TEST REPORT

Report No.:	BCTC2308326584-4E
Applicant:	SHENZHEN NST INDUSTRY AND TRADE CO.,LTD
Product Name:	15.6 inch laptop
Model/Type reference:	M15
Tested Date:	2023-08-04 to 2023-08-15
Issued Date:	2023-08-15

Shenzhen BCTC Testing Co., Ltd.

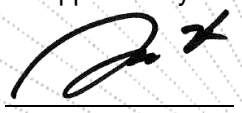
FCC ID: 2AAMS-M15V2

Product Name:	15.6 inch laptop
Trademark:	N/A
Model/Type reference:	M15 M156DJ
Prepared For:	SHENZHEN NST INDUSTRY AND TRADE CO.,LTD
Address:	3-4/F, Bldg 1, Hongbang Intelligent Technology Park,No.30 Cuibao Road, Baolong Street, Longgang District,Shenzhen
Manufacturer:	SHENZHEN NST INDUSTRY AND TRADE CO.,LTD
Address:	3-4/F, Bldg 1, Hongbang Intelligent Technology Park,No.30 Cuibao Road, Baolong Street, Longgang District,Shenzhen
Prepared By:	Shenzhen BCTC Testing Co., Ltd.
Address:	1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date:	2023-08-04
Sample tested Date:	2023-08-04 to 2023-08-15
Issue Date:	2023-08-15
Report No.:	BCTC2308326584-4E
Test Standards:	FCC Part15 15.407 ANSI C63.10-2013 KDB 662911 D01 v02r01 KDB 789033 D02 v02r01
Test Results:	PASS

Tested by:

Brave Zeng/ Project Handler

Approved by:



Zero Zhou/Reviewer

The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client.

Table Of Content

(Note: N/A Means Not Applicable)

1. Version

Report No.	Issue Date	Description	Approved
BCTC2308326584-4E	2023-08-15	Original	Valid

2. Test Summary

The Product has been tested according to the following specifications:

No.	Test Parameter	Clause No	Results
1	Spurious Radiated Emissions	15.209(a), 15.407 (b)(1) 15.407 (b)(4) 15.407 (b)(8)	PASS
2	Conducted Emission	15.207	PASS
3	26 dB and 99% Emission Bandwidth	15.407 (a)(12) 15.1049	PASS
4	Minimum 6 dB bandwidth	15.407(e)	PASS
5	Maximum Conducted Output Power	15.407 (a)(1) 15.407 (a)(3)	PASS
6	Band Edge	2.1051, 15.407(b)(1) 15.407(b)(4)	PASS
7	Power Spectral Density	15.407 (a)(1) 15.407 (a)(3)	PASS
8	Spurious Emissions at Antenna Terminals	2.1051, 15.407(b)	PASS
9	Antenna Requirement	15.203	PASS

3. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Uncertainty
1	3m chamber Radiated spurious emission(9kHz-30MHz)	U=3.7dB
2	3m chamber Radiated spurious emission(30MHz-1GHz)	U=4.3dB
3	3m chamber Radiated spurious emission(1GHz-18GHz)	U=4.5dB
4	3m chamber Radiated spurious emission(18GHz-40GHz)	U=3.34dB
5	Conducted Emission(150kHz-30MHz)	U=3.20dB
6	Conducted Adjacent channel power	U=1.38dB
7	Conducted output power uncertainty Above 1G	U=1.576dB
8	Conducted output power uncertainty below 1G	U=1.28dB
9	humidity uncertainty	U=5.3%
10	Temperature uncertainty	U=0.59℃

4. Product Information And Test Setup

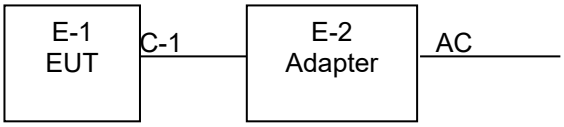
4.1 Product Information

Model/Type Ref.:	M15 M156DJ
Model differences:	All the model are the same circuit and RF module, except model names.
Hardware Version:	N/A
Software Version:	N/A
IEEE 802.11 WLAN Mode Supported	802.11a/n/ac(20MHz channel bandwidth) 802.11n/ac(40MHz channel bandwidth) 802.11ac(80MHz channel bandwidth)
Operation Frequency:	5180-5240MHz for 802.11a/n(HT20); 5190-5230MHz for 802.11n(HT40); 5210MHz for 802.11 ac80; 5745-5825 MHz for 802.11a/n(HT20); 5755-5795 MHz for 802.11n(HT40); 5775MHz for 802.11 ac80;
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40):MCS0-MCS15; 802.11ac(VHT20): NSS1, MCS0-MCS8 802.11ac(VHT40/VHT80):NSS1, MCS0-MCS
Type of Modulation:	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11a/n/ac;
Number Of Channel	4 channels for 802.11a/n20 in the 5180-5240MHz band ; 2 channels for 802.11 n40 in the 5190-5230MHz band ; 1 channels for 802.11 ac80 in the 5210MHz band ; 5 channels for 802.11a/n20 in the 5745-5825MHz band ; 2 channels for 802.11 n40 in the 5755-5795MHz band ; 1 channels for 802.11 ac80 in the 5775MHz band
Antenna installation:	Internal antenna
Antenna Gain:	2.5dBi
Ratings:	DC 12V from adapter
Adapter Information:	MODEL: JZB024-1202000UX INPUT: 100-240V~50/60Hz 1.0A OUTPUT: DC 12.0V 2.0A 24.0W

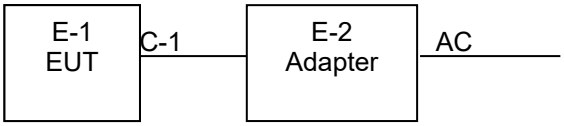
4.2 Test Setup Configuration

See test photographs attached in *EUT TEST SETUP PHOTOGRAPHS* for the actual connections between Product and support equipment.

Conducted Emission:



Radiated Spurious Emission



4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	15.6 inch laptop	N/A	M15	N/A	EUT
E-2	Adapter	N/A	JZB024-1202000UX	N/A	Auxiliary

Item	Shielded Type	Ferrite Core	Length	Note
C-1	N/A	N/A	1M	DC cable unshielded

Notes:

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.

4.4 Channel List

5.1G

802.11a/n/ac(20MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220	-	-	-	-
40	5200	48	5240	-	-	-	-

802.11n /ac(40MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	-	-	-	-	-	-
46	5230	-	-	-	-	-	-

802.11ac (80MHz) Carrier Frequency Channel	
Channel	Frequency (MHz)
42	5210

5.8G

802.11a/n/ac(20 MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	153	5765	157	5785	161	5805
165	5825	-	-	-	-	-	-

802.11n/ac 40MHz Carrier Frequency Channel					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795	-	-

802.11ac 80MHz Carrier Frequency Channel	
Channel	Frequency (MHz)
155	5775

4.5 Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	802.11a / n/ ac 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20 CH149/ CH157/ CH 165
Mode 2	802.11n/ ac40 CH38/ CH 46 802.11n/ ac40 CH 151 / CH 159
Mode 3	802.11 ac80 CH 42/CH 155
Mode 4	Link Mode

Note:

(1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.

(2) We're testing antenna A data.

4.6 Table Of Parameters Of Text Software Setting

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters

Test software Version	**CMD**		
Parameters	DEF	DEF	DEF

4.7 Antenna

5.1G
1)For power spectral density(PSD) measurements,
Array Gain=10log(NANT/NSS)dB=10log(2/1)=3.01dB,
So the directional gain for PSD is 5.51 dBi
2)For power measurements,
The Array gain=0 dB for NANT≤4,
So the directional gain for Power measurements is 2.5 dBi

Antenna	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
A	N/A	N/A	Internal antenna	2.50	
B	N/A	N/A	Internal antenna	2.50	

5.8G
For power spectral density(PSD) measurements,
Array Gain=10log(NANT/NSS)dB=10log(2/1)=3.01dB,
So the directional gain for PSD is 5.51 dBi
2)For power measurements,
The Array gain=0 dB for NANT≤4,
So the directional gain for Power measurements is 2.5 dBi

Antenna	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
A	N/A	N/A	Internal antenna	2.50	
B	N/A	N/A	Internal antenna	2.50	

5. Test Facility And Test Instrument Used

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.
FCC Test Firm Registration Number: 712850
A2LA certificate registration number is: CN1212
ISED Registered No.: 23583
ISED CAB identifier: CN0017

5.2 Test Instrument Used

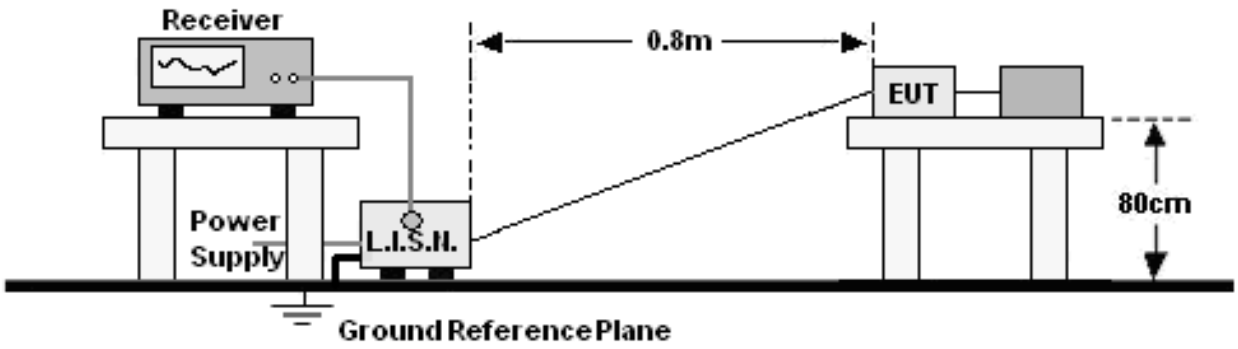
Conducted Emissions Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Receiver	R&S	ESR3	102075	May 15, 2023	May 14, 2024
LISN	R&S	ENV216	101375	May 15, 2023	May 14, 2024
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Attenuator	\	10dB DC-6GHz	1650	May 15, 2023	May 14, 2024

RF Conducted Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Power Meter	Keysight	E4419	\	May 15, 2023	May 14, 2024
Power Sensor (AV)	Keysight	E9300A	\	May 15, 2023	May 14, 2024
Signal Analyzer20kHz-26.5GHz	Keysight	N9020A	MY49100060	May 15, 2023	May 14, 2024
Spectrum Analyzer9kHz-40GHz	R&S	FSP40	100363	May 15, 2023	May 14, 2024
Radio frequency control box	MAIWEI	MW100-RFCB	\	\	\
Software	MAIWEI	MTS 8310	\	\	\

Radiated Emissions Test (966 Chamber01)					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
966 chamber	ChengYu	966 Room	966	May 15, 2023	May 14, 2026
Receiver	R&S	ESR3	102075	May 15, 2023	May 14, 2024
Receiver	R&S	ESRP	101154	May 15, 2023	May 14, 2024
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 15, 2023	May 14, 2024
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	942	May 29, 2023	May 28, 2024
Loop Antenna(9KHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 31, 2023	May 30, 2024
Amplifier	SKET	LAPA_01G18 G-45dB	\	May 15, 2023	May 14, 2024
Horn Antenna	Schwarzbeck	BBHA9120D	1541	May 31, 2023	May 30, 2024
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35-HG	2034381	May 15, 2023	May 14, 2024
Horn Antenna(18G Hz-40GHz)	Schwarzbeck	BBHA9170	00822	May 31, 2023	May 30, 2024
Spectrum Analyzer9kHz-40GHz	R&S	FSP40	100363	May 15, 2023	May 14, 2024
Software	Frad	EZ-EMC	FA-03A2 RE	\	\

6. Conducted Emissions

6.1 Block Diagram Of Test Setup



6.2 Limit

Frequency (MHz)	Limit (dBuV)	
	Quas-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00
Notes: 1. *Decreasing linearly with logarithm of frequency. 2. The lower limit shall apply at the transition frequencies.		

6.3 Test Procedure

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

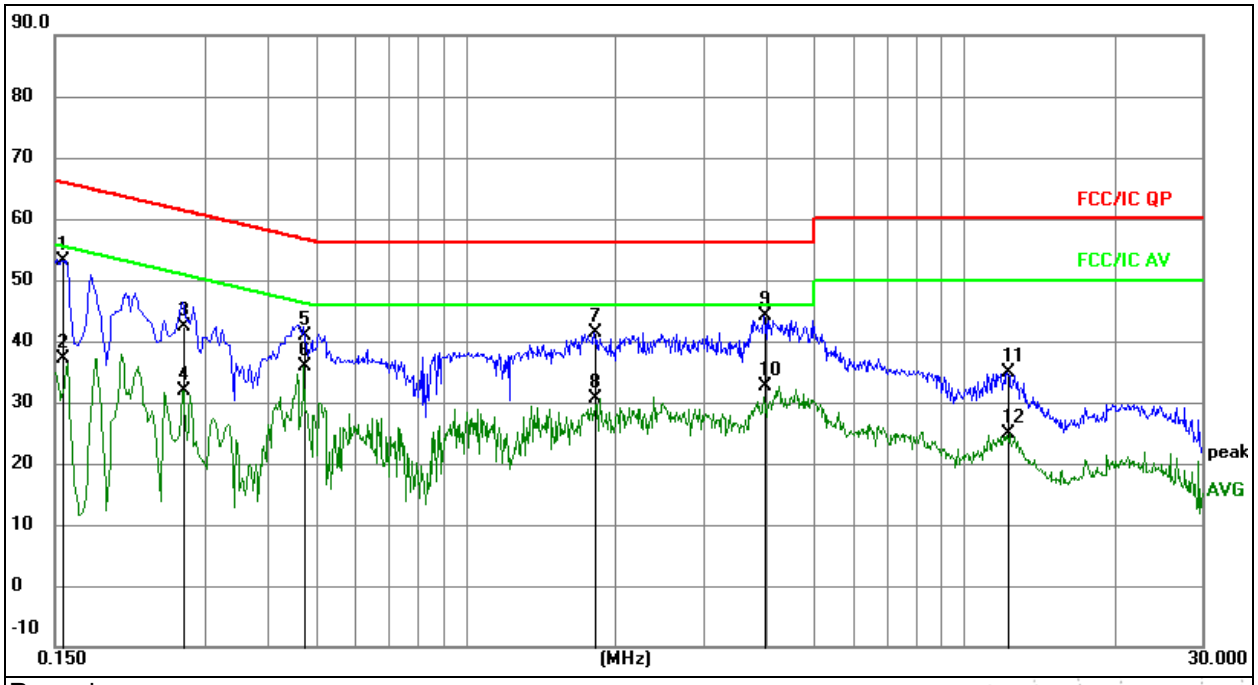
a. The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
b. The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
c. For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

6.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

6.5 Test Result

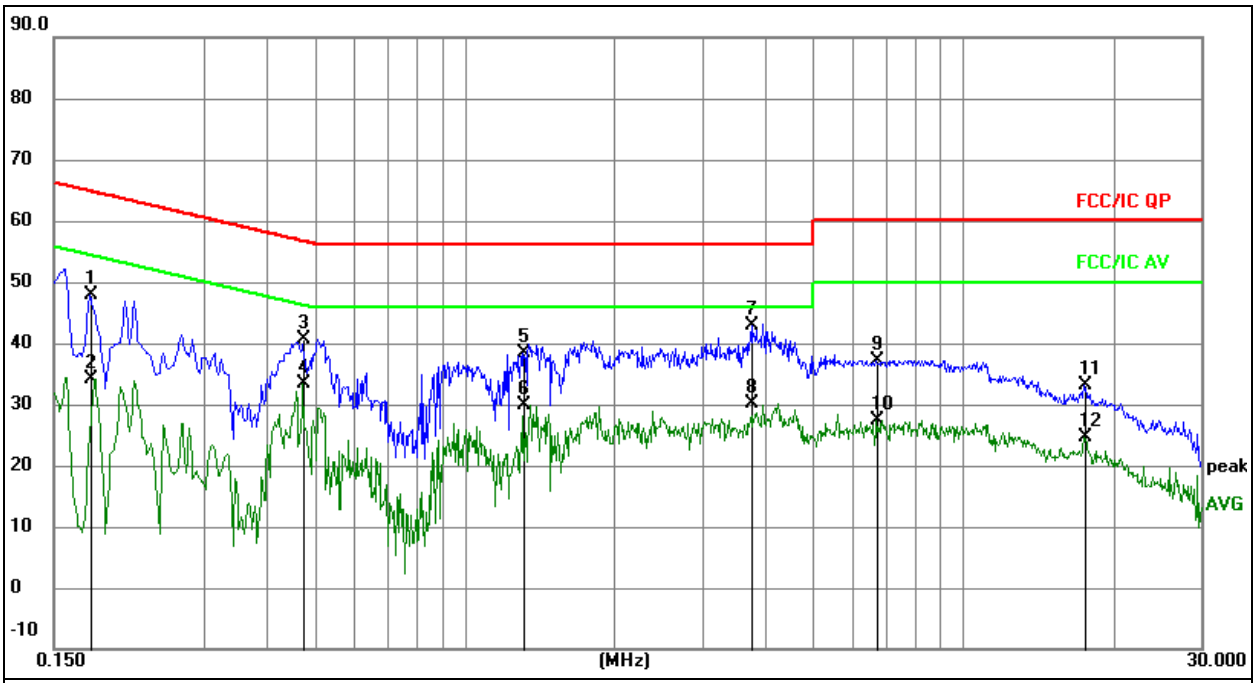
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	L
Test Mode:	Mode 2	Test Voltage :	AC120V/60Hz



Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement=Reading Level+ Correct Factor
4. Over= Measurement-Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1		0.1554	43.72	9.52	53.24	65.71	-12.47	QP
2		0.1554	27.60	9.52	37.12	55.71	-18.59	AVG
3		0.2714	32.89	9.61	42.50	61.07	-18.57	QP
4		0.2714	22.35	9.61	31.96	51.07	-19.11	AVG
5		0.4738	31.25	9.62	40.87	56.45	-15.58	QP
6	*	0.4738	26.37	9.62	35.99	46.45	-10.46	AVG
7		1.8104	31.55	9.73	41.28	56.00	-14.72	QP
8		1.8104	20.87	9.73	30.60	46.00	-15.40	AVG
9		3.9750	34.32	9.84	44.16	56.00	-11.84	QP
10		3.9750	22.72	9.84	32.56	46.00	-13.44	AVG
11		12.2055	25.23	9.66	34.89	60.00	-25.11	QP
12		12.2055	15.12	9.66	24.78	50.00	-25.22	AVG

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	N
Test Mode:	Mode 2	Test Voltage :	AC120V/60Hz



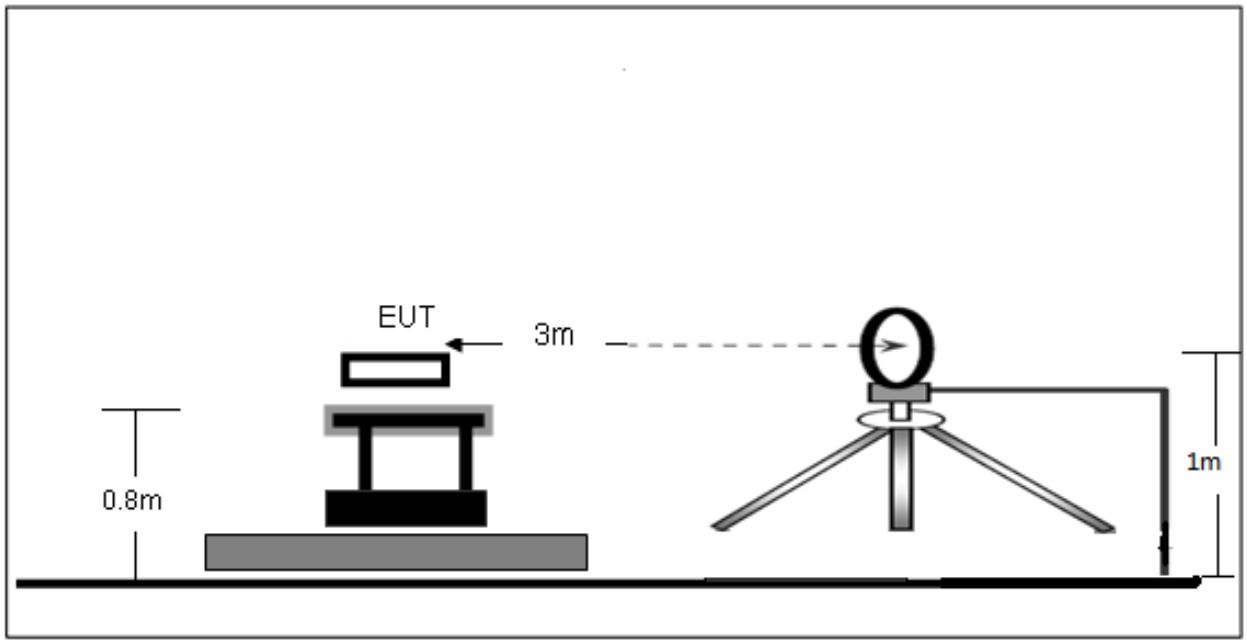
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement=Reading Level+ Correct Factor
4. Over= Measurement-Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1		0.1768	38.27	9.56	47.83	64.63	-16.80	QP
2		0.1768	24.56	9.56	34.12	54.63	-20.51	AVG
3		0.4737	31.09	9.62	40.71	56.45	-15.74	QP
4	*	0.4737	23.87	9.62	33.49	46.45	-12.96	AVG
5		1.3151	28.61	9.73	38.34	56.00	-17.66	QP
6		1.3151	20.19	9.73	29.92	46.00	-16.08	AVG
7		3.7679	33.08	9.83	42.91	56.00	-13.09	QP
8		3.7679	20.23	9.83	30.06	46.00	-15.94	AVG
9		6.7200	27.47	9.75	37.22	60.00	-22.78	QP
10		6.7200	17.56	9.75	27.31	50.00	-22.69	AVG
11		17.5650	23.35	9.72	33.07	60.00	-26.93	QP
12		17.5650	14.99	9.72	24.71	50.00	-25.29	AVG

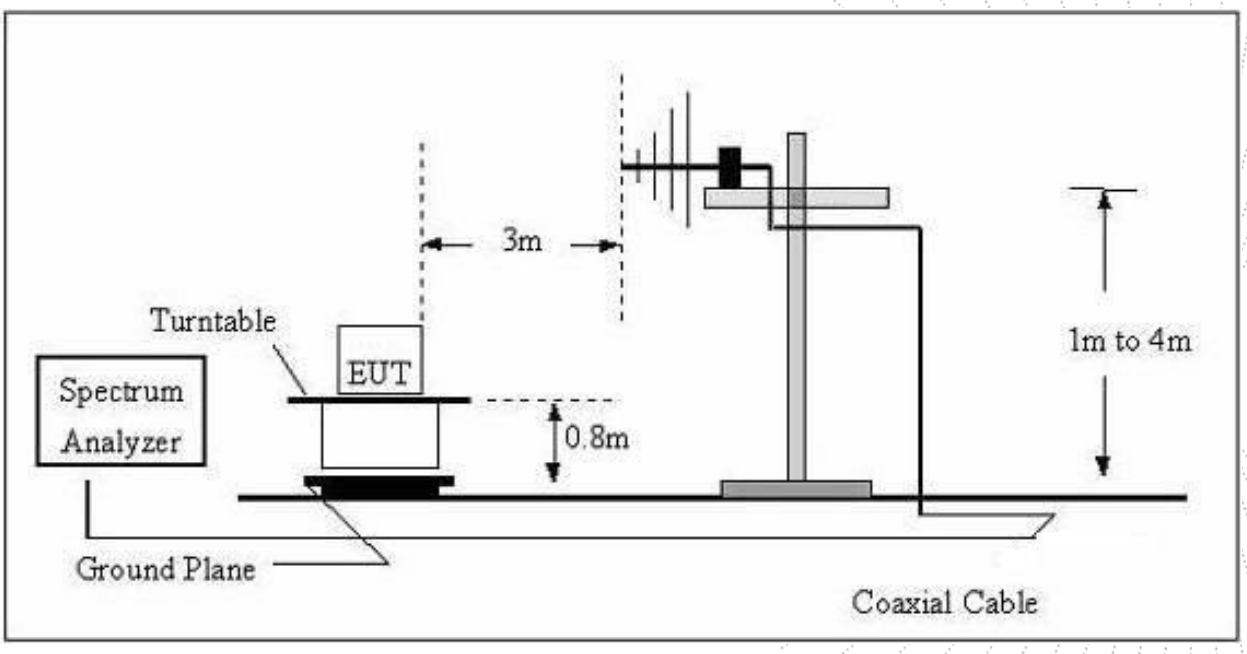
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

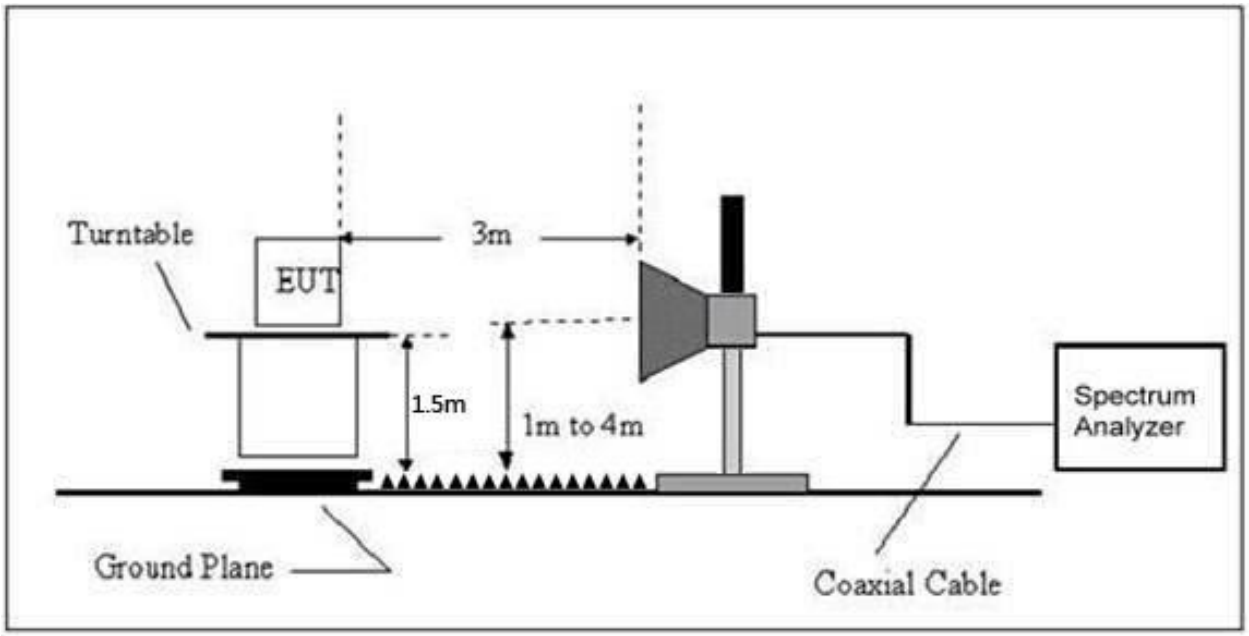
（A）Radiated Emission Test-Up Frequency Below 30MHz



（B）Radiated Emission Test-Up Frequency 30MHz~1GHz



（C）Radiated Emission Test-Up Frequency Above 1GHz



7.2 Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency	Field Strength	Distance	Field Strength Limit at 3m Distance	
(MHz)	uV/m	(m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	$20\log^{(2400/F(kHz))}$ + 80
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	$20\log^{(24000/F(kHz))}$ + 40
1.705 ~ 30	30	30	100 * 30	$20\log^{(30)}$ + 40
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

Limits Of Radiated Emission Measurement (Above 1000MHz)

Frequency (MHz)	Limit (dBuV/m) (at 3M)	
	Peak	Average
Above 1000	74	54

Notes:
(1)The limit for radiated test was performed according to FCC PART 15C.
(2)The tighter limit applies at the band edges.
(3) Emission level (dBuV/m)=20log Emission level (uV/m).

7.3 Test Procedure

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10-2013. The test distance is 3m.The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 22.
This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205.
It must be performed with the highest gain of each type of antenna proposed for use with the EUT.
Use the following spectrum analyzer settings:

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	QP	120 kHz	300 kHz
Above 1000	Peak	1 MHz	1 MHz
	Average	1 MHz	10 Hz

Note: for the frequency ranges below 30 MHz, a narrower RBW is used for these ranges but the measured value should add a RBW correction factor (RBWCF) where RBWCF [dB] =10*lg(100 [kHz]/narrower RBW [kHz]). , the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the
narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

7.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

7.5 Test Result

Below 30MHz

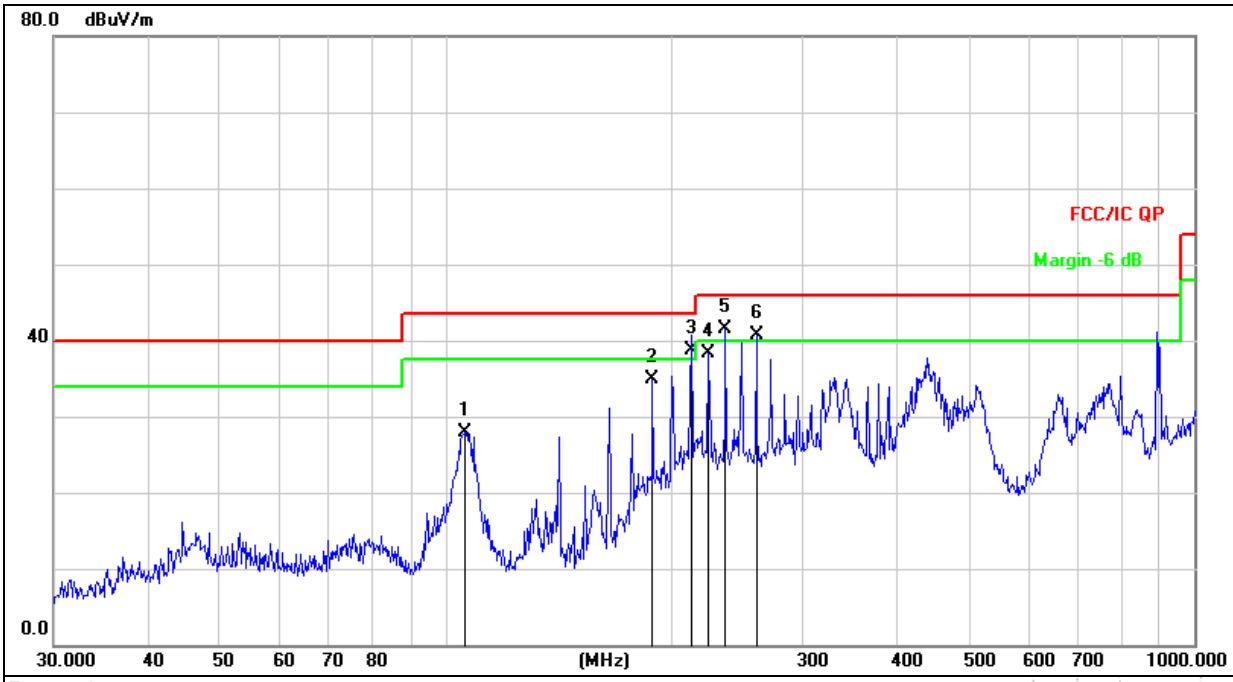
Temperature:	26℃	Relative Humidity:	24%
Pressure:	101 kPa	Test Voltage:	AC120V/60Hz
Test Mode:	Mode 2	Polarization:	--

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

Note:
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
Distance extrapolation factor =40 log (specific distance/test distance)(dB);
Limit line = specific limits(dBuv) + distance extrapolation factor.

Between 30MHz – 1GHz

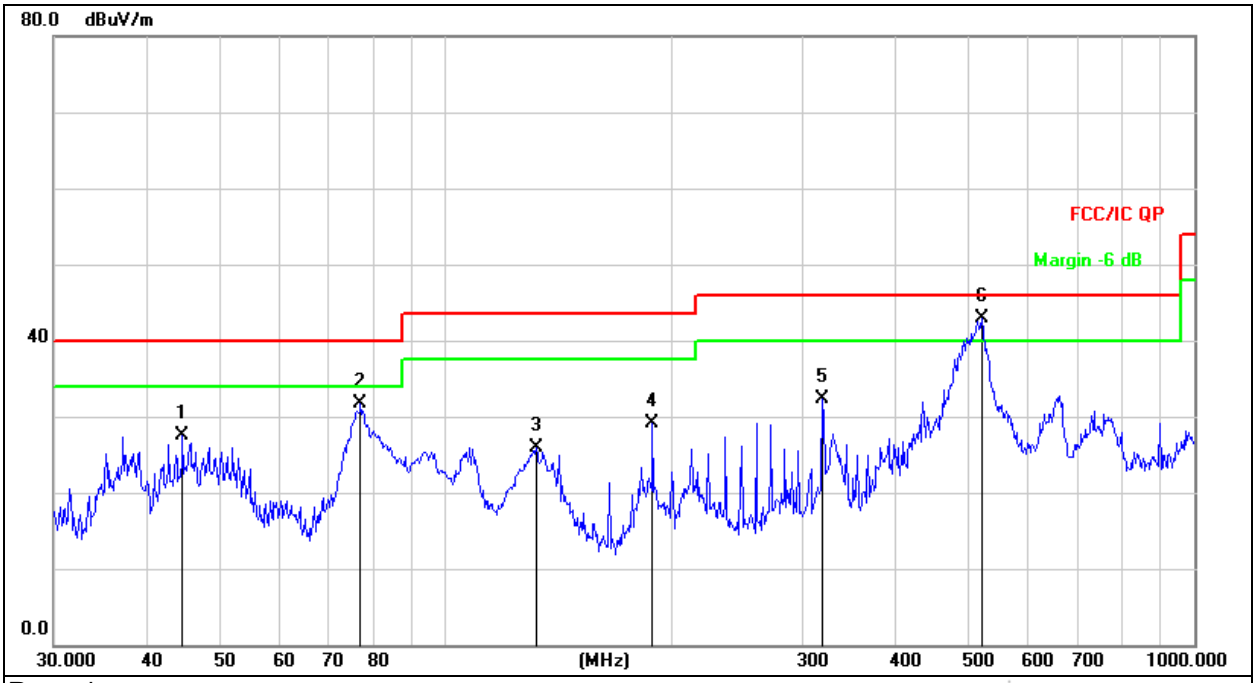
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Test Mode:	Mode 2	Test Voltage :	AC120V/60Hz



Remark:
1.Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement=Reading Level+ Correct Factor
3. Over= Measurement-Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		106.0126	46.14	-18.16	27.98	43.50	-15.52	QP
2		189.0742	53.01	-18.17	34.84	43.50	-8.66	QP
3	!	213.0149	55.71	-16.97	38.74	43.50	-4.76	QP
4		224.5192	55.00	-16.61	38.39	46.00	-7.61	QP
5	*	236.6447	57.67	-16.24	41.43	46.00	-4.57	QP
6	!	260.1444	56.31	-15.58	40.73	46.00	-5.27	QP

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Test Mode:	Mode 2	Test Voltage :	AC120V/60Hz



