TCT 通测检测 TESTING CENTRE TECHNOLOGY

TEST REPORT

FCC ID. ..... :	2BPFF-Z01	
Test Report No..... :	TCT250617E005	
Date of issue..... :	Jun. 25, 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..... :	Shenzhen Xinwang Optoelectronic Display Technology Co., Ltd.	
Address..... :	Room 502, Jintian Building, Kaitian Science Park, Pinghu Community, Pinghu Subdistrict, Longgang District, Shenzhen City, China	
Manufacturer's name ... :	Shenzhen Xinwang Optoelectronic Display Technology Co., Ltd.	
Address..... :	Room 502, Jintian Building, Kaitian Science Park, Pinghu Community, Pinghu Subdistrict, Longgang District, Shenzhen City, China	
Standard(s) ..... :	FCC CFR Title 47 Part 15 Subpart E Section 15.407 KDB 662911 D01 Multiple Transmitter Output v02r01 KDB 789033 D02 General U-NII Test Procedures New Rules v02r01	
Product Name..... :	Car Video Box	
Trade Mark ..... :	N/A	
Model/Type reference..... :	Z01, Z02, Z03, Z04, Z05, Z06, Z07, Z08, Z09, Z10	
Rating(s)..... :	DC 5V	
Date of receipt of test item ..... :	Jun. 17, 2025	
Date (s) of performance of test..... :	Jun. 17, 2025 ~ Jun. 25, 2025	
Tested by (+signature) ... :	Rleo LIU	
Check by (+signature).... :	Beryl ZHAO	
Approved by (+signature):	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.....:	Car Video Box
Model/Type reference.....:	Z01
Sample Number.....:	TCT250617E004-0101
Operation Frequency.....:	Band 3: 5745 MHz~5825 MHz
Channel Bandwidth.....:	802.11a: 20MHz 802.11n: 20MHz, 40MHz 802.11ac: 20MHz, 40MHz, 80MHz
Modulation Technology.....:	Orthogonal Frequency Division Multiplexing (OFDM)
Modulation Type.....:	256QAM, 64QAM, 16QAM, BPSK, QPSK
Antenna Type.....:	PCB Antenna
Antenna Gain.....:	2.67dBi
Rating(s).....:	DC 5V

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	Z01	☒
Other models	Z02, Z03, Z04, Z05, Z06, Z07, Z08, Z09, Z10	☐

Note: Z01 is tested model, other models are derivative models. The models are identical in circuit and PCB layout, different on the model names. So the test data of Z01 can represent the remaining models.

1.3. Test Frequency

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:

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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:	
Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar
Test Software:	
Software Information:	Serial port tool
Power Level:	40
Test Mode:	
Engineer mode:	Keep the EUT in continuous transmitting by select channel
The sample was placed 0.8m/1.5m for blow/above 1GHz above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.	

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

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

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

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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
Notebook Computer	G3 3500	00342-36088-99832-AAOEM	/	DELL
Power Supply	HA130PM190	CN-0CY0JM-CH200-0B6-7405-A01	/	DELL

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

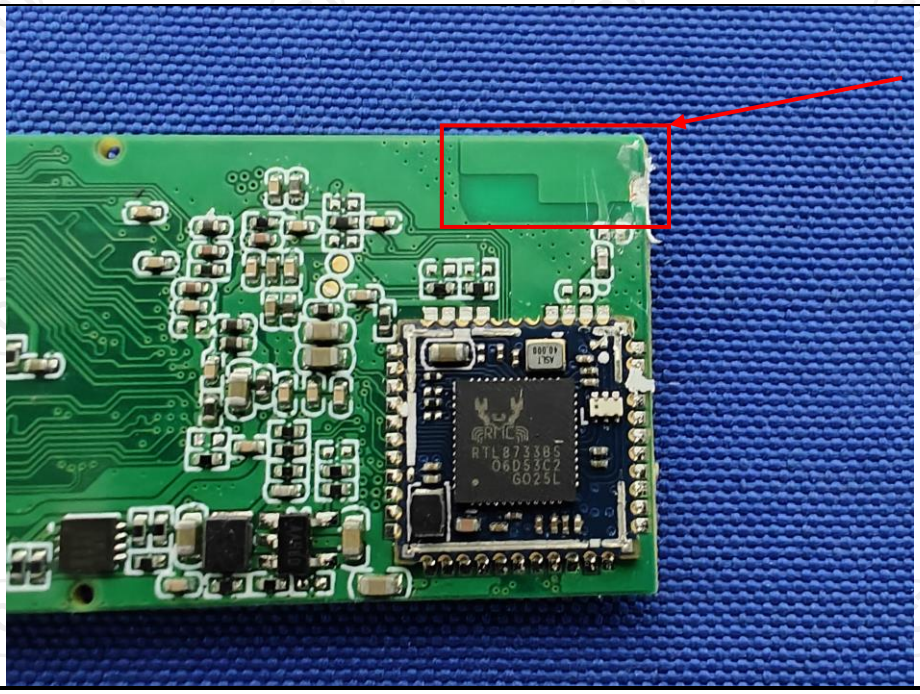
The reported uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

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

6. Test Results and Measurement Data

6.1. Antenna requirement

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
E.U.T Antenna:	
The EUT antenna is PCB antenna which permanently attached, and the maximum gain of the antenna is 2.67dBi.	



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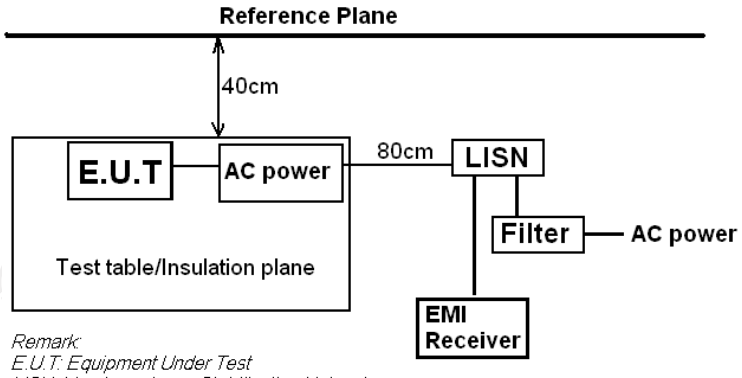
6.2. Conducted Emission

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:	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: 2020 on conducted measurement.
Test Result:	PASS

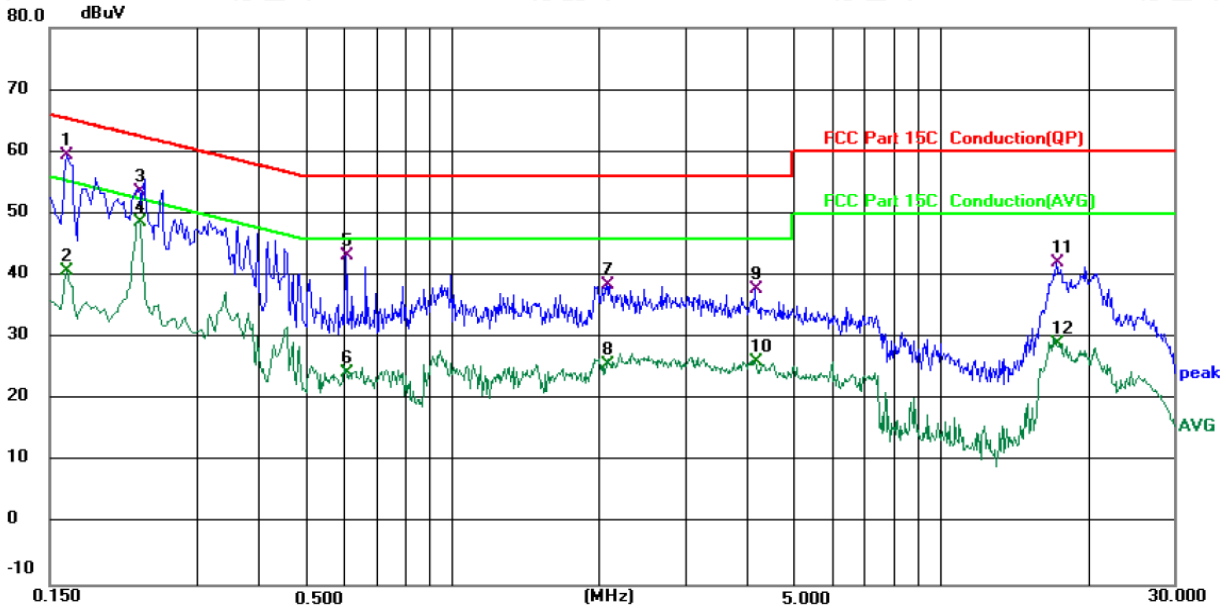
6.2.2. Test Instruments

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. 27, 2024	Jun. 26, 2025
LISN	Schwarzbeck	NSLK 8126	8126453	Jan. 21, 2025	Jan. 20, 2026
Attenuator	N/A	10dB	164080	Jun. 27, 2024	Jun. 26, 2025
Line-5	TCT	CE-05	/	Jun. 27, 2024	Jun. 26, 2025
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: 24.8 (℃) | Humidity: 52 %

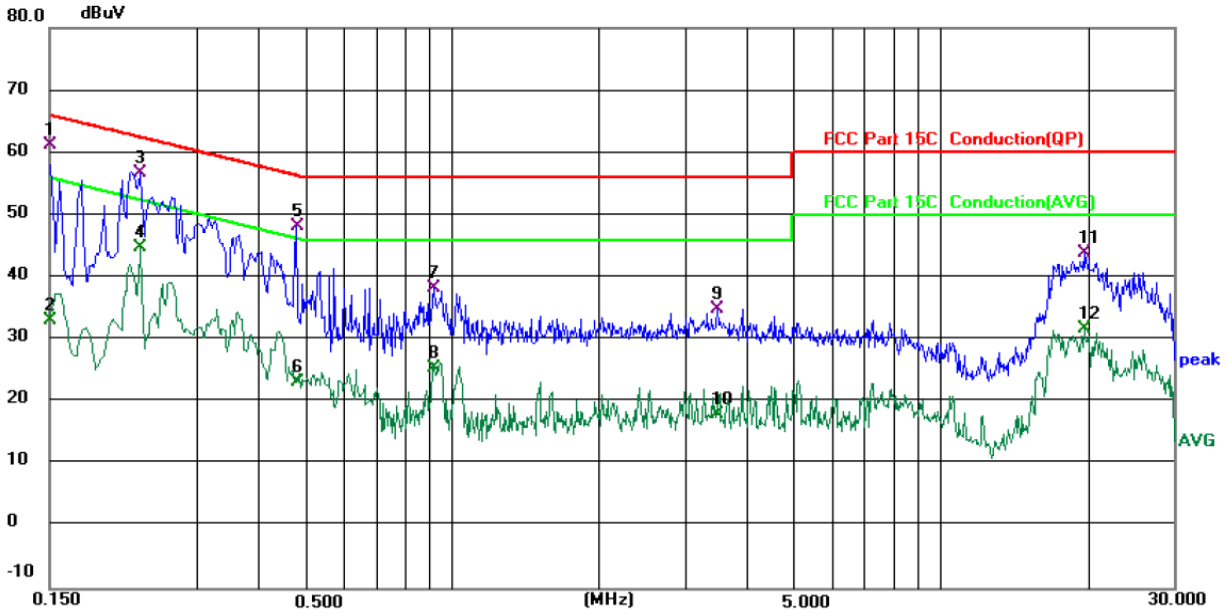
Limit: FCC Part 15C Conduction(QP) | Power: DC 5 V(Notebook Computer Input AC 120 V/60 Hz)

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1620	49.40	9.95	59.35	65.36	-6.01	QP	
2		0.1620	30.86	9.95	40.81	55.36	-14.55	AVG	
3		0.2280	43.64	9.93	53.57	62.52	-8.95	QP	
4	*	0.2280	38.64	9.93	48.57	52.52	-3.95	AVG	
5		0.6060	33.29	9.90	43.19	56.00	-12.81	QP	
6		0.6060	14.31	9.90	24.21	46.00	-21.79	AVG	
7		2.0740	28.52	10.02	38.54	56.00	-17.46	QP	
8		2.0740	15.72	10.02	25.74	46.00	-20.26	AVG	
9		4.1620	27.61	10.12	37.73	56.00	-18.27	QP	
10		4.1620	15.99	10.12	26.11	46.00	-19.89	AVG	
11		17.2380	31.52	10.52	42.04	60.00	-17.96	QP	
12		17.2380	18.44	10.52	28.96	50.00	-21.04	AVG	

Note:

Freq. = Emission frequency in MHz
Reading level (dBμV) = Receiver reading
Corr. Factor (dB) = LISN factor + Cable loss
Measurement (dBμV) = Reading level (dBμV) + Corr. Factor (dB)
Limit (dBμV) = Limit stated in standard
Margin (dB) = Measurement (dBμV) – Limits (dBμV)
Q.P. =Quasi-Peak
AVG =average
** is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.*

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



Site 844 Shielding Room Phase: N Temperature: 24.8 (℃) Humidity: 52 %

Limit: FCC Part 15C Conduction(QP) Power: DC 5 V(Notebook Computer Input 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	*	0.1500	51.28	9.94	61.22	66.00	-4.78	QP	
2		0.1500	23.20	9.94	33.14	56.00	-22.86	AVG	
3		0.2300	46.79	9.93	56.72	62.45	-5.73	QP	
4		0.2300	34.84	9.93	44.77	52.45	-7.68	AVG	
5		0.4779	38.14	9.93	48.07	56.38	-8.31	QP	
6		0.4779	13.21	9.93	23.14	46.38	-23.24	AVG	
7		0.9220	28.26	9.96	38.22	56.00	-17.78	QP	
8		0.9220	15.58	9.96	25.54	46.00	-20.46	AVG	
9		3.4940	24.90	10.08	34.98	56.00	-21.02	QP	
10		3.4940	8.03	10.08	18.11	46.00	-27.89	AVG	
11		19.6580	33.26	10.65	43.91	60.00	-16.09	QP	
12		19.6580	21.17	10.65	31.82	50.00	-18.18	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 three channels (high, middle, low) and all modulation (802.11a, 802.11n(HT20), 802.11n(HT40), 802.11ac(VHT20), 802.11ac(VHT40), 802.11ac(VHT80)) and the worst case Mode (Lowest and 802.11a) was submitted only.

6.3. Maximum Conducted Output Power

6.3.1. 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 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.</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>

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6.3.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Date of Cal.	Due Date
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jun. 27, 2024	Jun. 26, 2025
Power detector box	MWRFtest	MW100-RFCB	MW210531TCT	Jan. 21, 2025	Jan. 20, 2026

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:	
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. 27, 2024	Jun. 26, 2025
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:	
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. 27, 2024	Jun. 26, 2025
Power detector box	MWRFtest	MW100-RFCB	MW210531TCT	Jan. 21, 2025	Jan. 20, 2026

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6.6. Power Spectral Density

6.6.1. Test Specification

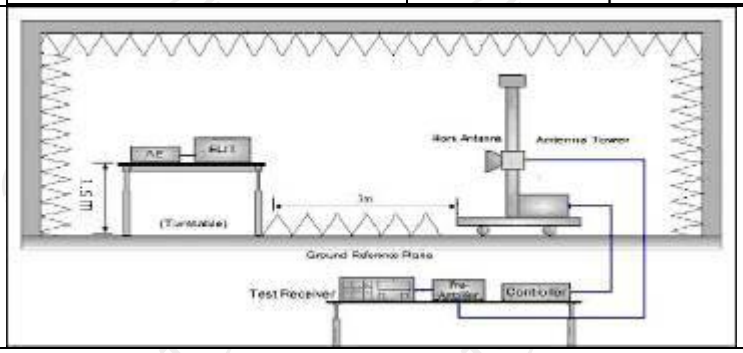
Test Requirement:	FCC Part15 E Section 15.407 (a)
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section F
Limit:	≤11.00dBm/MHz for Band 1 5150MHz-5250MHz(client device) ≤11.00dBm/MHz for Band 2A&2C 5250-5350&5470-5725 ≤30.00dBm/500KHz for Band 3 5725MHz-5850MHz
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.
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. 27, 2024	Jun. 26, 2025
Power detector box	MWRFtest	MW100-RFCB	MW210531TCT	Jan. 21, 2025	Jan. 20, 2026

6.7. Band edge

6.7.1. 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 2020</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>650~5700</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</td></tr>
</table>

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

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. 27, 2024	Jun. 26, 2025
Pre-amplifier	SKET	LNPA_0118G-45	SK2021012102	Jan. 21, 2025	Jan. 20, 2026
Pre-amplifier	SKET	LNPA_1840G-50	SK202109203500	Jan. 21, 2025	Jan. 20, 2026
Pre-amplifier	HP	8447D	2727A05017	Jun. 27, 2024	Jun. 26, 2025
Loop antenna	Schwarzbeck	FMZB1519B	00191	Jun. 27, 2024	Jun. 26, 2025
Broadband Antenna	Schwarzbeck	VULB9163	340	Jun. 29, 2024	Jun. 28, 2025
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Jun. 29, 2024	Jun. 28, 2025
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Jan. 23, 2025	Jan. 22, 2026
Coaxial cable	SKET	RE-03-D	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-03-M	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-03-L	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-04-D	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-04-M	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-04-L	/	Jun. 27, 2024	Jun. 26, 2025
Antenna Mast	Keleto	RE-AM	/	/	/
EMI Test Software	EZ_EMC	FA-03A2 RE+	1.1.4.2	/	/

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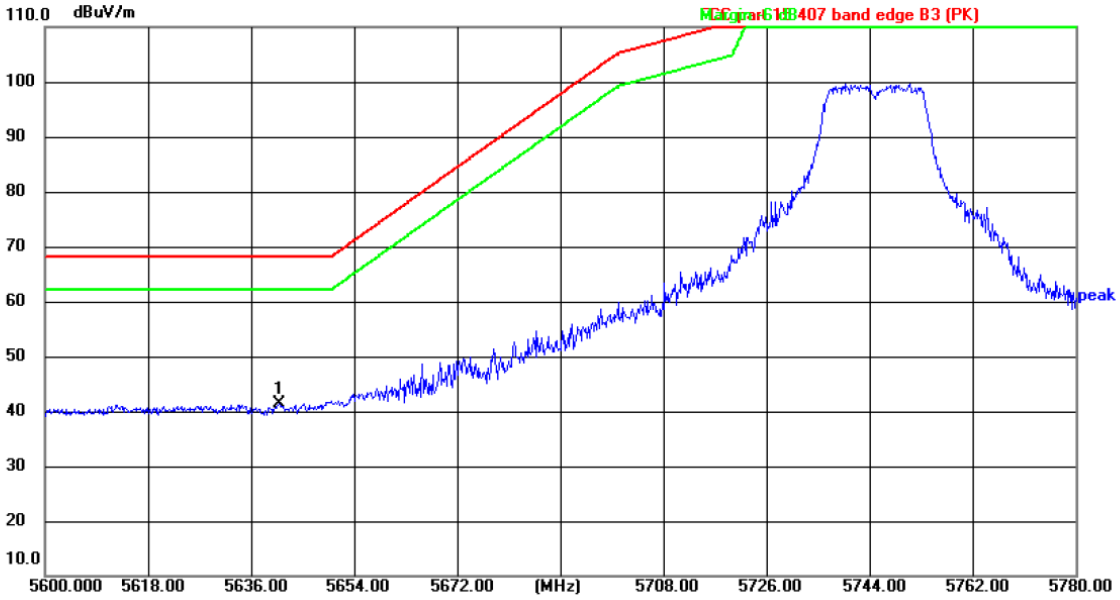
6.7.3. Test Data

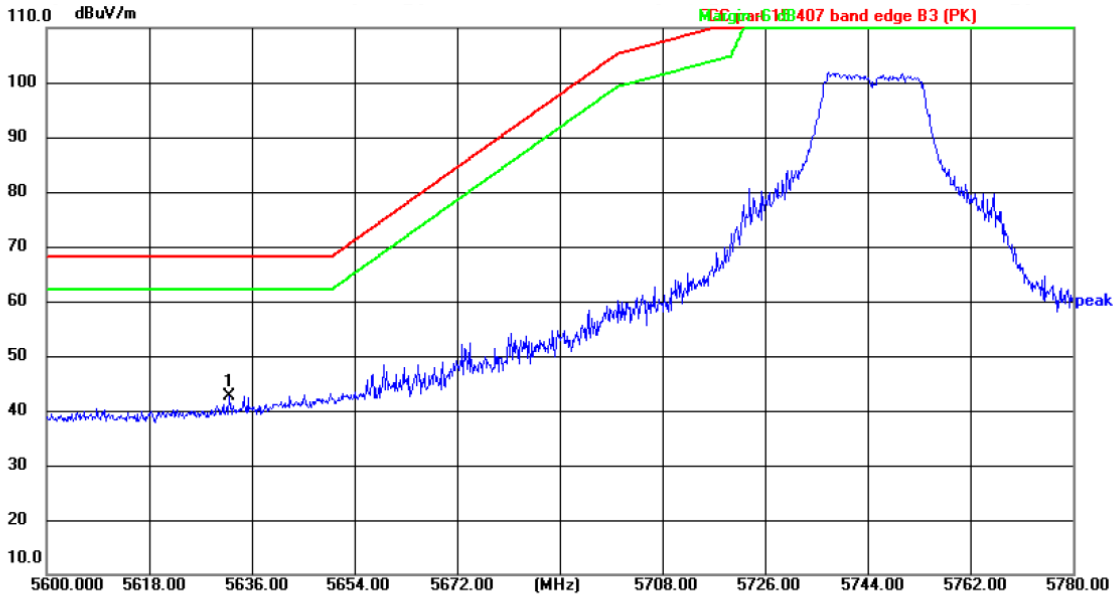
AC20-5745



Site: 3m Anechoic Chamber Polarization: *Horizontal* Temperature: 24.1(℃) Humidity: 43 %

Limit: FCC part 15.407 band edge B3 (PK) Power:DC 5 V(Notebook Computer Input 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 *	5640.860	48.89	-7.40	41.49	68.20	-26.71	peak	P	

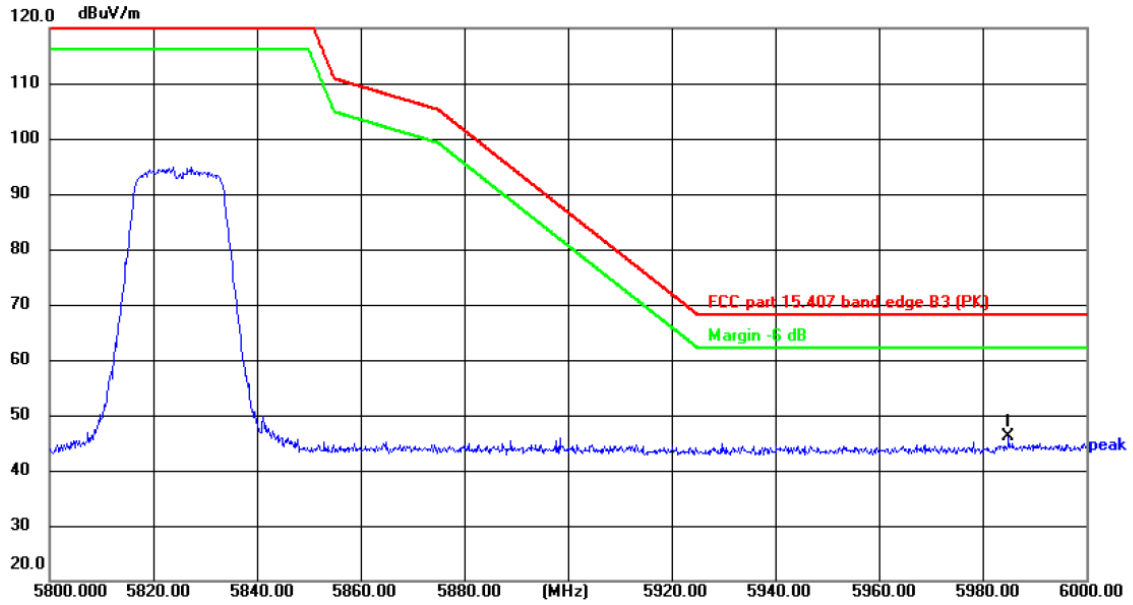


Site: 3m Anechoic Chamber Polarization: *Vertical* Temperature: 24.1(℃) Humidity: 43 %

Limit: FCC part 15.407 band edge B3 (PK) Power:DC 5 V(Notebook Computer Input 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 *	5632.040	50.24	-7.53	42.71	68.20	-25.49	peak	P	

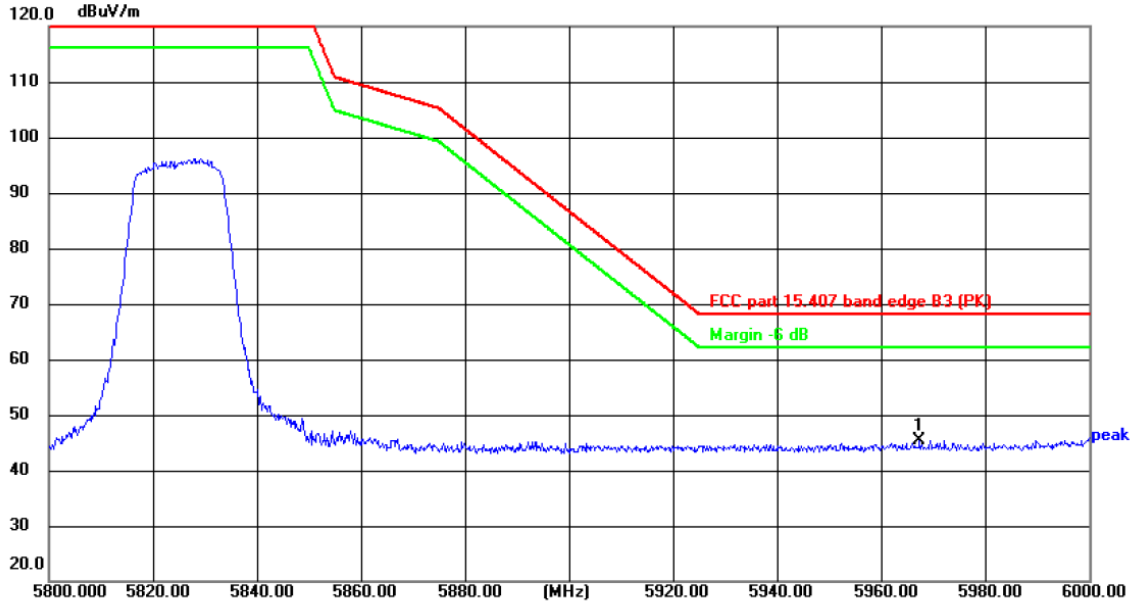
AC20-5825



Site: 3m Anechoic Chamber Polarization: *Horizontal* Temperature: 22.9(℃) Humidity: 63 %

Limit: FCC part 15.407 band edge B3 (PK) Power:DC 5 V(Notebook Computer Input 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 *	5985.000	52.39	-6.36	46.03	68.20	-22.17	peak	P	

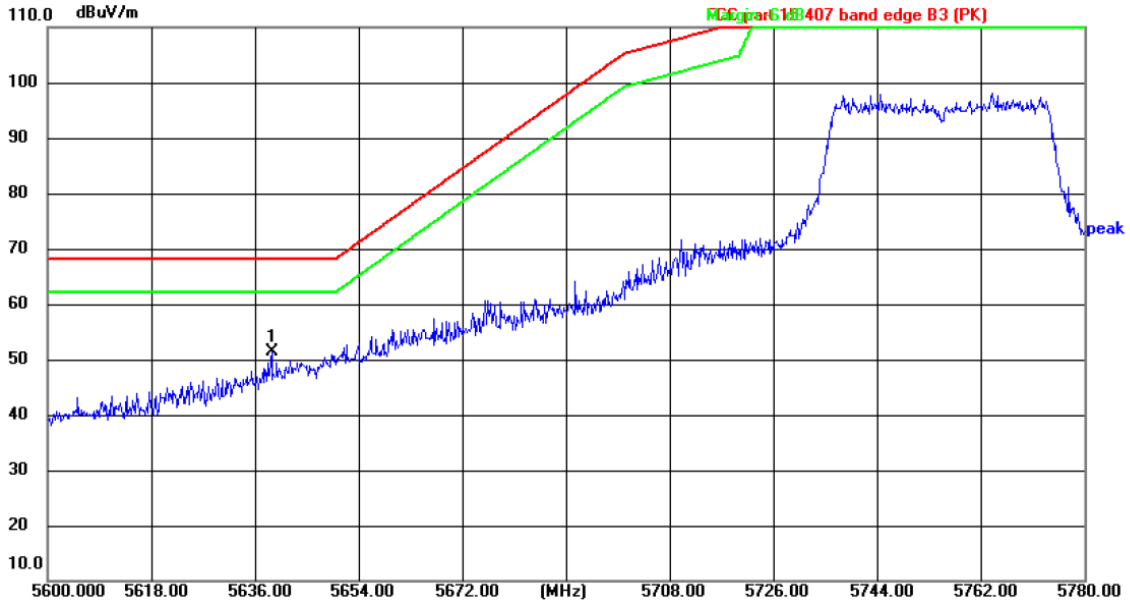


Site: 3m Anechoic Chamber Polarization: *Vertical* Temperature: 22.9(℃) Humidity: 63 %

Limit: FCC part 15.407 band edge B3 (PK) Power:DC 5 V(Notebook Computer Input 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 *	5967.400	51.86	-6.43	45.43	68.20	-22.77	peak	P	

