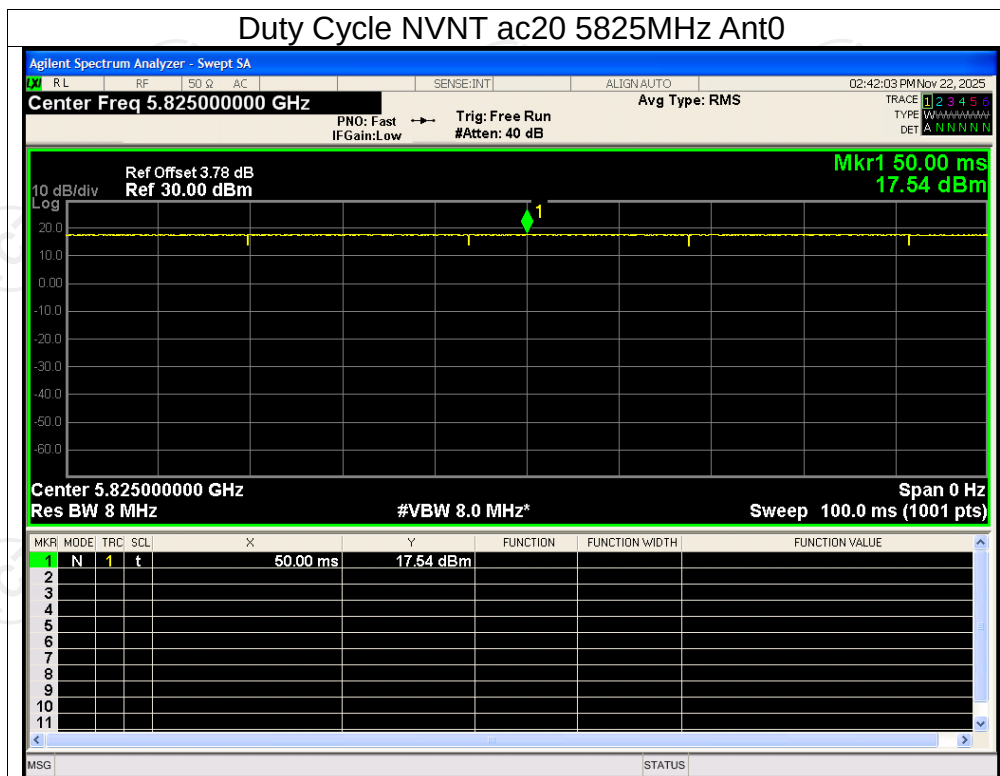
Duty Cycle NVNT n40 5755MHz Ant0