Remark:
1.Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement=Reading Level+ Correct Factor
3. Over= Measurement-Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		44.5867	43.73	-16.20	27.53	40.00	-12.47	QP
2		77.0504	52.78	-21.08	31.70	40.00	-8.30	QP
3		132.2205	45.70	-19.88	25.82	43.50	-17.68	QP
4		189.0742	47.33	-18.17	29.16	43.50	-14.34	QP
5		318.8170	46.12	-13.91	32.21	46.00	-13.79	QP
6	*	520.8881	52.92	-9.94	42.98	46.00	-3.02	QP

Between 1GHz – 40GHz

Test Mode:	TX(5.1G) - 802.11a

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5180 MHz)-Above 1G									
V	4434.080	63.95	5.94	35.40	44.00	61.29	68.2	-6.91	PK
V	4434.080	43.52	5.94	35.40	44.00	40.86	54	-13.14	AV
V	11000.148	61.96	8.46	39.75	44.50	65.67	68.2	-2.53	PK
V	11000.148	43.52	8.46	39.75	44.50	47.23	54	-6.77	AV
V	16500.008	61.00	10.12	38.80	44.10	65.82	74	-8.18	PK
V	16500.008	43.44	10.12	38.80	42.70	49.66	54	-4.34	AV
H	4434.015	63.75	5.94	35.18	44.00	60.87	68.2	-7.33	PK
H	4434.015	43.61	5.94	35.18	44.00	40.73	54	-13.27	AV
H	11000.047	52.68	8.46	38.71	44.50	55.35	68.2	-12.85	PK
H	11000.047	40.94	8.46	38.71	44.50	43.61	54	-10.39	AV
H	16500.197	51.64	10.12	38.38	44.10	56.04	74	-17.96	PK
H	16500.197	41.13	10.12	38.38	44.10	45.53	54	-8.47	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.154	63.52	6.48	36.35	44.05	62.30	74	-11.70	PK
V	4592.154	43.66	6.48	36.35	44.05	42.44	54	-11.56	AV
V	11160.035	61.37	8.47	37.88	44.51	63.21	68.2	-4.99	PK
V	11160.035	43.69	8.47	37.88	44.51	45.53	54	-8.47	AV
V	16740.086	60.74	10.12	38.80	44.10	65.56	74	-8.44	PK
V	16740.086	43.40	10.12	38.80	42.70	49.62	54	-4.38	AV
H	4592.160	60.88	6.48	36.37	44.05	59.68	74	-14.32	PK
H	4592.160	43.22	6.48	36.37	44.05	42.02	54	-11.98	AV
H	11160.111	53.13	8.47	38.64	44.50	55.74	68.2	-12.46	PK
H	11160.111	40.19	8.47	38.64	44.50	42.80	54	-11.20	AV
H	16740.171	51.79	10.12	38.38	44.10	56.19	74	-17.81	PK
H	16740.171	41.38	10.12	38.38	44.10	45.78	54	-8.22	AV
High Channel (5240 MHz)-Above 1G									
V	4739.061	63.28	7.10	37.24	43.50	64.12	74	-9.88	PK
V	4739.061	43.19	7.10	37.24	43.50	44.03	54	-9.97	AV
V	11400.135	63.86	8.46	37.68	44.50	65.50	68.2	-2.70	PK
V	11400.135	43.78	8.46	37.68	44.50	45.42	54	-8.58	AV
V	17100.140	61.34	10.12	38.80	44.10	66.16	74	-7.84	PK
V	17100.140	43.64	10.12	38.80	42.70	49.86	54	-4.14	AV
H	4739.058	62.36	7.10	37.24	43.50	63.20	74	-10.80	PK
H	4739.058	43.42	7.10	37.24	43.50	44.26	54	-9.74	AV
H	11400.082	50.04	8.46	38.57	44.50	52.57	68.2	-15.63	PK
H	11400.082	44.77	8.46	38.57	44.50	47.30	54	-6.70	AV
H	17100.097	51.85	10.12	38.38	44.10	56.25	74	-17.75	PK
H	17100.097	42.93	10.12	38.38	44.10	47.33	54	-6.67	AV

Note: PK value is lower than the Average value limit, So average didn't record.
The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.
Emission level (dBuV/m) = 20 log Emission level (uV/m).
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.
The worst case is Antenna A.

Test Mode:	TX(5.1G) - 802.11n-HT20

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5180 MHz)-Above 1G									
V	4434.118	60.15	5.94	35.40	44.00	57.49	68.2	-10.71	PK
V	4434.118	43.25	5.94	35.40	44.00	40.59	54	-13.41	AV
V	11000.153	62.12	8.46	39.75	44.50	65.83	68.2	-2.37	PK
V	11000.153	43.66	8.46	39.75	44.50	47.37	54	-6.63	AV
V	16500.012	60.73	10.12	38.80	44.10	65.55	74	-8.45	PK
V	16500.012	43.74	10.12	38.80	42.70	49.96	54	-4.04	AV
H	4434.132	60.78	5.94	35.18	44.00	57.90	68.2	-10.30	PK
H	4434.132	43.17	5.94	35.18	44.00	40.29	54	-13.71	AV
H	11000.069	54.57	8.46	38.71	44.50	57.24	68.2	-10.96	PK
H	11000.069	40.61	8.46	38.71	44.50	43.28	54	-10.72	AV
H	16500.060	51.96	10.12	38.38	44.10	56.36	74	-17.64	PK
H	16500.060	40.39	10.12	38.38	44.10	44.79	54	-9.21	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.160	64.99	6.48	36.35	44.05	63.77	74	-10.23	PK
V	4592.160	43.76	6.48	36.35	44.05	42.54	54	-11.46	AV
V	11160.141	62.05	8.47	37.88	44.51	63.89	68.2	-4.31	PK
V	11160.141	43.22	8.47	37.88	44.51	45.06	54	-8.94	AV
V	16740.007	60.56	10.12	38.80	44.10	65.38	74	-8.62	PK
V	16740.007	43.88	10.12	38.80	42.70	50.10	54	-3.90	AV
H	4592.170	61.32	6.48	36.37	44.05	60.12	74	-13.88	PK
H	4592.170	43.81	6.48	36.37	44.05	42.61	54	-11.39	AV
H	11160.020	50.85	8.47	38.64	44.50	53.46	68.2	-14.74	PK
H	11160.020	44.96	8.47	38.64	44.50	47.57	54	-6.43	AV
H	16740.083	51.32	10.12	38.38	44.10	55.72	74	-18.28	PK
H	16740.083	43.31	10.12	38.38	44.10	47.71	54	-6.29	AV
High Channel (5240 MHz)-Above 1G									
V	4739.148	64.99	7.10	37.24	43.50	65.83	74	-8.17	PK
V	4739.148	43.50	7.10	37.24	43.50	44.34	54	-9.66	AV
V	11400.120	62.83	8.46	37.68	44.50	64.47	68.2	-3.73	PK
V	11400.120	43.72	8.46	37.68	44.50	45.36	54	-8.64	AV
V	17100.177	62.63	10.12	38.80	44.10	67.45	74	-6.55	PK
V	17100.177	43.51	10.12	38.80	42.70	49.73	54	-4.27	AV
H	4739.065	62.84	7.10	37.24	43.50	63.68	74	-10.32	PK
H	4739.065	43.62	7.10	37.24	43.50	44.46	54	-9.54	AV
H	11400.187	52.21	8.46	38.57	44.50	54.74	68.2	-13.46	PK
H	11400.187	41.37	8.46	38.57	44.50	43.90	54	-10.10	AV
H	17100.054	53.01	10.12	38.38	44.10	57.41	74	-16.59	PK
H	17100.054	43.91	10.12	38.38	44.10	48.31	54	-5.69	AV

Note: PK value is lower than the Average value limit, So average didn't record.
The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.
Emission level (dBuV/m) = 20 log Emission level (uV/m).
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.
Test Mode is MIMO Mode.

Test Mode:	TX(5.1G) - 802.11n-HT40

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5190 MHz)-Above 1G									
V	4434.091	62.92	5.94	35.40	44.00	60.26	68.2	-7.94	PK
V	4434.091	43.66	5.94	35.40	44.00	41.00	54	-13.00	AV
V	10380.100	63.28	8.46	39.75	44.50	66.99	68.2	-1.21	PK
V	10380.100	43.98	8.46	39.75	44.50	47.69	54	-6.31	AV
V	15570.017	62.23	10.12	38.80	44.10	67.05	74	-6.95	PK
V	15570.017	43.71	10.12	38.80	42.70	49.93	54	-4.07	AV
H	4434.102	63.82	5.94	35.18	44.00	60.94	74	-13.06	PK
H	4434.102	43.82	5.94	35.18	44.00	40.94	54	-13.06	AV
H	10380.174	50.01	8.46	38.71	44.50	52.68	68.2	-15.52	PK
H	10380.174	44.92	8.46	38.71	44.50	47.59	54	-6.41	AV
H	15570.071	51.61	10.12	38.38	44.10	56.01	74	-17.99	PK
H	15570.071	44.78	10.12	38.38	44.10	49.18	54	-4.82	AV
middle Channel (5230 MHz)-Above 1G									
V	4739.005	62.31	6.48	36.35	44.05	61.09	68.2	-7.11	PK
V	4739.005	43.90	6.48	36.35	44.05	42.68	54	-11.32	AV
V	10460.164	62.97	8.47	37.88	44.51	64.81	68.2	-3.39	PK
V	10460.164	43.60	8.47	37.88	44.51	45.44	54	-8.56	AV
V	15690.085	62.72	10.12	38.80	44.10	67.54	74	-6.46	PK
V	15690.085	43.85	10.12	38.80	42.70	50.07	54	-3.93	AV
H	4739.076	64.93	6.48	36.37	44.05	63.73	68.2	-4.47	PK
H	4739.076	43.90	6.48	36.37	44.05	42.70	54	-11.30	AV
H	10460.041	52.98	8.47	38.64	44.50	55.59	68.2	-12.61	PK
H	10460.041	42.20	8.47	38.64	44.50	44.81	54	-9.19	AV
H	15690.013	53.75	10.12	38.38	44.10	58.15	74	-15.85	PK
H	15690.013	41.33	10.12	38.38	44.10	45.73	54	-8.27	AV

Note: PK value is lower than the Average value limit, So average didn't record.
The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.
Emission level (dBuV/m) = 20 log Emission level (uV/m).
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.
Test Mode is MIMO Mode.

Test Mode:	TX(5.1G) - 802.11ac-HT20

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5180 MHz)-Above 1G									
V	4434.163	61.56	5.94	35.40	44.00	58.90	68.2	-9.30	PK
V	4434.163	43.10	5.94	35.40	44.00	40.44	54	-13.56	AV
V	11000.068	62.34	8.46	39.75	44.50	66.05	68.2	-2.15	PK
V	11000.068	43.99	8.46	39.75	44.50	47.70	54	-6.30	AV
V	16500.074	63.86	10.12	38.80	44.10	68.68	74	-5.32	PK
V	16500.074	43.74	10.12	38.80	42.70	49.96	54	-4.04	AV
H	4434.063	61.90	5.94	35.18	44.00	59.02	68.2	-9.18	PK
H	4434.063	43.77	5.94	35.18	44.00	40.89	54	-13.11	AV
H	11000.176	51.57	8.46	38.71	44.50	54.24	68.2	-13.96	PK
H	11000.176	42.26	8.46	38.71	44.50	44.93	54	-9.07	AV
H	16500.188	51.25	10.12	38.38	44.10	55.65	74	-18.35	PK
H	16500.188	44.87	10.12	38.38	44.10	49.27	54	-4.73	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.124	61.55	6.48	36.35	44.05	60.33	74	-13.67	PK
V	4592.124	43.79	6.48	36.35	44.05	42.57	54	-11.43	AV
V	11160.025	63.69	8.47	37.88	44.51	65.53	68.2	-2.67	PK
V	11160.025	43.47	8.47	37.88	44.51	45.31	54	-8.69	AV
V	16740.196	63.27	10.12	38.80	44.10	68.09	74	-5.91	PK
V	16740.196	43.73	10.12	38.80	42.70	49.95	54	-4.05	AV
H	4592.109	63.10	6.48	36.37	44.05	61.90	74	-12.10	PK
H	4592.109	43.18	6.48	36.37	44.05	41.98	54	-12.02	AV
H	11160.099	54.87	8.47	38.64	44.50	57.48	68.2	-10.72	PK
H	11160.099	43.77	8.47	38.64	44.50	46.38	54	-7.62	AV
H	16740.116	53.65	10.12	38.38	44.10	58.05	74	-15.95	PK
H	16740.116	44.34	10.12	38.38	44.10	48.74	54	-5.26	AV
High Channel (5240 MHz)-Above 1G									
V	4739.104	64.25	7.10	37.24	43.50	65.09	74	-8.91	PK
V	4739.104	43.64	7.10	37.24	43.50	44.48	54	-9.52	AV
V	11400.161	63.06	8.46	37.68	44.50	64.70	68.2	-3.50	PK
V	11400.161	43.97	8.46	37.68	44.50	45.61	54	-8.39	AV
V	17100.067	61.55	10.12	38.80	44.10	66.37	74	-7.63	PK
V	17100.067	43.72	10.12	38.80	42.70	49.94	54	-4.06	AV
H	4739.050	64.73	7.10	37.24	43.50	65.57	74	-8.43	PK
H	4739.050	43.77	7.10	37.24	43.50	44.61	54	-9.39	AV
H	11400.092	53.45	8.46	38.57	44.50	55.98	68.2	-12.22	PK
H	11400.092	43.41	8.46	38.57	44.50	45.94	54	-8.06	AV
H	17100.005	51.03	10.12	38.38	44.10	55.43	74	-18.57	PK
H	17100.005	41.77	10.12	38.38	44.10	46.17	54	-7.83	AV

Note: PK value is lower than the Average value limit, So average didn't record.
The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.
Emission level (dBuV/m) = 20 log Emission level (uV/m).
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.
Test Mode is MIMO Mode.

Test Mode:	TX(5.1G) - 802.11ac-HT40

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5190 MHz)-Above 1G									
V	4434.087	62.12	5.94	35.40	44.00	59.46	68.2	-8.74	PK
V	4434.087	43.63	5.94	35.40	44.00	40.97	54	-13.03	AV
V	10380.037	60.48	8.46	39.75	44.50	64.19	68.2	-4.01	PK
V	10380.037	43.06	8.46	39.75	44.50	46.77	54	-7.23	AV
V	15570.031	61.83	10.12	38.80	44.10	66.65	74	-7.35	PK
V	15570.031	43.49	10.12	38.80	42.70	49.71	54	-4.29	AV
H	4434.123	64.43	5.94	35.18	44.00	61.55	74	-12.45	PK
H	4434.123	43.39	5.94	35.18	44.00	40.51	54	-13.49	AV
H	10380.014	53.42	8.46	38.71	44.50	56.09	68.2	-12.11	PK
H	10380.014	40.66	8.46	38.71	44.50	43.33	54	-10.67	AV
H	15570.142	50.79	10.12	38.38	44.10	55.19	74	-18.81	PK
H	15570.142	43.15	10.12	38.38	44.10	47.55	54	-6.45	AV
middle Channel (5230 MHz)-Above 1G									
V	4739.198	61.85	6.48	36.35	44.05	60.63	68.2	-7.57	PK
V	4739.198	43.96	6.48	36.35	44.05	42.74	54	-11.26	AV
V	10460.176	61.94	8.47	37.88	44.51	63.78	68.2	-4.42	PK
V	10460.176	43.80	8.47	37.88	44.51	45.64	54	-8.36	AV
V	15690.028	63.74	10.12	38.80	44.10	68.56	74	-5.44	PK
V	15690.028	43.41	10.12	38.80	42.70	49.63	54	-4.37	AV
H	4739.107	61.15	6.48	36.37	44.05	59.95	68.2	-8.25	PK
H	4739.107	43.46	6.48	36.37	44.05	42.26	54	-11.74	AV
H	10460.039	51.46	8.47	38.64	44.50	54.07	68.2	-14.13	PK
H	10460.039	44.62	8.47	38.64	44.50	47.23	54	-6.77	AV
H	15690.004	54.89	10.12	38.38	44.10	59.29	74	-14.71	PK
H	15690.004	44.40	10.12	38.38	44.10	48.80	54	-5.20	AV

Note: PK value is lower than the Average value limit, So average didn't record.
The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.
Emission level (dBuV/m) = 20 log Emission level (uV/m).
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.
Test Mode is MIMO Mode.

Test Mode:	TX(5.1G) - 802.11ac 80

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5210 MHz)-Above 1G									
V	4434.125	60.11	5.94	35.40	44.00	57.45	68.2	-10.75	PK
V	4434.125	43.93	5.94	35.40	44.00	41.27	54	-12.73	AV
V	10420.019	60.15	8.46	39.75	44.50	63.86	68.2	-4.34	PK
V	10420.019	43.49	8.46	39.75	44.50	47.20	54	-6.80	AV
V	15630.002	61.73	10.12	38.80	44.10	66.55	74	-7.45	PK
V	15630.002	43.15	10.12	38.80	42.70	49.37	54	-4.63	AV
H	4434.186	63.72	5.94	35.18	44.00	60.84	68.2	-7.36	PK
H	4434.186	43.17	5.94	35.18	44.00	40.29	54	-13.71	AV
H	10420.083	54.63	8.46	38.71	44.50	57.30	68.2	-10.90	PK
H	10420.083	40.08	8.46	38.71	44.50	42.75	54	-11.25	AV
H	15630.182	54.98	10.12	38.38	44.10	59.38	74	-14.62	PK
H	15630.182	41.63	10.12	38.38	44.10	46.03	54	-7.97	AV

Note: PK value is lower than the Average value limit, So average didn't record.
The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.
Emission level (dBuV/m) = 20 log Emission level (uV/m).
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.
Test Mode is MIMO Mode.