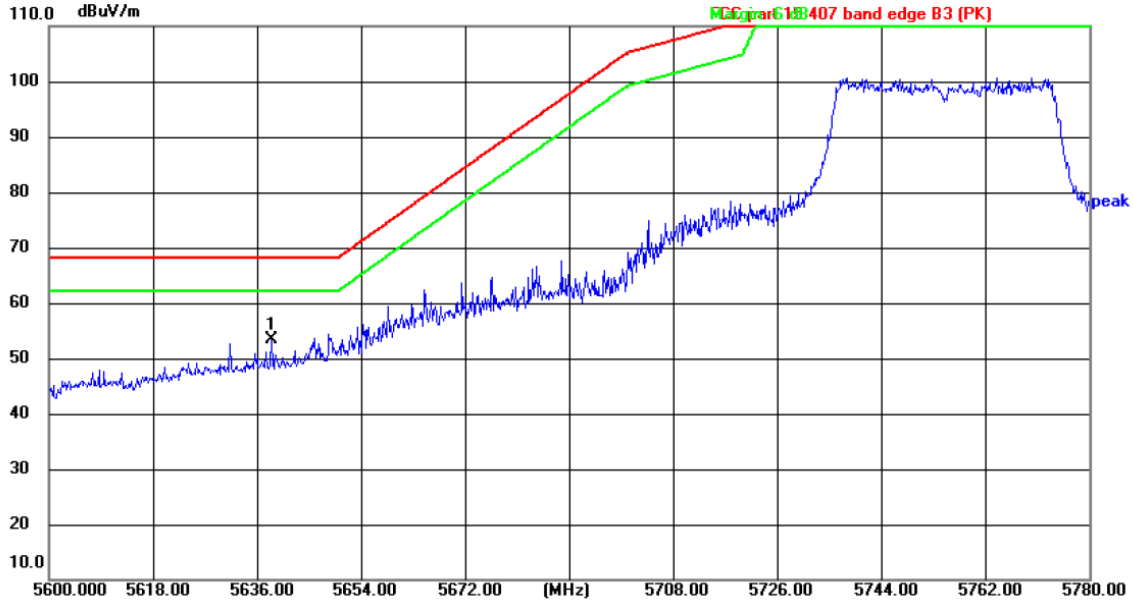
AC40-5755



Site: 3m Anechoic Chamber Polarization: *Horizontal* Temperature: 24.1(℃) Humidity: 43 %

Limit: FCC part 15.407 band edge B3 (PK) Power:DC 5 V(Notebook Computer Input 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 *	5638.880	58.93	-7.43	51.50	68.20	-16.70	peak	P	



Site: 3m Anechoic Chamber Polarization: *Vertical* Temperature: 24.1(℃) Humidity: 43 %

Limit: FCC part 15.407 band edge B3 (PK) Power:DC 5 V(Notebook Computer Input AC 120 V/60 Hz)

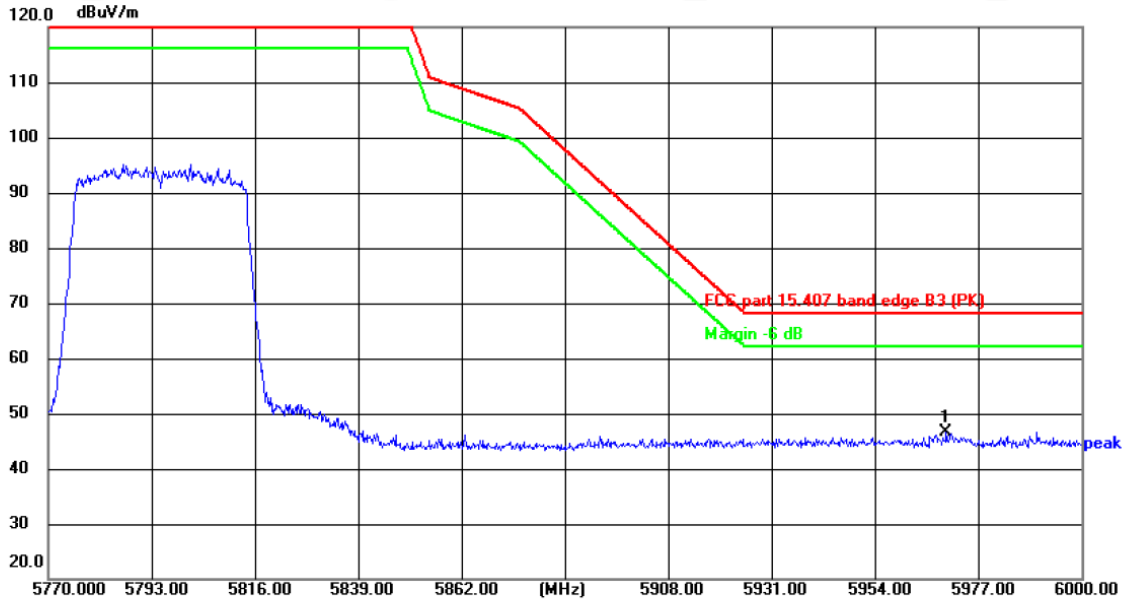
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5638.520	60.72	-7.44	53.28	68.20	-14.92	peak	P	

AC40-5795

Site: 3m Anechoic Chamber Polarization: *Horizontal* Temperature: 22.9(℃) Humidity: 63 %

Limit: FCC part 15.407 band edge B3 (PK) Power:DC 5 V(Notebook Computer Input 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 *	5960.670	52.92	-6.46	46.46	68.20	-21.74	peak	P	

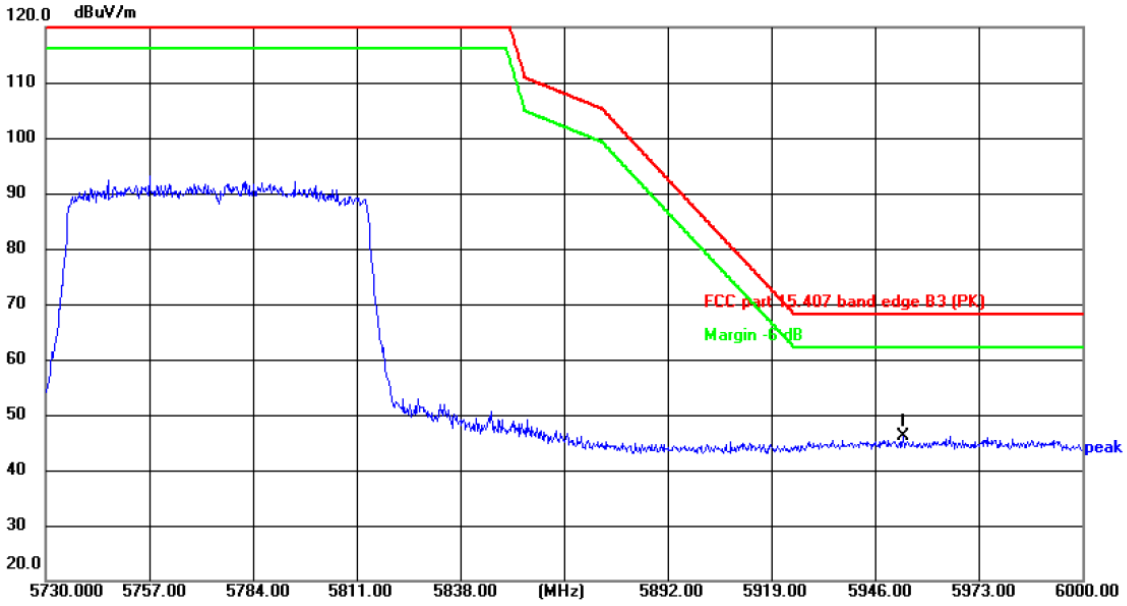


Site: 3m Anechoic Chamber Polarization: *Vertical* Temperature: 22.9(℃) Humidity: 63 %

Limit: FCC part 15.407 band edge B3 (PK) Power:DC 5 V(Notebook Computer Input 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 *	5969.870	53.10	-6.42	46.68	68.20	-21.52	peak	P	

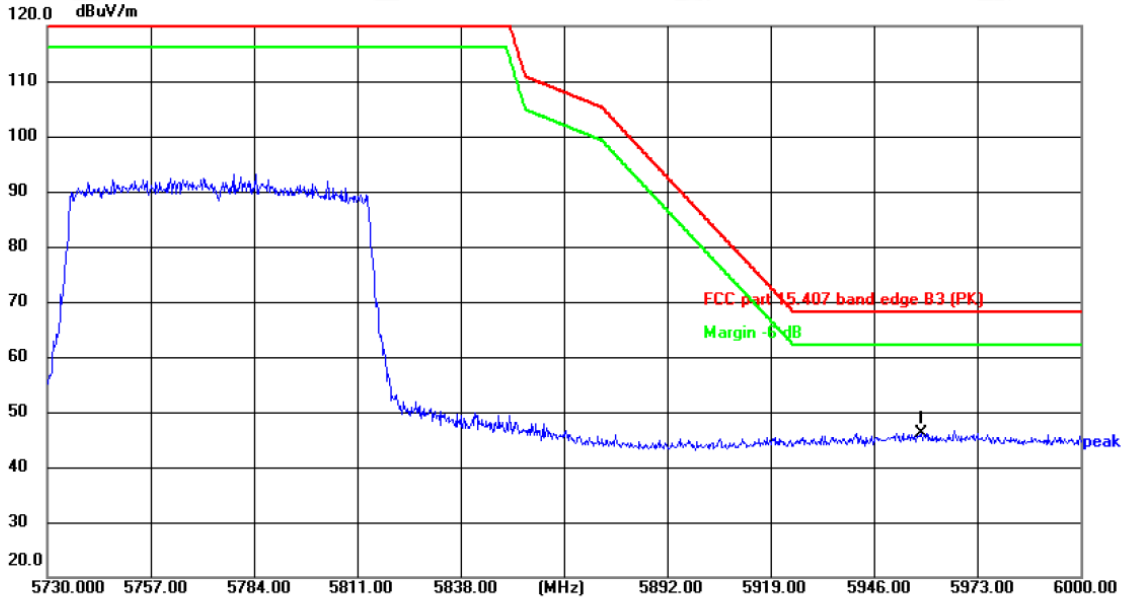
AC80-5775



Site: 3m Anechoic Chamber Polarization: *Horizontal* Temperature: 22.9(℃) Humidity: 63 %

Limit: FCC part 15.407 band edge B3 (PK) Power:DC 5 V(Notebook Computer Input 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 *	5953.290	52.70	-6.48	46.22	68.20	-21.98	peak	P	

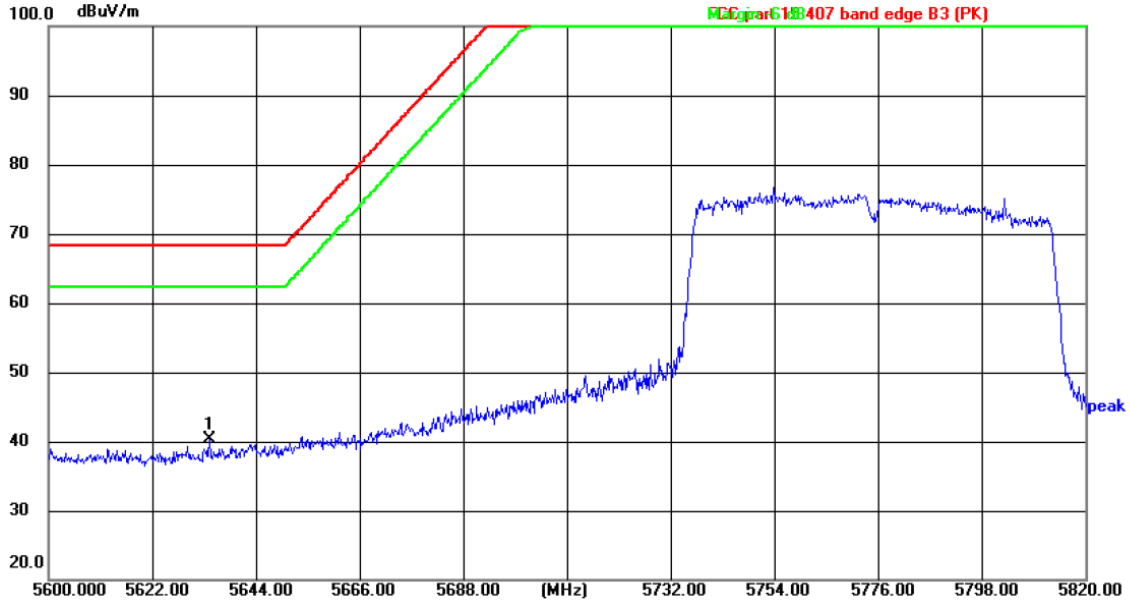


Site: 3m Anechoic Chamber Polarization: *Vertical* Temperature: 22.9(℃) Humidity: 63 %

Limit: FCC part 15.407 band edge B3 (PK) Power:DC 5 V(Notebook Computer Input 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 *	5958.420	52.64	-6.46	46.18	68.20	-22.02	peak	P	

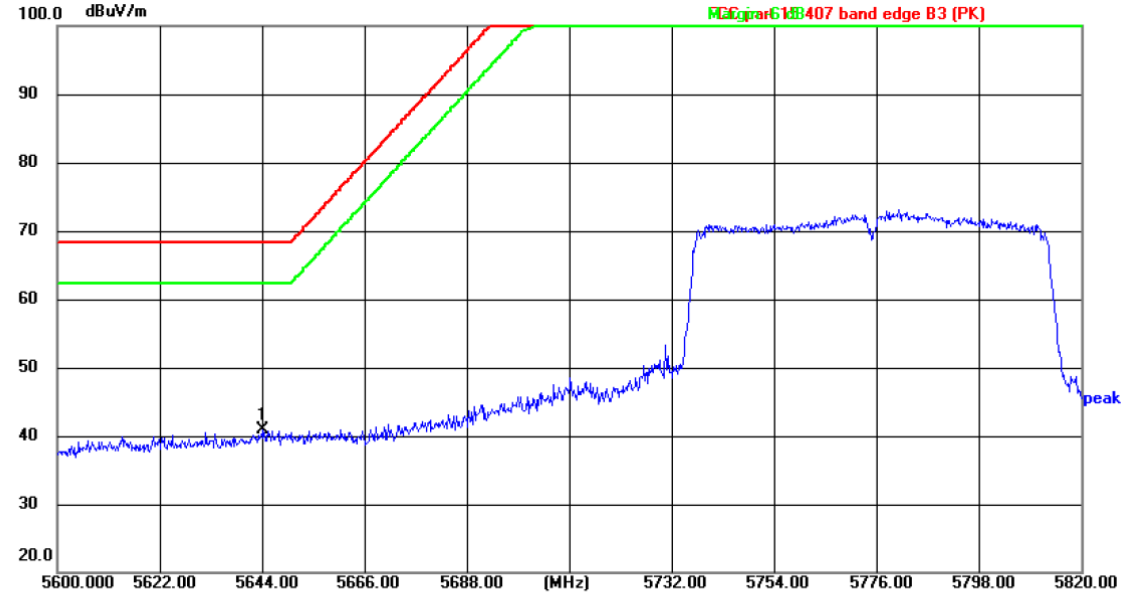
AC80-5775



Site: 3m Anechoic Chamber Polarization: *Horizontal* Temperature: 25.3(℃) Humidity: 45 %

Limit: FCC part 15.407 band edge B3 (PK) Power:DC 5 V(Notebook Computer Input 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 *	5634.100	48.23	-7.85	40.38	68.20	-27.82	peak	P	



Site: 3m Anechoic Chamber Polarization: *Vertical* Temperature: 25.3(℃) Humidity: 45 %

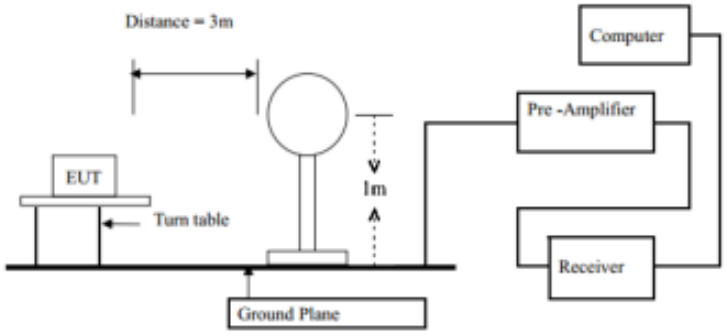
Limit: FCC part 15.407 band edge B3 (PK) Power:DC 5 V(Notebook Computer Input AC 120 V/60 Hz)

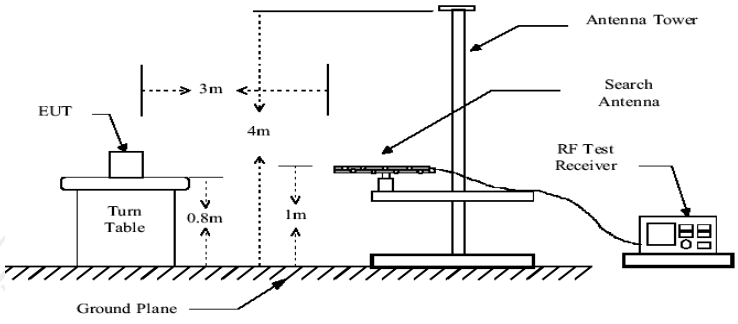
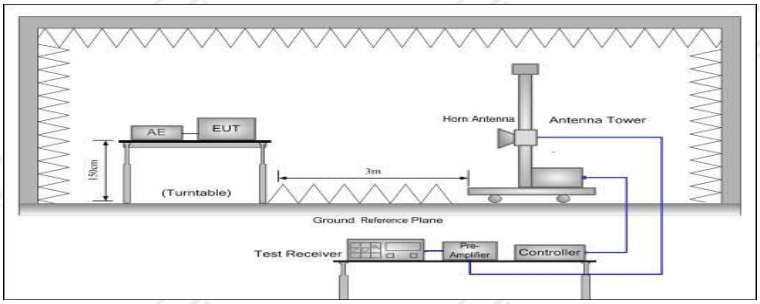
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1 *	5644.330	48.84	-7.97	40.87	68.20	-27.33	peak	P	

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

<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>0.490-1.705</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
 
</td></tr>
</table>

	30MHz to 1GHz  Above 1GHz 
Test Procedure:	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.
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. 27, 2024	Jun. 26, 2025
Pre-amplifier	SKET	LNPA_0118G-45	SK2021012102	Jan. 21, 2025	Jan. 20, 2026
Pre-amplifier	SKET	LNPA_1840G-50	SK202109203500	Jan. 21, 2025	Jan. 20, 2026
Pre-amplifier	HP	8447D	2727A05017	Jun. 27, 2024	Jun. 26, 2025
Loop antenna	Schwarzbeck	FMZB1519B	00191	Jun. 27, 2024	Jun. 26, 2025
Broadband Antenna	Schwarzbeck	VULB9163	340	Jun. 29, 2024	Jun. 28, 2025
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Jun. 29, 2024	Jun. 28, 2025
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Jan. 23, 2025	Jan. 22, 2026
Coaxial cable	SKET	RE-03-D	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-03-M	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-03-L	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-04-D	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-04-M	/	Jun. 27, 2024	Jun. 26, 2025
Coaxial cable	SKET	RE-04-L	/	Jun. 27, 2024	Jun. 26, 2025
Antenna Mast	Keleto	RE-AM	/	/	/
EMI Test Software	EZ_EMC	FA-03A2 RE+	1.1.4.2	/	/

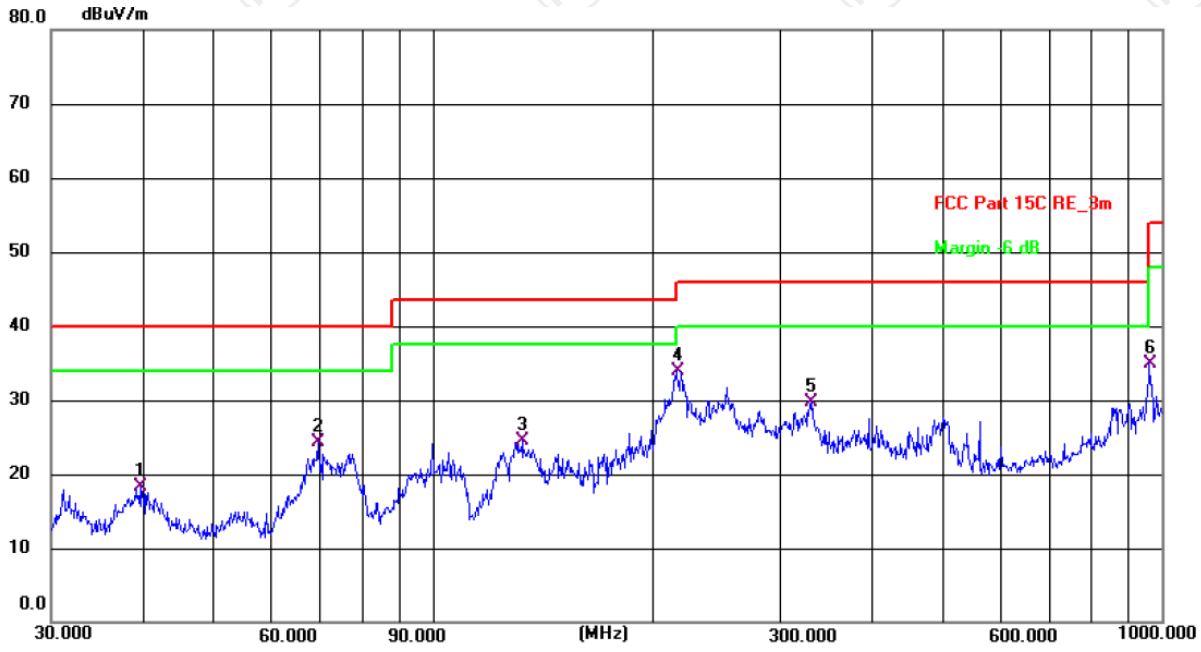
Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com

6.8.3. Test Data

Please refer to following diagram for individual

Below 1GHz

Horizontal:



Site 3m Anechoic Chamber2 Polarization: *Horizontal* Temperature: 22.8(C) Humidity: 51 %

Limit: FCC Part 15C RE_3m Power: DC 5 V(Notebook Computer Input 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	39.7146	36.76	-18.49	18.27	40.00	-21.73	QP	P	
2	69.6005	44.54	-20.31	24.23	40.00	-15.77	QP	P	
3	132.6850	42.80	-18.27	24.53	43.50	-18.97	QP	P	
4 *	216.0240	54.70	-20.82	33.88	46.00	-12.12	QP	P	
5	331.3546	47.11	-17.49	29.62	46.00	-16.38	QP	P	
6	962.1623	39.64	-4.76	34.88	54.00	-19.12	QP	P	

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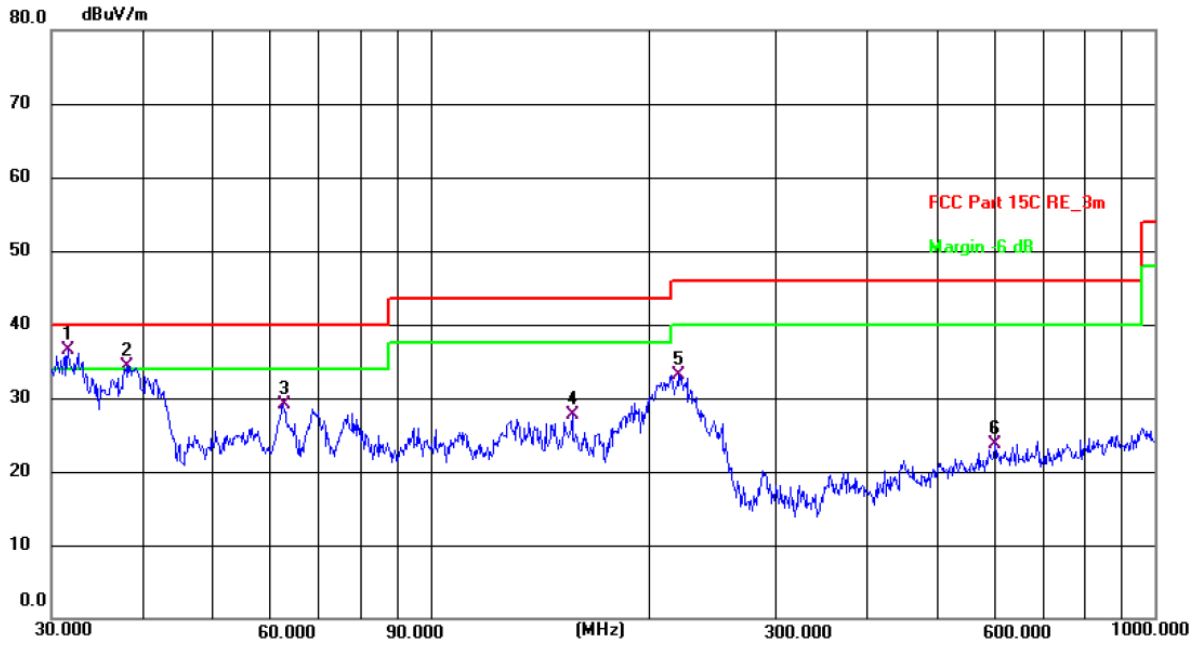
Vertical:



Site 3m Anechoic Chamber2 Polarization: *Vertical* Temperature: 22.8(C) Humidity: 51 %

Limit: FCC Part 15C RE_3m Power: DC 5 V(Notebook Computer Input 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 *	31.6201	56.10	-19.53	36.57	40.00	-3.43	QP	P	
2 !	38.0782	53.04	-18.77	34.27	40.00	-5.73	QP	P	
3	62.6506	48.10	-19.08	29.02	40.00	-10.98	QP	P	
4	157.0073	44.62	-16.98	27.64	43.50	-15.86	QP	P	
5	219.8448	53.85	-20.66	33.19	46.00	-12.81	QP	P	
6	601.4265	33.73	-10.04	23.69	46.00	-22.31	QP	P	

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

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

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

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	44.95	---	2.48	47.43	---	74	54	-6.57
17235	H	37.84	---	6.50	44.34	---	68.2	---	-23.86
---	H	---	---	---	---	---	---	---	---
11490	V	45.38	---	2.48	47.86	---	74	54	-6.14
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	43.73	---	2.42	46.15	---	74	54	-7.85
17355	H	39.06	---	7.03	46.09	---	68.2	---	-22.11
---	H	---	---	---	---	---	---	---	---
11570	V	44.21	---	2.42	46.63	---	74	54	-7.37
17355	V	39.64	---	7.03	46.67	---	68.2	---	-21.53
---	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	43.75	---	2.41	46.16	---	74	54	-7.84
17475	H	36.54	---	7.41	43.95	---	68.2	---	-24.25
---	H	---	---	---	---	---	---	---	---
11650	V	43.92	---	2.41	46.33	---	74	54	-7.67
17475	V	38.56	---	7.41	45.97	---	68.2	---	-22.23
---	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	44.85	---	2.48	47.33	---	74	54	-6.67
17235	H	38.34	---	6.50	44.84	---	68.2	---	-23.36
---	H	---	---	---	---	---	---	---	---
11490	V	44.66	---	2.48	47.14	---	74	54	-6.86
17235	V	37.39	---	6.50	43.89	---	68.2	---	-24.31
---	V	---	---	---	---	----	---	---	---

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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	44.83	---	2.42	47.25	---	74	54	-6.75
17355	H	39.34	---	7.03	46.37	---	68.2	---	-21.83
---	H	---	---	---	---	---	---	---	---
11570	V	45.12	---	2.42	47.54	---	74	54	-6.46
17355	V	39.61	---	7.03	46.64	---	68.2	---	-21.56
---	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	45.42	---	2.41	47.83	---	74	54	-6.17
17475	H	37.86	---	7.41	45.27	---	68.2	---	-22.93
---	H	---	---	---	---	---	---	---	---
11650	V	45.38	---	2.41	47.79	---	74	54	-6.21
17475	V	40.33	---	7.41	47.74	---	68.2	---	-20.46
---	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	44.92	---	2.47	47.39	---	74	54	-6.61
17265	H	37.41	---	6.62	44.03	---	68.2	---	-24.17
---	H	---	---	---	---	---	---	---	---
11510	V	44.76	---	2.47	47.23	---	74	54	-6.77
17265	V	38.82	---	6.62	45.44	---	68.2	---	-22.76
---	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	44.55	---	2.40	46.95	---	74	54	-7.05
17385	H	38.97	---	7.15	46.12	---	68.2	---	-22.08
---	H	---	---	---	---	---	---	---	---
11590	V	44.41	---	2.40	46.81	---	74	54	-7.19
17385	V	38.02	---	7.15	45.17	---	68.2	---	-23.03
---	V	---	---	---	---	----	---	---	---

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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	44.89	---	2.48	47.37	---	74	54	-6.63
17235	H	37.53	---	6.50	44.03	---	68.2	---	-24.17
---	H	---	---	---	---	---	---	---	---
11490	V	45.03	---	2.48	47.51	---	74	54	-6.49
17235	V	38.74	---	6.50	45.24	---	68.2	---	-22.96
---	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	43.87	---	2.42	46.29	---	74	54	-7.71
17355	H	36.54	---	7.03	43.57	---	68.2	---	-24.63
---	H	---	---	---	---	---	---	---	---
11570	V	43.93	---	2.42	46.35	---	74	54	-7.65
17355	V	38.47	---	7.03	45.5	---	68.2	---	-22.7
---	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	44.45	---	2.41	46.86	---	74	54	-7.14
17475	H	38.86	---	7.41	46.27	---	68.2	---	-21.93
---	H	---	---	---	---	---	---	---	---
11650	V	44.39	---	2.41	46.8	---	74	54	-7.2
17475	V	40.21	---	7.41	47.62	---	68.2	---	-20.58
---	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	44.73	---	2.47	47.2	---	74	54	-6.8
17265	H	37.42	---	6.62	44.04	---	68.2	---	-24.16
---	H	---	---	---	---	---	---	---	---
11510	V	43.84	---	2.47	46.31	---	74	54	-7.69
17265	V	36.47	---	6.62	43.09	---	68.2	---	-25.11
---	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	43.55	---	2.40	45.95	---	74	54	-8.05
17385	H	37.37	---	7.15	44.52	---	68.2	---	-23.68
---	H	---	---	---	---	---	---	---	---
11590	V	42.96	---	2.40	45.36	---	74	54	-8.64
17385	V	38.67	---	7.15	45.82	---	68.2	---	-22.38
---	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	44.85	---	2.44	47.29	---	74	54	-6.71
17325	H	38.34	---	6.89	45.23	---	68.2	---	-22.97
---	H	---	---	---	---	---	---	---	---
11550	V	44.97	---	2.44	47.41	---	74	54	-6.59
17325	V	38.26	---	6.89	45.15	---	68.2	---	-23.05
---	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.*

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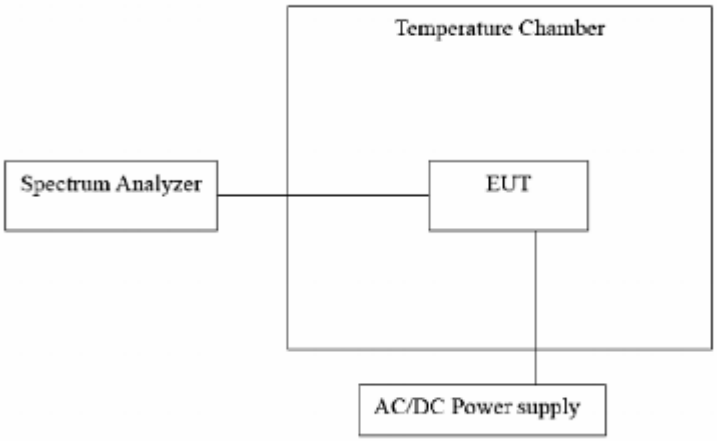
6.9. Frequency Stability Measurement

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:	
Test Procedure:	The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage. b. Turn the EUT on and couple its output to a spectrum analyzer. c. Turn the EUT off and set the chamber to the highest temperature specified. d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature. f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.
Test Result:	PASS
Remark:	Pre-scan was performed at all models(11a,11n,11ac), the worst case (11ac) was found and test data was shown in this report.