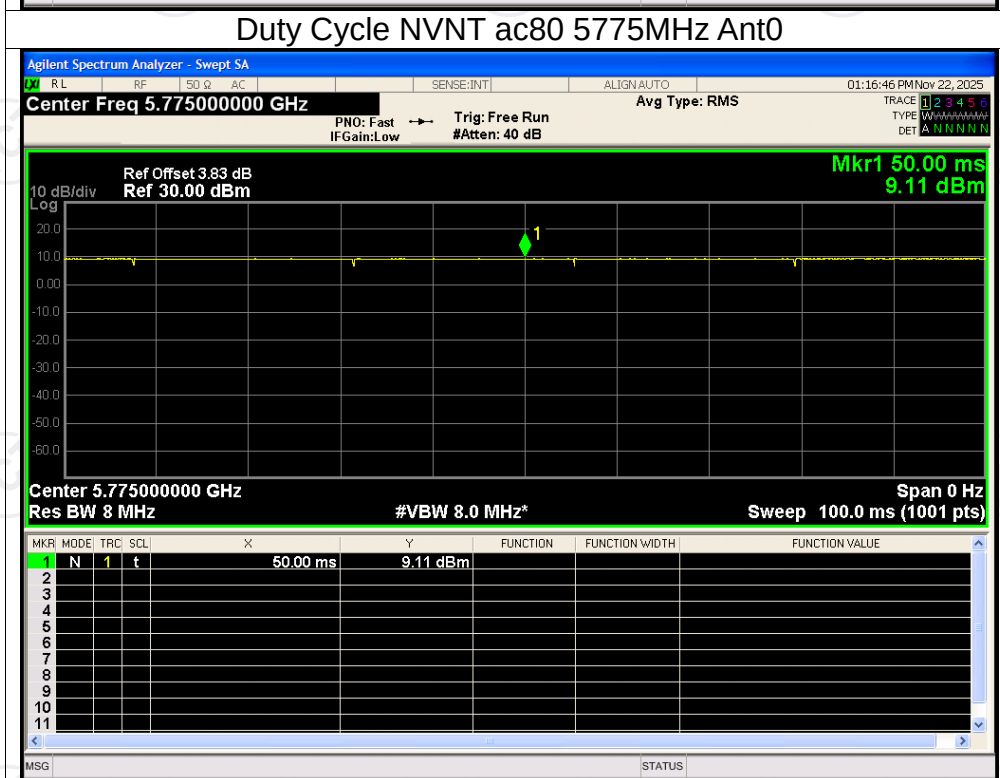
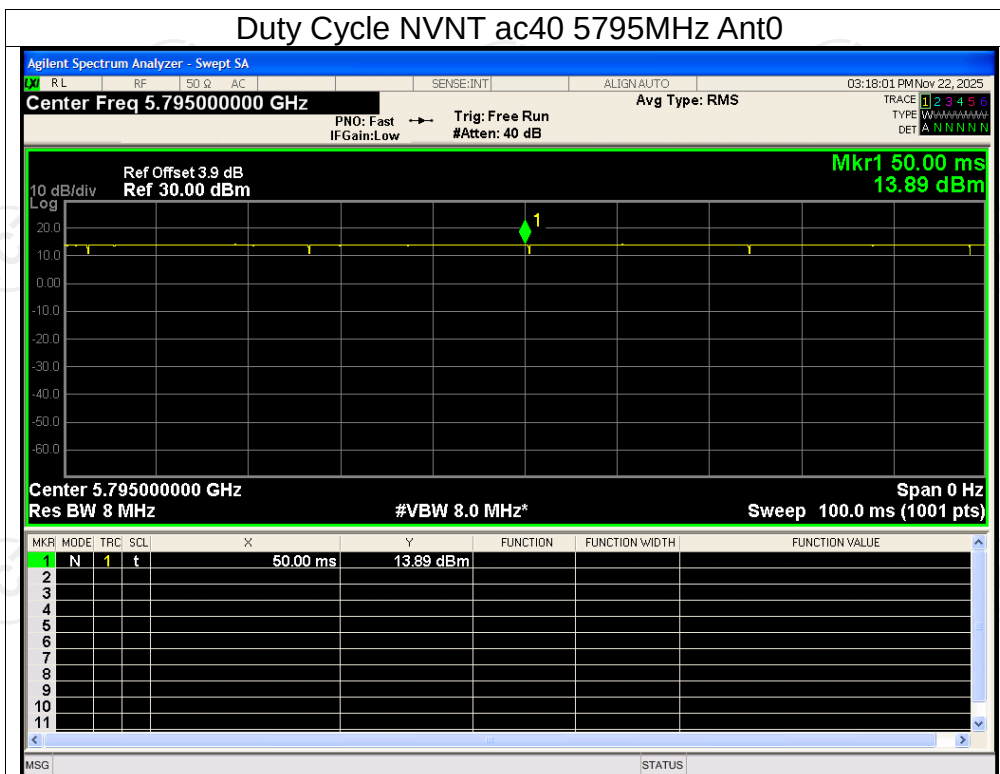