Test Mode:	TX (5.8G) -- 802.11a

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G									
V	4679.175	55.53	5.94	35.40	44.00	52.87	74	-21.13	PK
V	4679.175	43.78	5.94	35.40	44.00	41.12	54	-12.88	AV
V	11490.044	56.93	8.46	39.75	44.50	60.64	68.2	-7.56	PK
V	11490.044	43.57	8.46	39.75	44.50	47.28	54	-6.72	AV
V	17235.075	57.89	10.12	38.80	44.10	62.71	68.2	-5.49	PK
V	17235.075	43.87	10.12	38.80	42.70	50.09	54	-3.91	AV
H	4679.167	55.05	5.94	35.18	44.00	52.17	74	-21.83	PK
H	4679.167	43.22	5.94	35.18	44.00	40.34	54	-13.66	AV
H	11490.193	54.28	8.46	38.71	44.50	56.95	68.2	-11.25	PK
H	11490.193	43.49	8.46	38.71	44.50	46.16	54	-7.84	AV
H	17235.073	52.37	10.12	38.38	44.10	56.77	68.2	-11.43	PK
H	17235.073	44.98	10.12	38.38	44.10	49.38	54	-4.62	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.087	56.83	6.48	36.35	44.05	55.61	74	-18.39	PK
V	4592.087	43.44	6.48	36.35	44.05	42.22	54	-11.78	AV
V	11570.050	57.71	8.47	37.88	44.51	59.55	68.2	-8.65	PK
V	11570.050	43.60	8.47	37.88	44.51	45.44	54	-8.56	AV
V	17355.131	59.39	10.12	38.80	44.10	64.21	68.2	-3.99	PK
V	17355.131	39.44	10.12	38.80	42.70	45.66	54	-8.34	AV
H	4592.192	59.76	6.48	36.37	44.05	58.56	74	-15.44	PK
H	4592.192	43.14	6.48	36.37	44.05	41.94	54	-12.06	AV
H	11570.095	51.39	8.47	38.64	44.50	54.00	68.2	-14.20	PK
H	11570.095	41.16	8.47	38.64	44.50	43.77	54	-10.23	AV
H	17355.200	50.53	10.12	38.38	44.10	54.93	68.2	-13.27	PK
H	17355.200	41.97	10.12	38.38	44.10	46.37	54	-7.63	AV
High Channel (5825 MHz)-Above 1G									
V	6039.169	58.96	7.10	37.24	43.50	59.80	68.2	-8.40	PK
V	6039.169	43.90	7.10	37.24	43.50	44.74	54	-9.26	AV
V	11650.065	58.79	8.46	37.68	44.50	60.43	74	-13.57	PK
V	11650.065	43.71	8.46	37.68	44.50	45.35	54	-8.65	AV
V	17475.165	53.38	10.12	38.80	44.10	58.20	68.2	-10.00	PK
V	17475.165	43.12	10.12	38.80	42.70	49.34	54	-4.66	AV
H	6039.043	58.79	7.10	37.24	43.50	59.63	68.2	-8.57	PK
H	6039.043	43.77	7.10	37.24	43.50	44.61	54	-9.39	AV
H	11650.072	53.87	8.46	38.57	44.50	56.40	74	-17.60	PK
H	11650.072	44.19	8.46	38.57	44.50	46.72	54	-7.28	AV
H	17475.056	51.79	10.12	38.38	44.10	56.19	68.2	-12.01	PK
H	17475.056	41.11	10.12	38.38	44.10	45.51	54	-8.49	AV

Note: PK value is lower than the Average value limit, So average didn't record.
The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.
Emission level (dBuV/m) = 20 log Emission level (uV/m).
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.
The Worst mode is Antenna A.

Test Mode:	TX (5.8G) --802.11n-HT20

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G									
V	4679.130	59.59	5.94	35.40	44.00	56.93	74	-17.07	PK
V	4679.130	43.26	5.94	35.40	44.00	40.60	54	-13.40	AV
V	11490.075	55.01	8.46	39.75	44.50	58.72	68.2	-9.48	PK
V	11490.075	43.47	8.46	39.75	44.50	47.18	54	-6.82	AV
V	17235.191	57.86	10.12	38.80	44.10	62.68	68.2	-5.52	PK
V	17235.191	43.64	10.12	38.80	42.70	49.86	54	-4.14	AV
H	4679.188	58.04	5.94	35.18	44.00	55.16	74	-18.84	PK
H	4679.188	43.83	5.94	35.18	44.00	40.95	54	-13.05	AV
H	11490.145	48.91	8.46	38.71	44.50	51.58	68.2	-16.62	PK
H	11490.145	44.60	8.46	38.71	44.50	47.27	54	-6.73	AV
H	17235.033	52.83	10.12	38.38	44.10	57.23	68.2	-10.97	PK
H	17235.033	40.22	10.12	38.38	44.10	44.62	54	-9.38	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.006	61.59	6.48	36.35	44.05	60.37	74	-13.63	PK
V	4592.006	43.70	6.48	36.35	44.05	42.48	54	-11.52	AV
V	11570.063	58.28	8.47	37.88	44.51	60.12	68.2	-8.08	PK
V	11570.063	43.71	8.47	37.88	44.51	45.55	54	-8.45	AV
V	17355.049	60.86	10.12	38.80	44.10	65.68	68.2	-2.52	PK
V	17355.049	43.98	10.12	38.80	42.70	50.20	54	-3.80	AV
H	4592.040	56.83	6.48	36.37	44.05	55.63	74	-18.37	PK
H	4592.040	43.65	6.48	36.37	44.05	42.45	54	-11.55	AV
H	11570.011	51.36	8.47	38.64	44.50	53.97	68.2	-14.23	PK
H	11570.011	41.51	8.47	38.64	44.50	44.12	54	-9.88	AV
H	17355.125	52.39	10.12	38.38	44.10	56.79	68.2	-11.41	PK
H	17355.125	43.00	10.12	38.38	44.10	47.40	54	-6.60	AV
High Channel (5825 MHz)-Above 1G									
V	6039.183	57.27	7.10	37.24	43.50	58.11	68.2	-10.09	PK
V	6039.183	43.62	7.10	37.24	43.50	44.46	54	-9.54	AV
V	11650.196	58.78	8.46	37.68	44.50	60.42	74	-13.58	PK
V	11650.196	43.85	8.46	37.68	44.50	45.49	54	-8.51	AV
V	17475.039	59.12	10.12	38.80	44.10	63.94	68.2	-4.26	PK
V	17475.039	43.69	10.12	38.80	42.70	49.91	54	-4.09	AV
H	6039.076	55.93	7.10	37.24	43.50	56.77	68.2	-11.43	PK
H	6039.076	43.69	7.10	37.24	43.50	44.53	54	-9.47	AV
H	11650.185	51.15	8.46	38.57	44.50	53.68	74	-20.32	PK
H	11650.185	41.89	8.46	38.57	44.50	44.42	54	-9.58	AV
H	17475.141	51.98	10.12	38.38	44.10	56.38	68.2	-11.82	PK
H	17475.141	41.35	10.12	38.38	44.10	45.75	54	-8.25	AV

Note: PK value is lower than the Average value limit, So average didn't record.
The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.
Emission level (dBuV/m) = 20 log Emission level (uV/m).
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.
Test Mode is MIMO Mode.

Test Mode:	TX (5.8G) -- 802.11n-HT40

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5755 MHz)-Above 1G									
V	4679.097	58.71	5.94	35.40	44.00	56.05	74	-17.95	PK
V	4679.097	43.36	5.94	35.40	44.00	40.70	54	-13.30	AV
V	11510.087	56.75	8.46	39.75	44.50	60.46	74	-13.54	PK
V	11510.087	43.53	8.46	39.75	44.50	47.24	54	-6.76	AV
V	17265.188	57.04	10.12	38.80	44.10	61.86	68.2	-6.34	PK
V	17265.188	43.04	10.12	38.80	42.70	49.26	54	-4.74	AV
H	4679.158	58.48	5.94	35.18	44.00	55.60	74	-18.40	PK
H	4679.158	43.14	5.94	35.18	44.00	40.26	54	-13.74	AV
H	11510.150	51.73	8.46	38.71	44.50	54.40	74	-19.60	PK
H	11510.150	44.71	8.46	38.71	44.50	47.38	54	-6.62	AV
H	17265.133	51.33	10.12	38.38	44.10	55.73	68.2	-12.47	PK
H	17265.133	41.76	10.12	38.38	44.10	46.16	54	-7.84	AV
middle Channel (5795 MHz)-Above 1G									
V	6039.191	56.90	6.48	36.35	44.05	55.68	68.2	-12.52	PK
V	6039.191	43.42	6.48	36.35	44.05	42.20	54	-11.80	AV
V	11590.058	55.69	8.47	37.88	44.51	57.53	74	-16.47	PK
V	11590.058	43.23	8.47	37.88	44.51	45.07	54	-8.93	AV
V	17385.003	55.60	10.12	38.80	44.10	60.42	68.2	-7.78	PK
V	17385.003	41.85	10.12	38.80	42.70	48.07	54	-5.93	AV
H	6039.151	56.79	6.48	36.37	44.05	55.59	68.2	-12.61	PK
H	6039.151	43.03	6.48	36.37	44.05	41.83	54	-12.17	AV
H	11590.102	52.31	8.47	38.64	44.50	54.92	74	-19.08	PK
H	11590.102	40.60	8.47	38.64	44.50	43.21	54	-10.79	AV
H	17385.184	54.57	10.12	38.38	44.10	58.97	68.2	-9.23	PK
H	17385.184	42.31	10.12	38.38	44.10	46.71	54	-7.29	AV

Note: PK value is lower than the Average value limit, So average didn't record.
The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.
Emission level (dBuV/m) = 20 log Emission level (uV/m).
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.
Test Mode is MIMO Mode.

Test Mode:	TX (5.8G) --802.11ac-HT20

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G									
V	4679.059	56.81	5.94	35.40	44.00	54.15	74	-19.85	PK
V	4679.059	43.58	5.94	35.40	44.00	40.92	54	-13.08	AV
V	11490.135	55.22	8.46	39.75	44.50	58.93	68.2	-9.27	PK
V	11490.135	43.73	8.46	39.75	44.50	47.44	54	-6.56	AV
V	17235.060	58.16	10.12	38.80	44.10	62.98	68.2	-5.22	PK
V	17235.060	43.52	10.12	38.80	42.70	49.74	54	-4.26	AV
H	4679.088	58.18	5.94	35.18	44.00	55.30	74	-18.70	PK
H	4679.088	43.90	5.94	35.18	44.00	41.02	54	-12.98	AV
H	11490.098	51.05	8.46	38.71	44.50	53.72	68.2	-14.48	PK
H	11490.098	44.58	8.46	38.71	44.50	47.25	54	-6.75	AV
H	17235.097	53.70	10.12	38.38	44.10	58.10	68.2	-10.10	PK
H	17235.097	44.45	10.12	38.38	44.10	48.85	54	-5.15	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.027	62.74	6.48	36.35	44.05	61.52	74	-12.48	PK
V	4592.027	43.97	6.48	36.35	44.05	42.75	54	-11.25	AV
V	11570.031	58.18	8.47	37.88	44.51	60.02	68.2	-8.18	PK
V	11570.031	43.86	8.47	37.88	44.51	45.70	54	-8.30	AV
V	17355.194	60.20	10.12	38.80	44.10	65.02	68.2	-3.18	PK
V	17355.194	43.27	10.12	38.80	42.70	49.49	54	-4.51	AV
H	4592.039	60.65	6.48	36.37	44.05	59.45	74	-14.55	PK
H	4592.039	43.46	6.48	36.37	44.05	42.26	54	-11.74	AV
H	11570.160	50.81	8.47	38.64	44.50	53.42	68.2	-14.78	PK
H	11570.160	41.50	8.47	38.64	44.50	44.11	54	-9.89	AV
H	17355.073	53.90	10.12	38.38	44.10	58.30	68.2	-9.90	PK
H	17355.073	40.91	10.12	38.38	44.10	45.31	54	-8.69	AV
High Channel (5825 MHz)-Above 1G									
V	6039.042	55.57	7.10	37.24	43.50	56.41	68.2	-11.79	PK
V	6039.042	43.69	7.10	37.24	43.50	44.53	54	-9.47	AV
V	11650.076	58.48	8.46	37.68	44.50	60.12	74	-13.88	PK
V	11650.076	43.05	8.46	37.68	44.50	44.69	54	-9.31	AV
V	17475.193	58.47	10.12	38.80	44.10	63.29	68.2	-4.91	PK
V	17475.193	43.99	10.12	38.80	42.70	50.21	54	-3.79	AV
H	6039.160	57.81	7.10	37.24	43.50	58.65	68.2	-9.55	PK
H	6039.160	43.38	7.10	37.24	43.50	44.22	54	-9.78	AV
H	11650.071	54.73	8.46	38.57	44.50	57.26	74	-16.74	PK
H	11650.071	42.02	8.46	38.57	44.50	44.55	54	-9.45	AV
H	17475.042	53.93	10.12	38.38	44.10	58.33	68.2	-9.87	PK
H	17475.042	40.81	10.12	38.38	44.10	45.21	54	-8.79	AV

Note: PK value is lower than the Average value limit, So average didn't record.
The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.
Emission level (dBuV/m) = 20 log Emission level (uV/m).
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.
Test Mode is MIMO Mode.

Test Mode :	TX (5.8G) -- 802.11ac-HT40

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5755 MHz)-Above 1G									
V	4679.069	58.79	5.94	35.40	44.00	56.13	74	-17.87	PK
V	4679.069	43.77	5.94	35.40	44.00	41.11	54	-12.89	AV
V	11510.125	55.99	8.46	39.75	44.50	59.70	74	-14.30	PK
V	11510.125	43.66	8.46	39.75	44.50	47.37	54	-6.63	AV
V	17265.174	59.08	10.12	38.80	44.10	63.90	68.2	-4.30	PK
V	17265.174	43.13	10.12	38.80	42.70	49.35	54	-4.65	AV
H	4679.086	56.80	5.94	35.18	44.00	53.92	74	-20.08	PK
H	4679.086	43.76	5.94	35.18	44.00	40.88	54	-13.12	AV
H	11510.008	52.36	8.46	38.71	44.50	55.03	74	-18.97	PK
H	11510.008	41.83	8.46	38.71	44.50	44.50	54	-9.50	AV
H	17265.105	50.42	10.12	38.38	44.10	54.82	68.2	-13.38	PK
H	17265.105	41.78	10.12	38.38	44.10	46.18	54	-7.82	AV
middle Channel (5795 MHz)-Above 1G									
V	6039.064	59.42	6.48	36.35	44.05	58.20	68.2	-10.00	PK
V	6039.064	43.23	6.48	36.35	44.05	42.01	54	-11.99	AV
V	11590.067	55.37	8.47	37.88	44.51	57.21	74	-16.79	PK
V	11590.067	43.40	8.47	37.88	44.51	45.24	54	-8.76	AV
V	17385.098	55.96	10.12	38.80	44.10	60.78	68.2	-7.42	PK
V	17385.098	41.99	10.12	38.80	42.70	48.21	54	-5.79	AV
H	6039.005	57.78	6.48	36.37	44.05	56.58	68.2	-11.62	PK
H	6039.005	43.97	6.48	36.37	44.05	42.77	54	-11.23	AV
H	11590.002	51.63	8.47	38.64	44.50	54.24	74	-19.76	PK
H	11590.002	44.36	8.47	38.64	44.50	46.97	54	-7.03	AV
H	17385.148	54.55	10.12	38.38	44.10	58.95	68.2	-9.25	PK
H	17385.148	41.51	10.12	38.38	44.10	45.91	54	-8.09	AV

Note: PK value is lower than the Average value limit, So average didn't record.
The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.
Emission level (dBuV/m) = 20 log Emission level (uV/m).
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.
Test Mode is MIMO Mode.

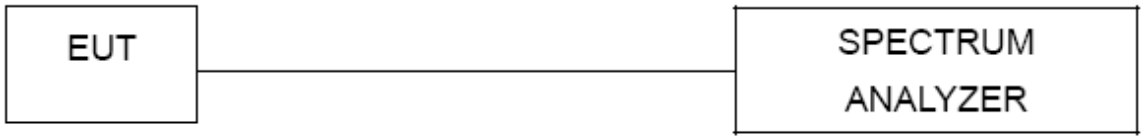
Test Mode :	TX (5.8G) -- 802.11ac 80

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5775 MHz)-Above 1G									
V	4679.016	58.20	5.94	35.40	44.00	55.54	74	-18.46	PK
V	4679.016	43.68	5.94	35.40	44.00	41.02	54	-12.98	AV
V	11550.010	57.48	8.46	39.75	44.50	61.19	74	-12.81	PK
V	11550.010	42.48	8.46	39.75	44.50	46.19	54	-7.81	AV
V	17325.157	58.56	10.12	38.80	44.10	63.38	68.2	-4.82	PK
V	17325.157	41.69	10.12	38.80	42.70	47.91	54	-6.09	AV
H	4679.116	55.40	5.94	35.18	44.00	52.52	74	-21.48	PK
H	4679.116	43.44	5.94	35.18	44.00	40.56	54	-13.44	AV
H	11550.004	50.73	8.46	38.71	44.50	53.40	74	-20.60	PK
H	11550.004	43.59	8.46	38.71	44.50	46.26	54	-7.74	AV
H	17325.071	52.10	10.12	38.38	44.10	56.50	68.2	-11.70	PK
H	17325.071	43.24	10.12	38.38	44.10	47.64	54	-6.36	AV

Note: PK value is lower than the Average value limit, So average didn't record.
The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.
Emission level (dBuV/m) = 20 log Emission level (uV/m).
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.
Test Mode is MIMO Mode.

8. Power Spectral Density Test

8.1 Block Diagram Of Test Setup



8.2 Limit

For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz

(3)For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

8.3 Test Procedure

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

a) Set RBW ≥ 1/T, where T is defined in section II.B.I.a).

b) Set VBW ≥ 3 RBW.

c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10log(1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.

e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 kHz for the sections 5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.