6.9.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Date of Cal.	Due Date
Spectrum Analyzer	Agilent	N9020A	MY49100619	Jun. 27, 2024	Jun. 26, 2025
DC power supply	Kingrang	KR3005K	/	Jun. 27, 2024	Jun. 26, 2025
Programable tempratuce and humidity chamber	JQ	JQ-2000	510101234	Jun. 27, 2024	Jun. 26, 2025

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Test plots as follows:

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

Temperature (°C)	Voltage(V_{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	5V	5744.98	-20000	PASS
35		5744.94	-60000	PASS
25		5744.96	-40000	PASS
15		5744.96	-40000	PASS
5		5744.98	-20000	PASS
0		5744.98	-20000	PASS
25	4.25V	5745	0	PASS
	5V	5744.96	-40000	PASS
	5.75V	5744.96	-40000	PASS

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

Temperature (°C)	Voltage(V_{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	5V	5824.98	-20000	PASS
35		5824.96	-40000	PASS
25		5824.92	-80000	PASS
15		5825	0	PASS
5		5824.96	-40000	PASS
0		5824.96	-40000	PASS
25	4.25V	5824.98	-20000	PASS
	5V	5824.94	-60000	PASS
	5.75V	5824.92	-80000	PASS

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

Temperature (°C)	Voltage(V_{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	5V	5754.96	-40000	PASS
35		5754.96	-40000	PASS
25		5755	0	PASS
15		5754.96	-40000	PASS
5		5754.92	-80000	PASS
0		5754.92	-80000	PASS
25	4.25V	5754.92	-80000	PASS
	5V	5754.96	-40000	PASS
	5.75V	5754.96	-40000	PASS

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

Temperature (°C)	Voltage(V_{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	5V	5794.96	-40000	PASS
35		5794.96	-40000	PASS
25		5794.96	-40000	PASS
15		5794.96	-40000	PASS
5		5794.96	-40000	PASS
0		5794.96	-40000	PASS
25	4.25V	5794.96	-40000	PASS
	5V	5795	0	PASS
	5.75V	5794.96	-40000	PASS

Test mode:	802.11ac(VHT80)	Frequency(MHz):	5775

Temperature (°C)	Voltage(V_{DC})	Measurement Frequency(MHz)	Delta Frequency(Hz)	Result
45	5V	5775.08	80000	PASS
35		5775.16	160000	PASS
25		5775	0	PASS
15		5775.08	80000	PASS
5		5775	0	PASS
0		5775	0	PASS
20	4.25V	5774.92	-80000	PASS
	5V	5775.08	80000	PASS
	5.75V	5775.08	80000	PASS

Appendix A: Test Result of Conducted Test

Duty Cycle

Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)
NVNT	a	5745	100	0
NVNT	a	5785	100	0
NVNT	a	5825	100	0
NVNT	n20	5745	100	0
NVNT	n20	5785	100	0
NVNT	n20	5825	100	0
NVNT	n40	5755	100	0
NVNT	n40	5795	98.5	0
NVNT	ac20	5745	100	0
NVNT	ac20	5785	99.4	0
NVNT	ac20	5825	100	0
NVNT	ac40	5755	100	0
NVNT	ac40	5795	100	0
NVNT	ac80	5775	100	0

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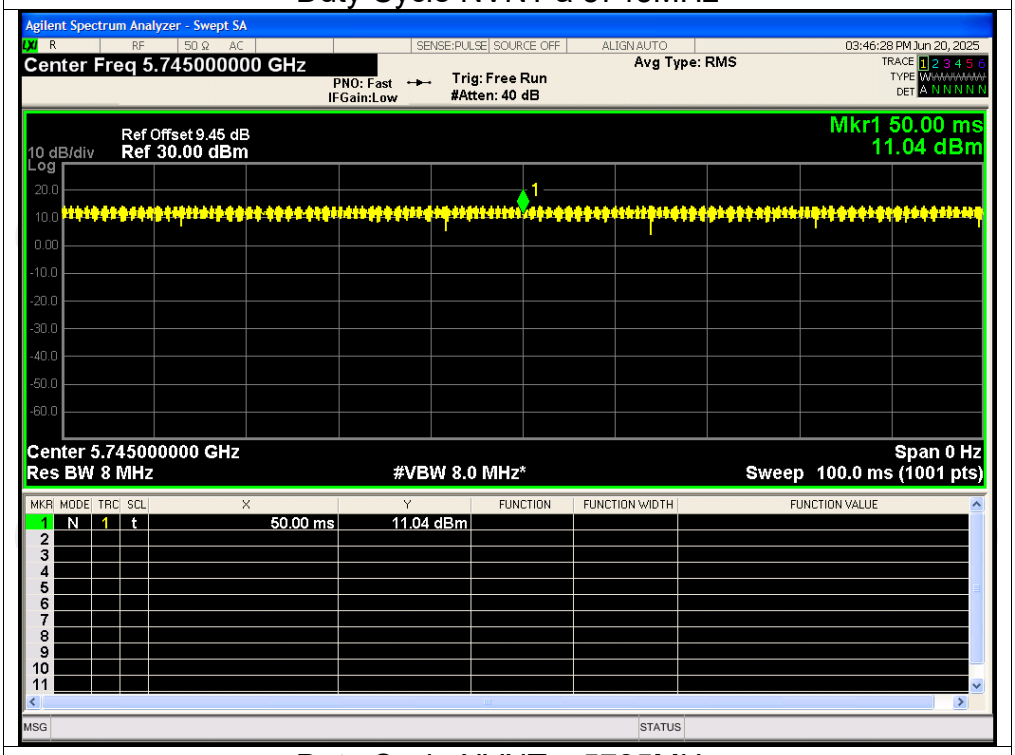
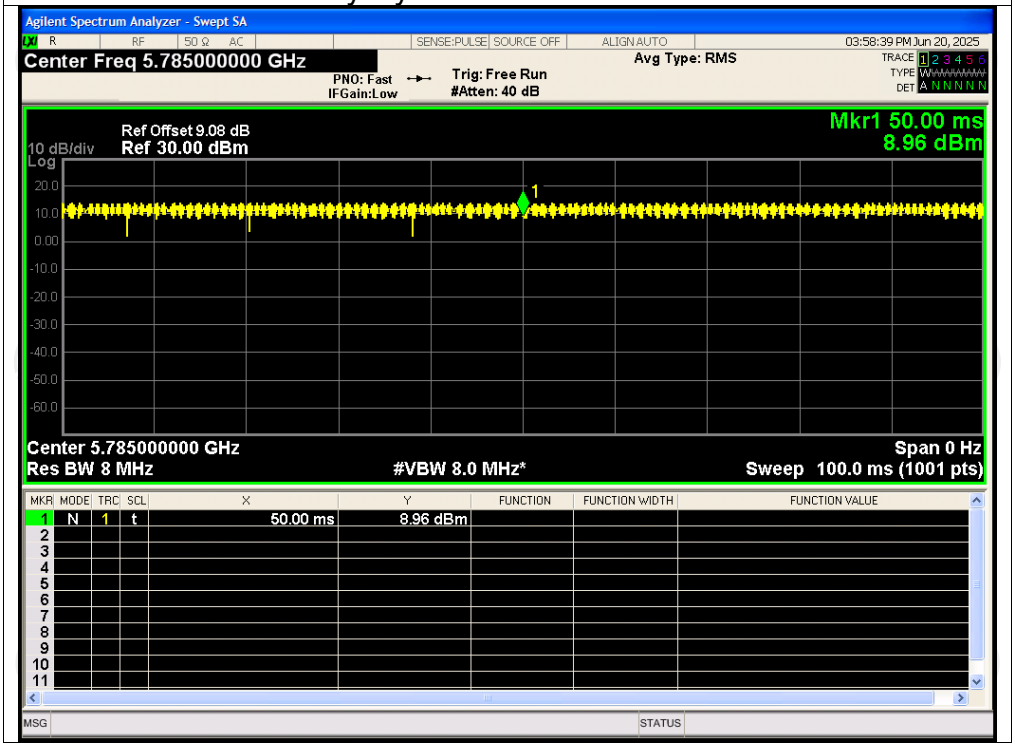
Test Graphs