Duty Cycle NVNT n40 5795MHz Ant0







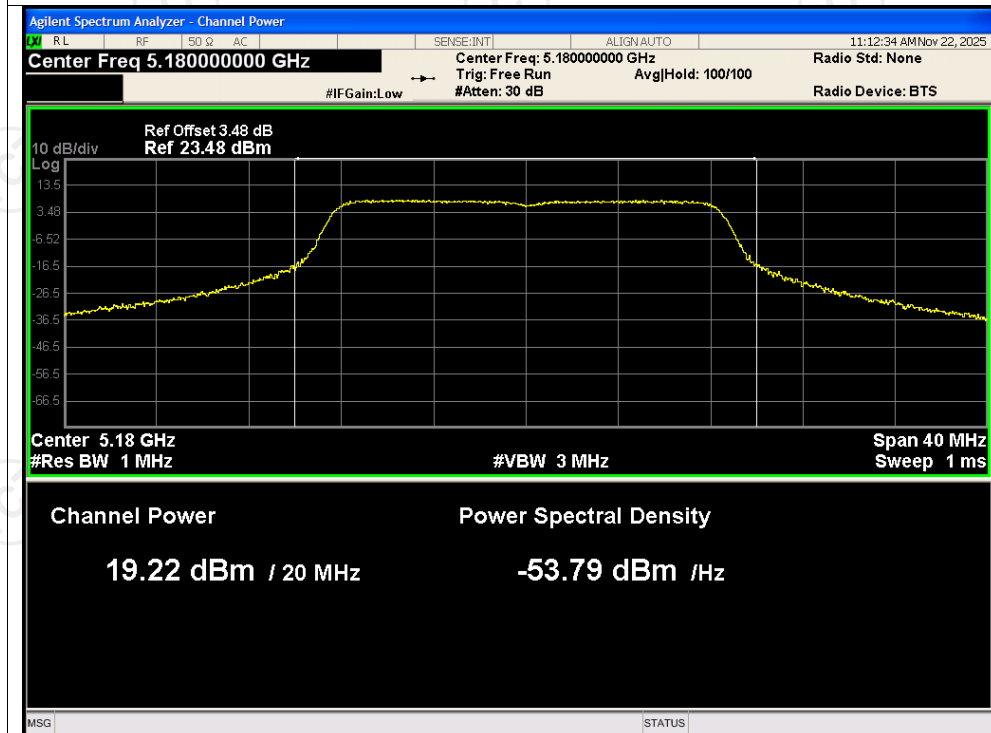


Maximum Conducted Output Power

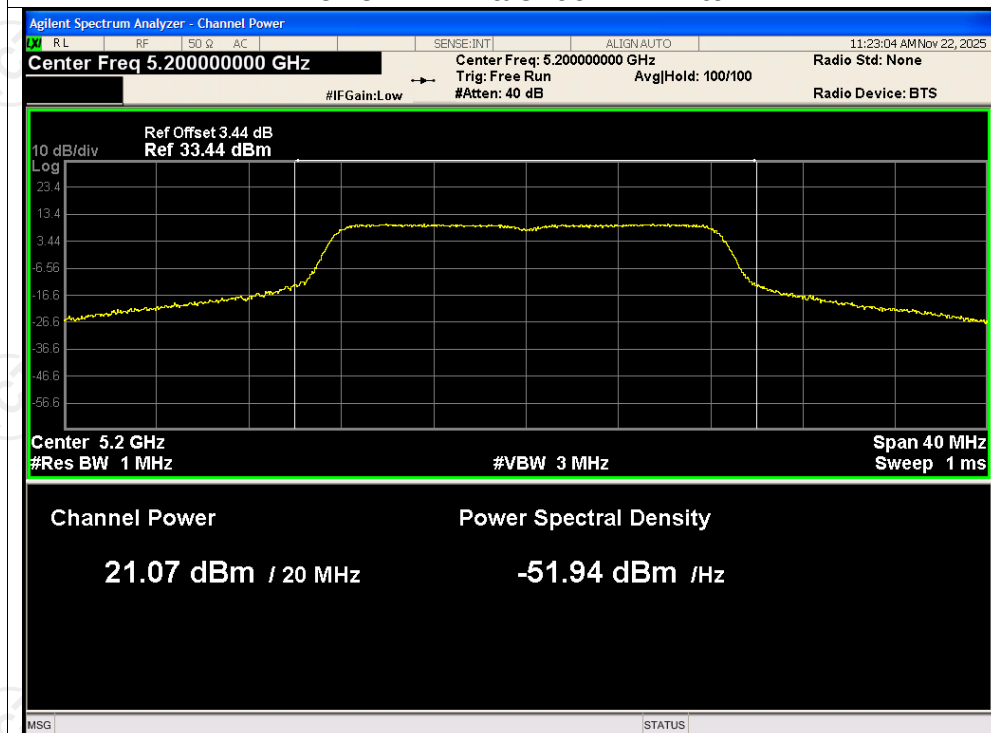
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant0	19.22	24	Pass
NVNT	a	5200	Ant0	21.07	24	Pass
NVNT	a	5240	Ant0	21.04	24	Pass
NVNT	n20	5180	Ant0	17.09	24	Pass
NVNT	n20	5200	Ant0	17.32	24	Pass
NVNT	n20	5240	Ant0	17.35	24	Pass
NVNT	n40	5190	Ant0	18.61	24	Pass
NVNT	n40	5230	Ant0	20.34	24	Pass
NVNT	ac20	5180	Ant0	17.36	24	Pass
NVNT	ac20	5200	Ant0	17.28	24	Pass
NVNT	ac20	5240	Ant0	17.48	24	Pass
NVNT	ac40	5190	Ant0	18.60	24	Pass
NVNT	ac40	5230	Ant0	20.28	24	Pass
NVNT	ac80	5210	Ant0	17.43	24	Pass
NVNT	a	5745	Ant0	21.23	30	Pass
NVNT	a	5785	Ant0	21.07	30	Pass
NVNT	a	5825	Ant0	20.95	30	Pass
NVNT	n20	5745	Ant0	21.14	30	Pass
NVNT	n20	5785	Ant0	20.83	30	Pass
NVNT	n20	5825	Ant0	21.10	30	Pass
NVNT	n40	5755	Ant0	20.81	30	Pass
NVNT	n40	5795	Ant0	21.38	30	Pass
NVNT	ac20	5745	Ant0	21.34	30	Pass
NVNT	ac20	5785	Ant0	21.27	30	Pass
NVNT	ac20	5825	Ant0	21.18	30	Pass
NVNT	ac40	5755	Ant0	20.74	30	Pass
NVNT	ac40	5795	Ant0	21.28	30	Pass
NVNT	ac80	5775	Ant0	20.03	30	Pass