8.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

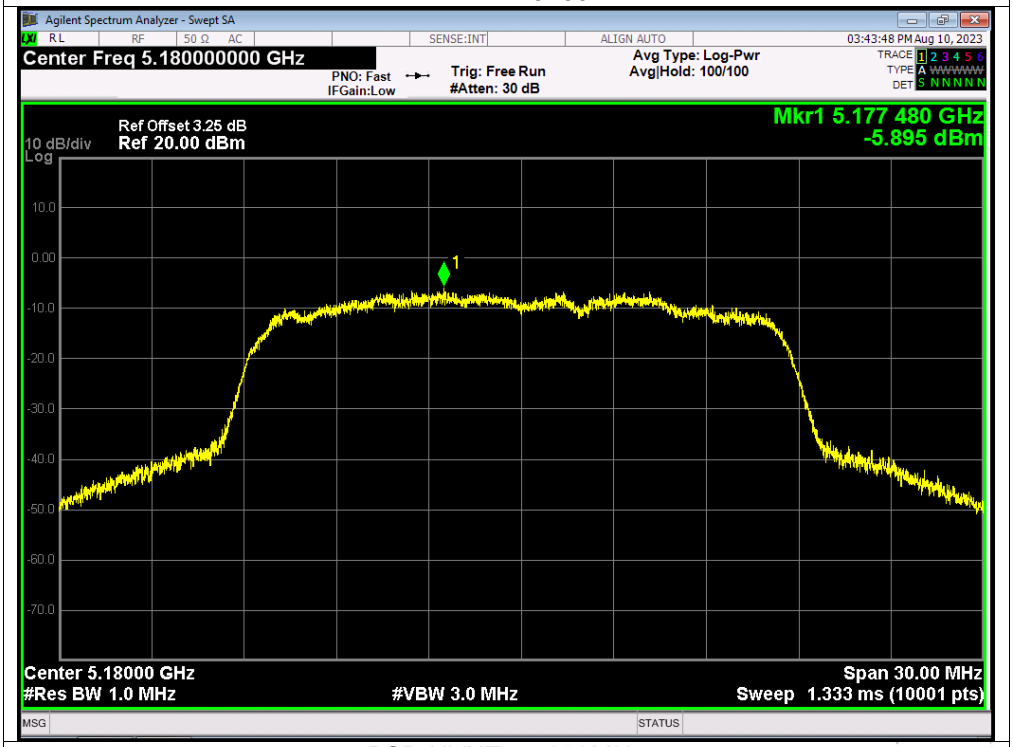
8.5 Test Result

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	DC 12V
Test Mode ：	TX Frequency U-NII-1 (5180-5240MHz)		

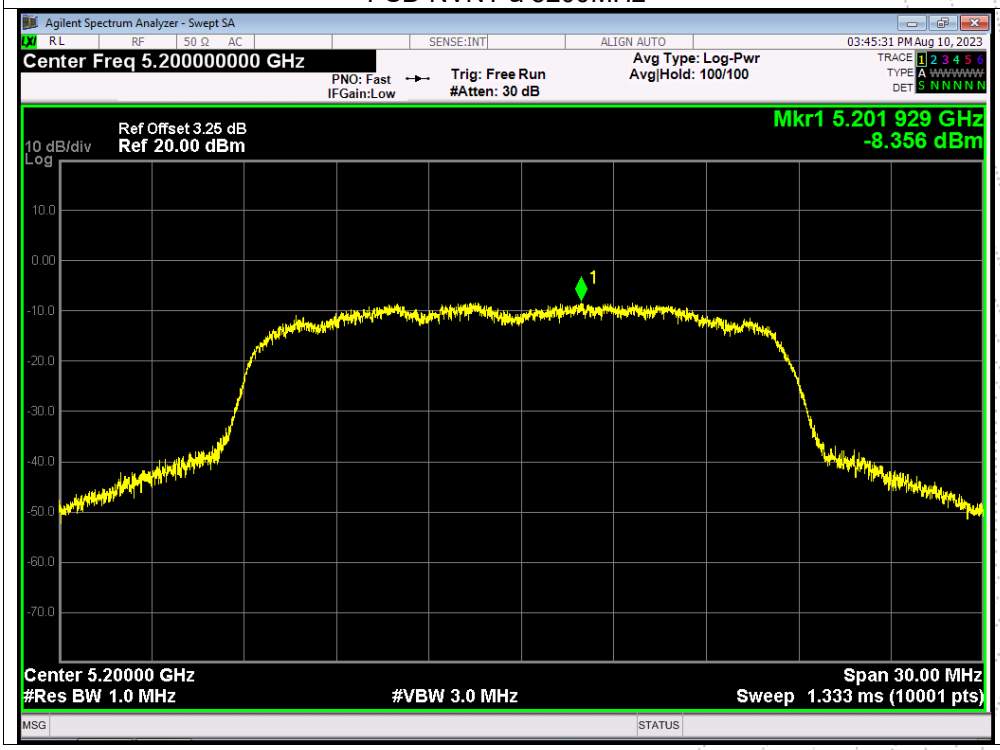
Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/MHz)		Total (dBm/MHz)	Limit (dBm/MHz)	Verdict
			Ant A	Ant B			
NVNT	a	5180	-5.9	-6.29	/	11	Pass
NVNT	a	5200	-8.36	-6.42	/	11	Pass
NVNT	a	5240	-8.31	-6.63	/	11	Pass
NVNT	n20	5180	-9.71	-7.46	-5.43	11	Pass
NVNT	n20	5200	-6.96	-7.36	-4.15	11	Pass
NVNT	n20	5240	-9.41	-7.36	-5.25	11	Pass
NVNT	n40	5190	-14.11	-11.95	-9.89	11	Pass
NVNT	n40	5230	-11.82	-12.4	-9.09	11	Pass
NVNT	ac20	5180	-9.8	-9.5	-6.64	11	Pass
NVNT	ac20	5200	-8.34	-9.63	-5.93	11	Pass
NVNT	ac20	5240	-8.74	-8.93	-5.82	11	Pass
NVNT	ac40	5190	-13.66	-13.73	-10.68	11	Pass
NVNT	ac40	5230	-13.58	-12.15	-9.80	11	Pass
NVNT	ac80	5210	-18.67	-18.12	-15.38	11	Pass

Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

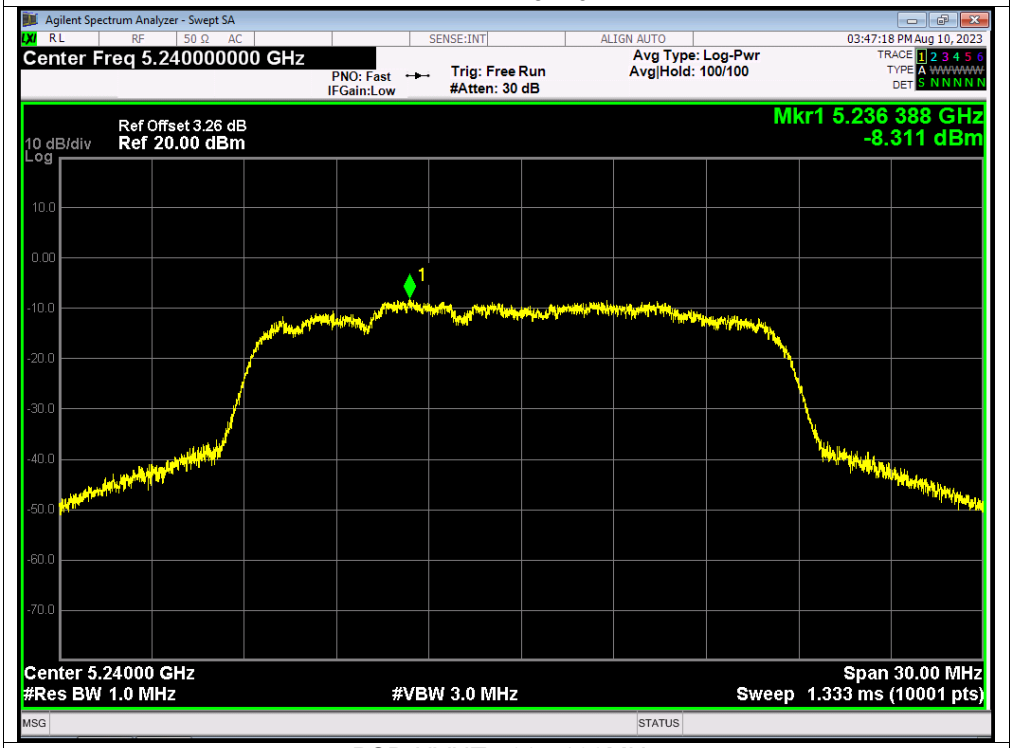
Test Graphs
PSD NVNT a 5180MHz



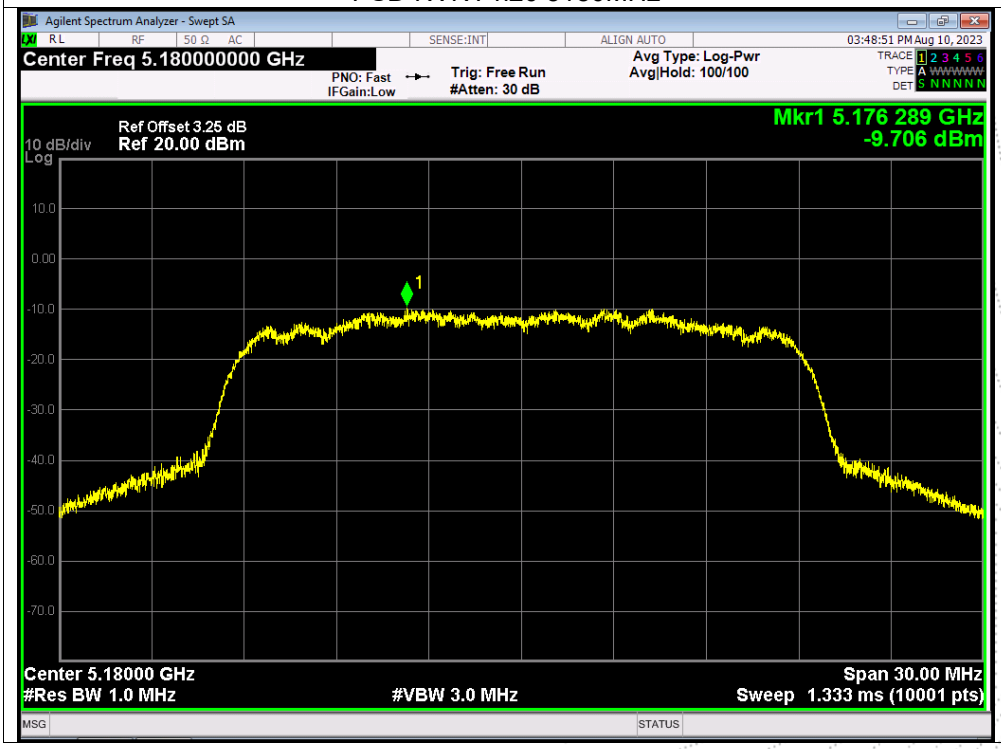
PSD NVNT a 5200MHz



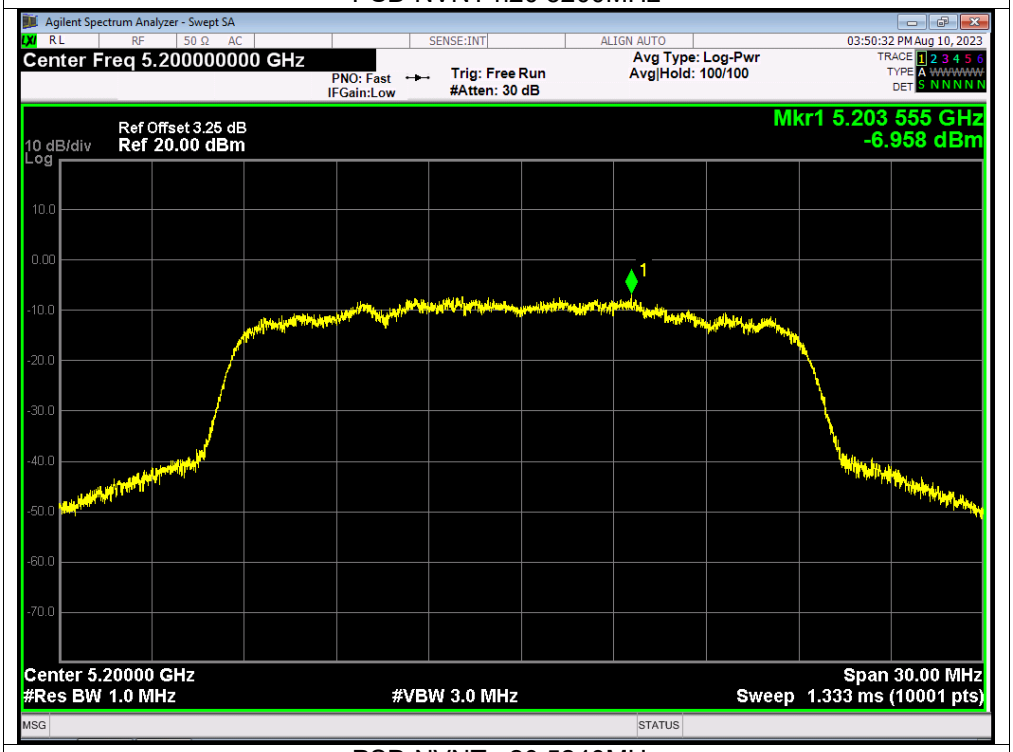
PSD NVNT a 5240MHz



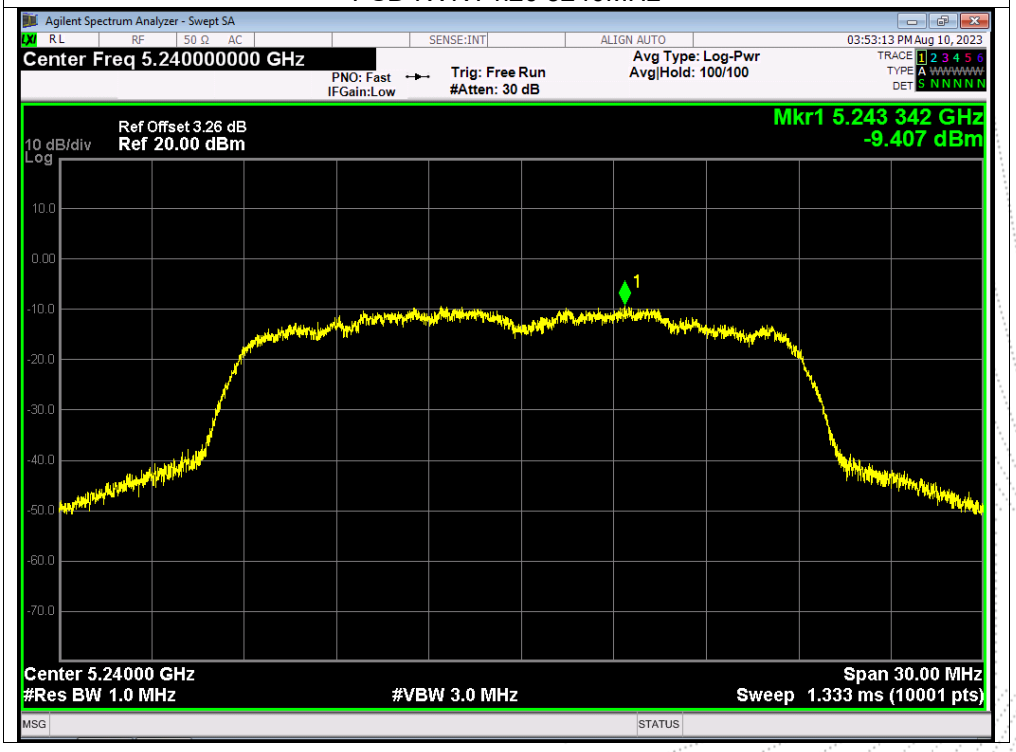
PSD NVNT n20 5180MHz



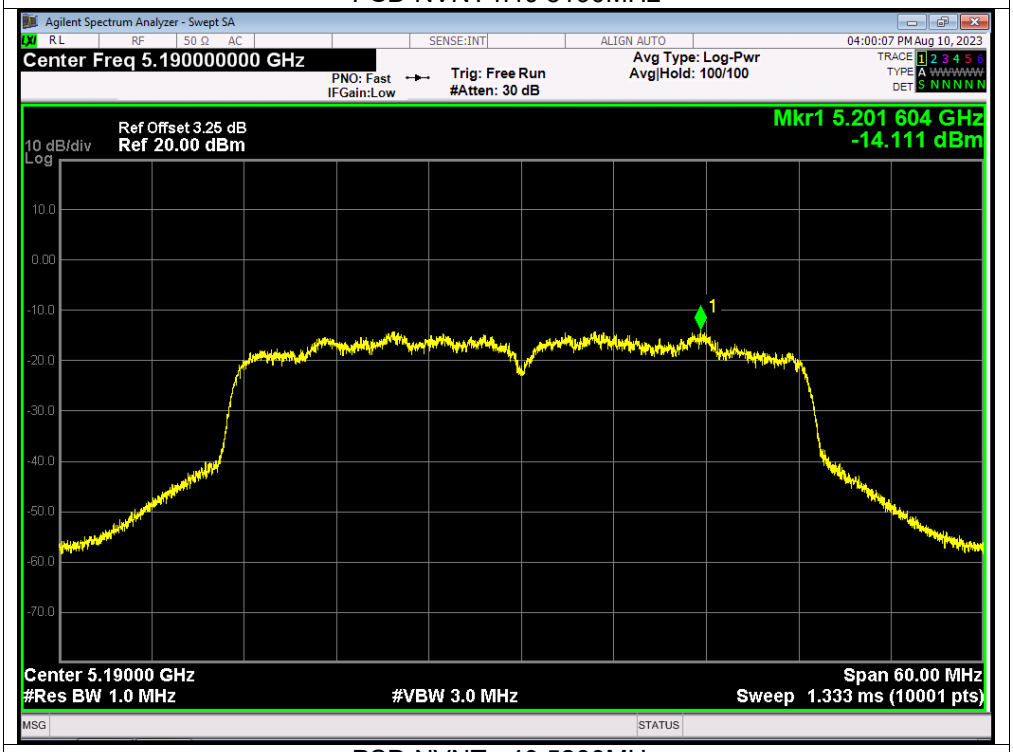
PSD NVNT n20 5200MHz



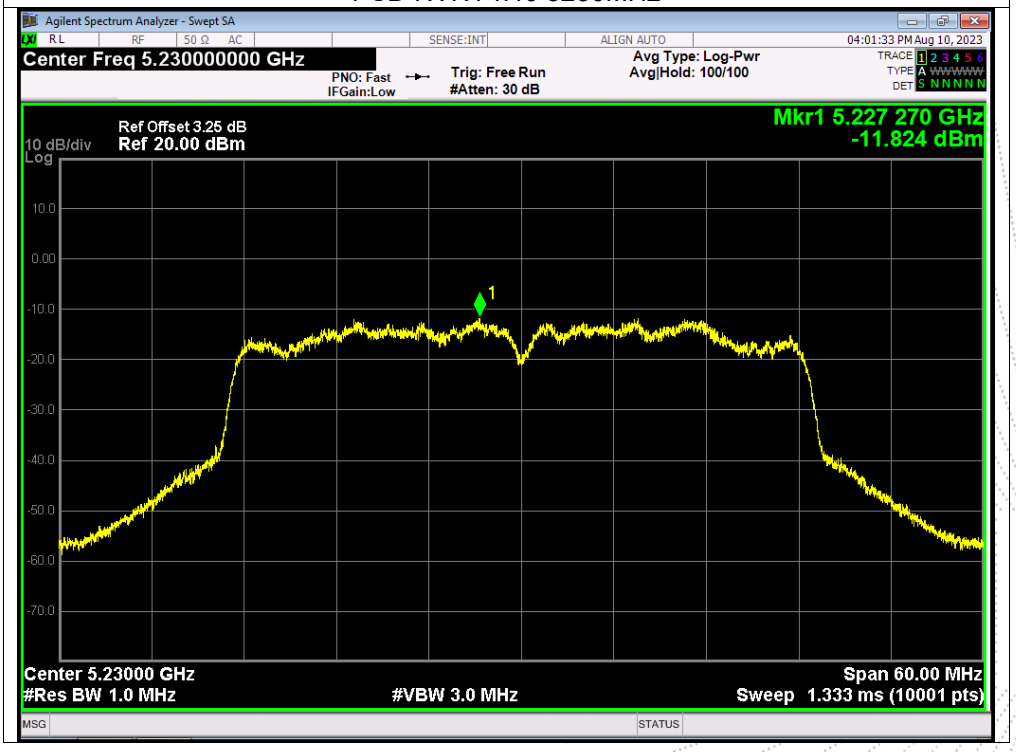
PSD NVNT n20 5240MHz



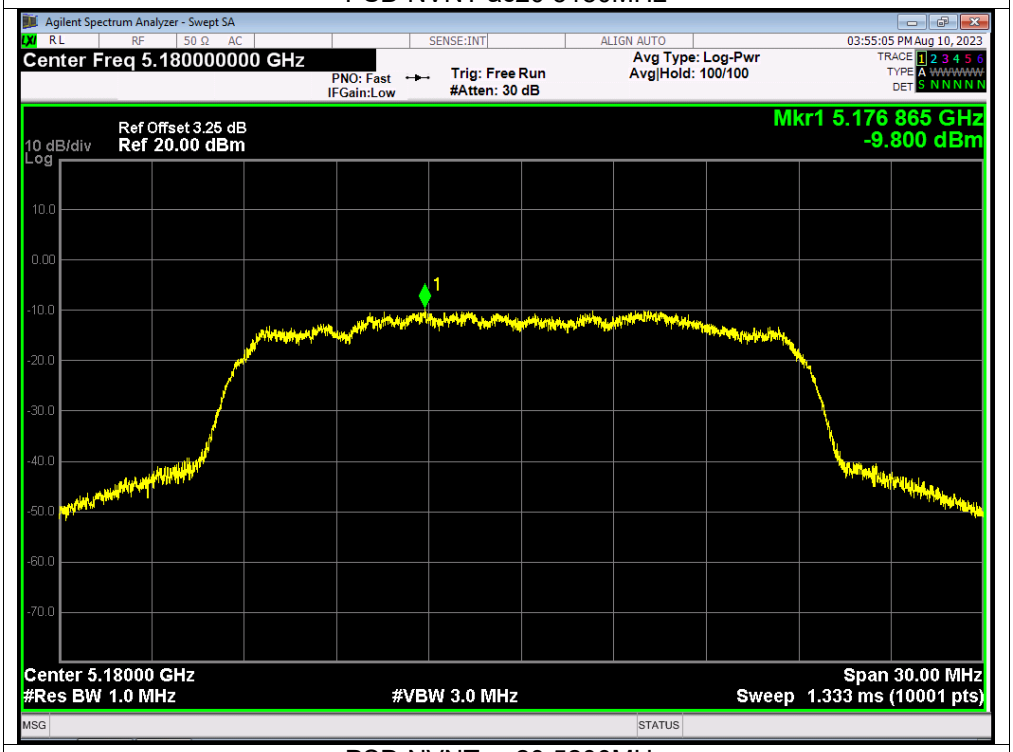
PSD NVNT n40 5190MHz



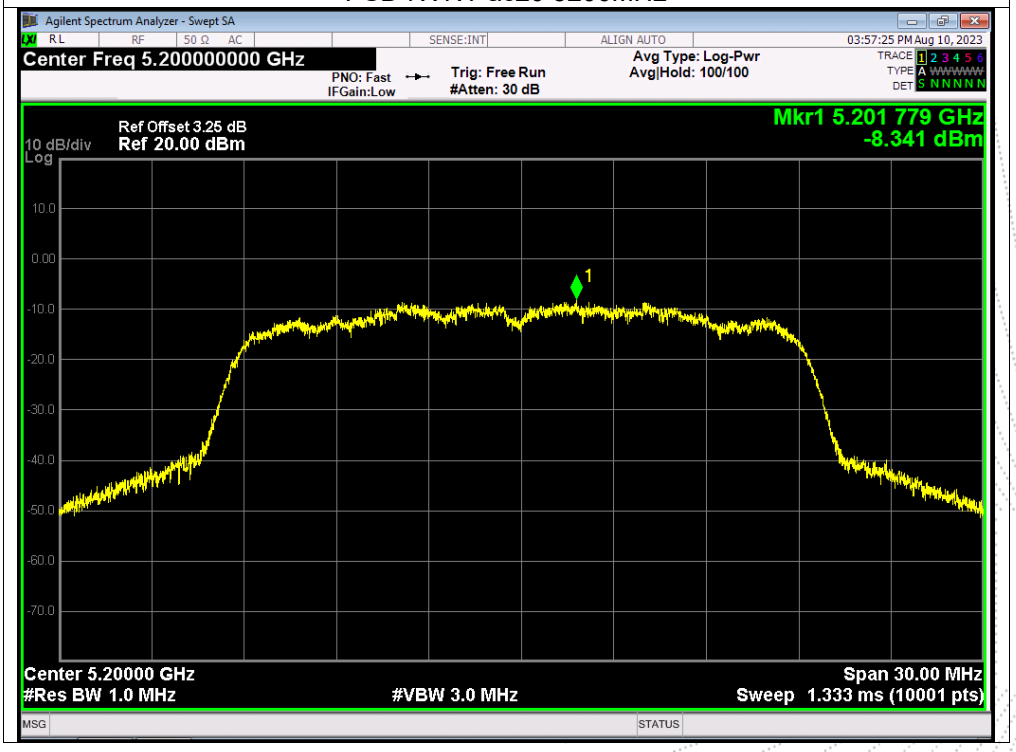
PSD NVNT n40 5230MHz



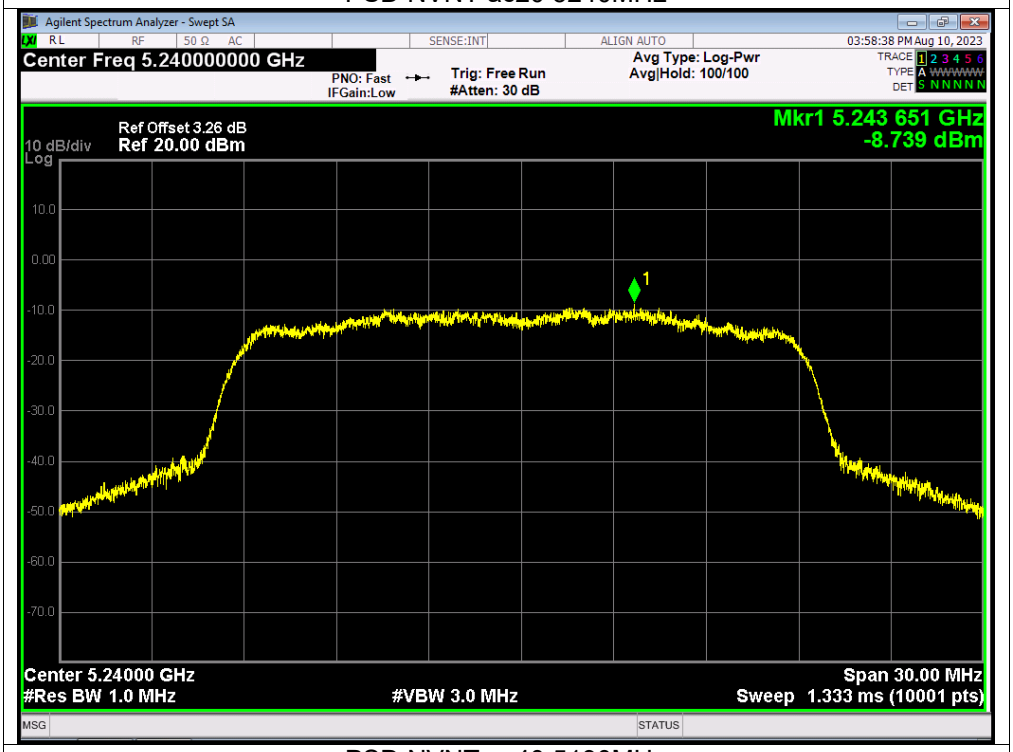
PSD NVNT ac20 5180MHz



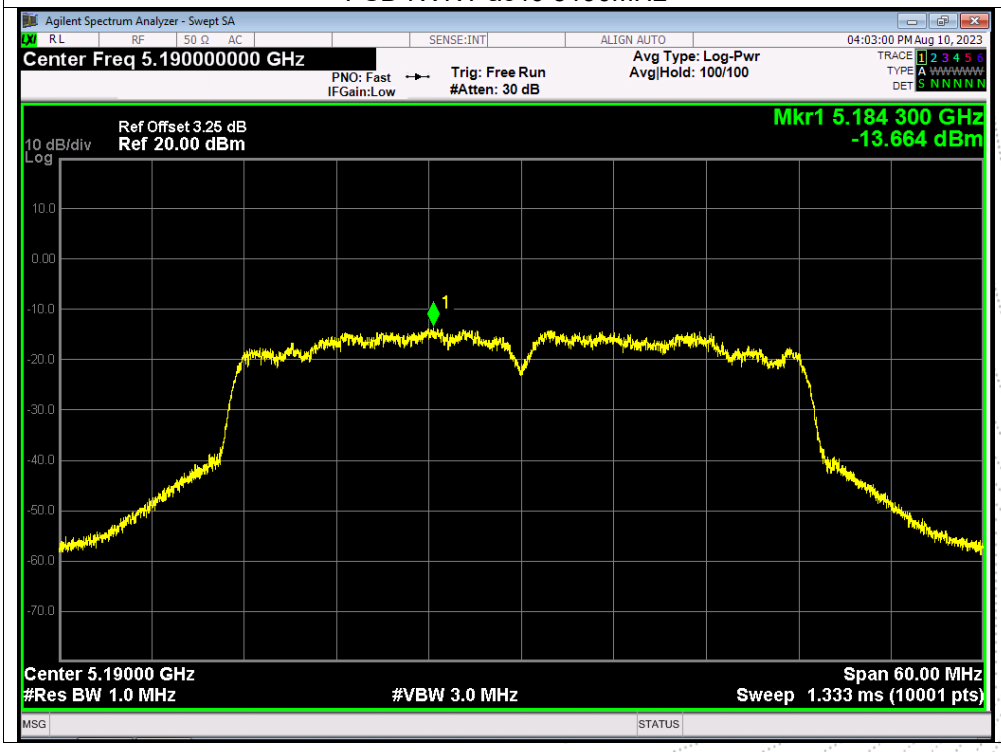
PSD NVNT ac20 5200MHz



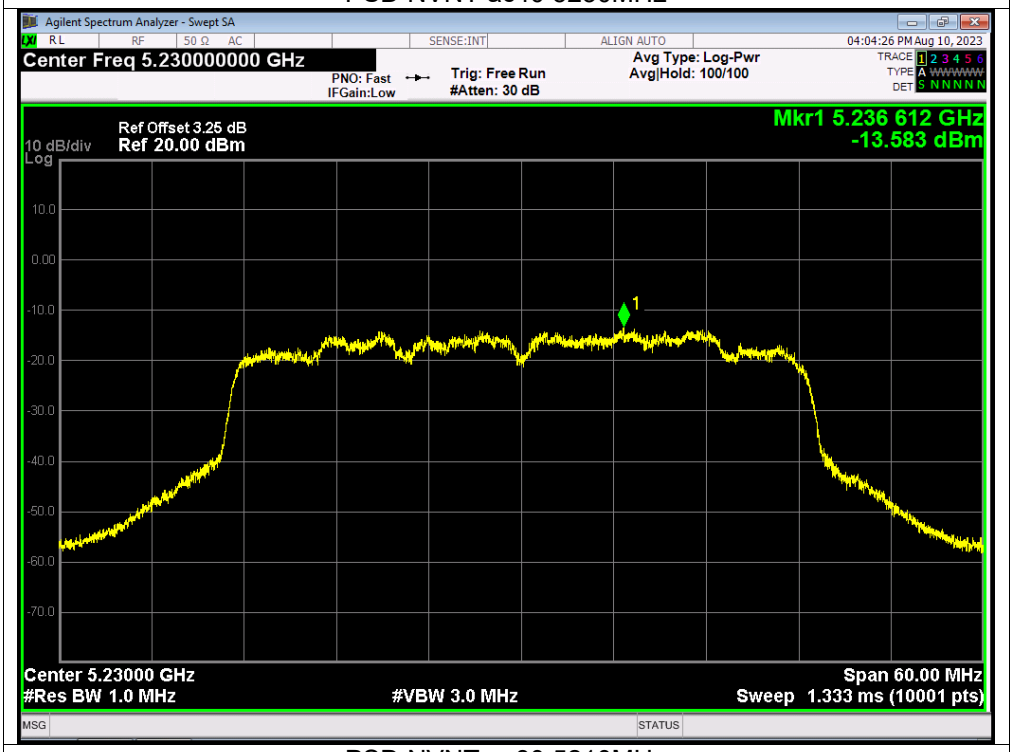
PSD NVNT ac20 5240MHz



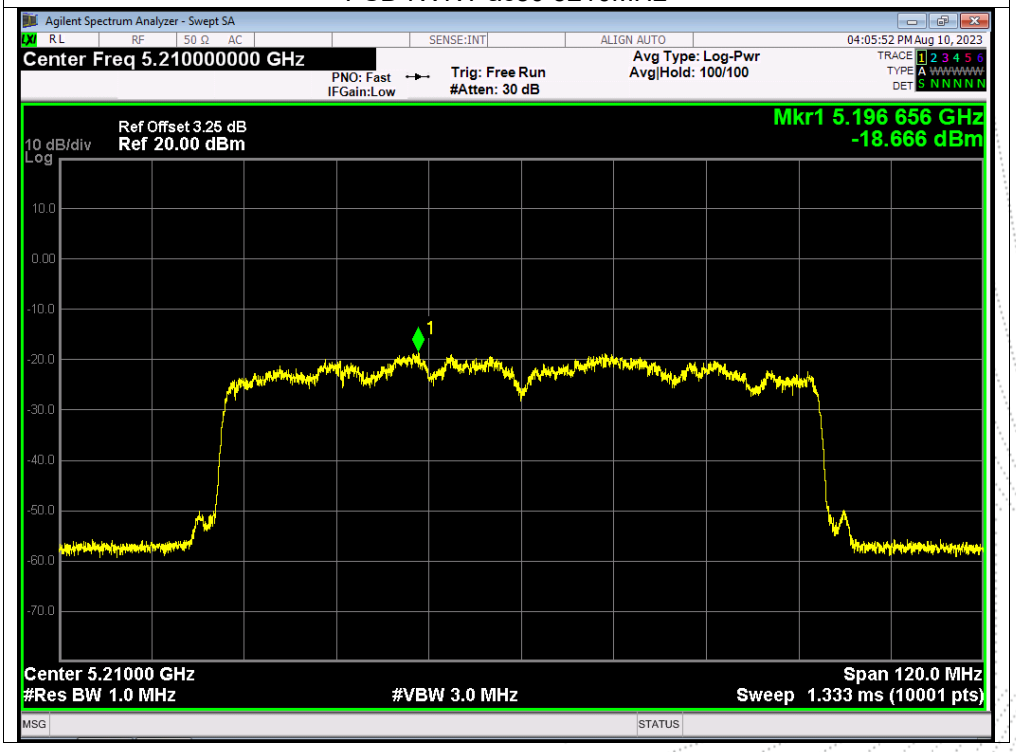
PSD NVNT ac40 5190MHz



PSD NVNT ac40 5230MHz



PSD NVNT ac80 5210MHz

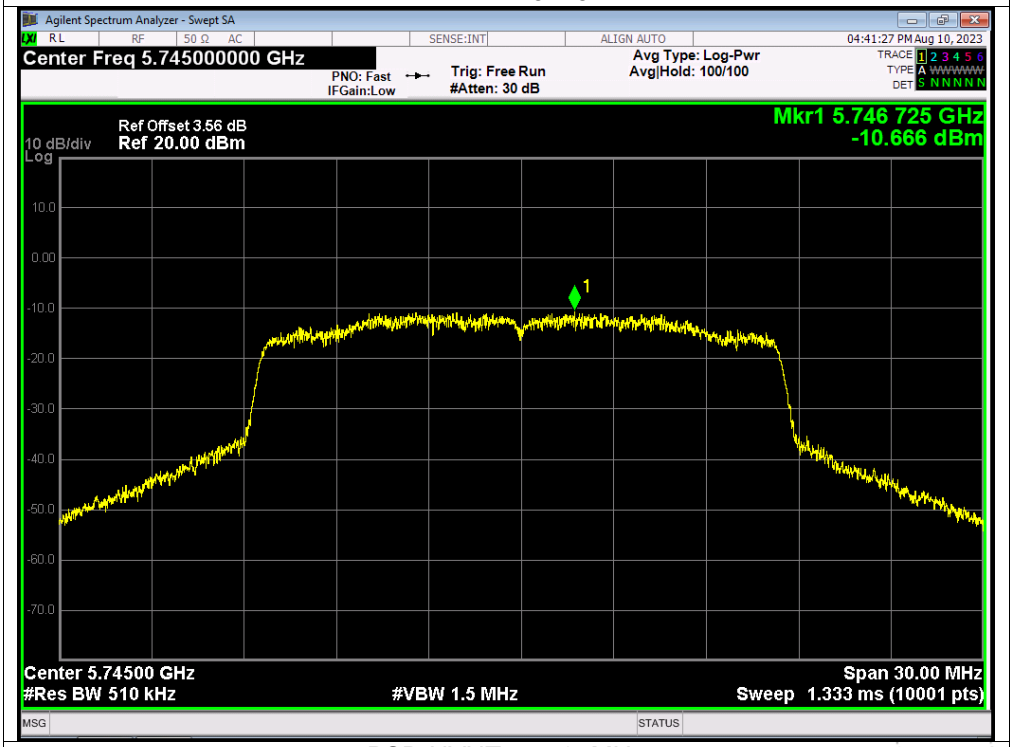


Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	DC 12V
Test Mode ：	TX Frequency U-NII-3 (5745-5825MHz)		