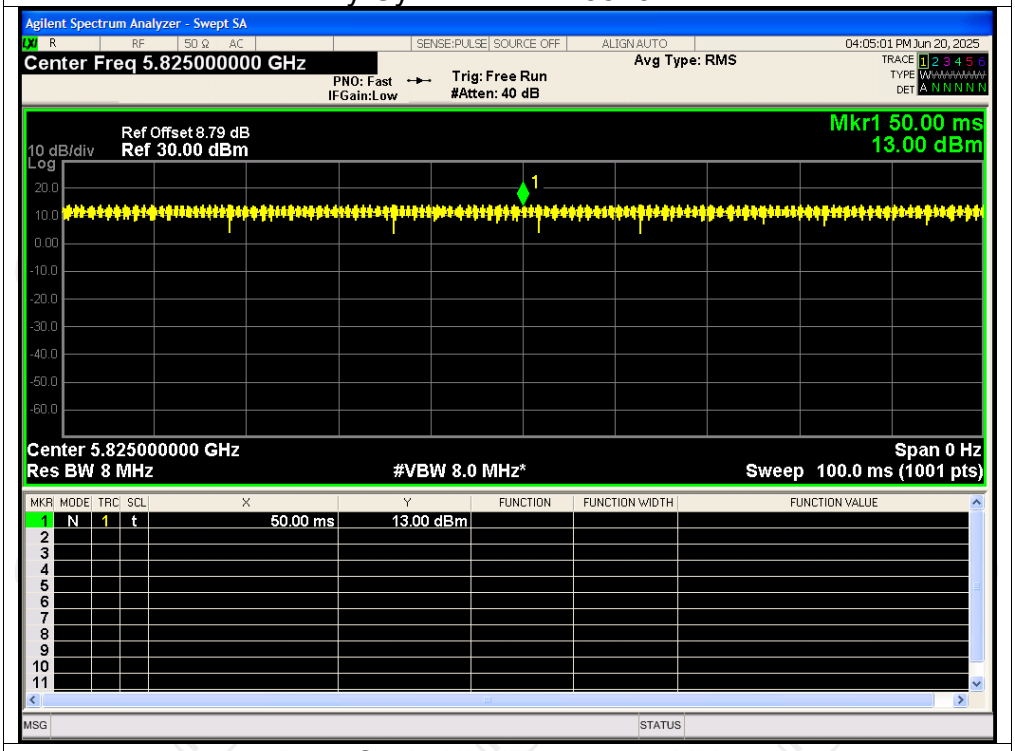
Duty Cycle NVNT a 5745MHz



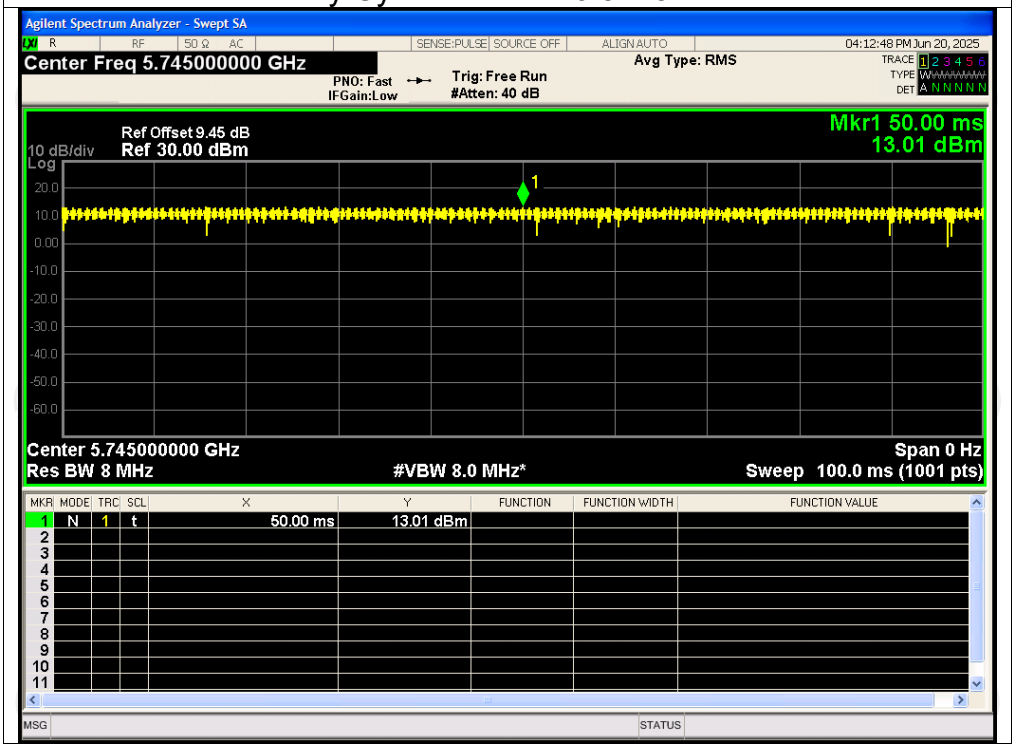
Duty Cycle NVNT a 5785MHz



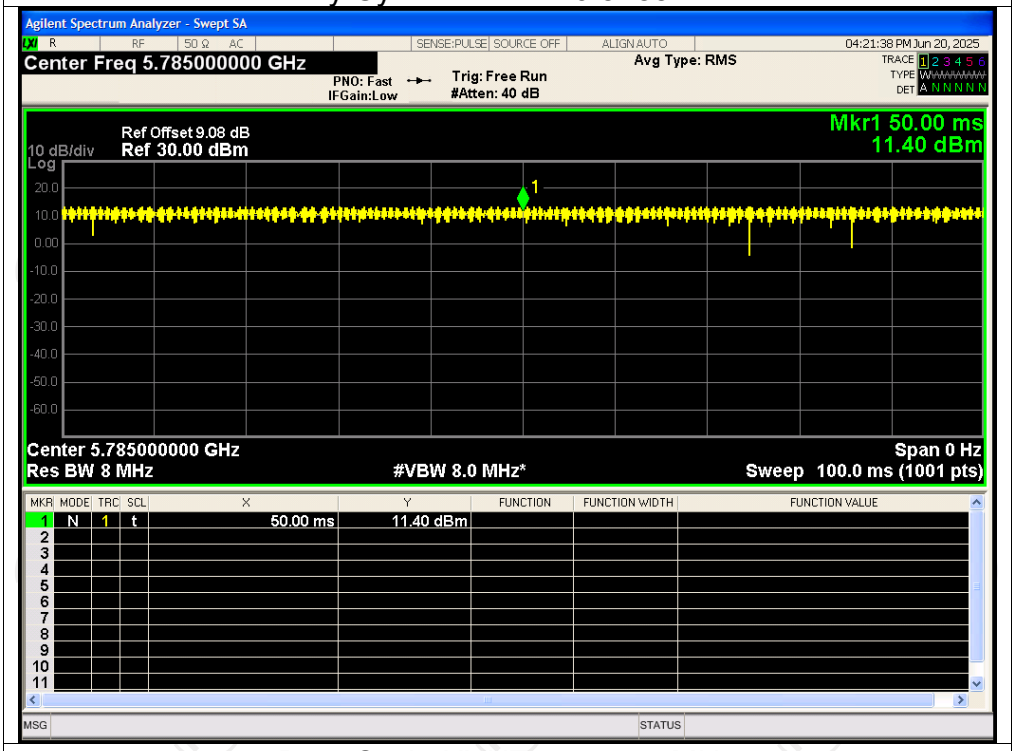
Duty Cycle NVNT a 5825MHz



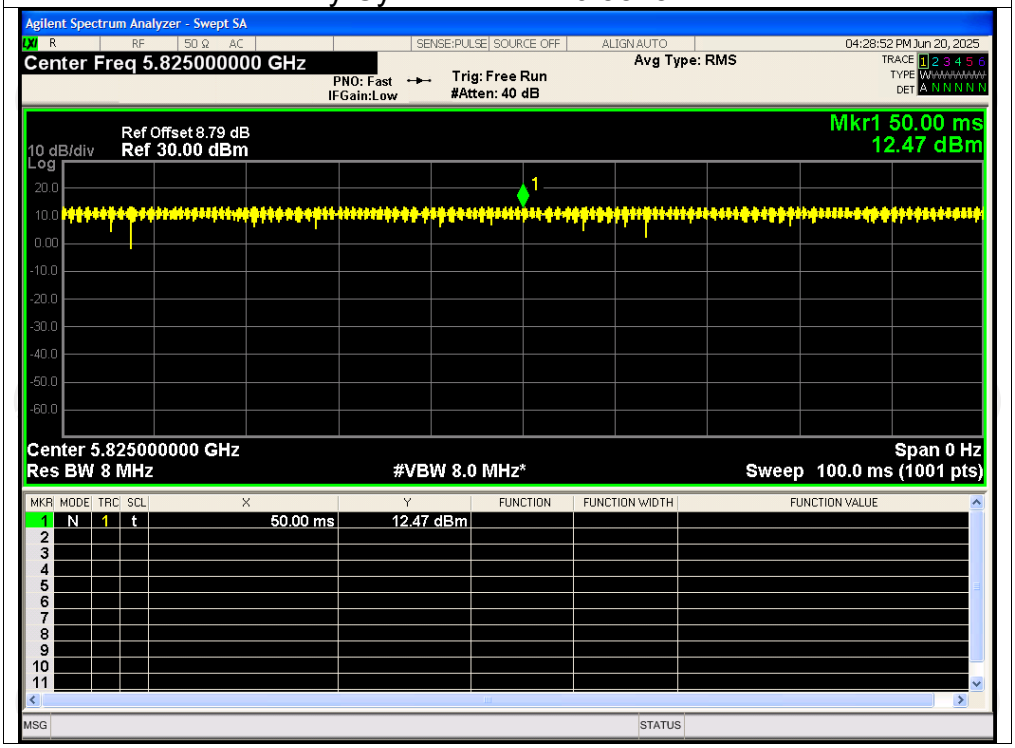
Duty Cycle NVNT n20 5745MHz



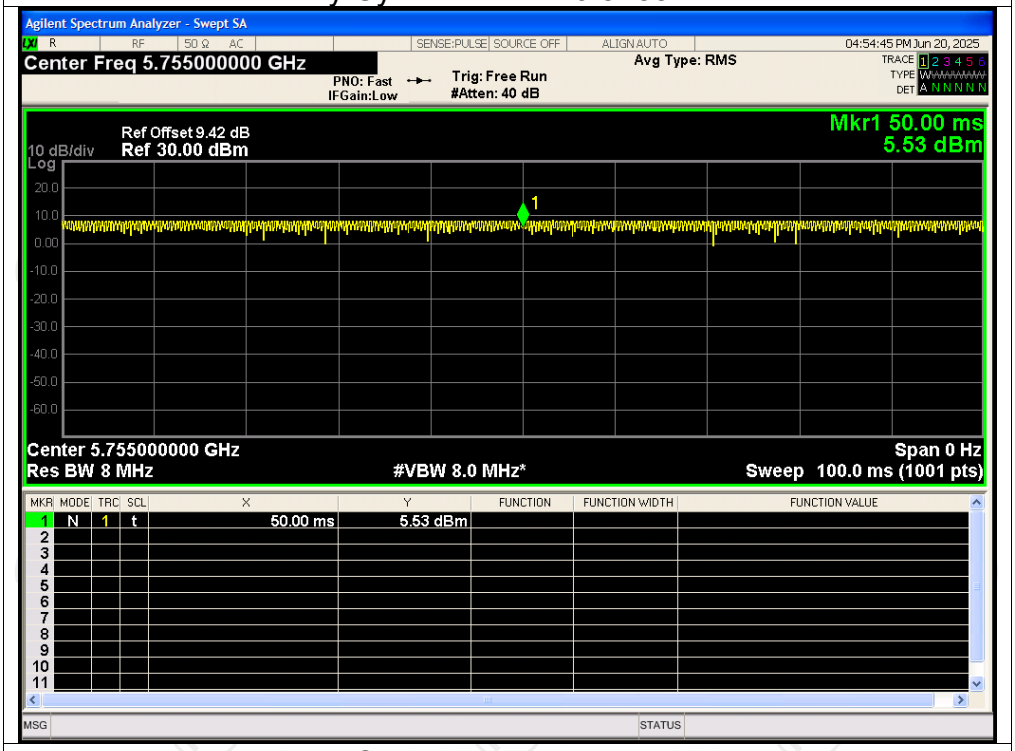
Duty Cycle NVNT n20 5785MHz



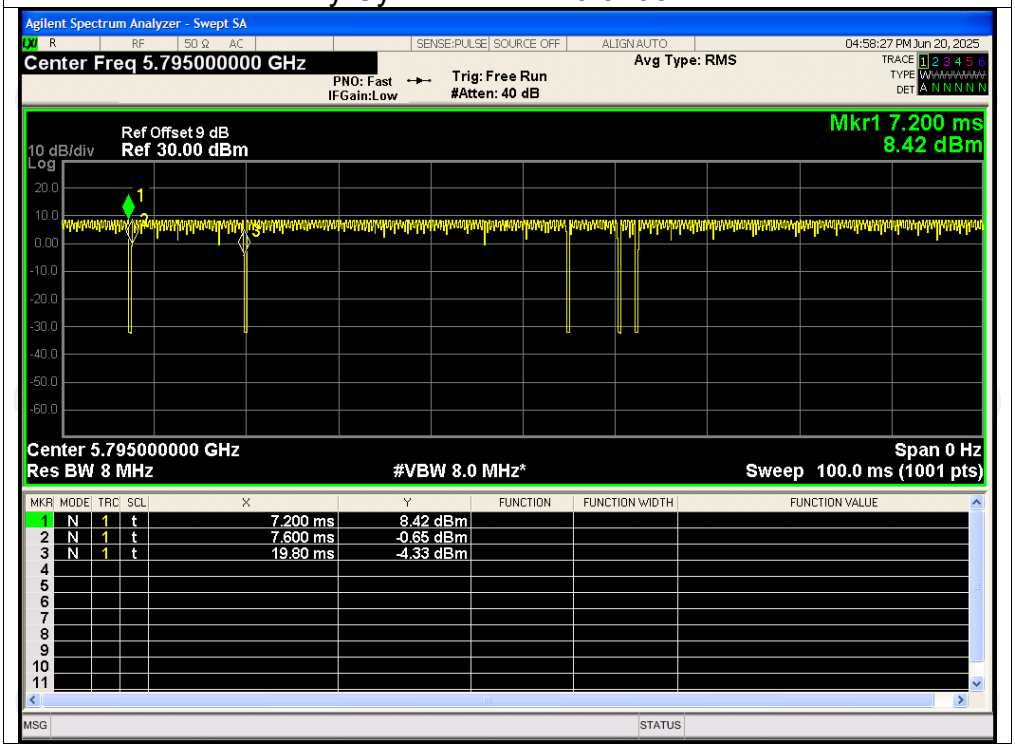
Duty Cycle NVNT n20 5825MHz



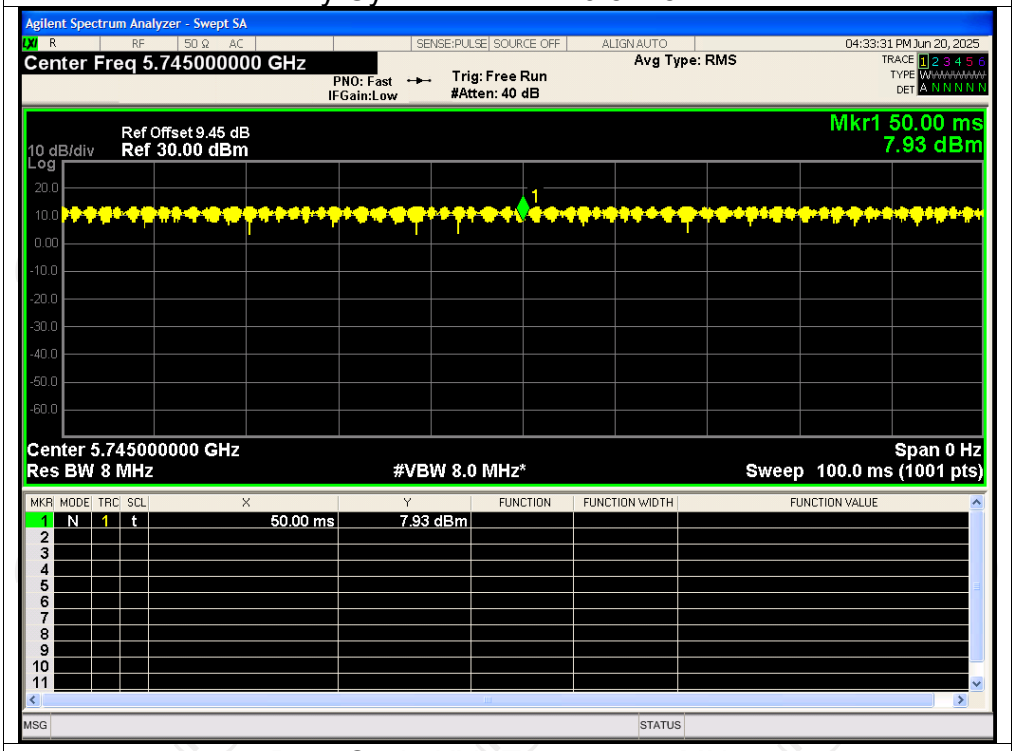
Duty Cycle NVNT n40 5755MHz



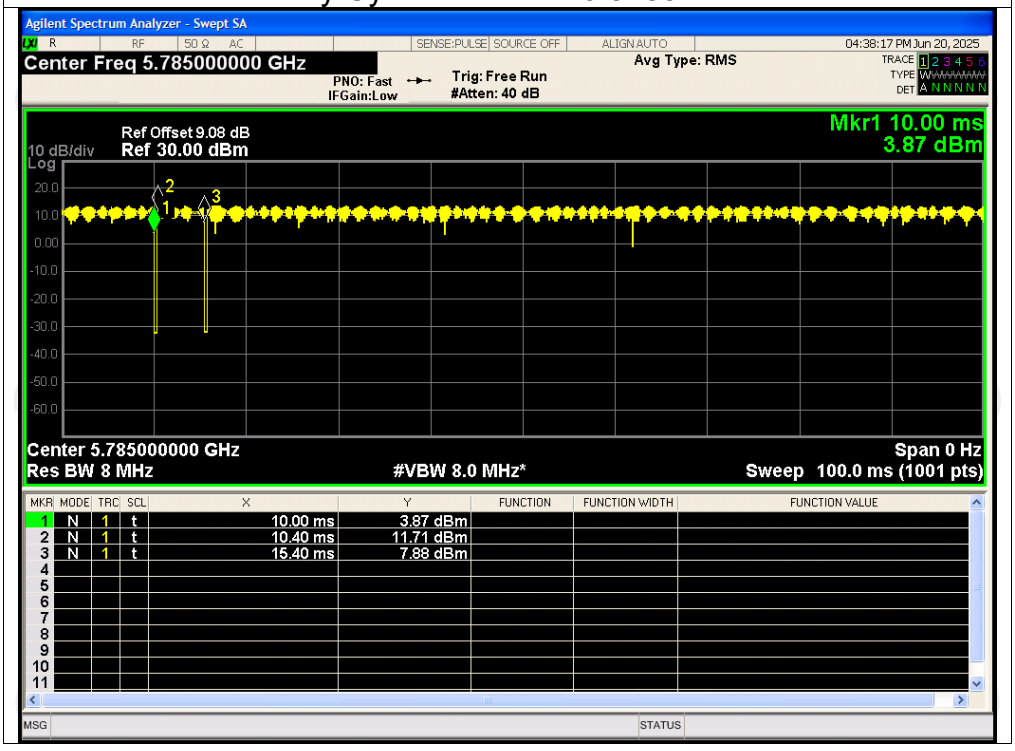
Duty Cycle NVNT n40 5795MHz



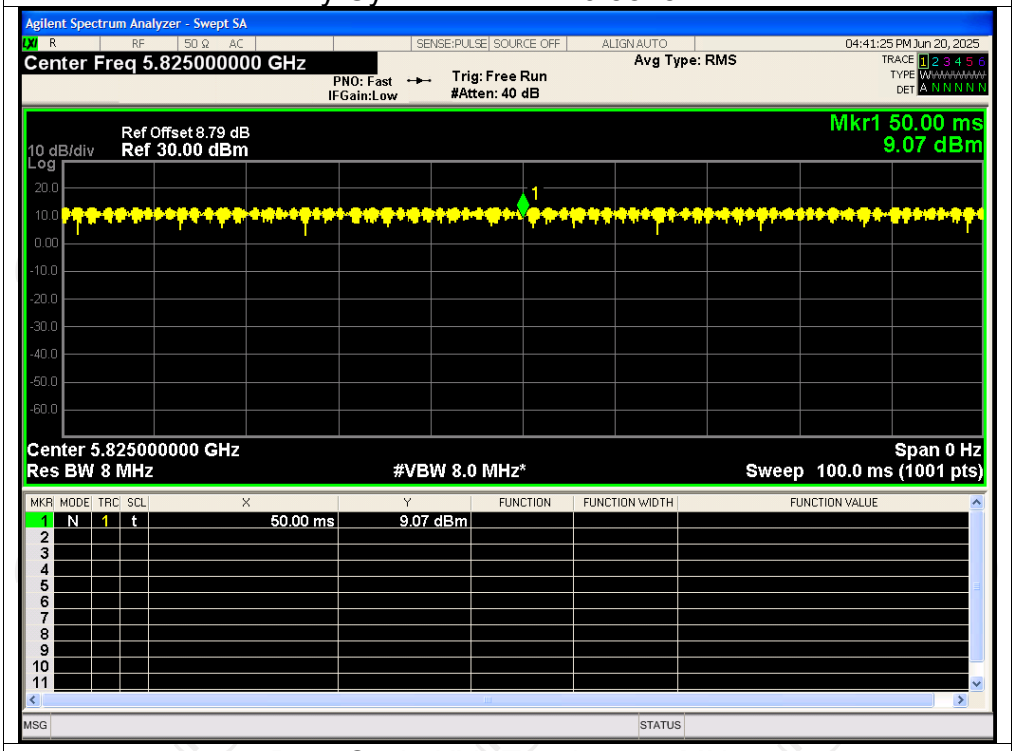
Duty Cycle NVNT ac20 5745MHz



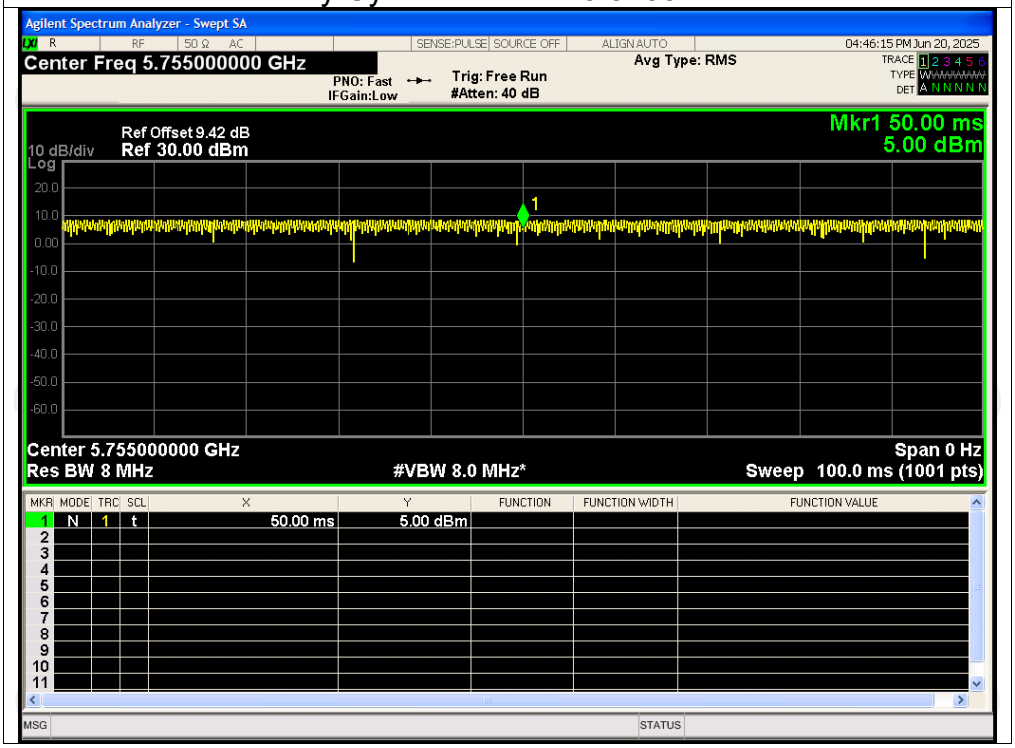
Duty Cycle NVNT ac20 5785MHz



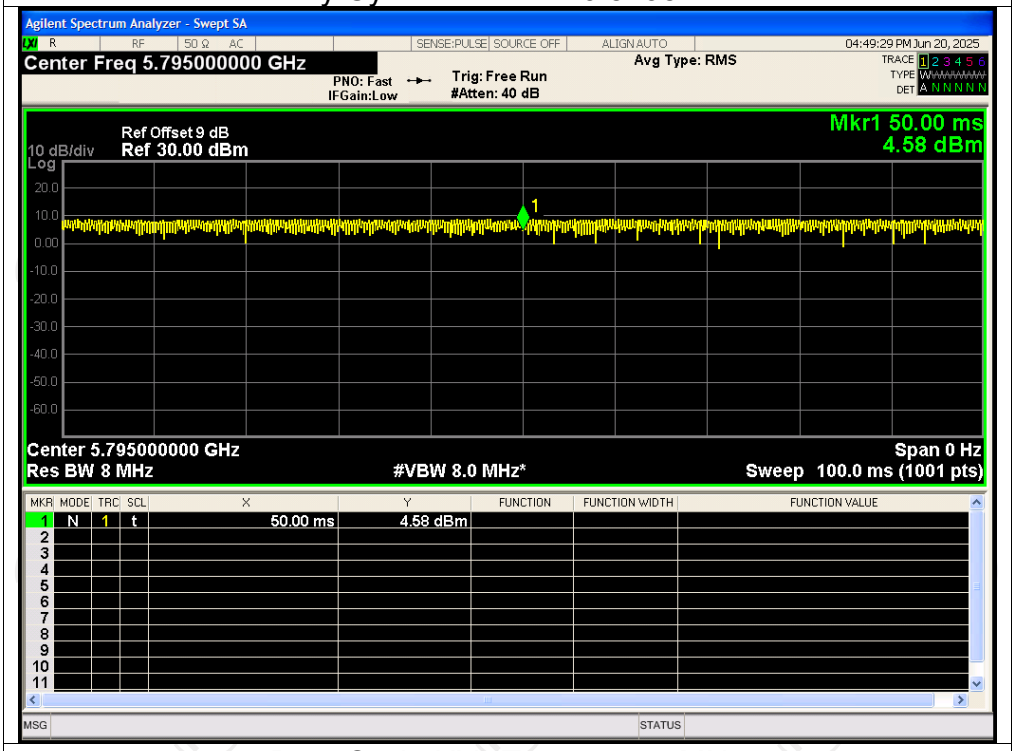
Duty Cycle NVNT ac20 5825MHz



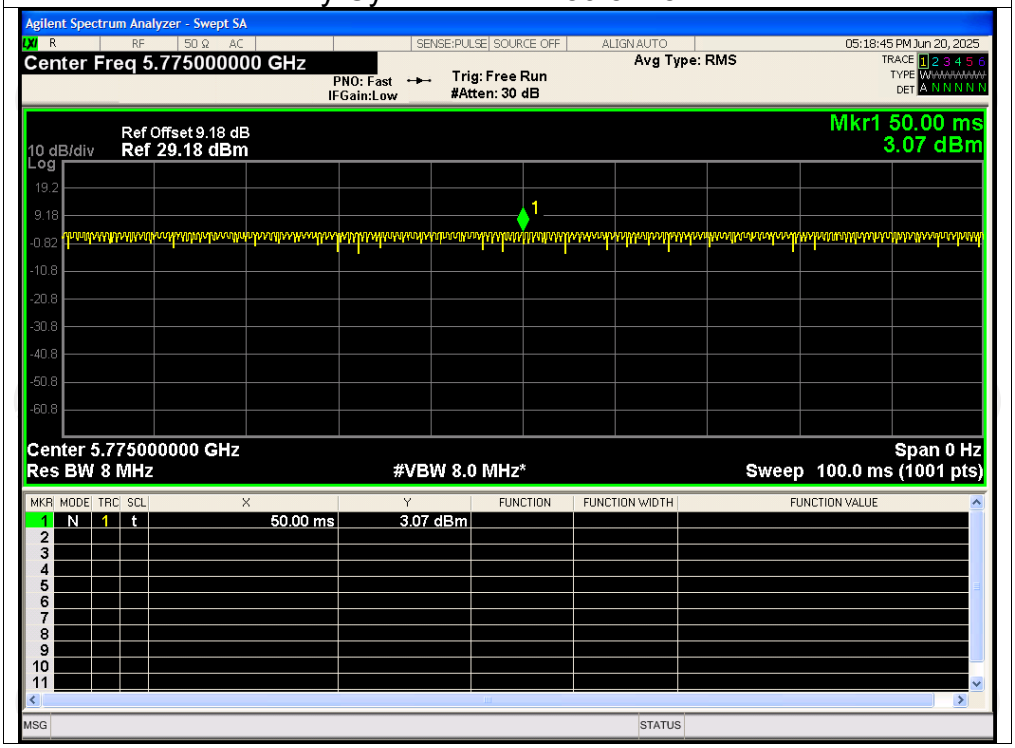
Duty Cycle NVNT ac40 5755MHz



Duty Cycle NVNT ac40 5795MHz



Duty Cycle NVNT ac80 5775MHz

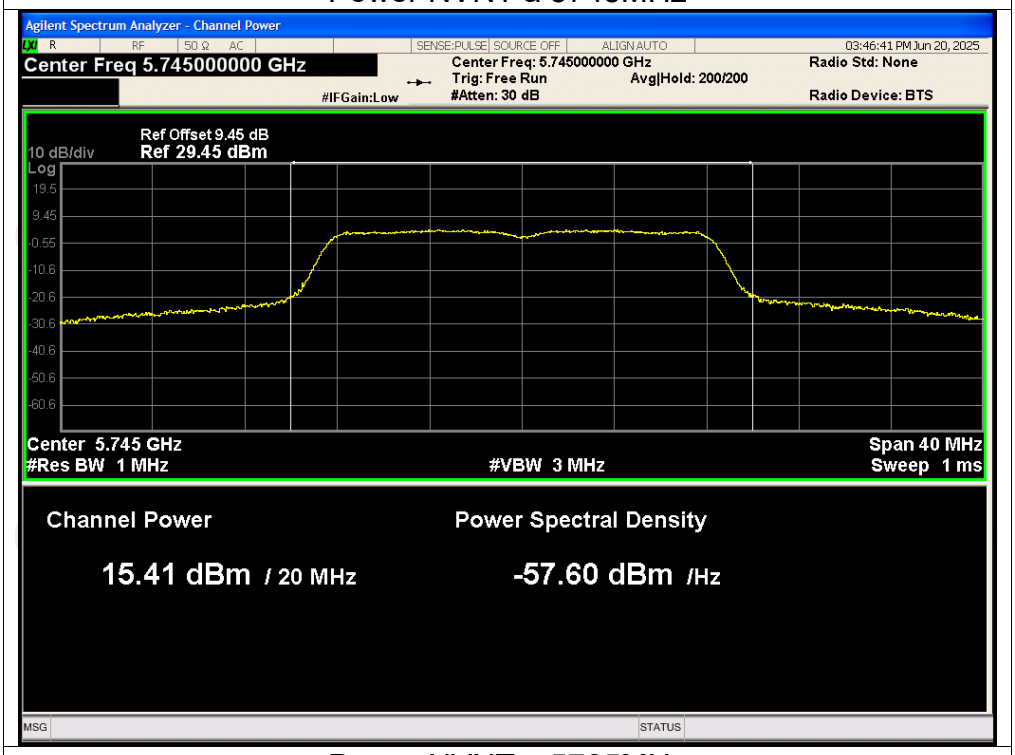


Maximum Conducted Output Power

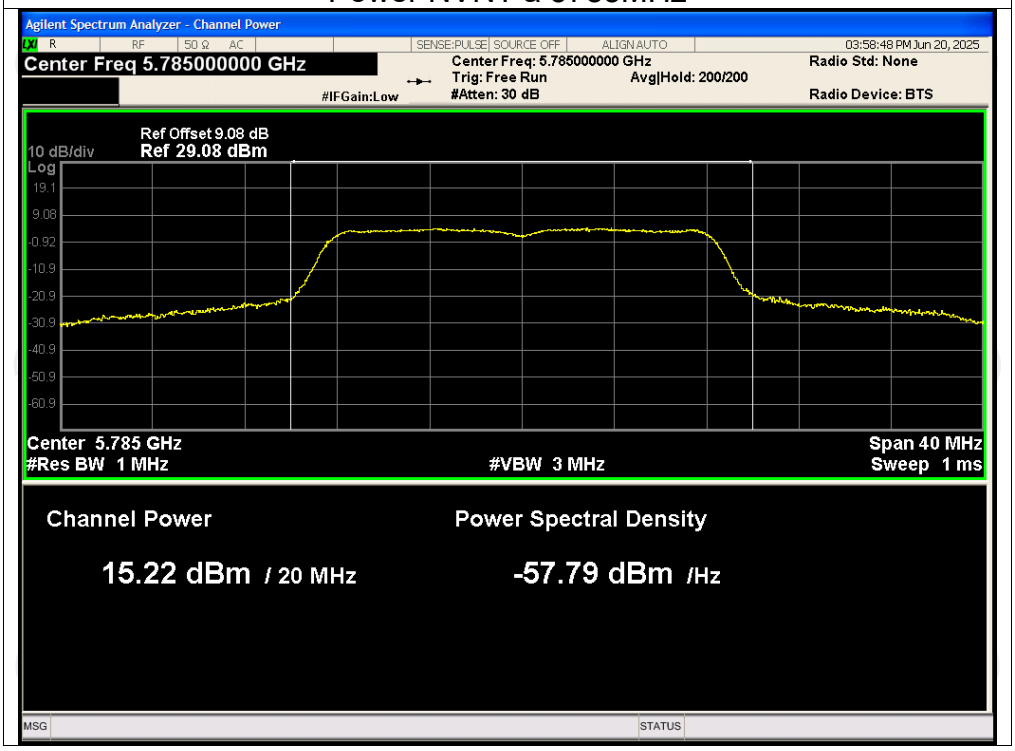
Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	15.41	30	Pass
NVNT	a	5785	15.22	30	Pass
NVNT	a	5825	15.18	30	Pass
NVNT	n20	5745	15.04	30	Pass
NVNT	n20	5785	15.20	30	Pass
NVNT	n20	5825	15.14	30	Pass
NVNT	n40	5755	14.25	30	Pass
NVNT	n40	5795	14.26	30	Pass
NVNT	ac20	5745	14.85	30	Pass
NVNT	ac20	5785	15.03	30	Pass
NVNT	ac20	5825	14.95	30	Pass
NVNT	ac40	5755	14.05	30	Pass
NVNT	ac40	5795	14.22	30	Pass
NVNT	ac80	5775	13.36	30	Pass