Test Graphs

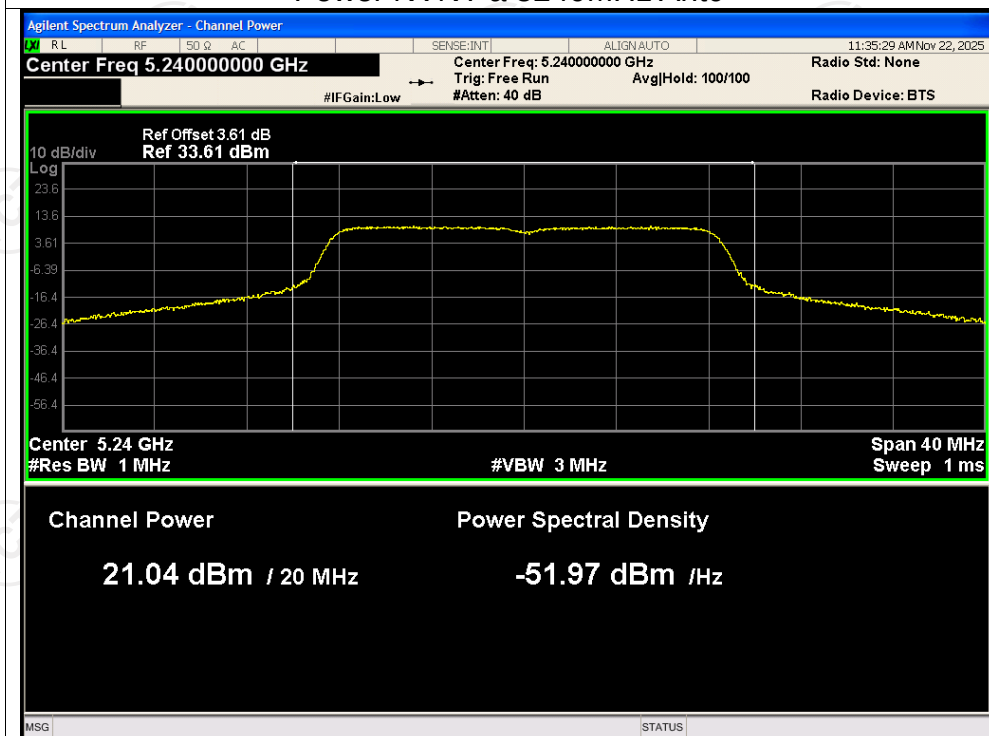
Power NVNT a 5180MHz Ant0



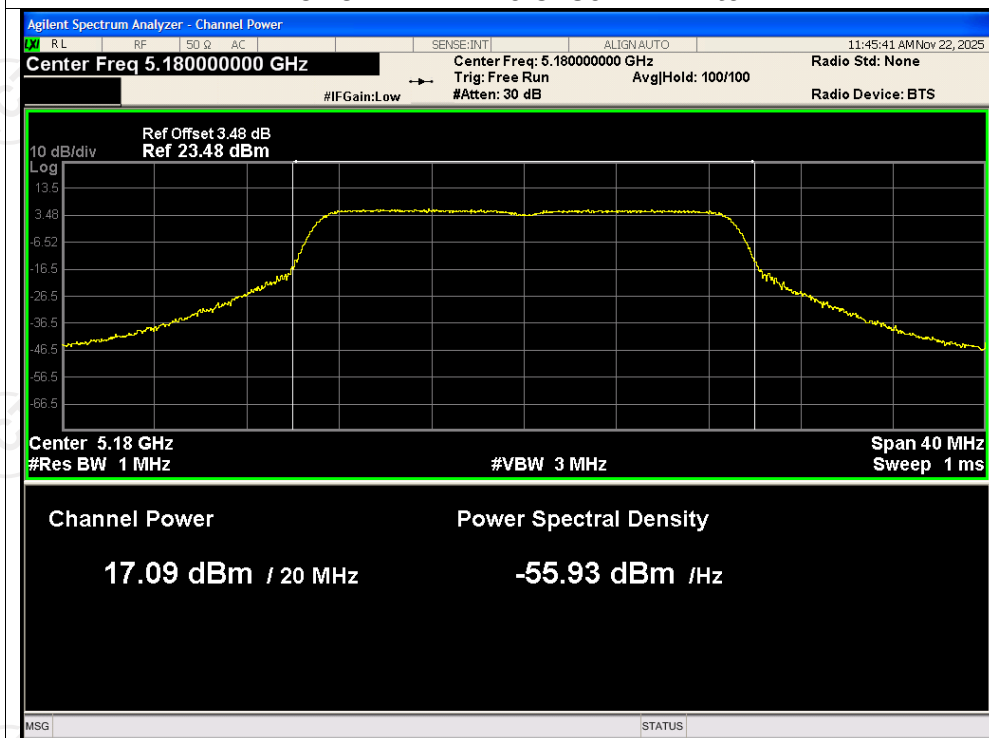
Power NVNT a 5200MHz Ant0