Test Graphs

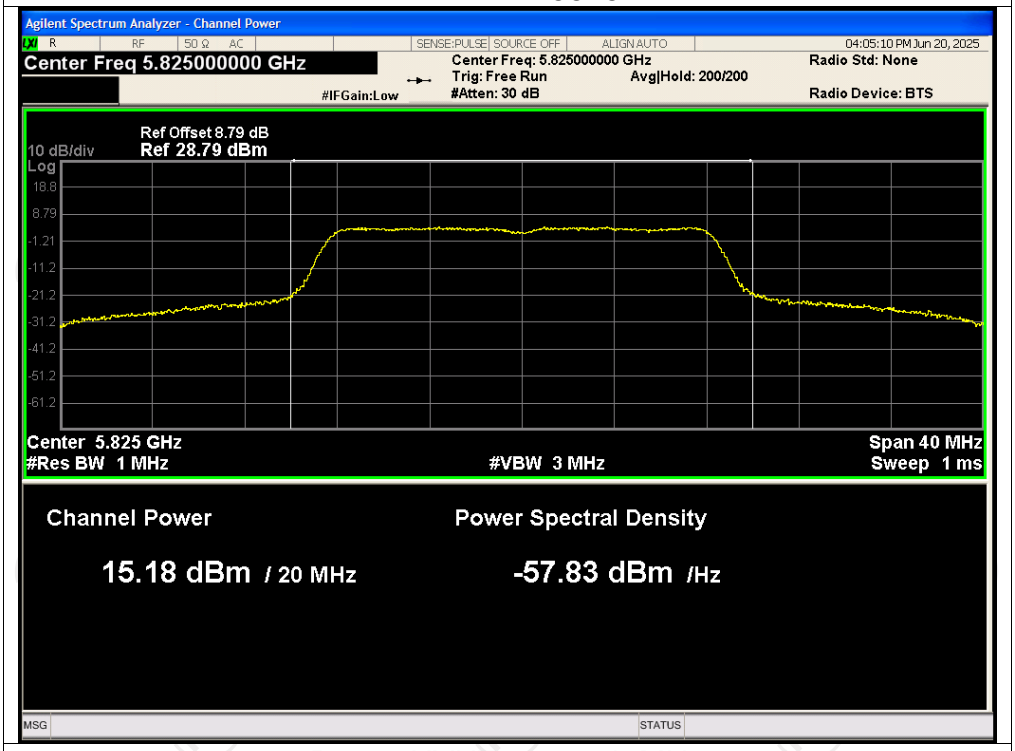
Power NVNT a 5745MHz



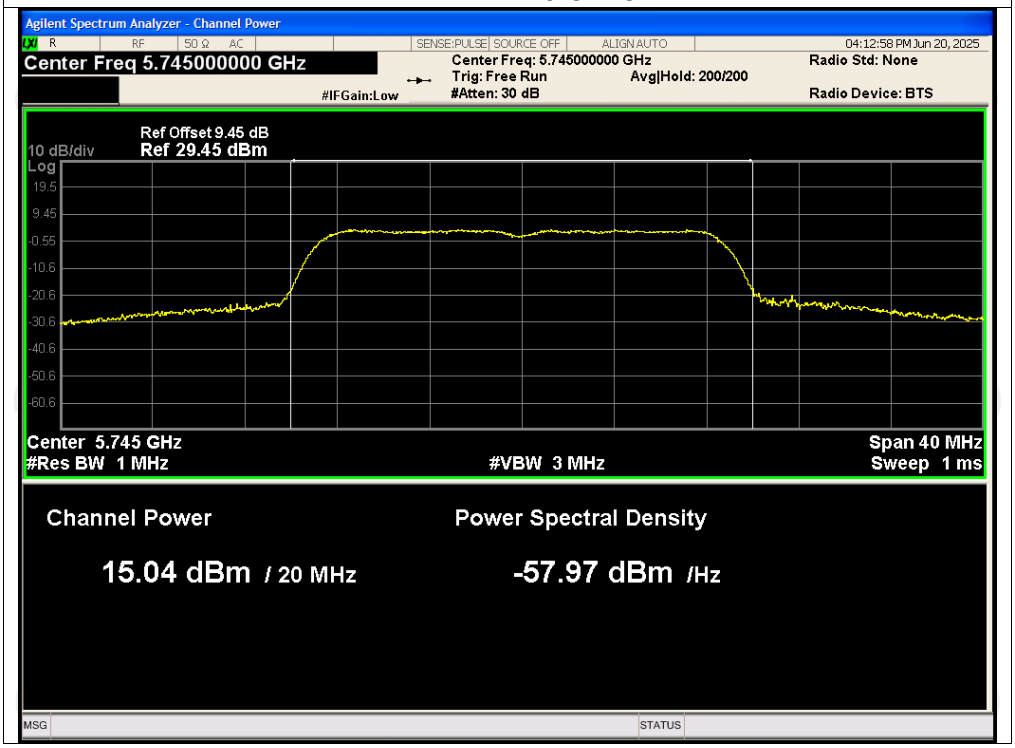
Power NVNT a 5785MHz



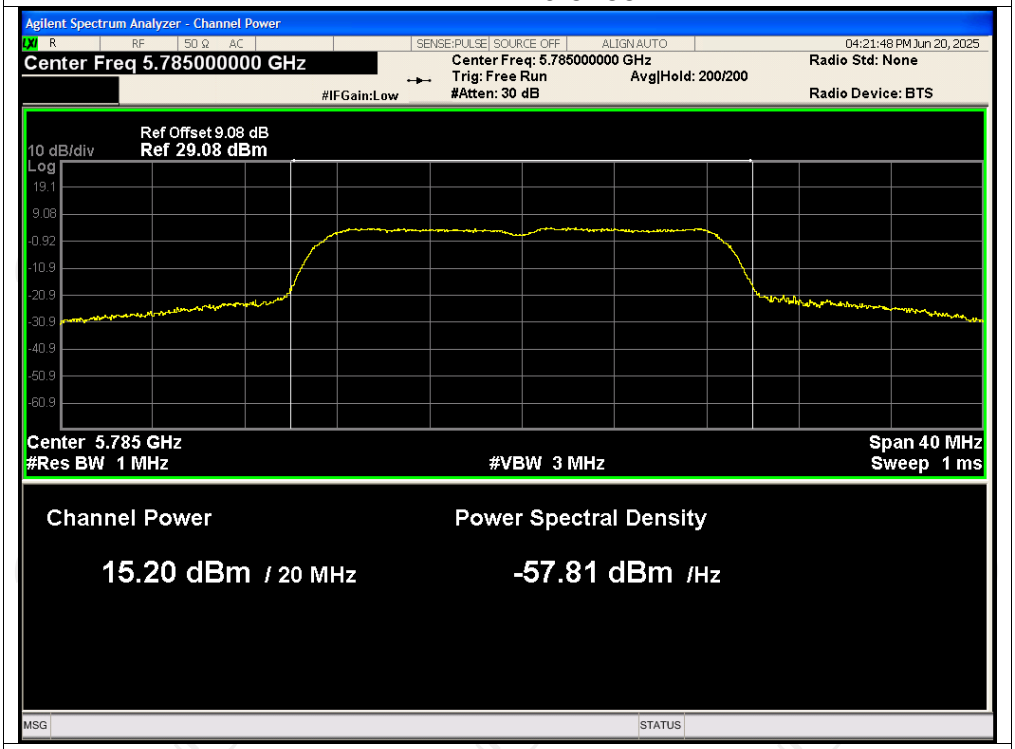
Power NVNT a 5825MHz



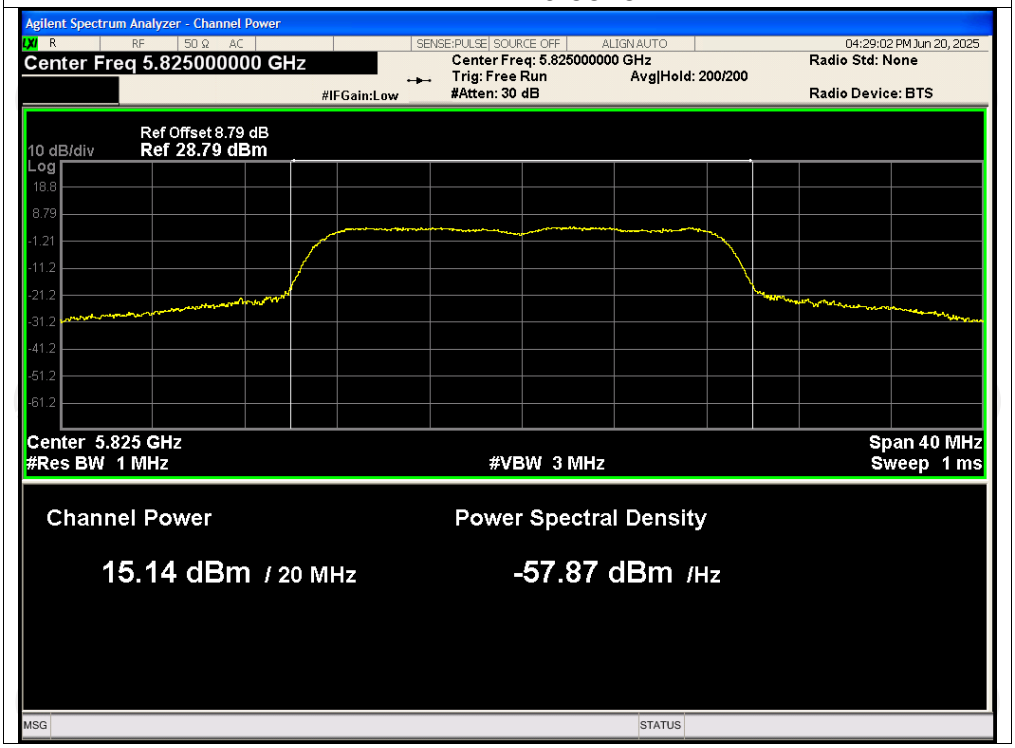
Power NVNT n20 5745MHz



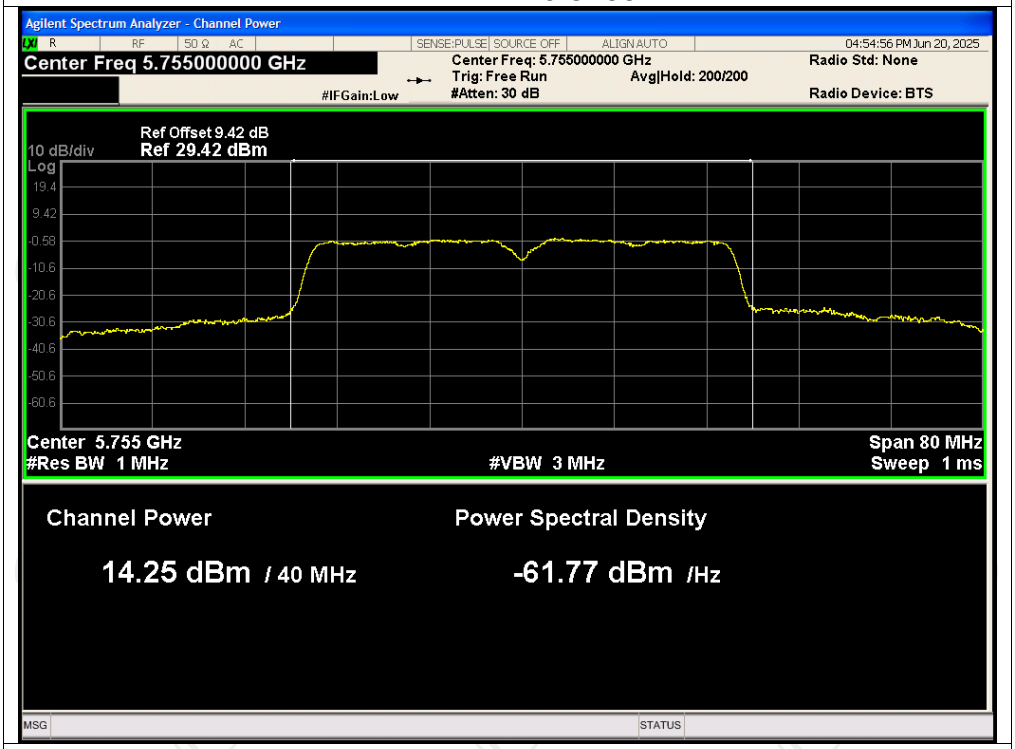
Power NVNT n20 5785MHz



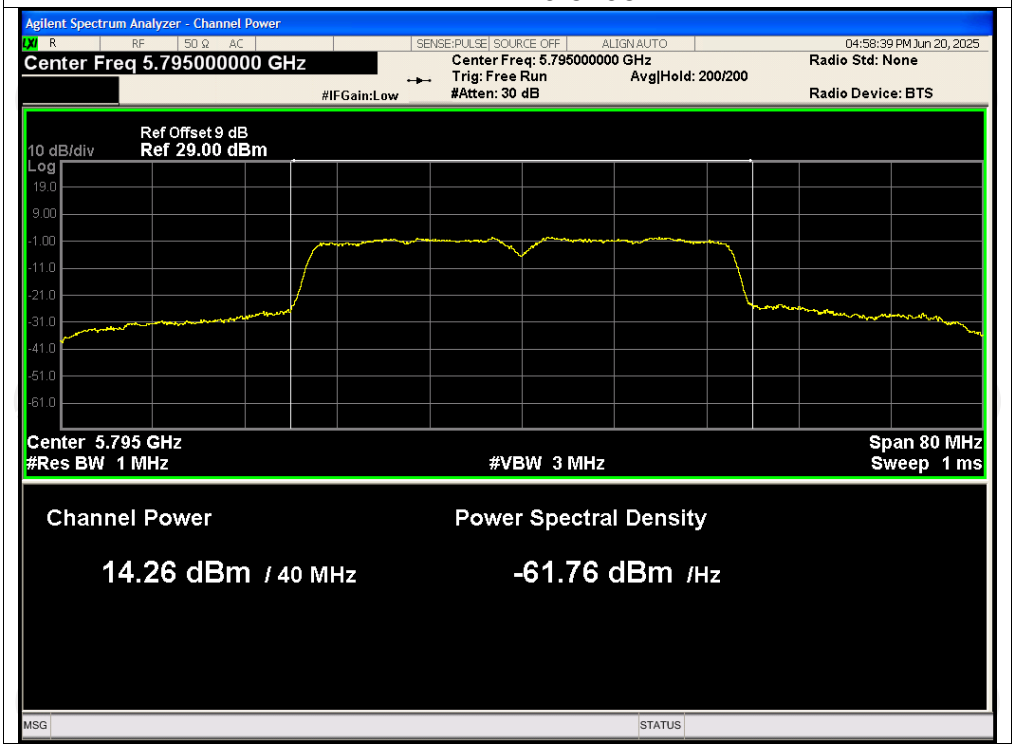
Power NVNT n20 5825MHz



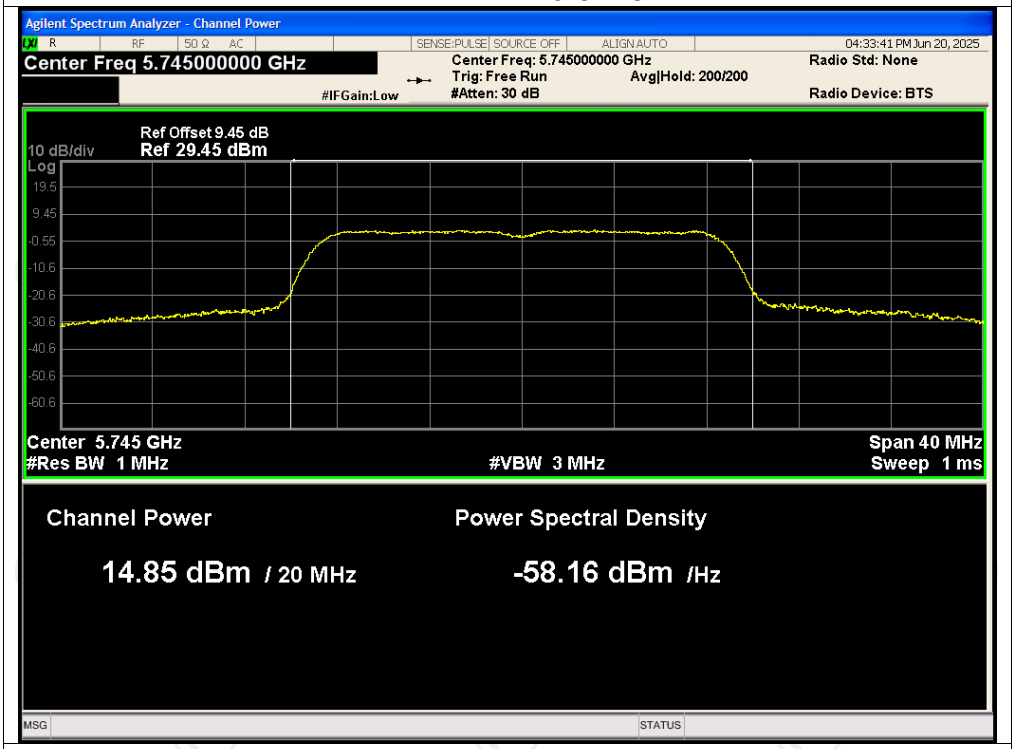
Power NVNT n40 5755MHz



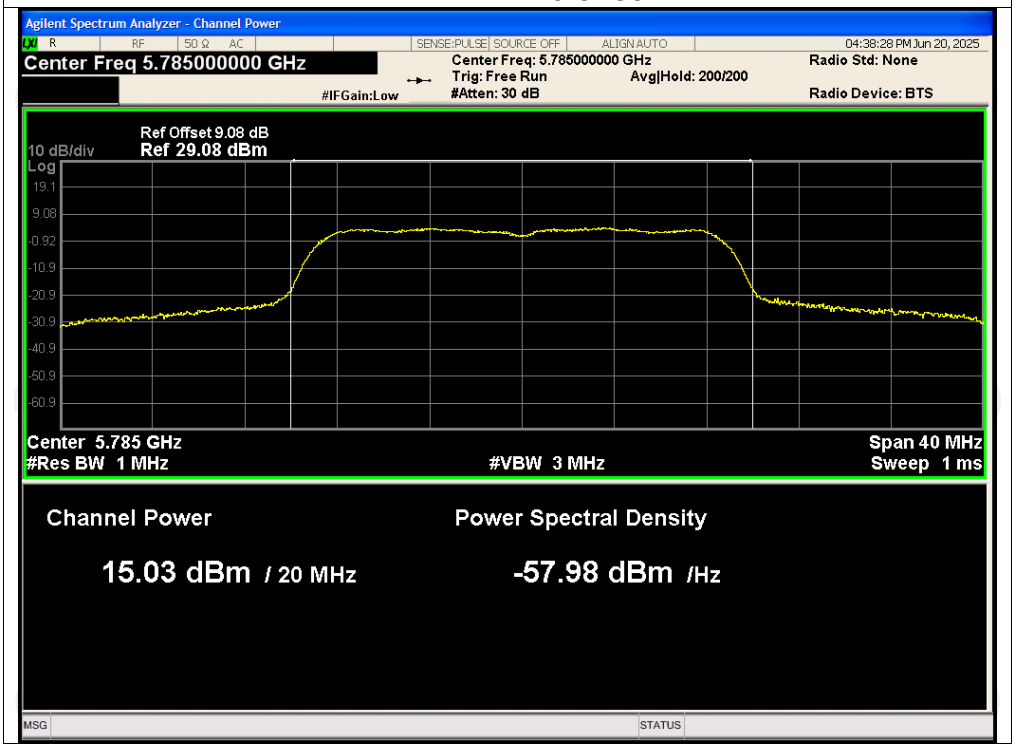
Power NVNT n40 5795MHz



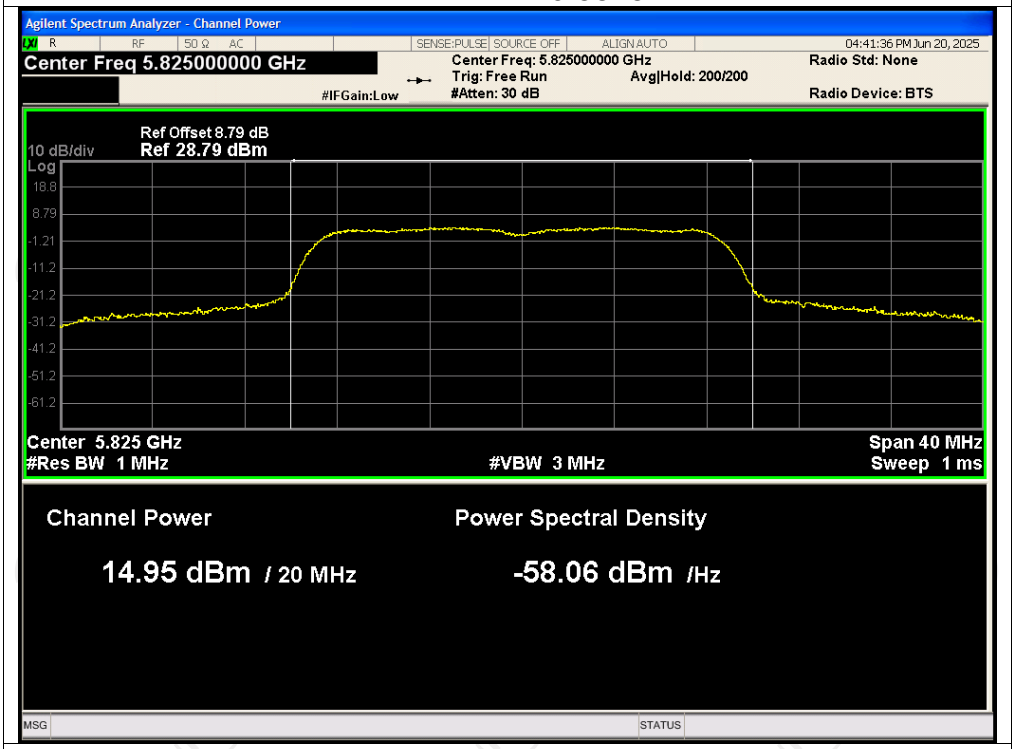
Power NVNT ac20 5745MHz



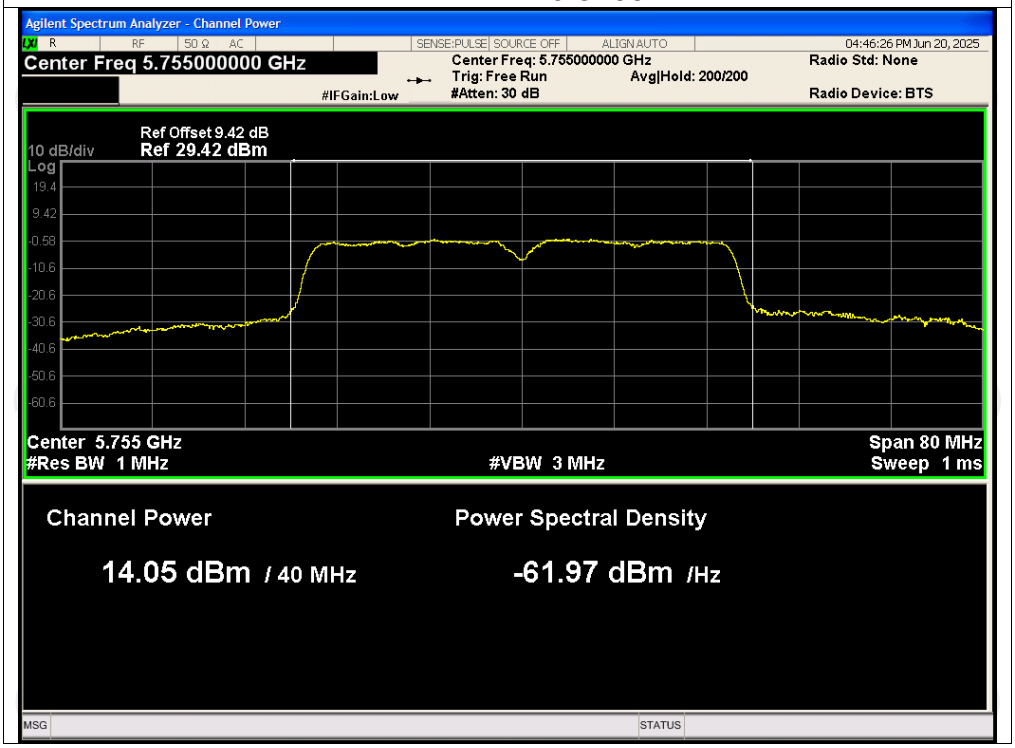
Power NVNT ac20 5785MHz



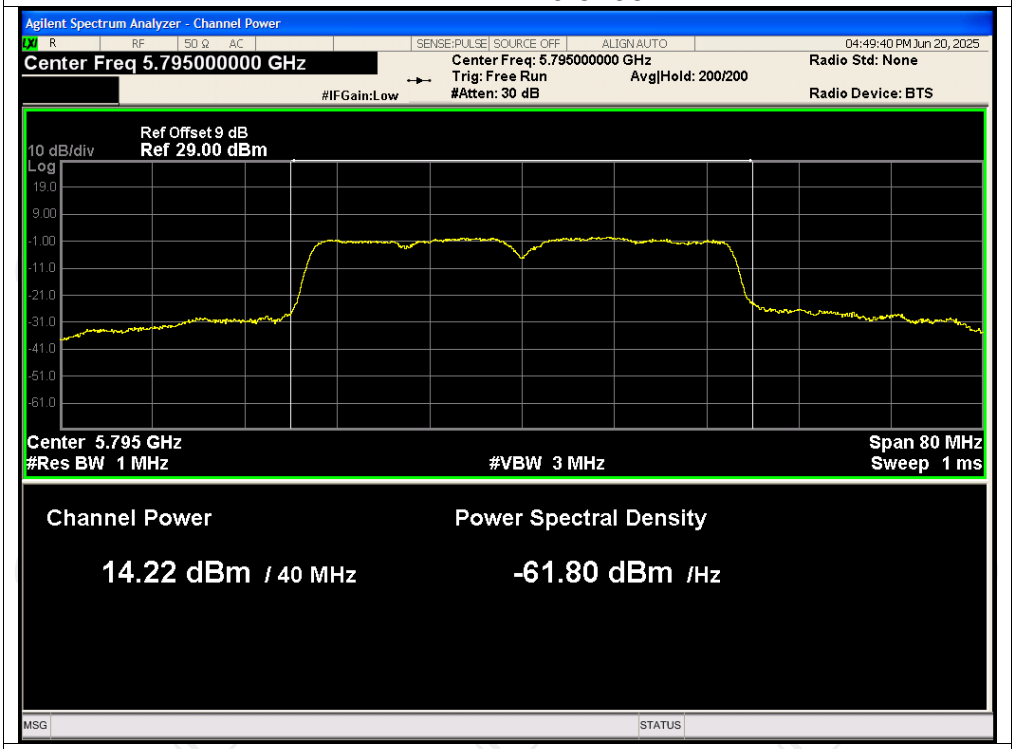
Power NVNT ac20 5825MHz



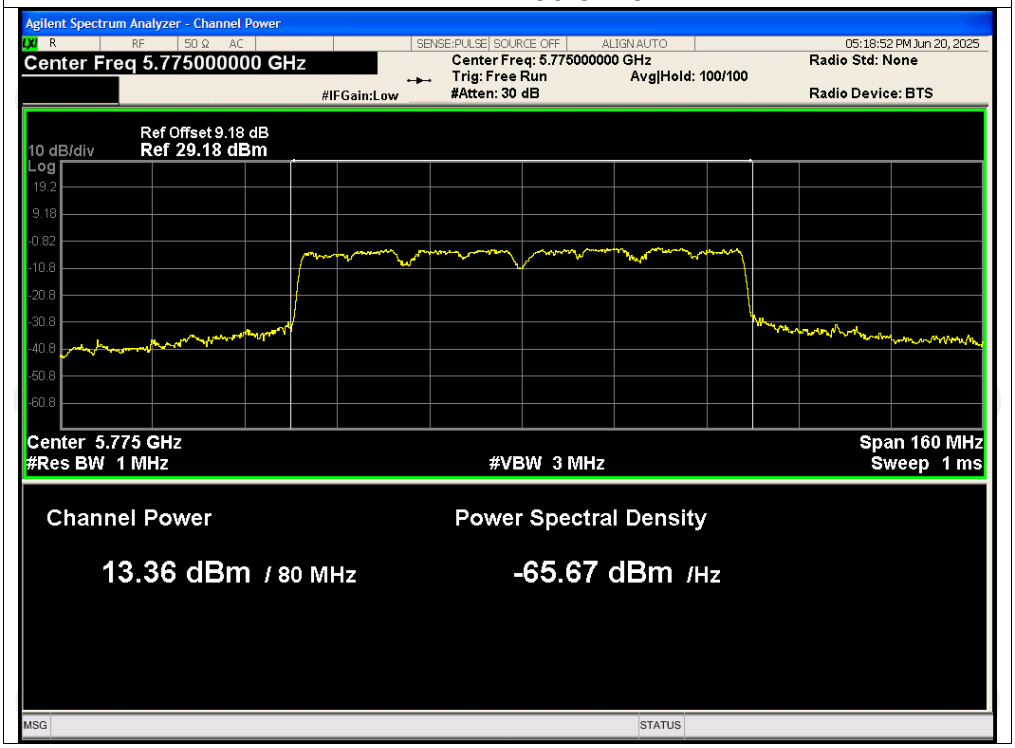
Power NVNT ac40 5755MHz



Power NVNT ac40 5795MHz



Power NVNT ac80 5775MHz



-6dB Bandwidth

Condition	Mode	Frequency (MHz)	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a	5745	16.36	0.5	Pass
NVNT	a	5785	16.32	0.5	Pass
NVNT	a	5825	16.36	0.5	Pass
NVNT	n20	5745	17.16	0.5	Pass
NVNT	n20	5785	17.14	0.5	Pass
NVNT	n20	5825	17.18	0.5	Pass
NVNT	n40	5755	35.26	0.5	Pass
NVNT	n40	5795	35.23	0.5	Pass
NVNT	ac20	5745	17.11	0.5	Pass
NVNT	ac20	5785	17.16	0.5	Pass
NVNT	ac20	5825	17.14	0.5	Pass
NVNT	ac40	5755	35.56	0.5	Pass
NVNT	ac40	5795	35.27	0.5	Pass
NVNT	ac80	5775	75.19	0.5	Pass

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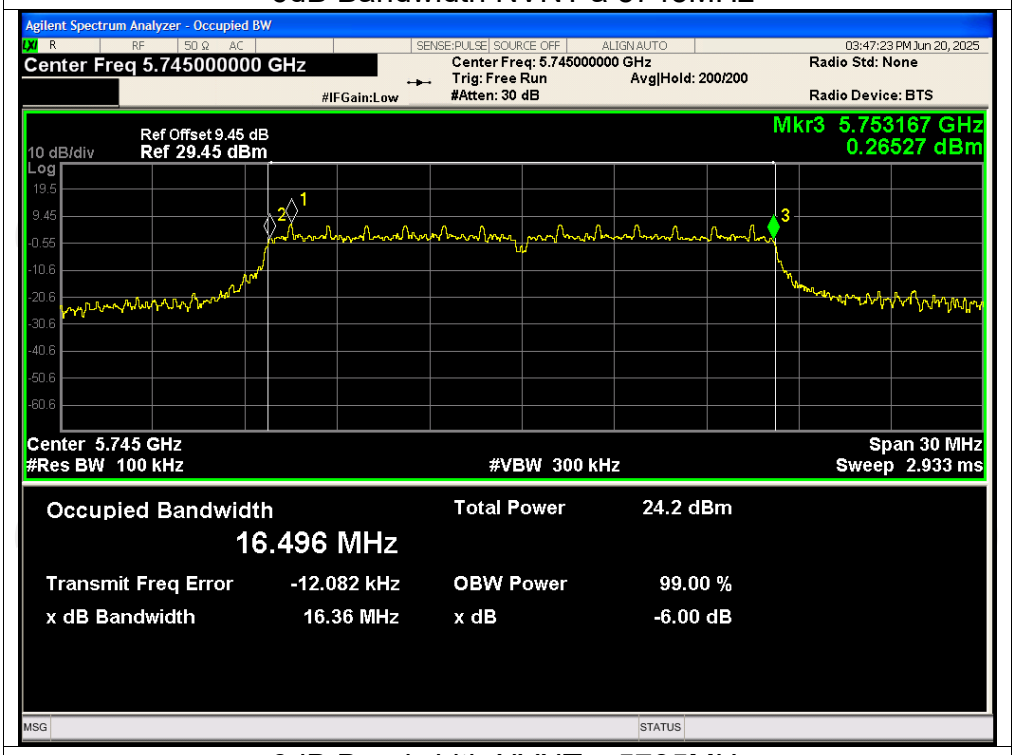
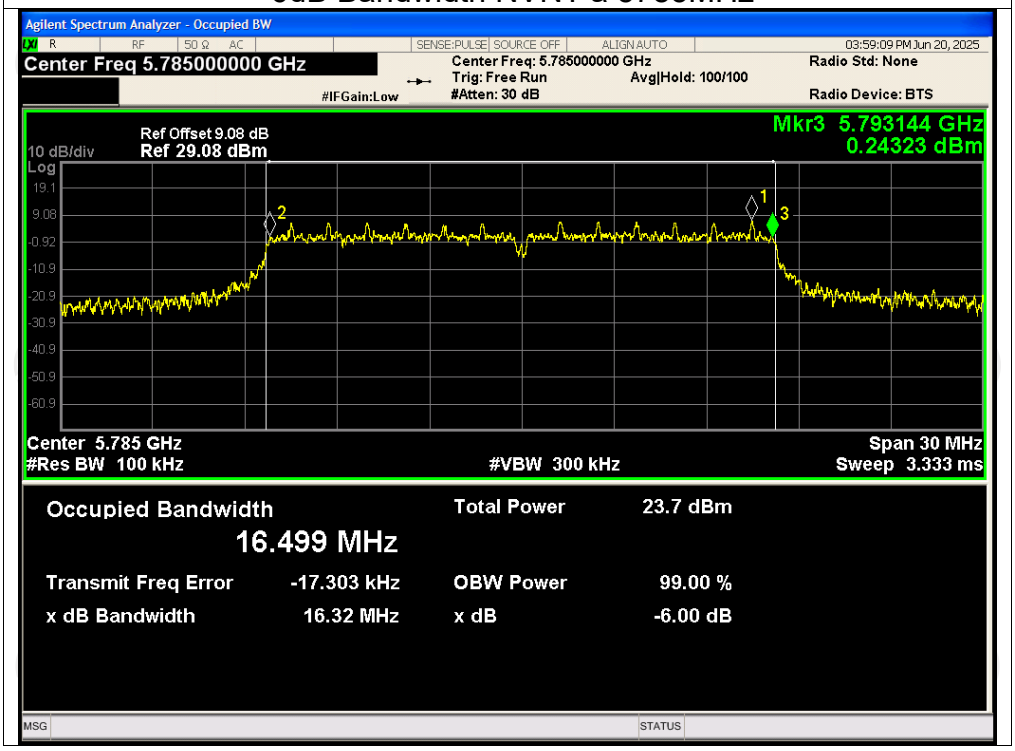
Test Graphs