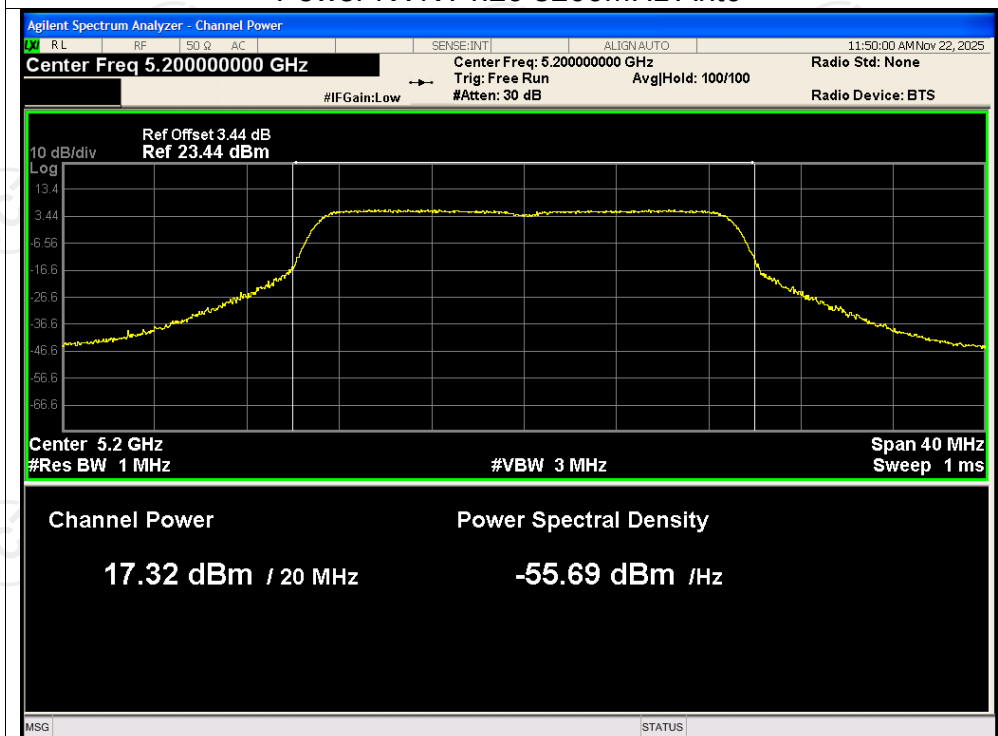
Power NVNT a 5240MHz Ant0



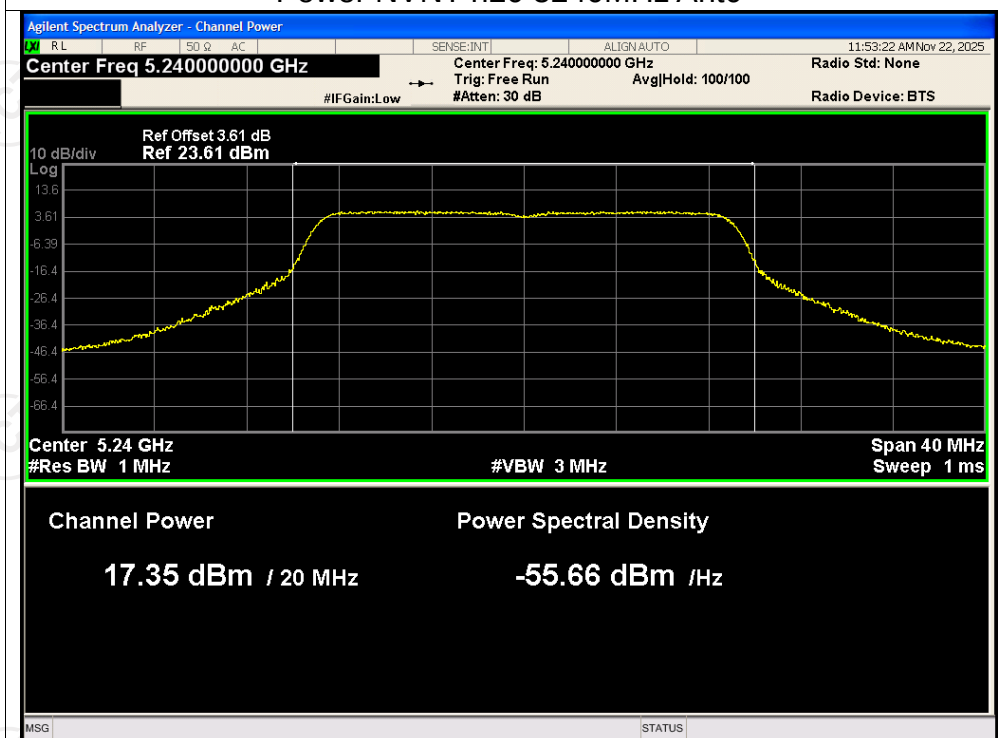
Power NVNT n20 5180MHz Ant0