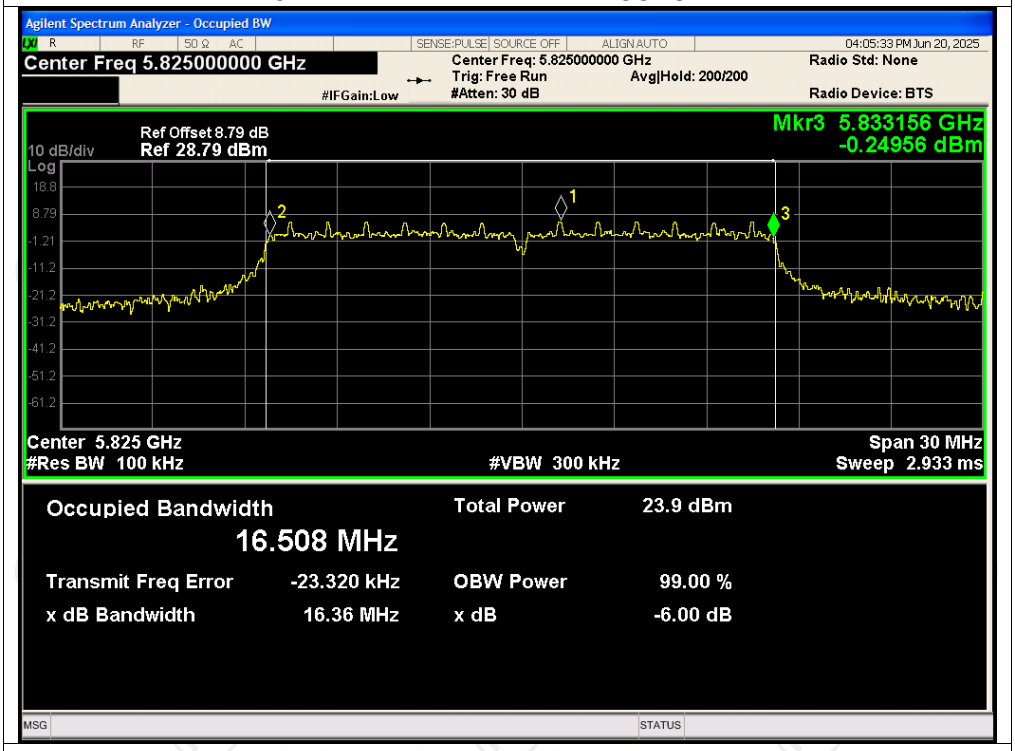
-6dB Bandwidth NVNT a 5745MHz



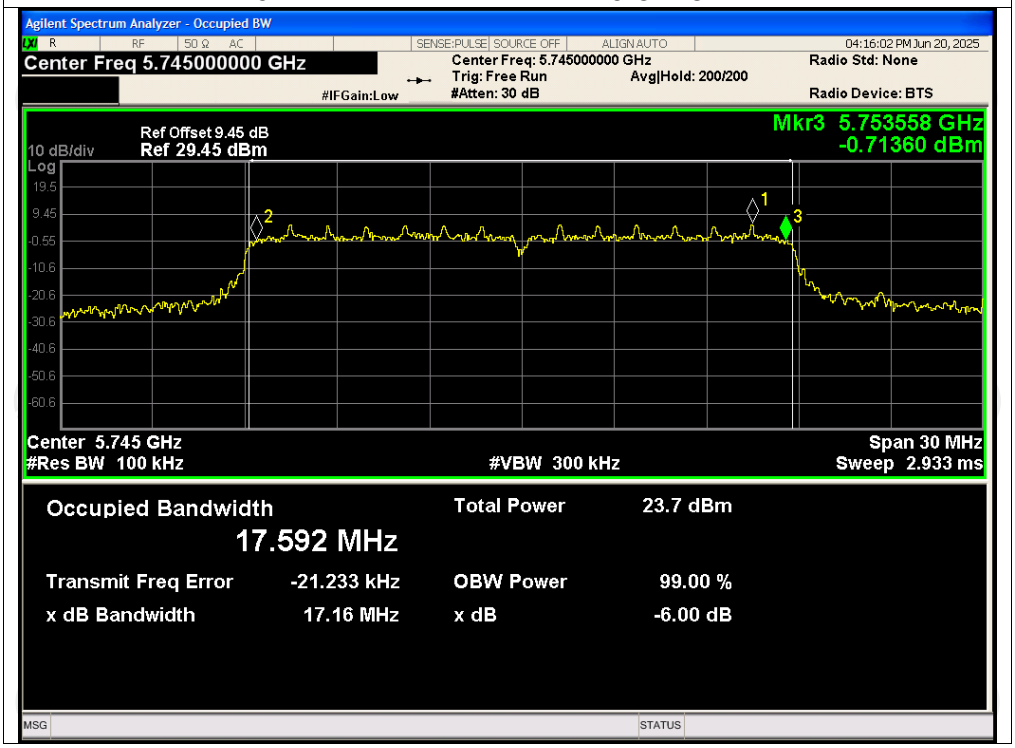
-6dB Bandwidth NVNT a 5785MHz



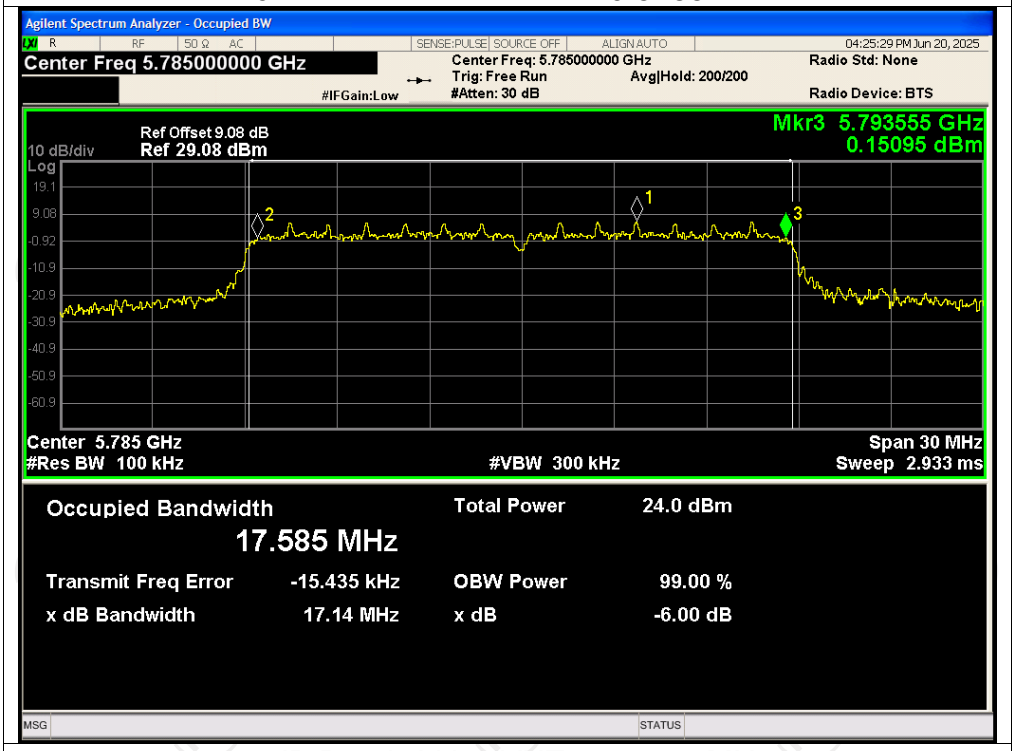
-6dB Bandwidth NVNT a 5825MHz



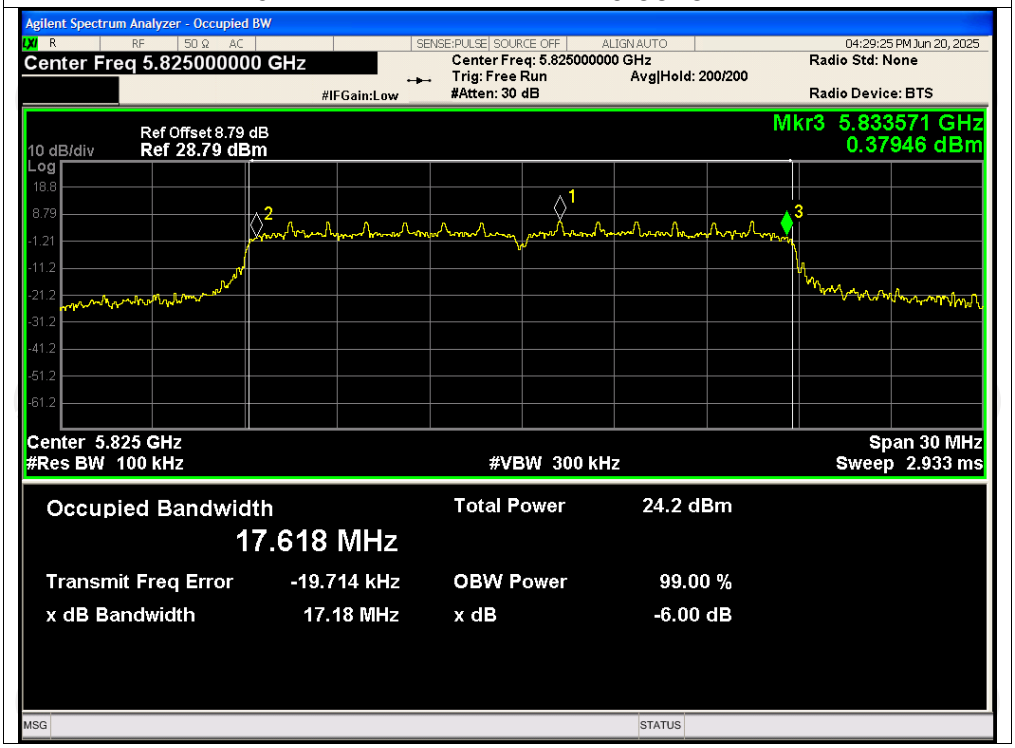
-6dB Bandwidth NVNT n20 5745MHz



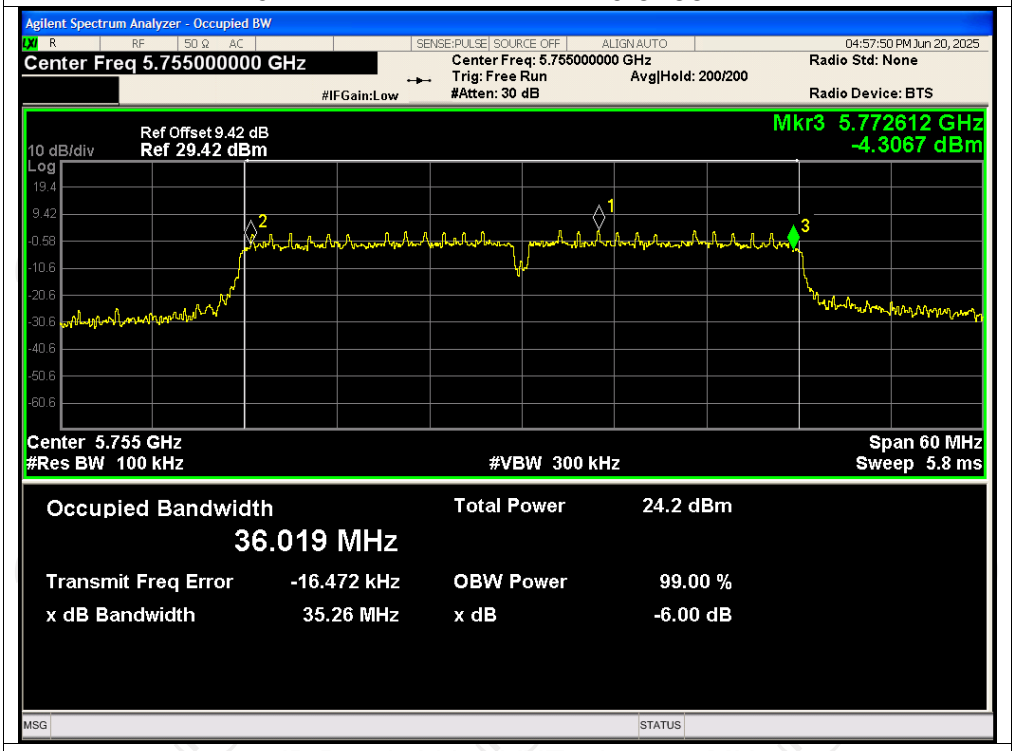
-6dB Bandwidth NVNT n20 5785MHz



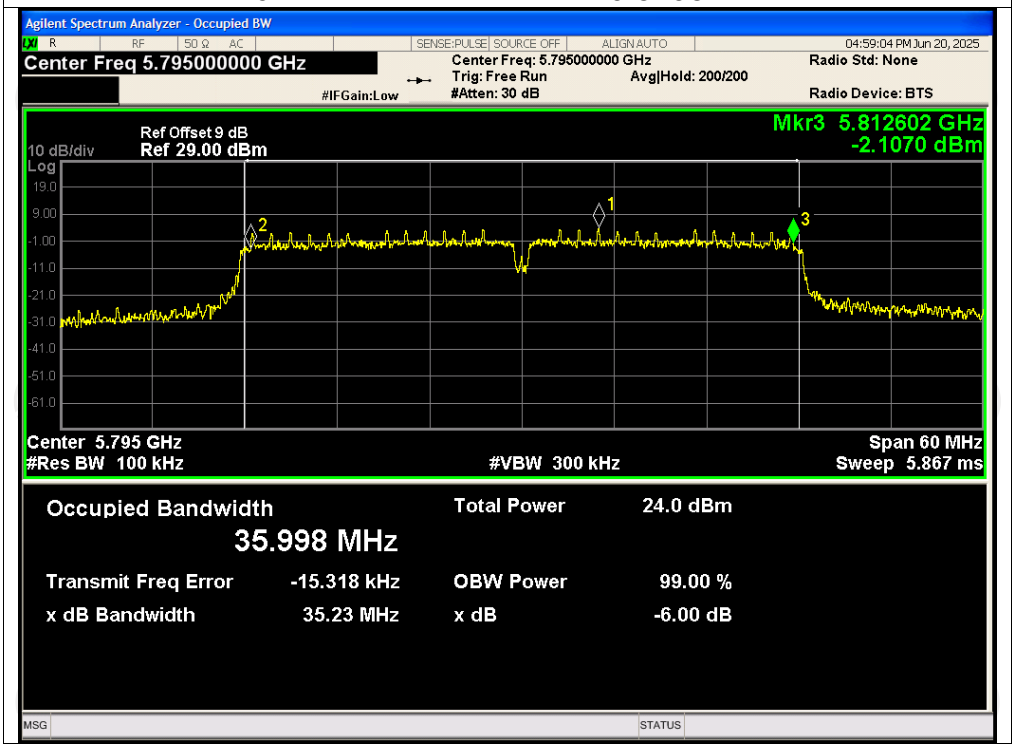
-6dB Bandwidth NVNT n20 5825MHz



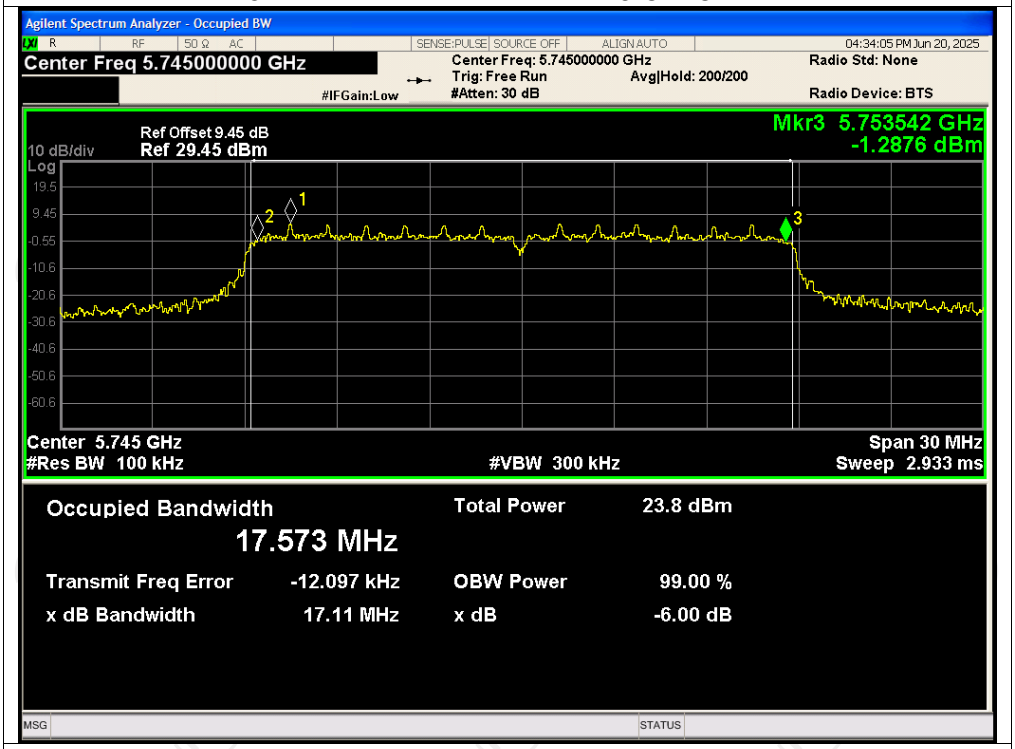
-6dB Bandwidth NVNT n40 5755MHz



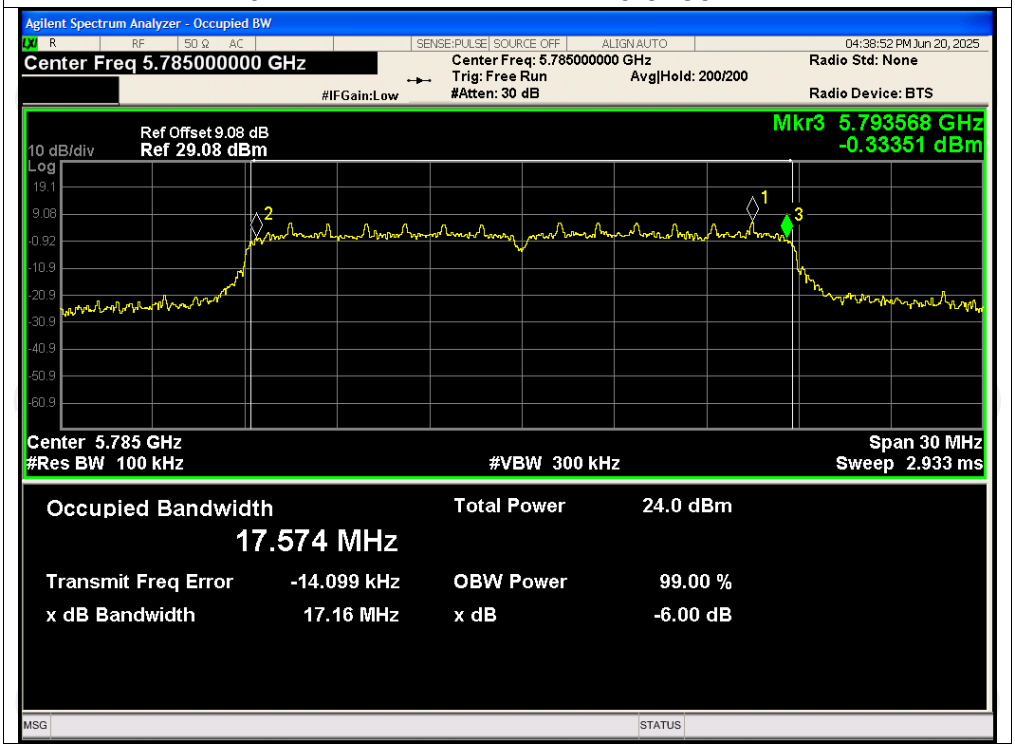
-6dB Bandwidth NVNT n40 5795MHz



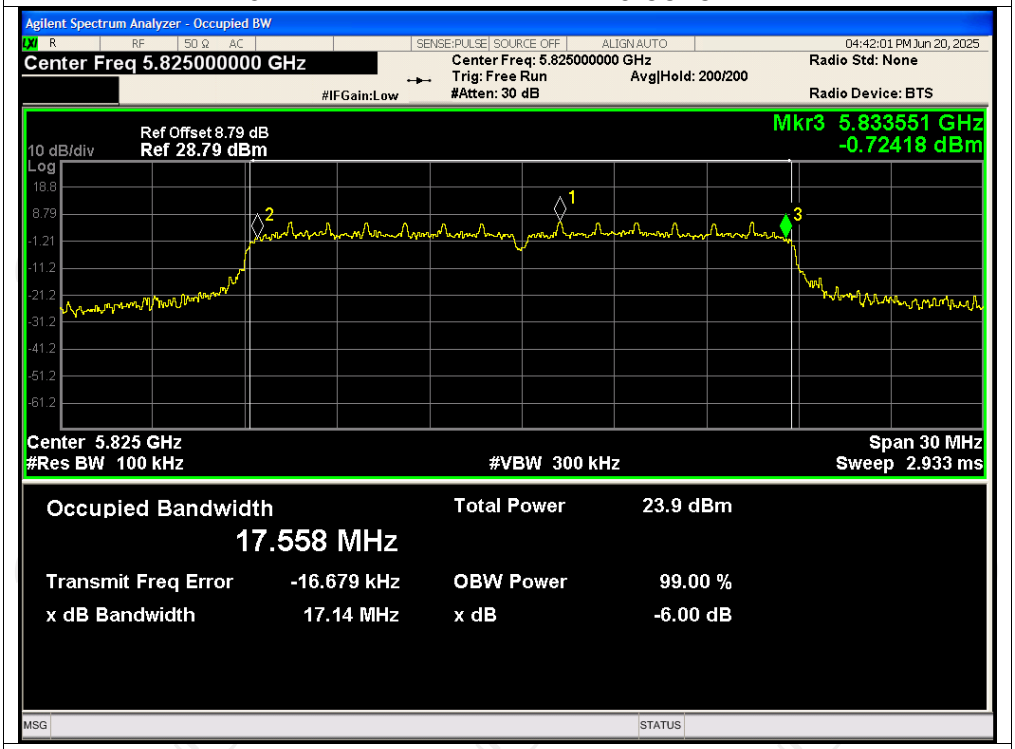
-6dB Bandwidth NVNT ac20 5745MHz



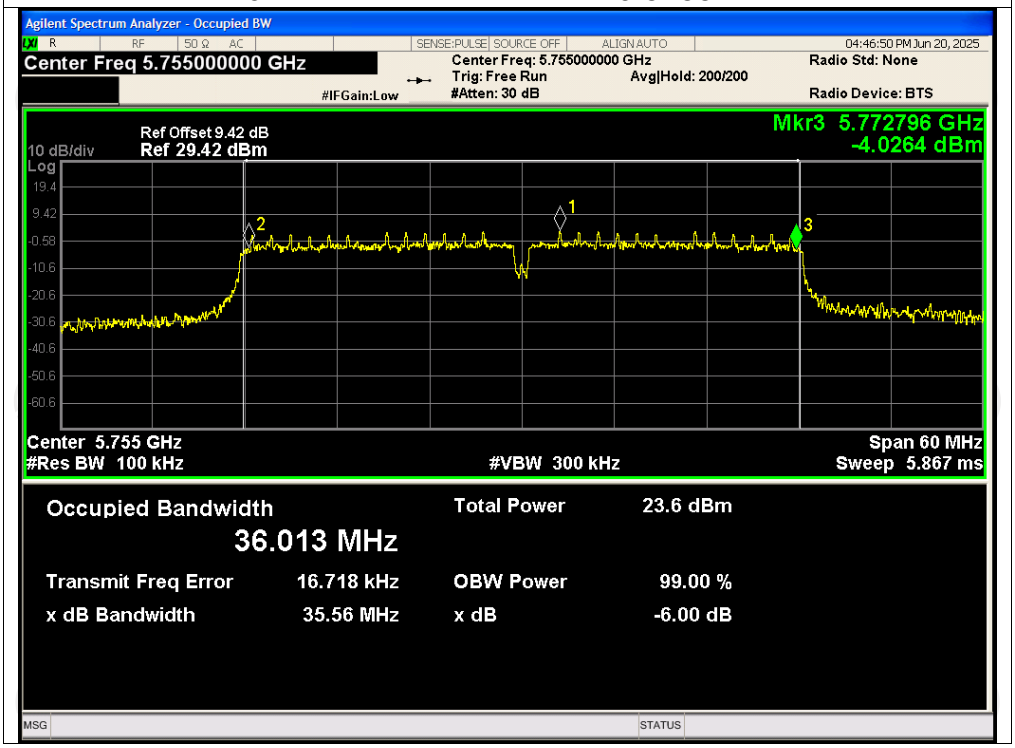
-6dB Bandwidth NVNT ac20 5785MHz



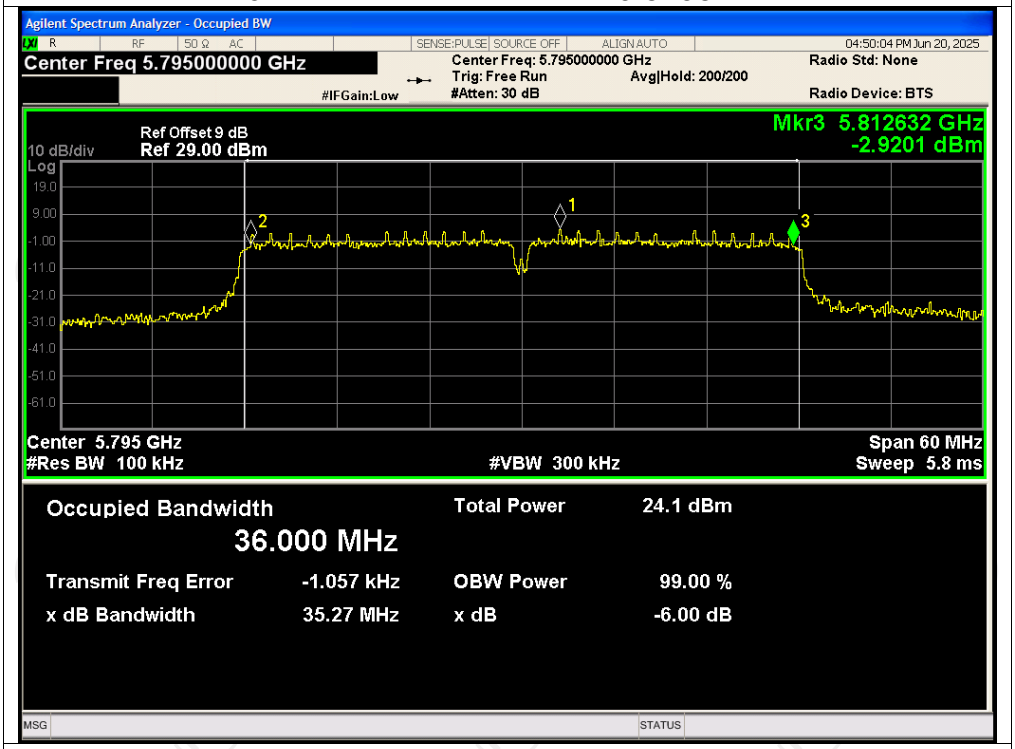
-6dB Bandwidth NVNT ac20 5825MHz



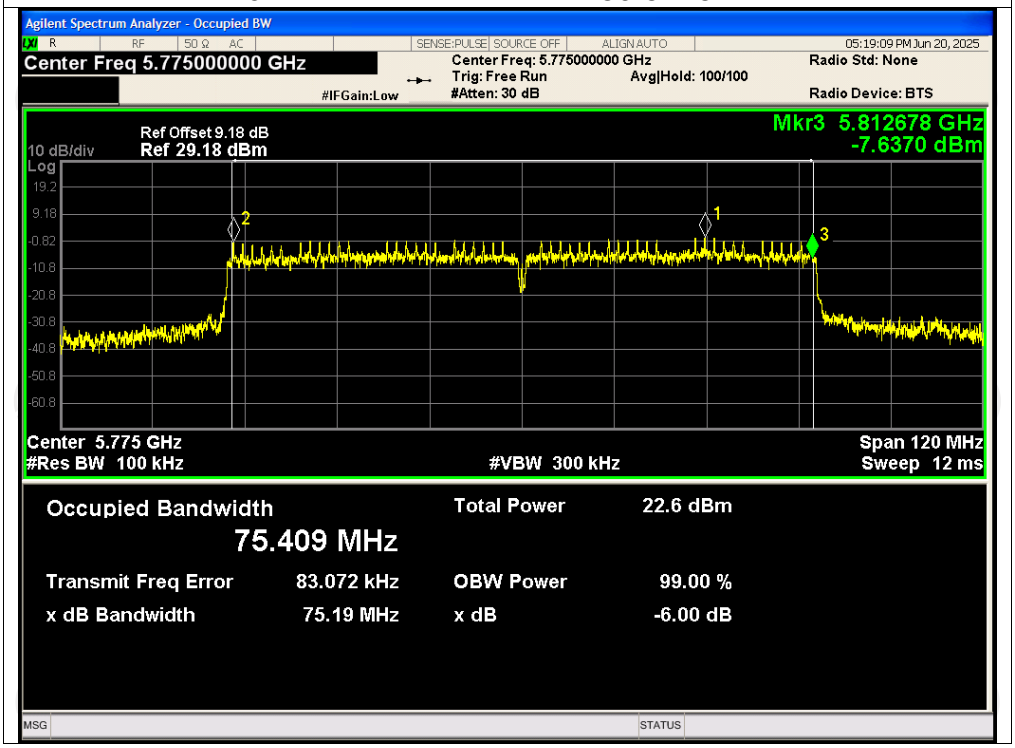
-6dB Bandwidth NVNT ac40 5755MHz



-6dB Bandwidth NVNT ac40 5795MHz



-6dB Bandwidth NVNT ac80 5775MHz



Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	99% OBW (MHz)	-26 dB Bandwidth (MHz)
NVNT	a	5745	16.726	28.15
NVNT	a	5785	16.782	29.64
NVNT	a	5825	16.730	28.27
NVNT	n20	5745	17.655	24.19
NVNT	n20	5785	17.718	29.25
NVNT	n20	5825	17.704	28.96
NVNT	n40	5755	36.239	51.16
NVNT	n40	5795	36.293	53.61
NVNT	ac20	5745	17.674	28.27
NVNT	ac20	5785	17.648	28.12
NVNT	ac20	5825	17.682	27.67
NVNT	ac40	5755	36.235	50.21
NVNT	ac40	5795	36.167	48.06
NVNT	ac80	5775	75.720	100.7

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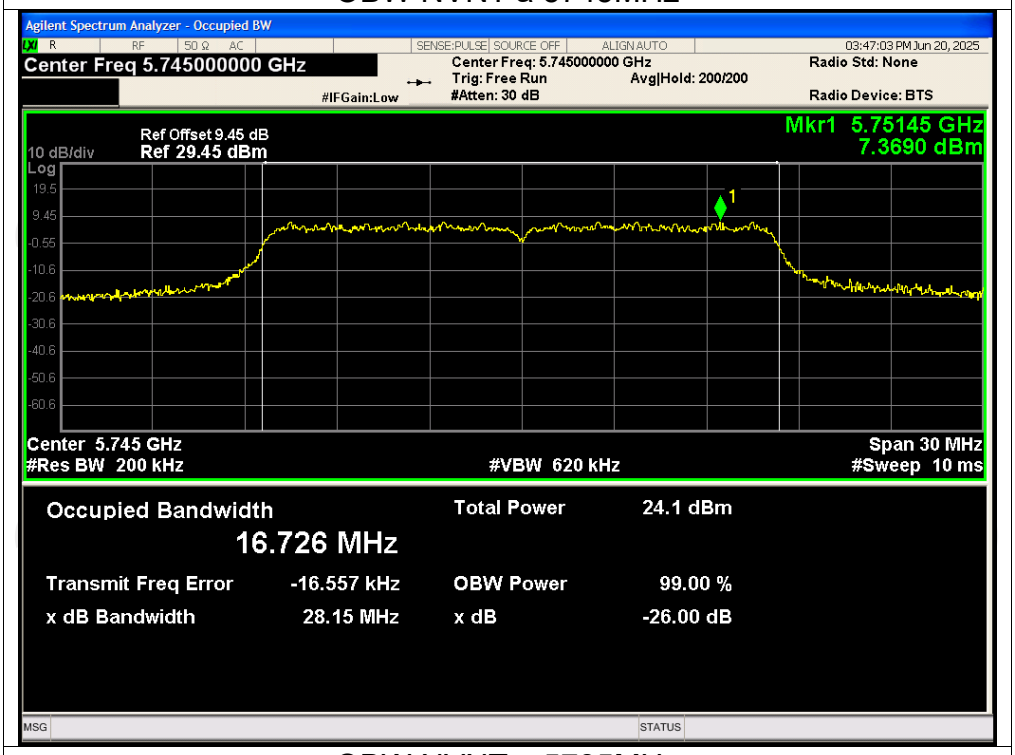
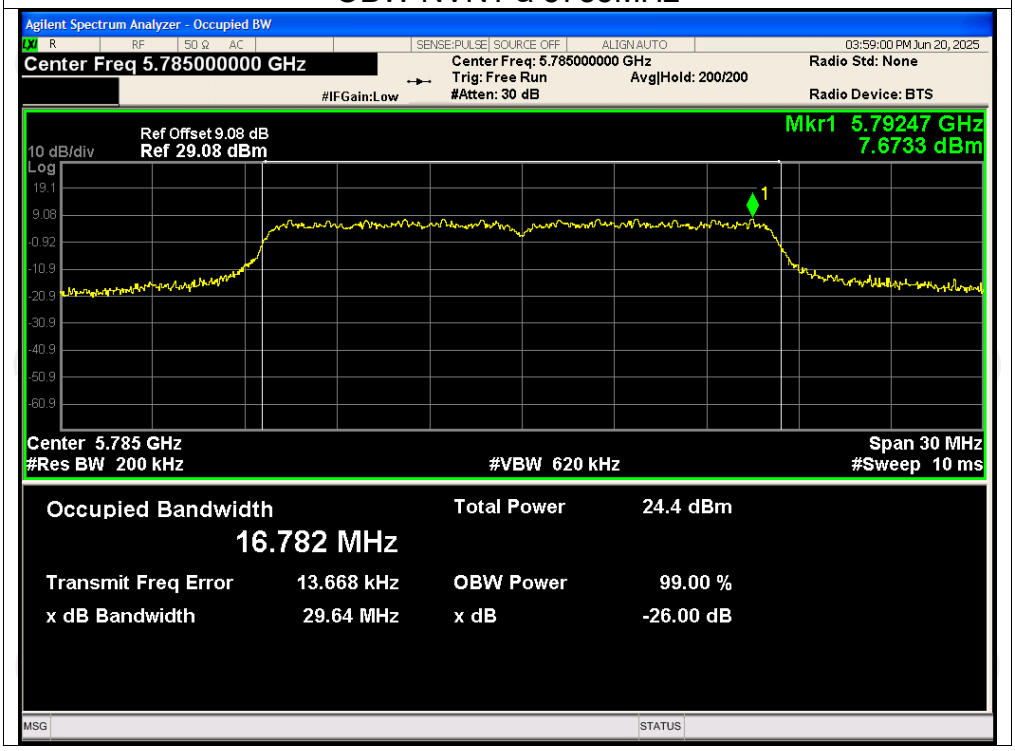
Test Graphs