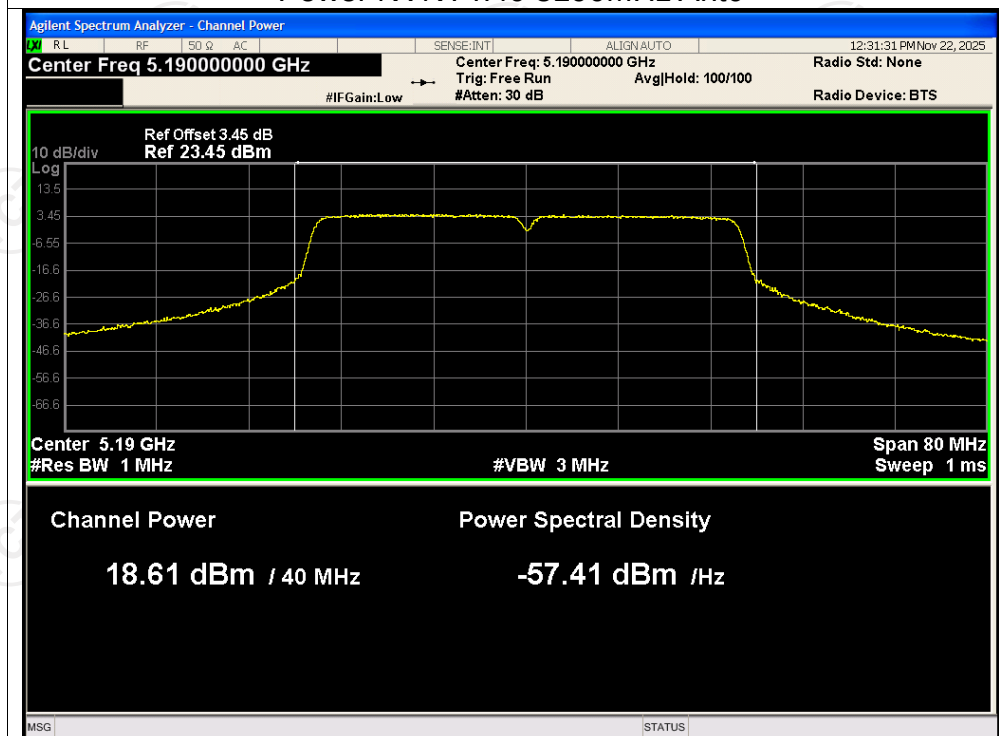
Power NVNT n20 5200MHz Ant0



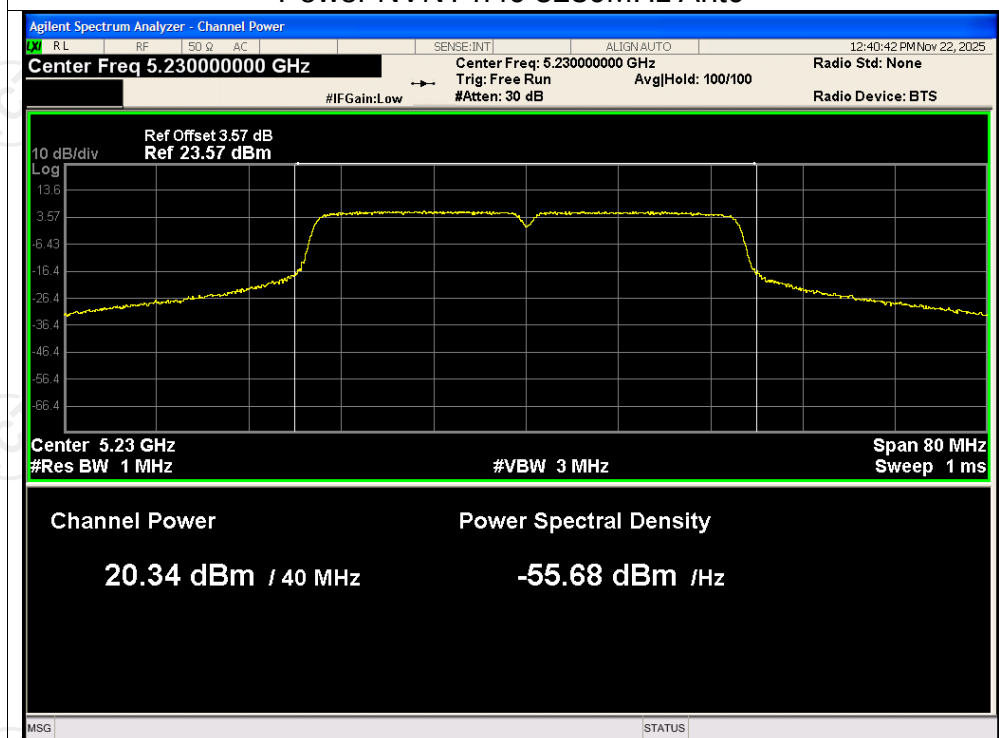
Power NVNT n20 5240MHz Ant0



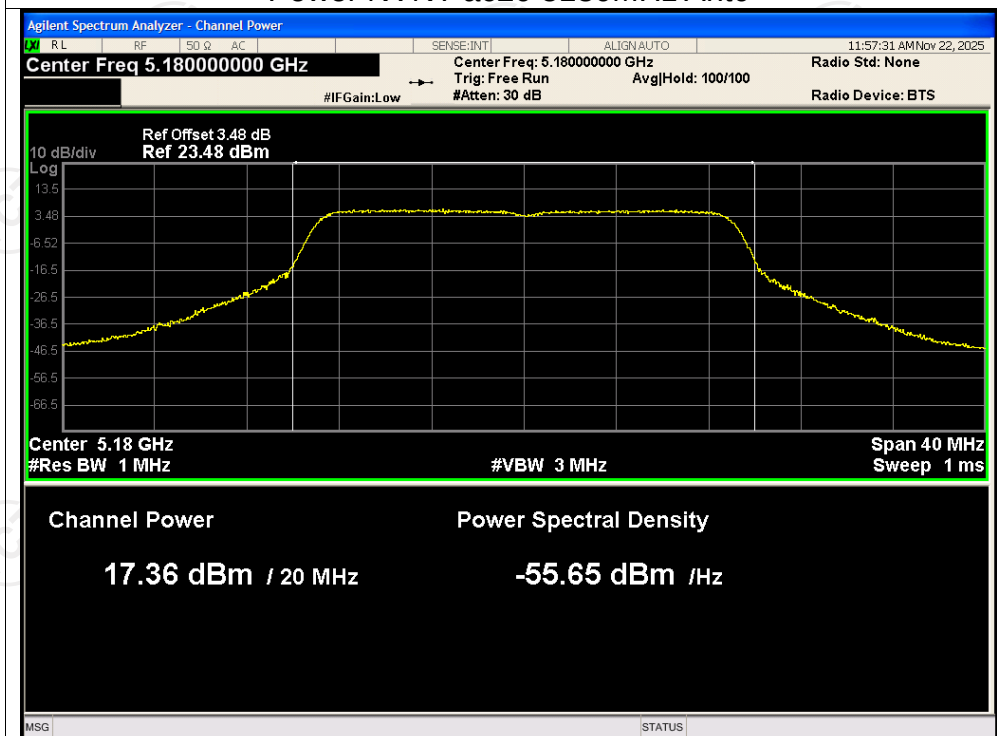
Power NVNT n40 5190MHz Ant0



Power NVNT n40 5230MHz Ant0



Power NVNT ac20 5180MHz Ant0



Power NVNT ac20 5200MHz Ant0