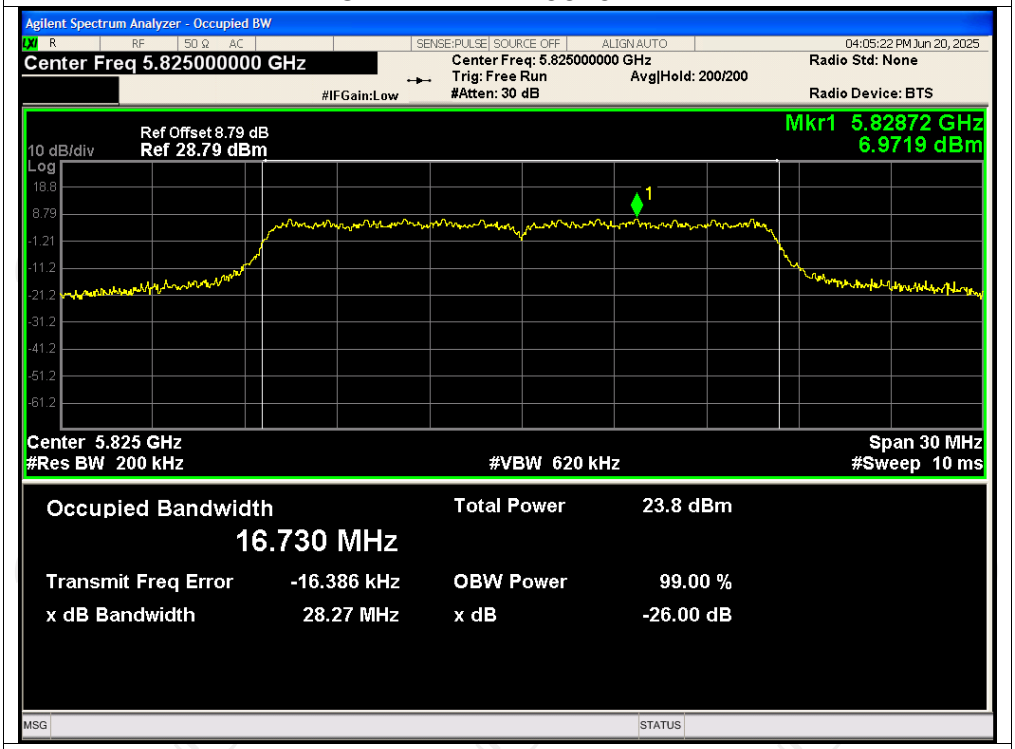
OBW NVNT a 5745MHz



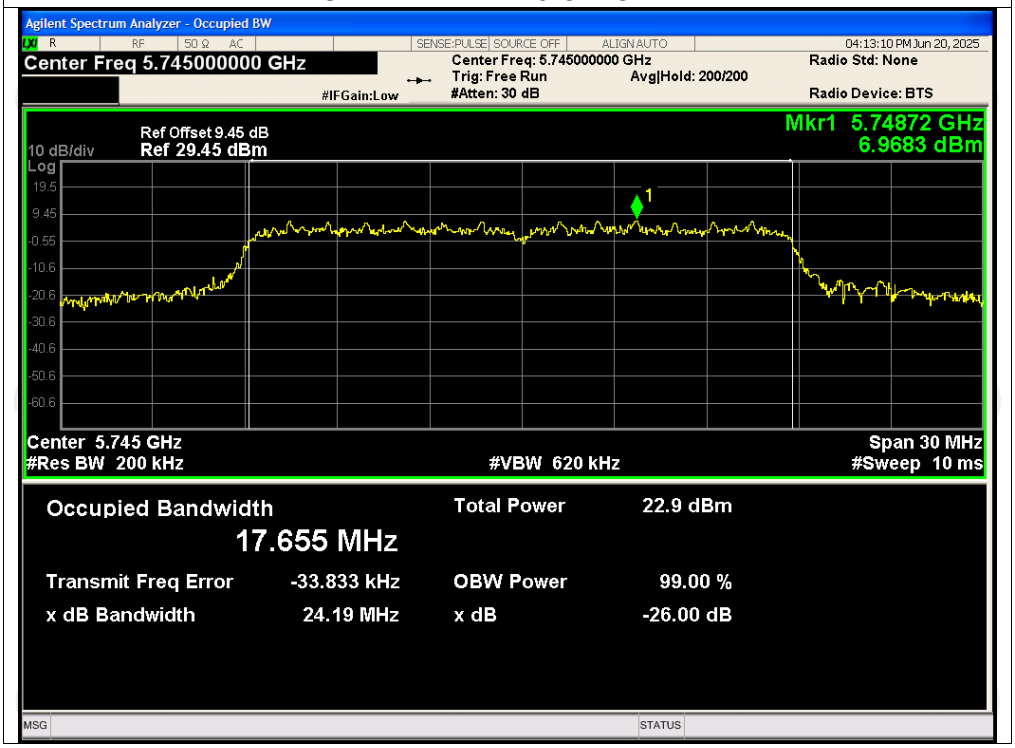
OBW NVNT a 5785MHz



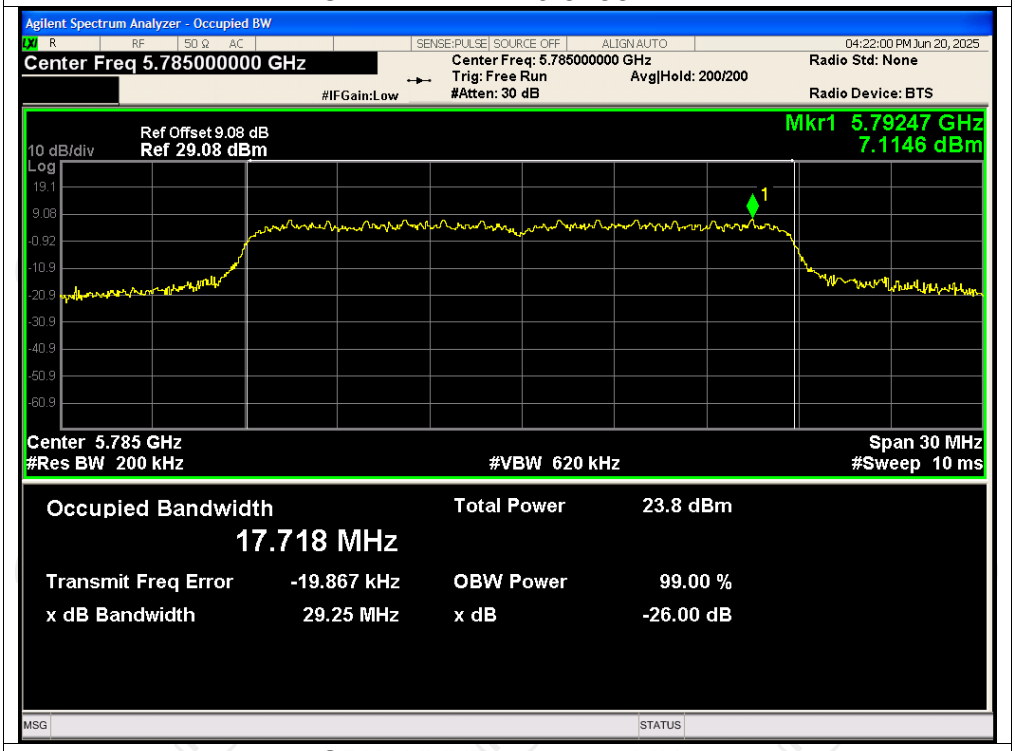
OBW NVNT a 5825MHz



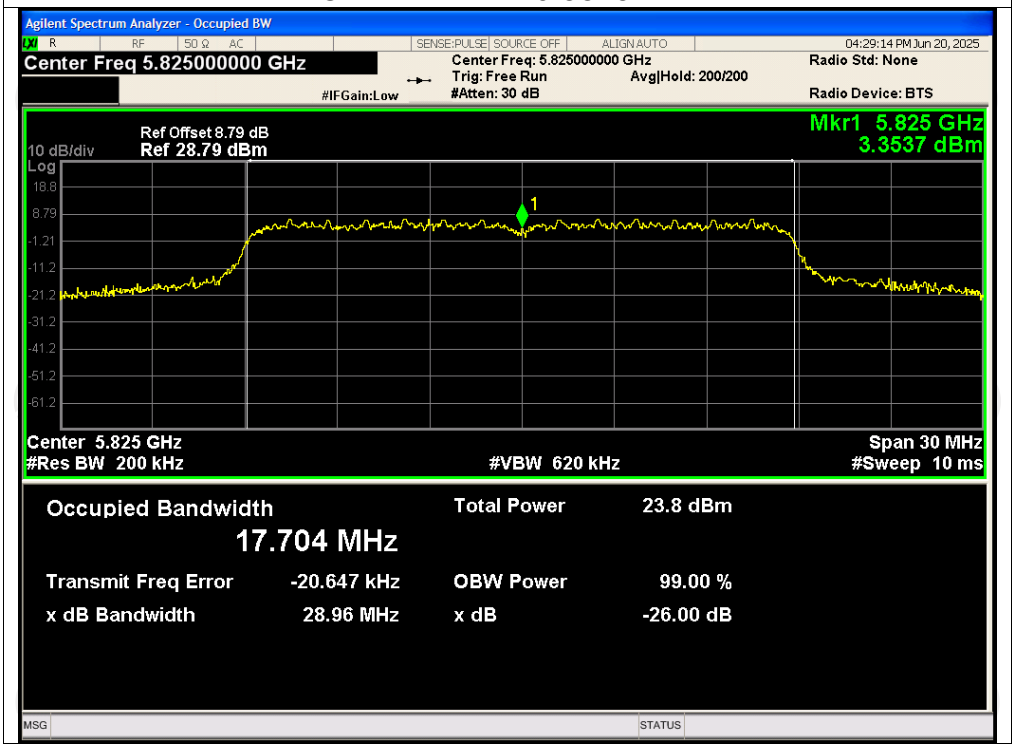
OBW NVNT n20 5745MHz



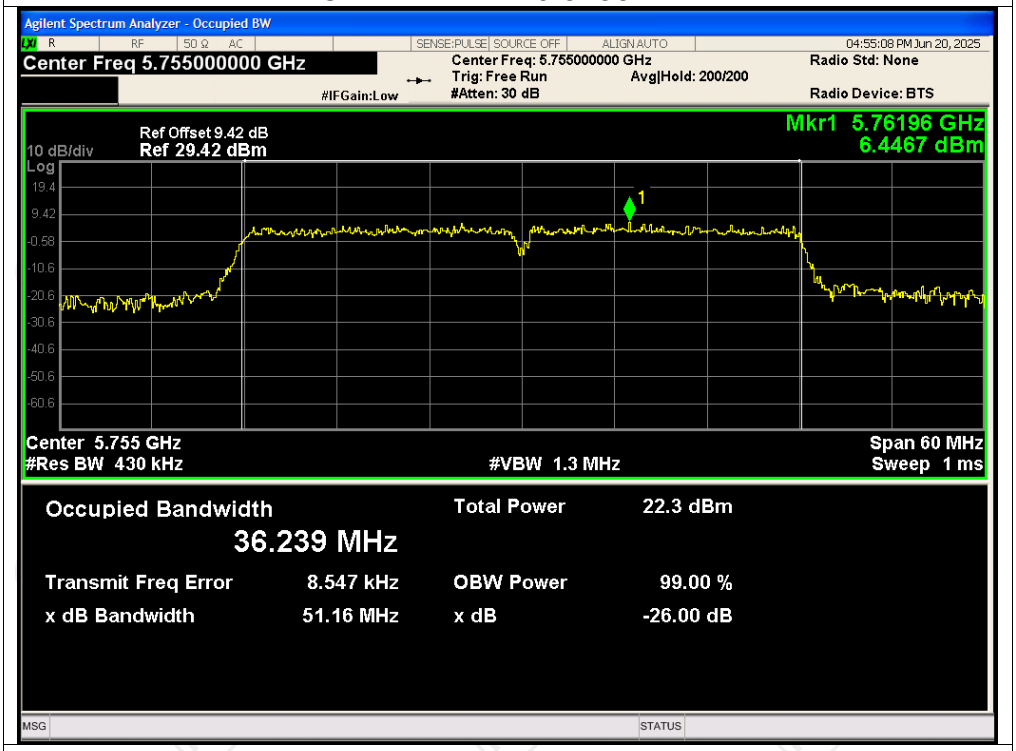
OBW NVNT n20 5785MHz



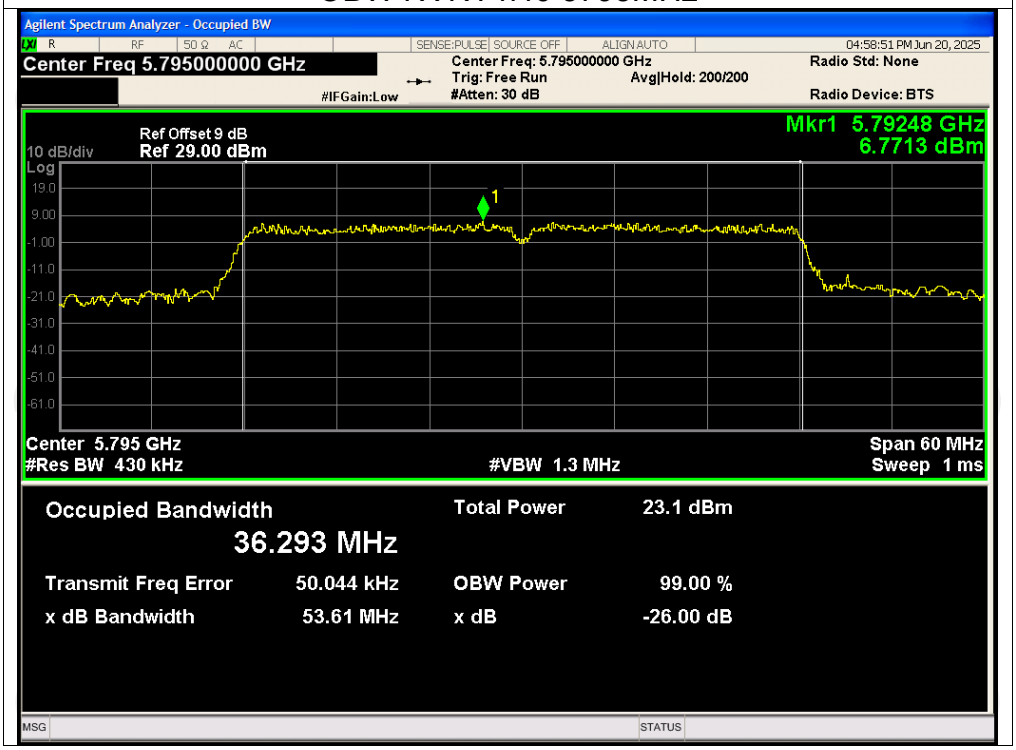
OBW NVNT n20 5825MHz



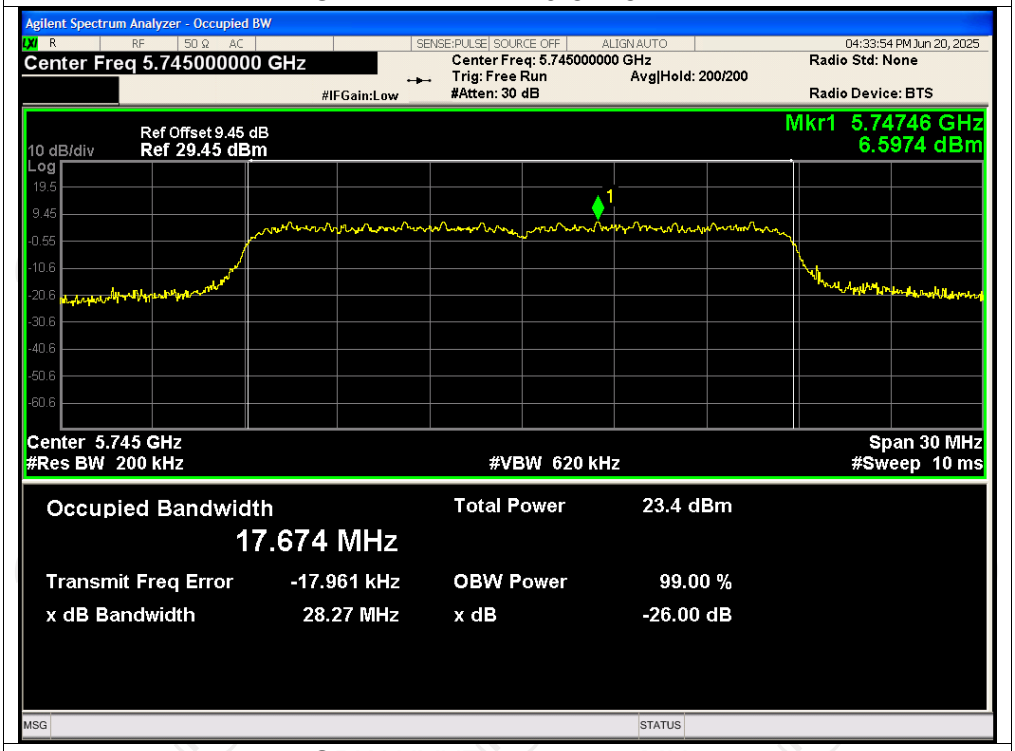
OBW NVNT n40 5755MHz



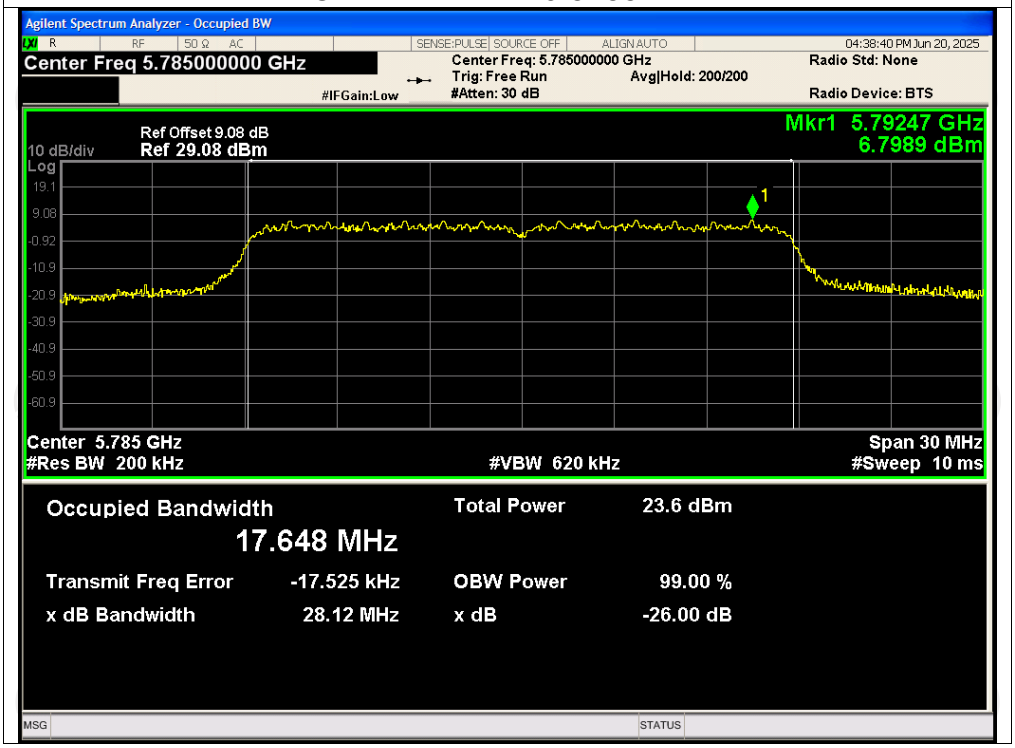
OBW NVNT n40 5795MHz



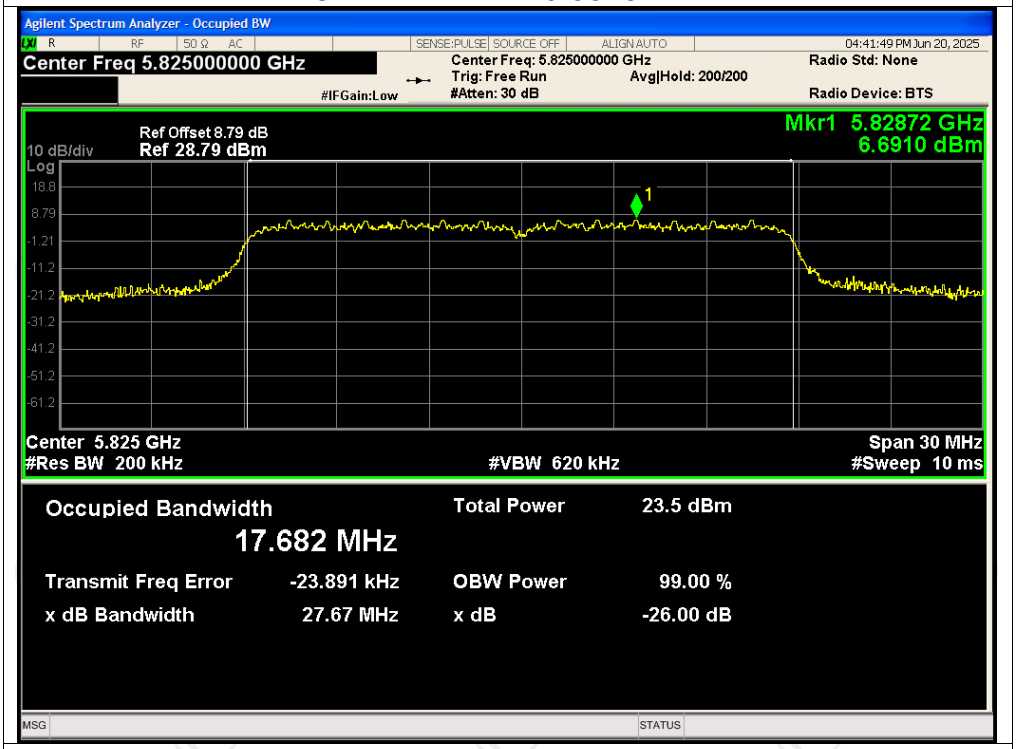
OBW NVNT ac20 5745MHz



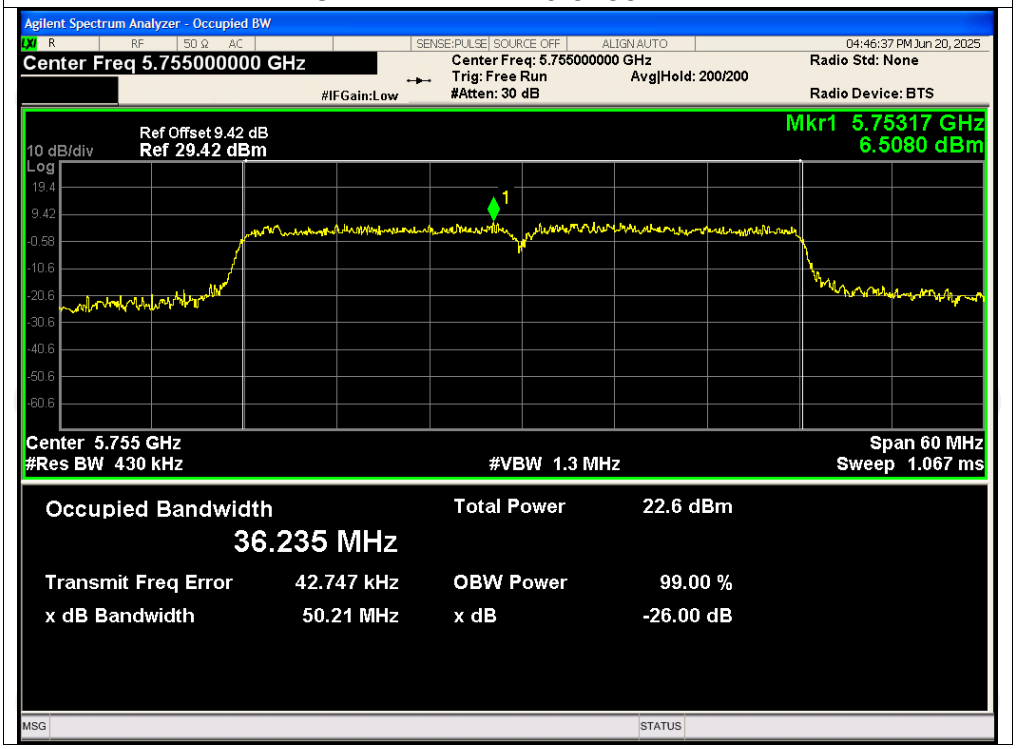
OBW NVNT ac20 5785MHz



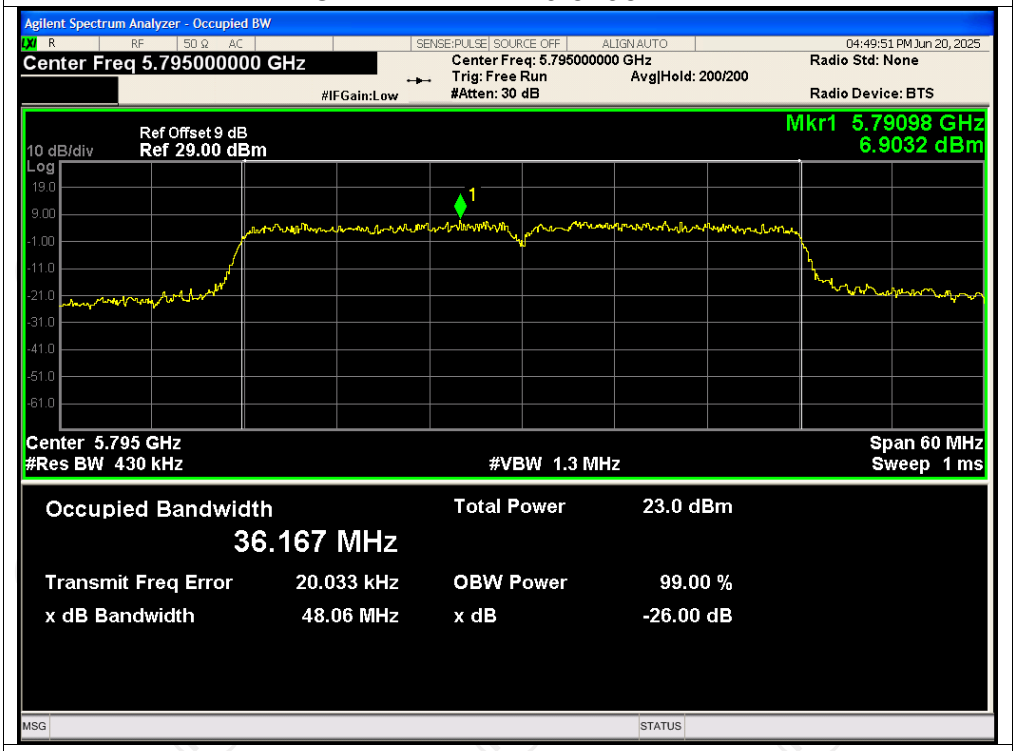
OBW NVNT ac20 5825MHz



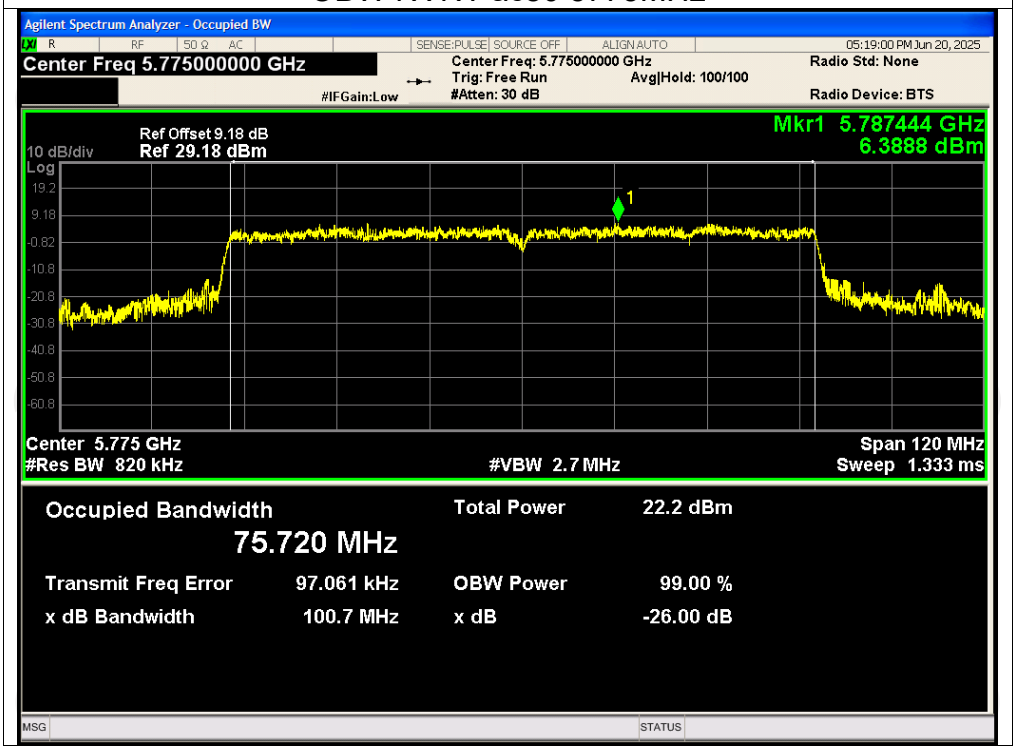
OBW NVNT ac40 5755MHz



OBW NVNT ac40 5795MHz



OBW NVNT ac80 5775MHz



Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/510kHz)	Conducted PSD (dBm/500kHz	Limit (dBm/500kHz)	Verdict
NVNT	a	5745	1.50	1.41	30	Pass
NVNT	a	5785	2.22	2.13	30	Pass
NVNT	a	5825	1.73	1.64	30	Pass
NVNT	n20	5745	-0.25	-0.34	30	Pass
NVNT	n20	5785	1.79	1.70	30	Pass
NVNT	n20	5825	1.57	1.48	30	Pass
NVNT	n40	5755	-1.61	-1.70	30	Pass
NVNT	n40	5795	-1.52	-1.61	30	Pass
NVNT	ac20	5745	1.32	1.23	30	Pass
NVNT	ac20	5785	1.62	1.53	30	Pass
NVNT	ac20	5825	1.48	1.39	30	Pass
NVNT	ac40	5755	-2.39	-2.48	30	Pass
NVNT	ac40	5795	-2.00	-2.09	30	Pass
NVNT	ac80	5775	-4.79	-4.88	30	Pass

Note: Conducted PSD[dBm/500kHz] = Conducted PSD[dBm/500kHz] +10log(500kHz/510kHz)

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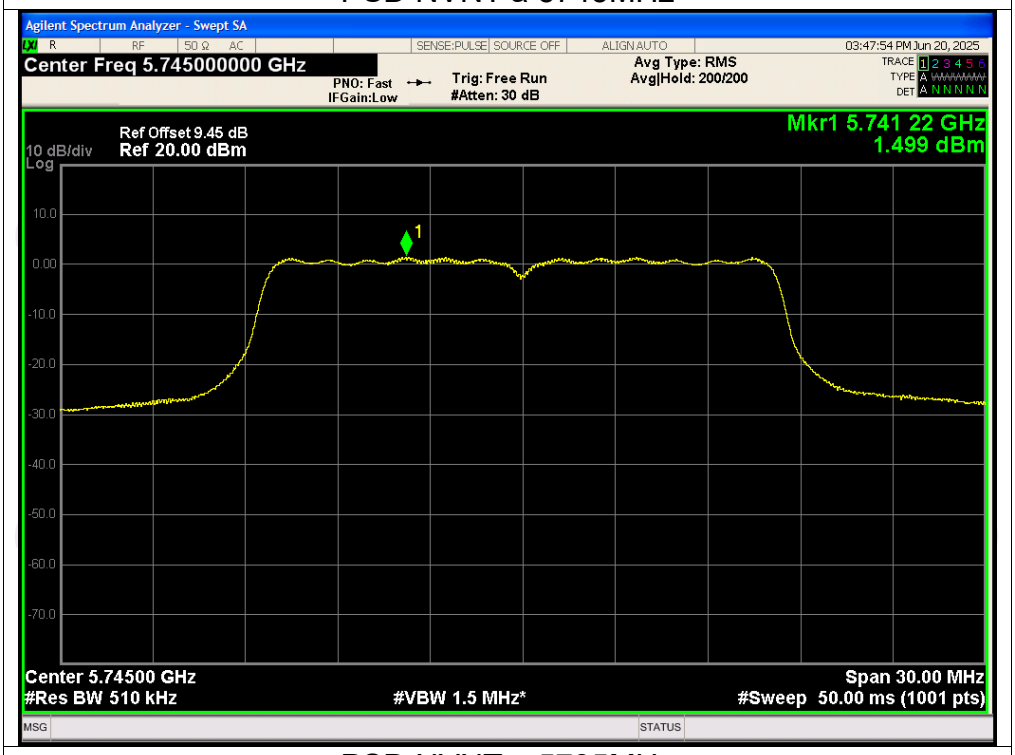
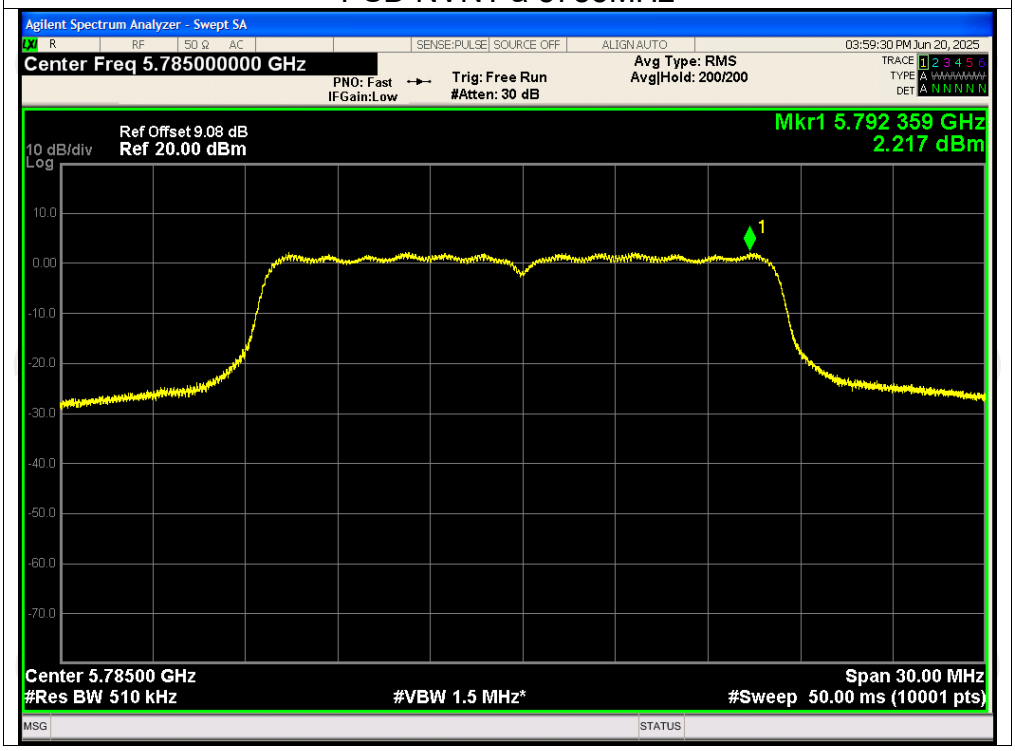
Test Graphs

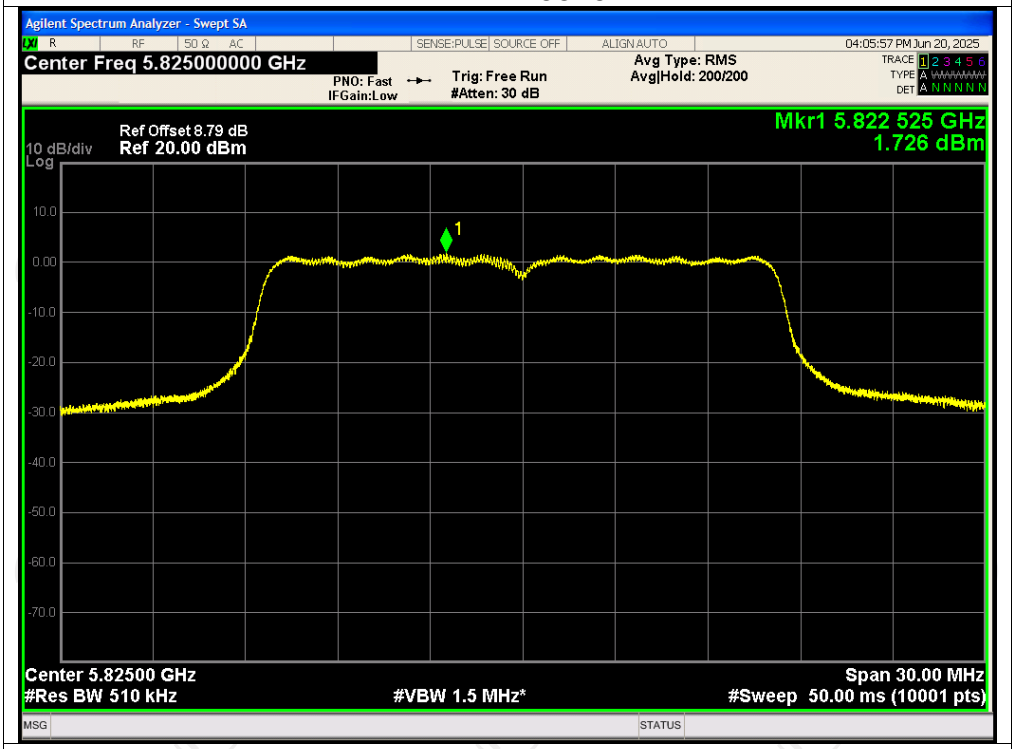
PSD NVNT a 5745MHz



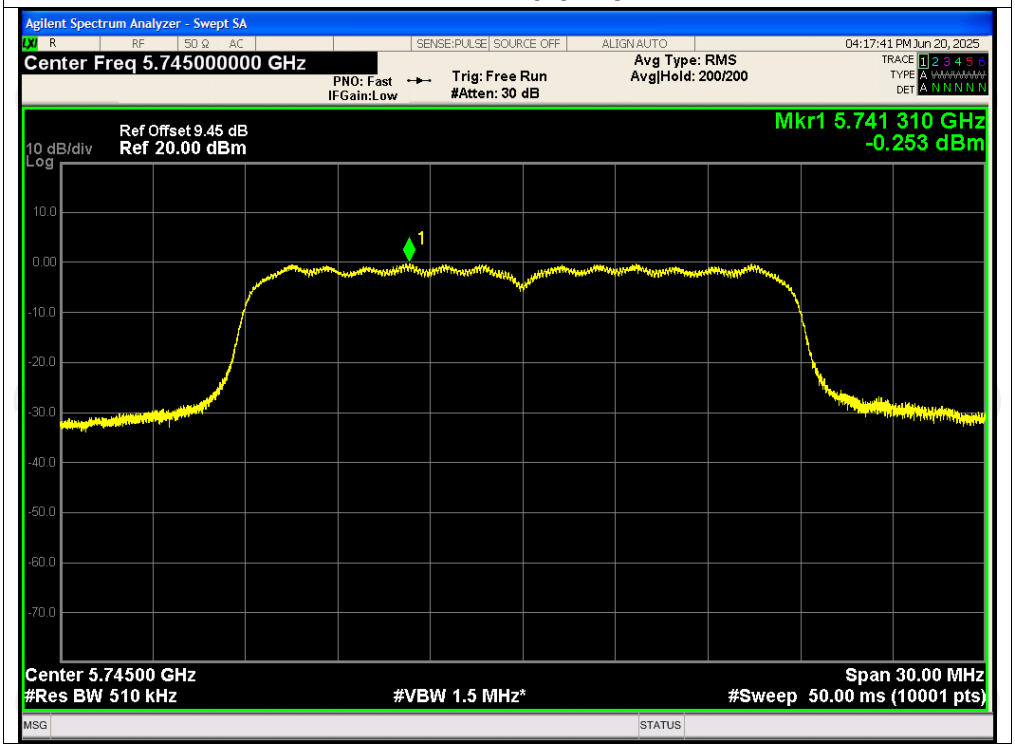
PSD NVNT a 5785MHz



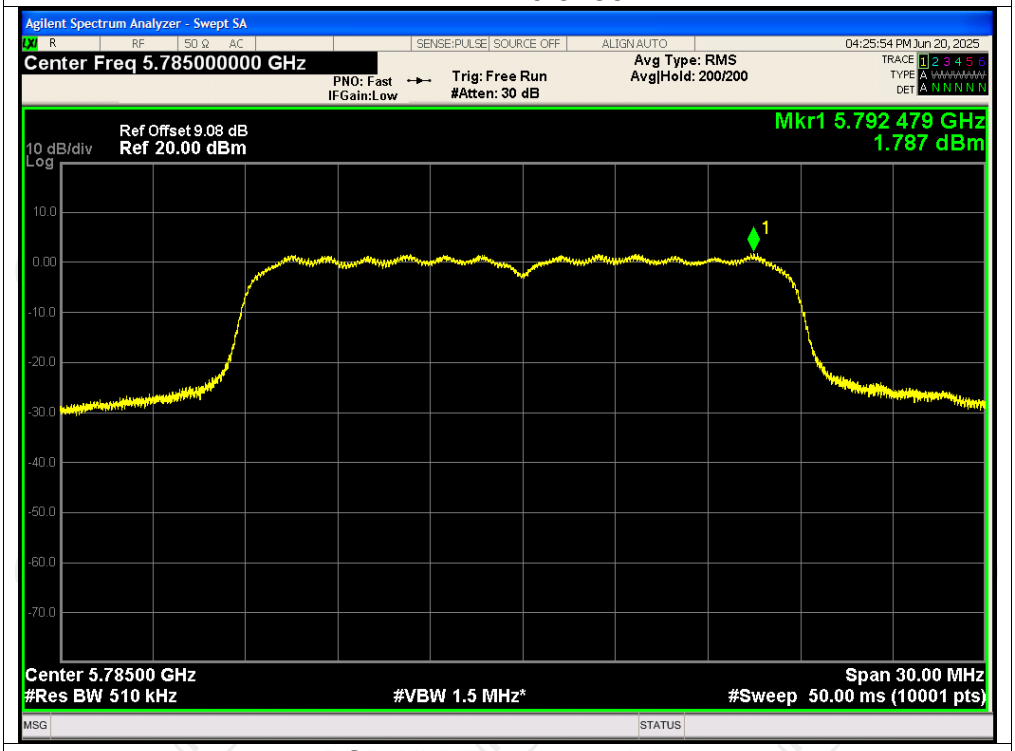
PSD NVNT a 5825MHz



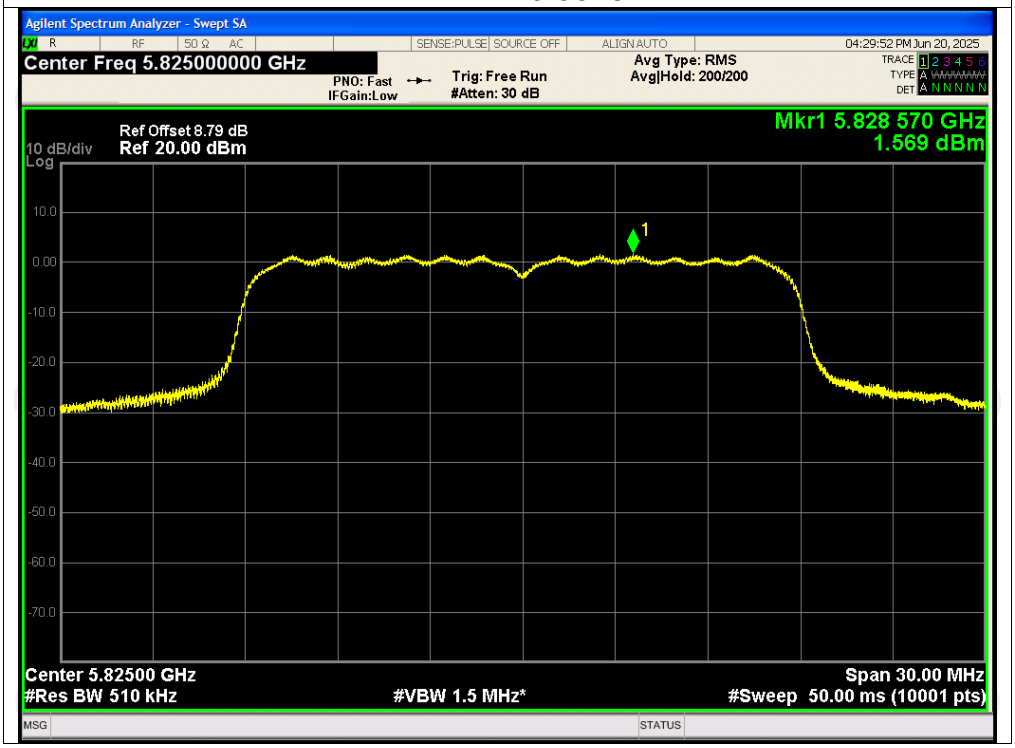
PSD NVNT n20 5745MHz



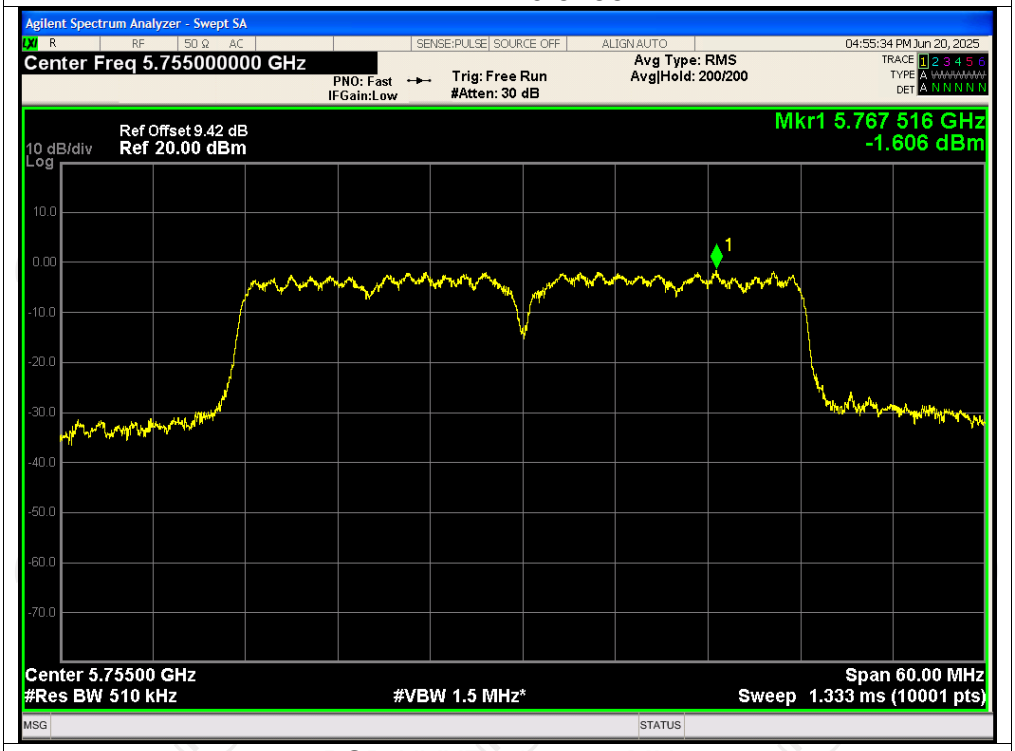
PSD NVNT n20 5785MHz



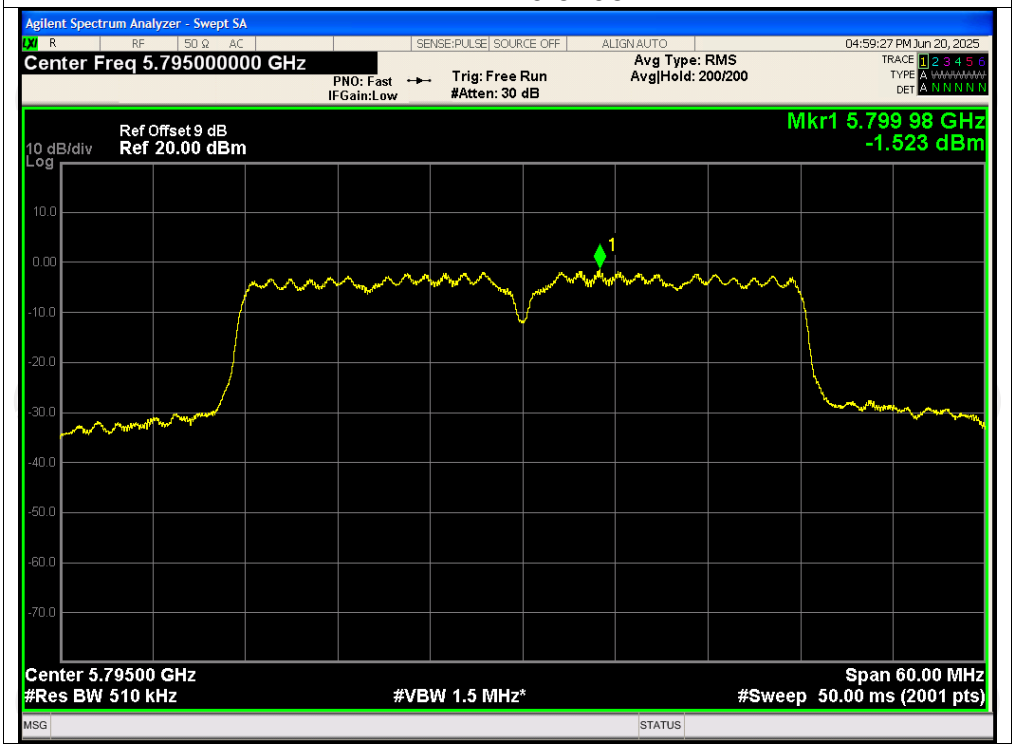
PSD NVNT n20 5825MHz



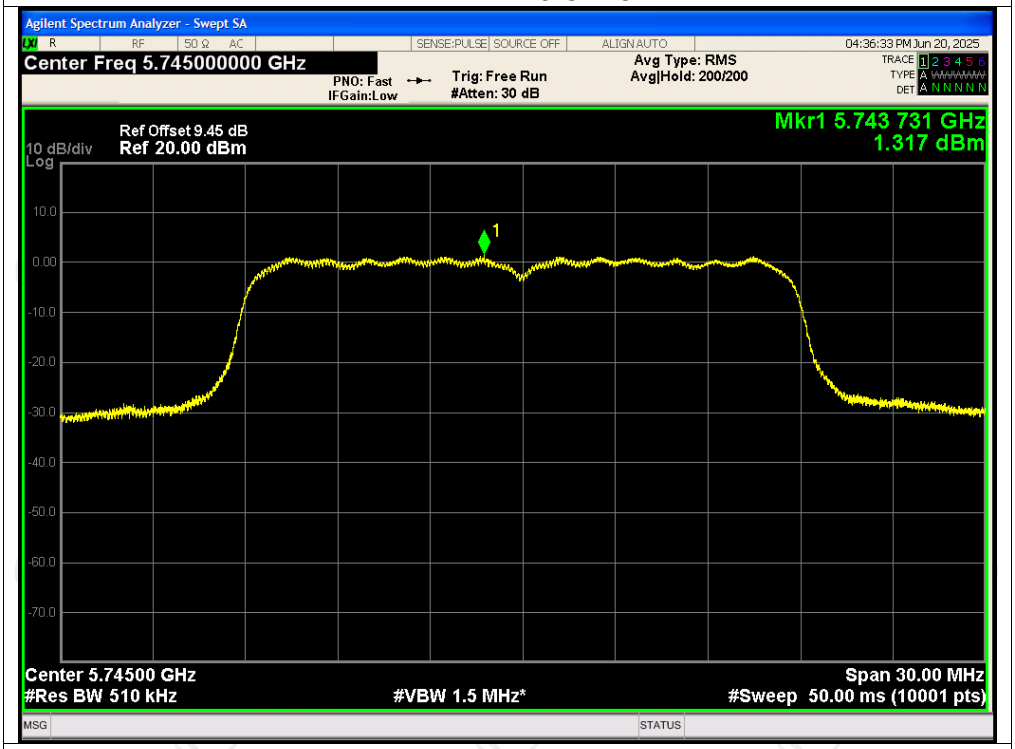
PSD NVNT n40 5755MHz



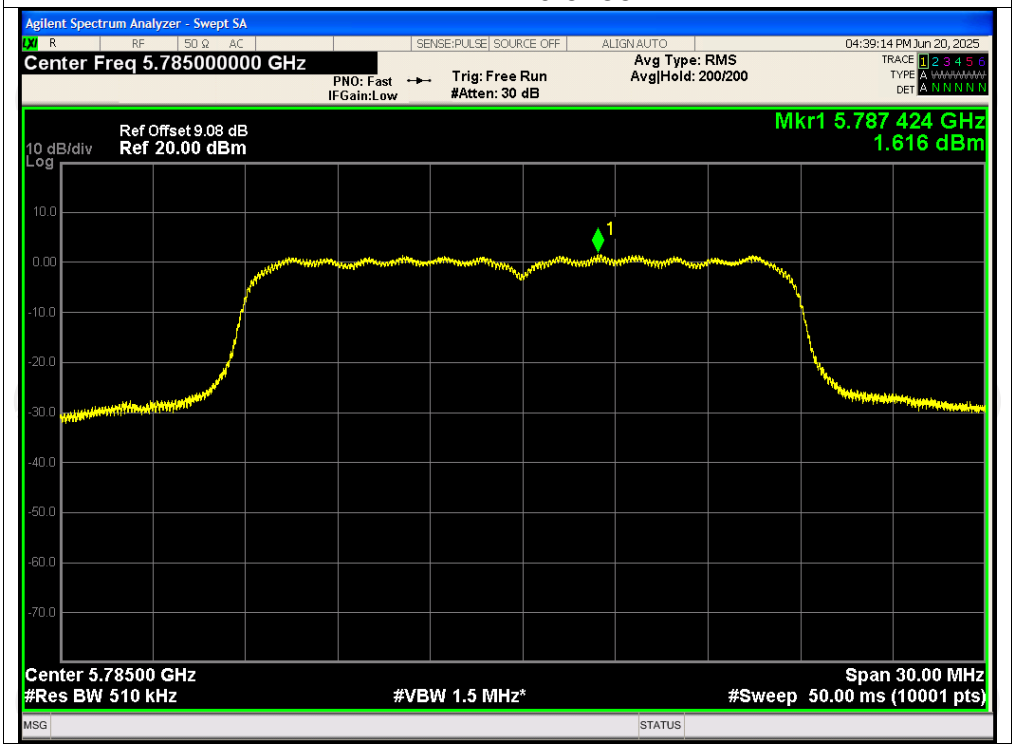
PSD NVNT n40 5795MHz



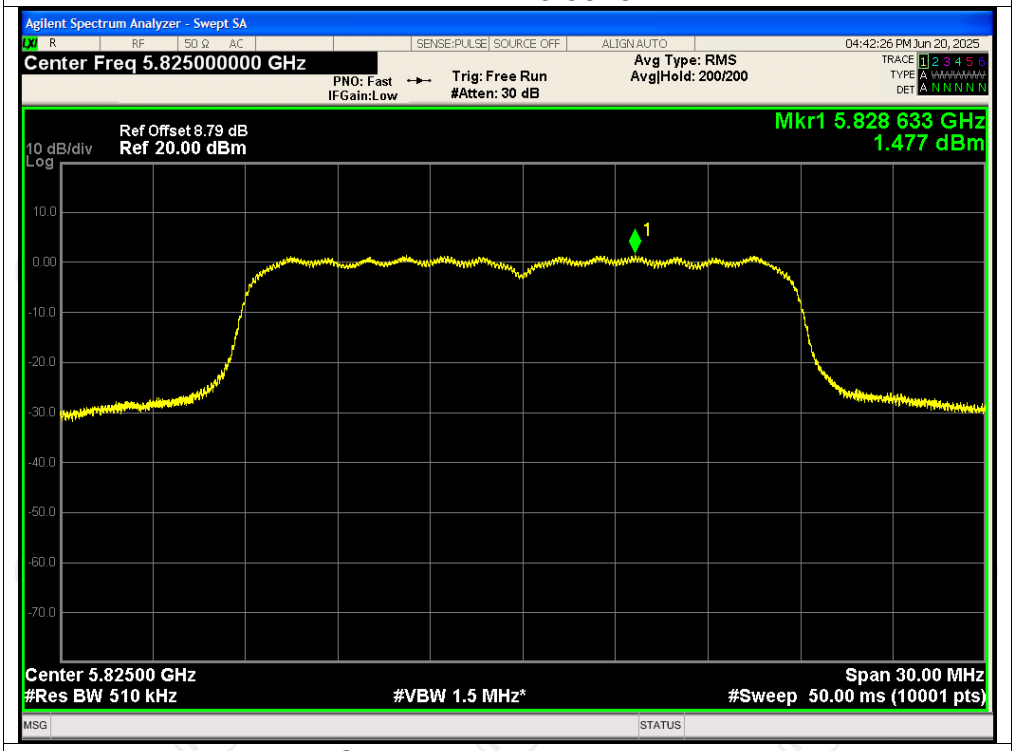
PSD NVNT ac20 5745MHz



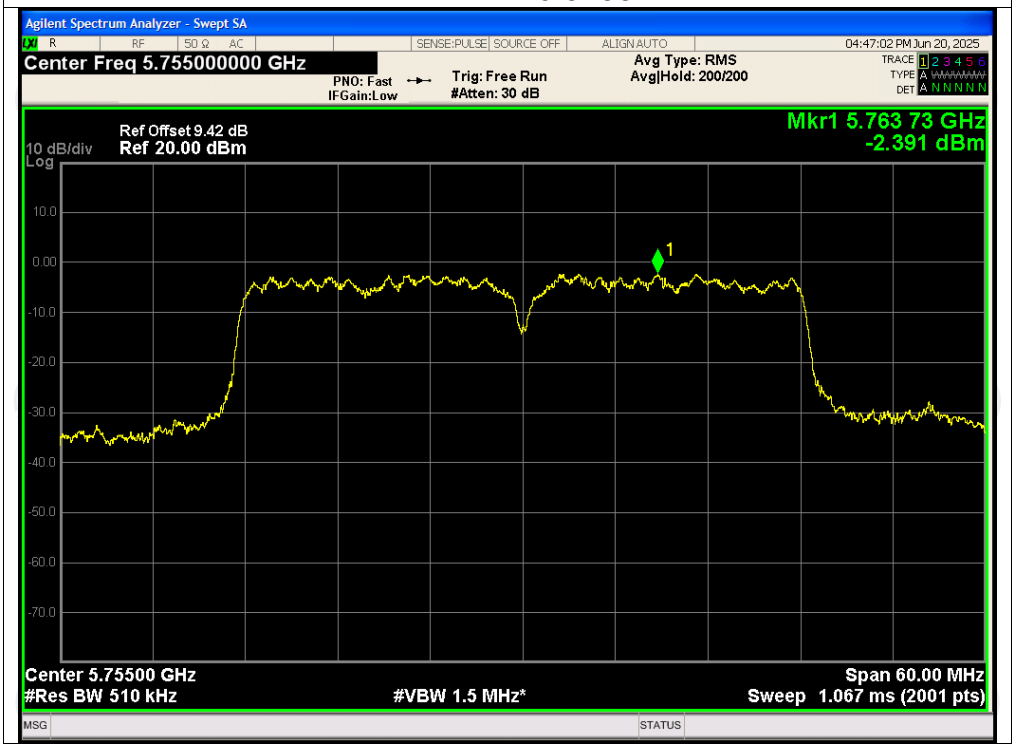
PSD NVNT ac20 5785MHz



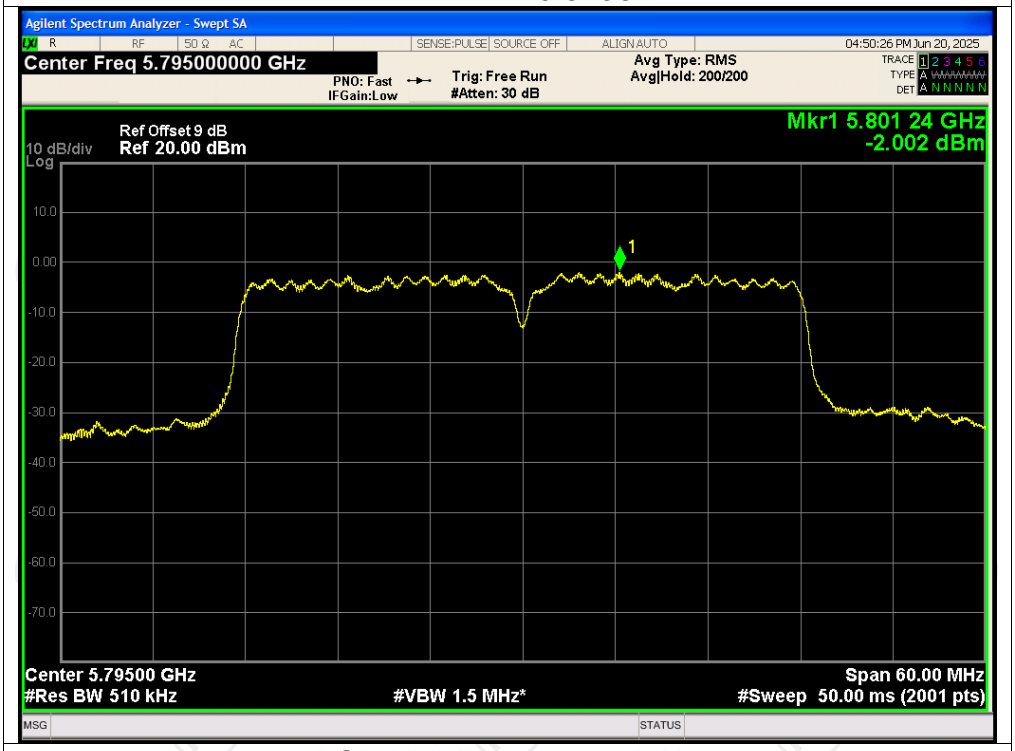
PSD NVNT ac20 5825MHz



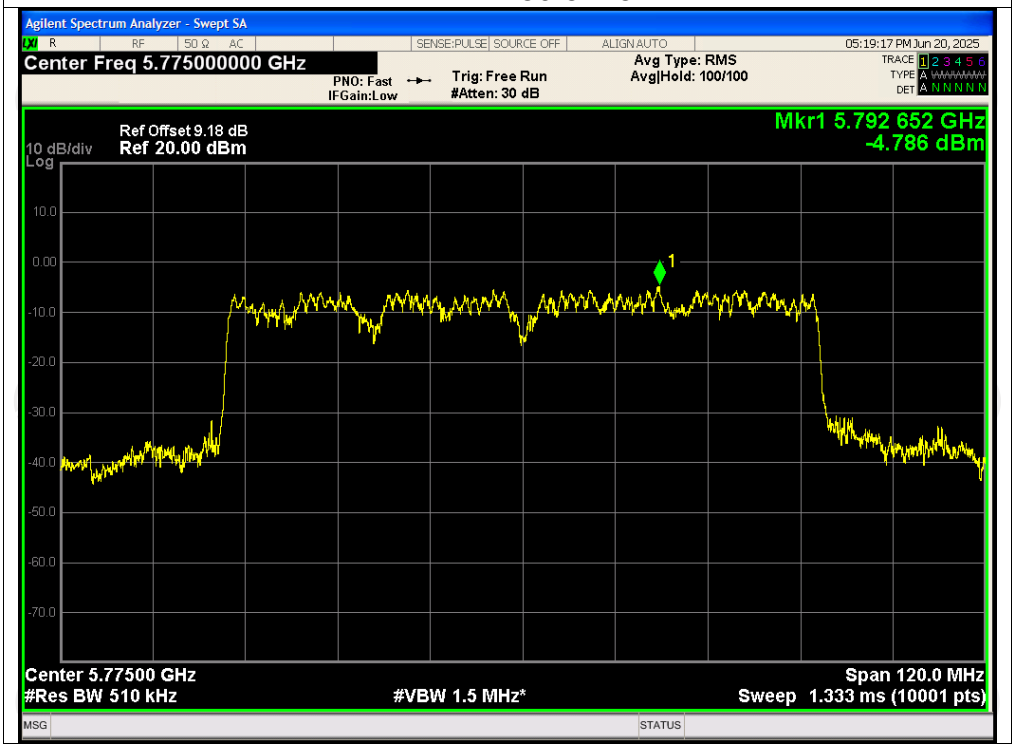
PSD NVNT ac40 5755MHz



PSD NVNT ac40 5795MHz



PSD NVNT ac80 5775MHz



Appendix B: Photographs of Test Setup

Please refer to document Appendix No.: TCT250617E004-A

Appendix C: Photographs of EUT

Please refer to document Appendix No.: TCT250617E004-B & TCT250617E004-C

*******END OF REPORT*******

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