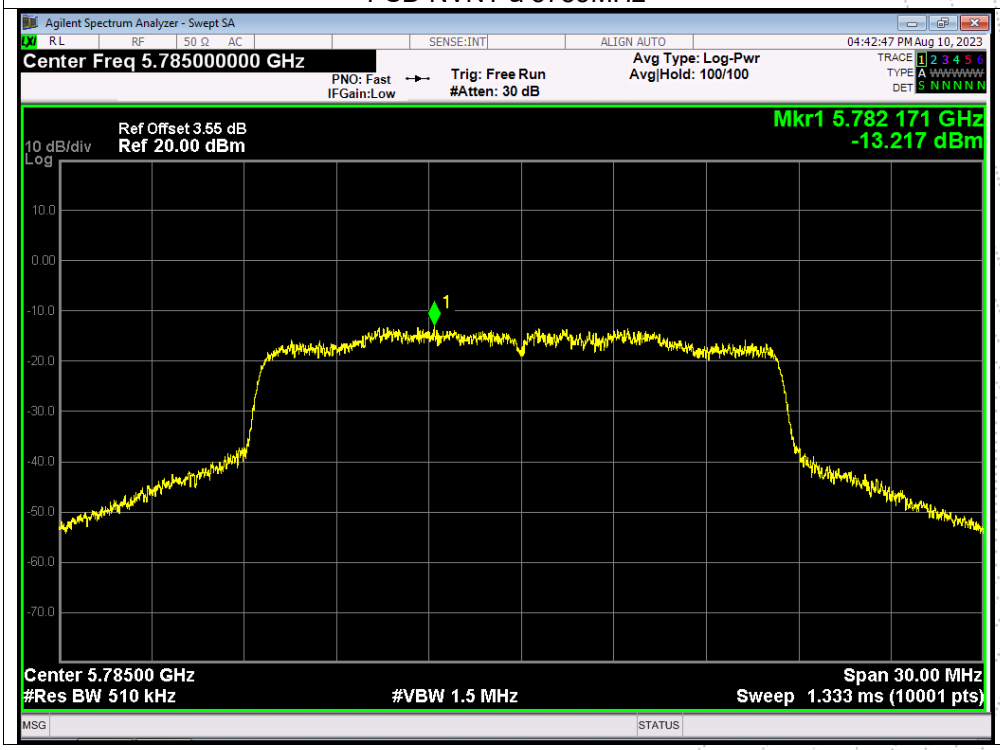
Condition	Mode	Frequency (MHz)	Conducted PSD (dBm)		Total (dBm)	Limit (dBm)	Verdict
			Ant A	Ant B			
NVNT	a	5745	-12.93	-10.67	/	30	Pass
NVNT	a	5785	-11.76	-13.22	/	30	Pass
NVNT	a	5825	-14.37	-14.73	/	30	Pass
NVNT	n20	5745	-14.54	-14.46	-11.49	30	Pass
NVNT	n20	5785	-14.58	-14.99	-11.77	30	Pass
NVNT	n20	5825	-15.57	-14.02	-11.72	30	Pass
NVNT	n40	5755	-17.3	-19.44	-15.23	30	Pass
NVNT	n40	5795	-20.18	-19.25	-16.68	30	Pass
NVNT	ac20	5745	-14.17	-14.88	-11.50	30	Pass
NVNT	ac20	5785	-15.11	-15.06	-12.07	30	Pass
NVNT	ac20	5825	-14.3	-15.43	-11.82	30	Pass
NVNT	ac40	5755	-18.88	-19	-15.93	30	Pass
NVNT	ac40	5795	-19.8	-19.74	-16.76	30	Pass
NVNT	ac80	5775	-21.13	-21.87	-18.47	30	Pass

Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

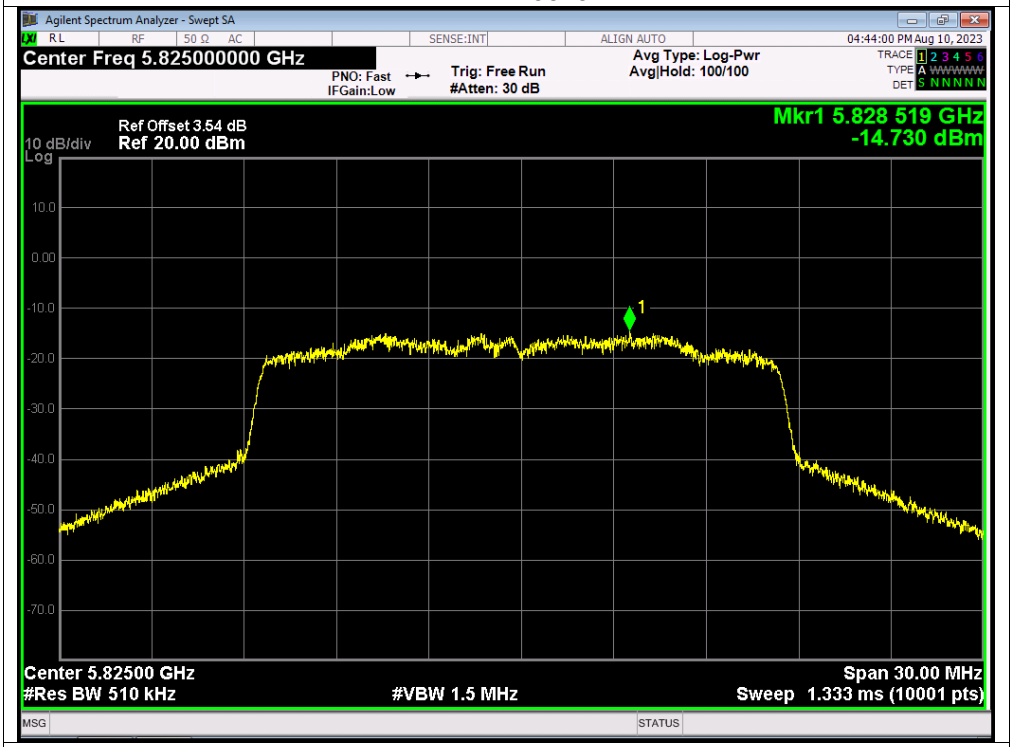
Test Graphs
PSD NVNT a 5745MHz



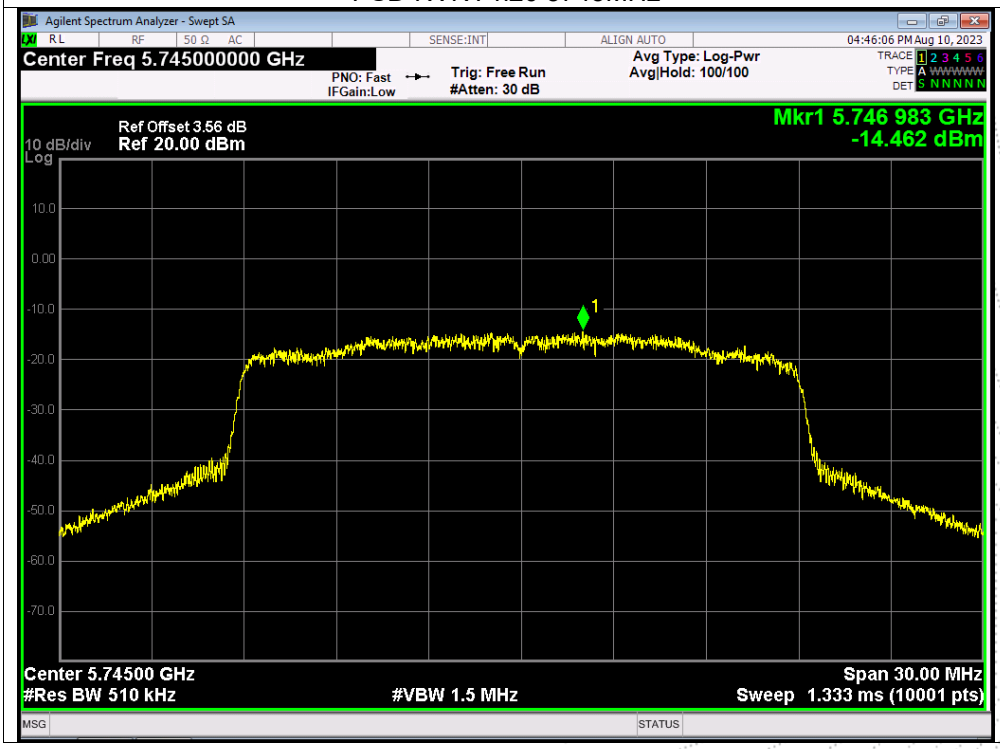
PSD NVNT a 5785MHz



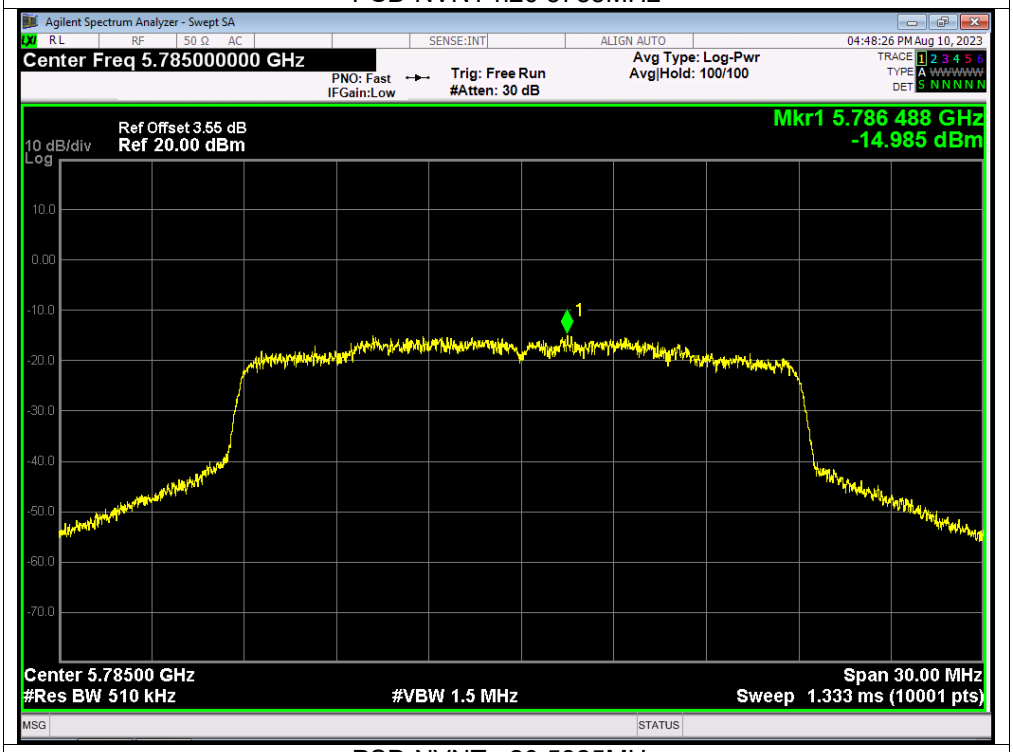
PSD NVNT a 5825MHz



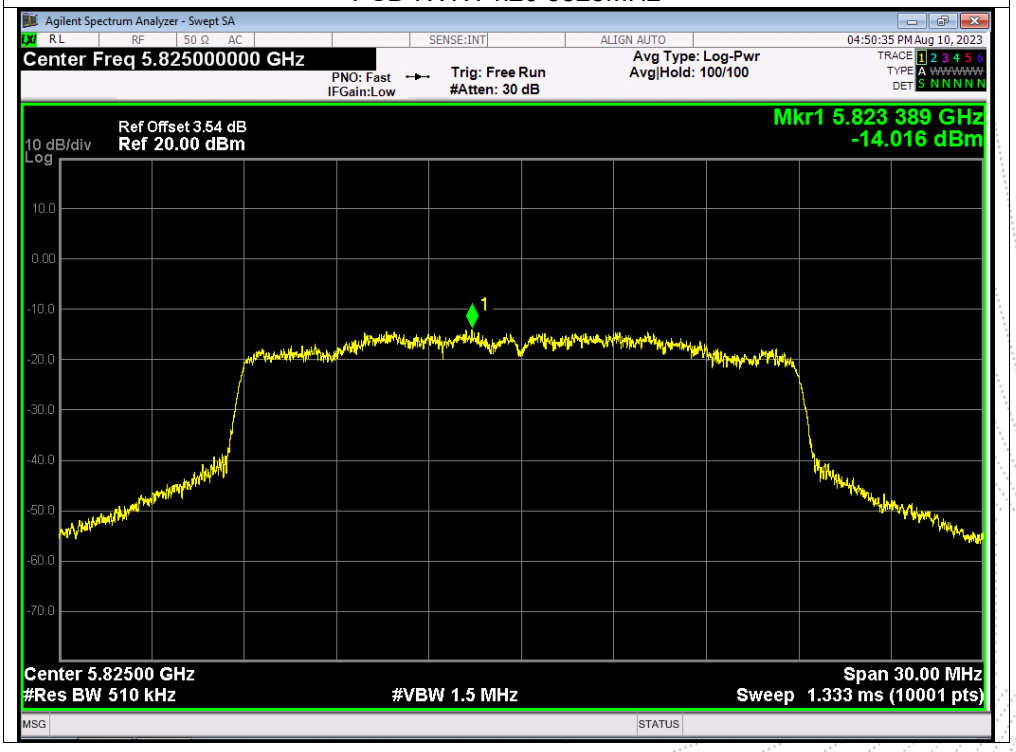
PSD NVNT n20 5745MHz



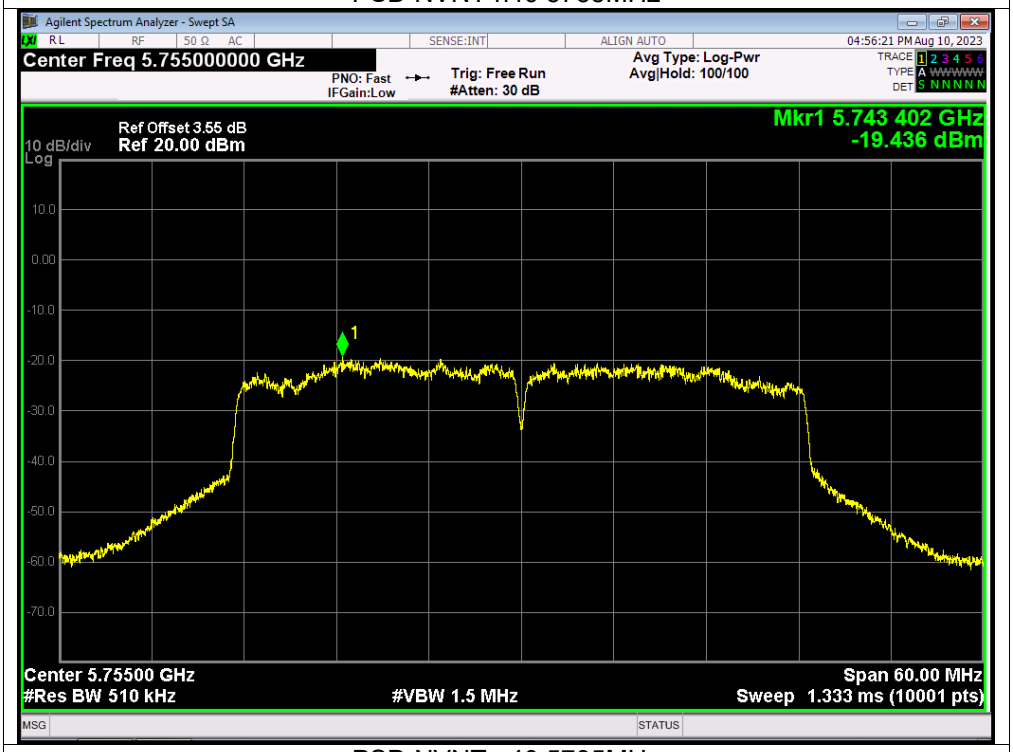
PSD NVNT n20 5785MHz



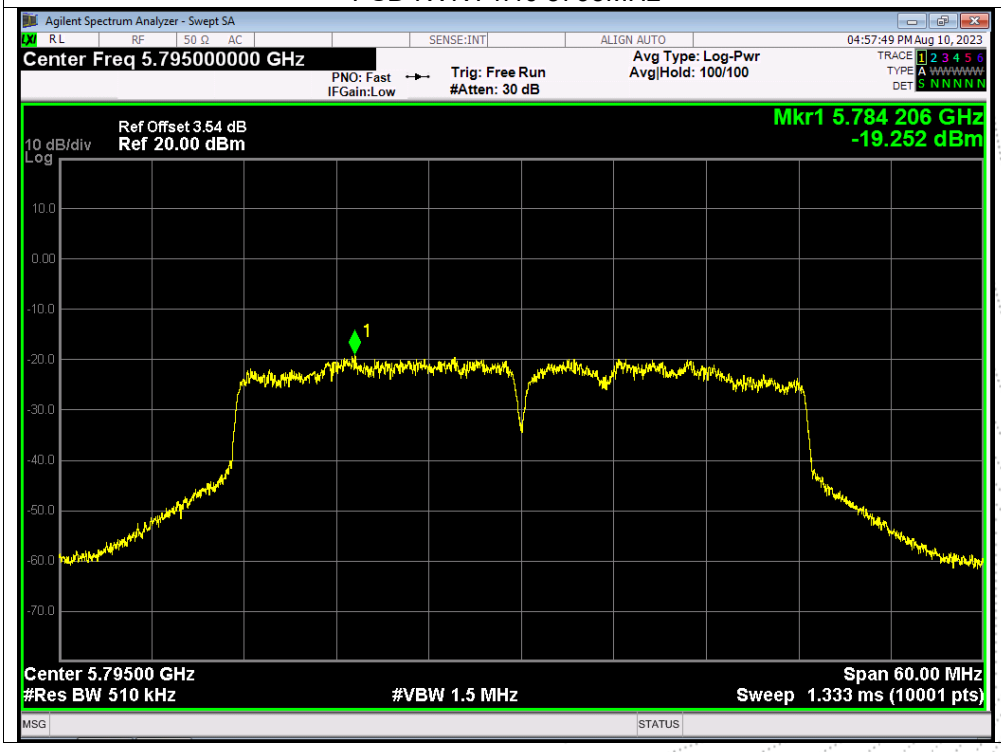
PSD NVNT n20 5825MHz



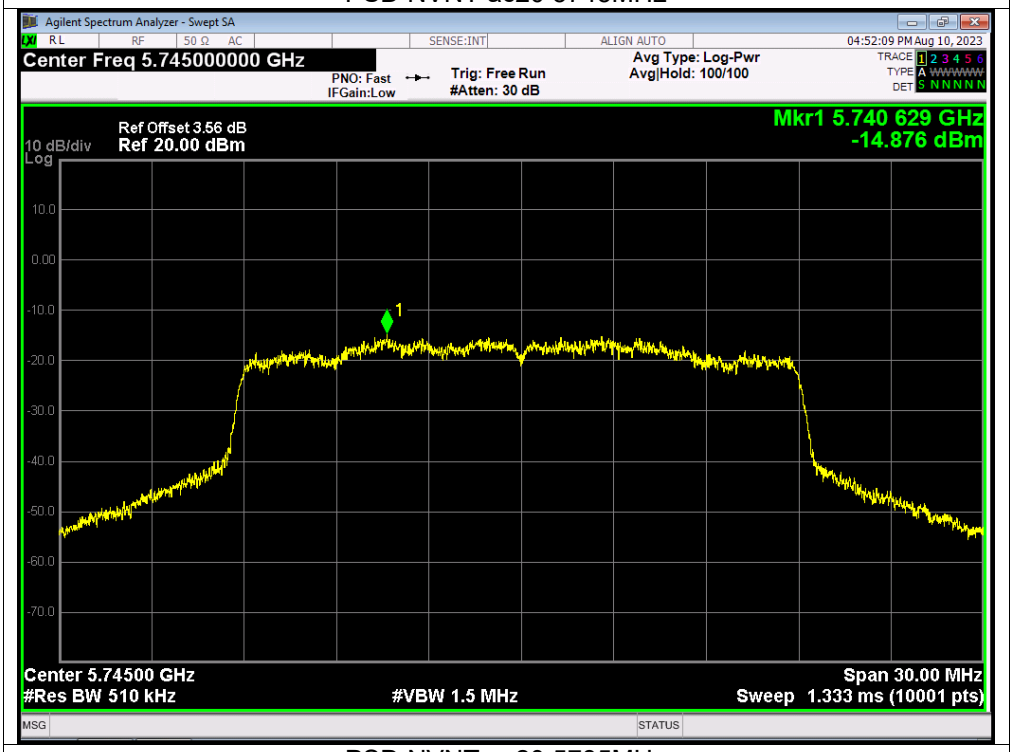
PSD NVNT n40 5755MHz



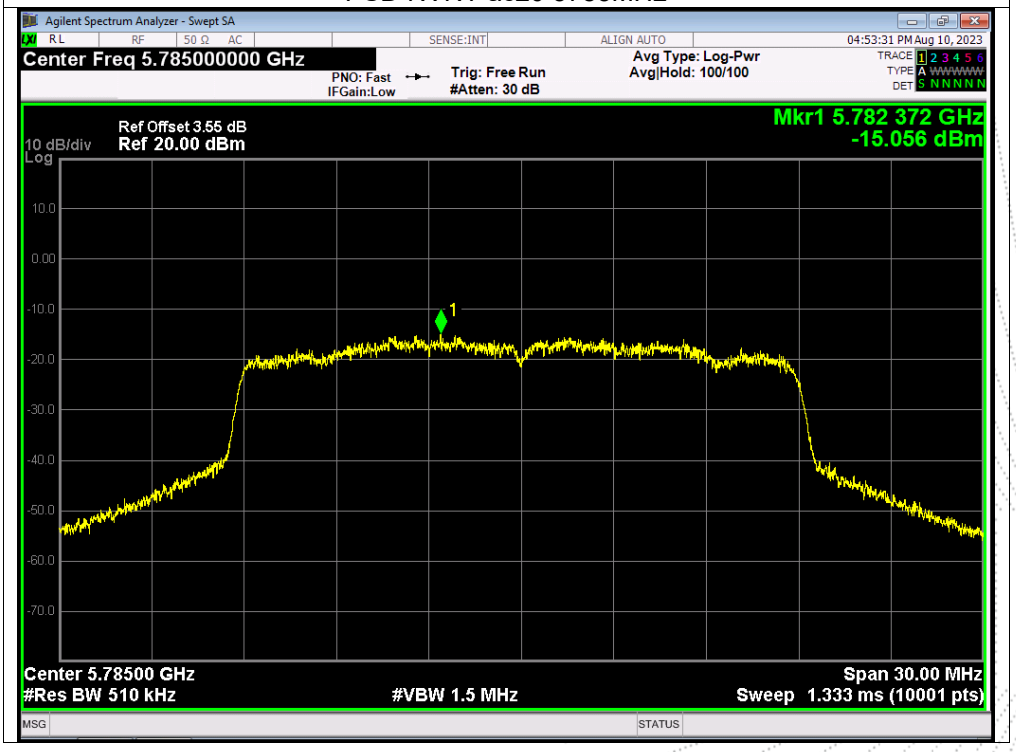
PSD NVNT n40 5795MHz



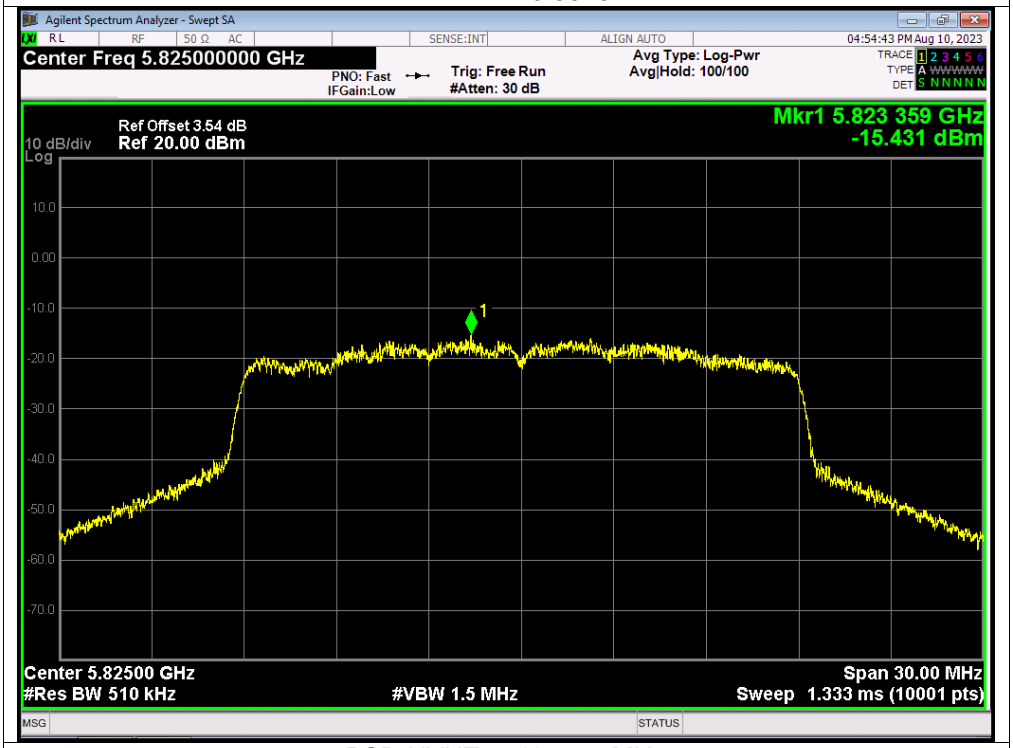
PSD NVNT ac20 5745MHz



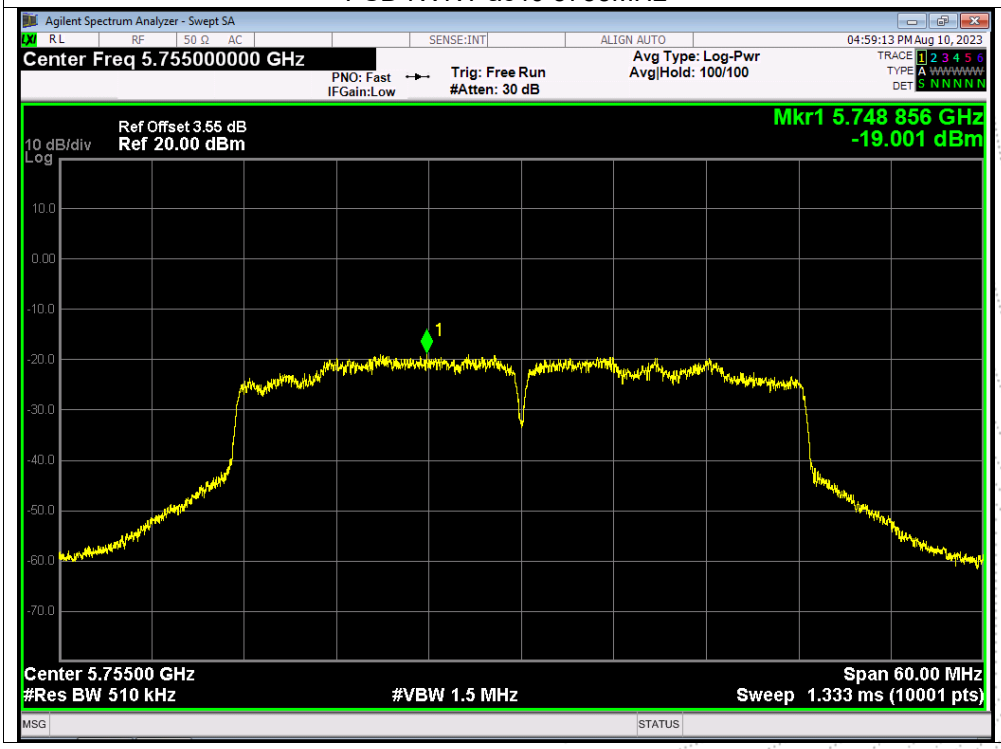
PSD NVNT ac20 5785MHz



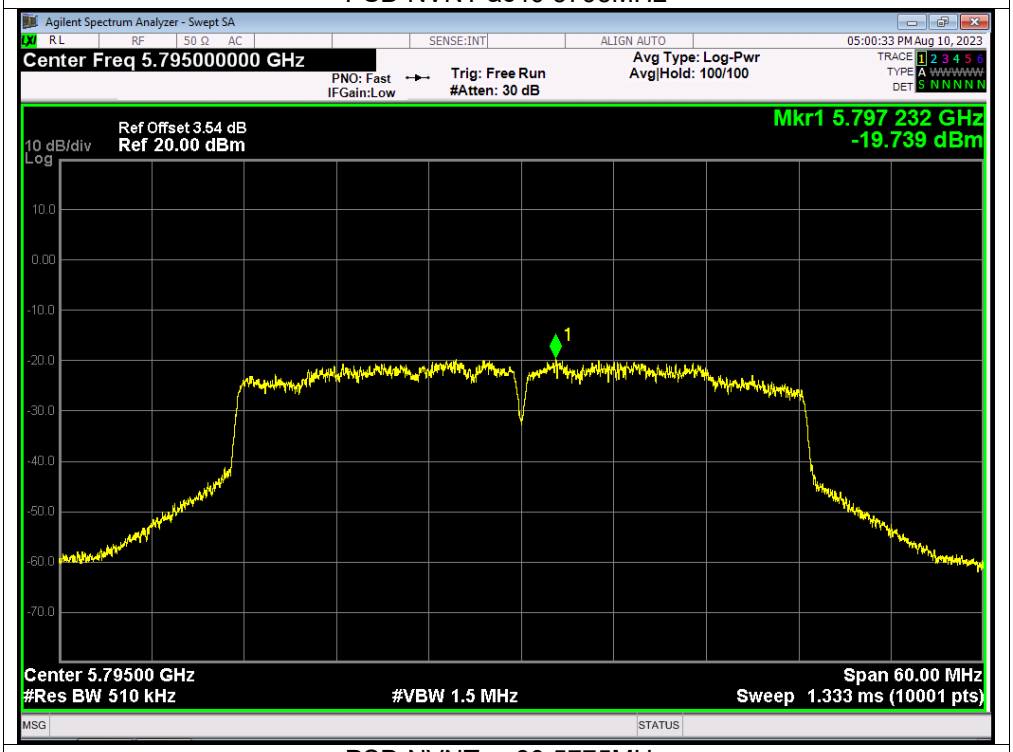
PSD NVNT ac20 5825MHz



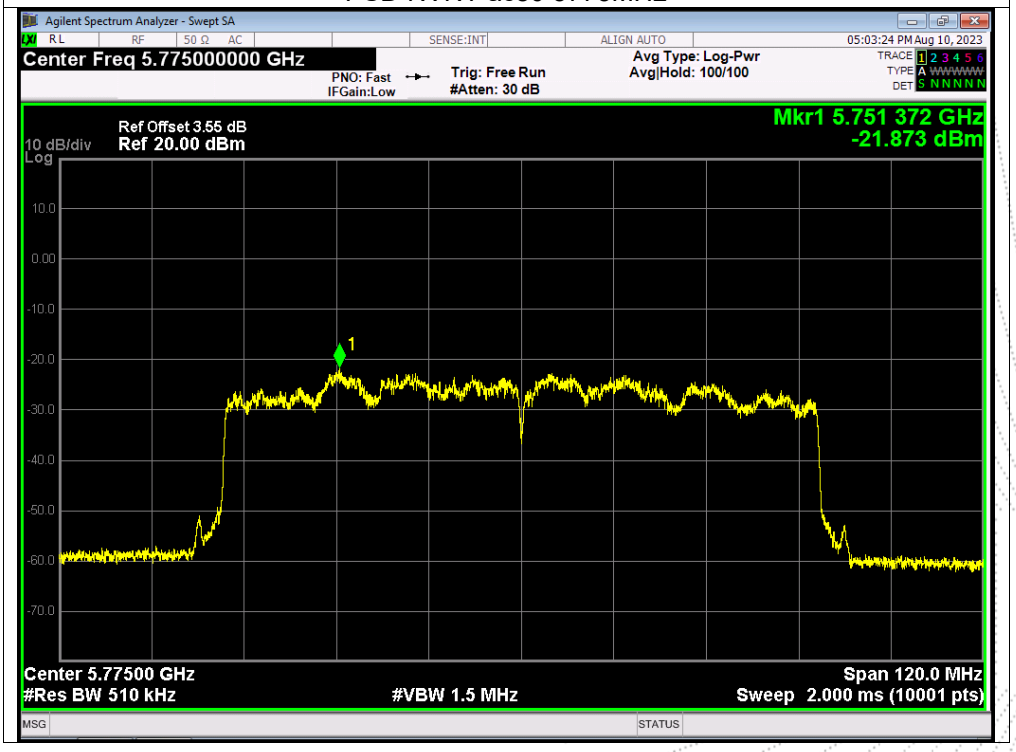
PSD NVNT ac40 5755MHz



PSD NVNT ac40 5795MHz

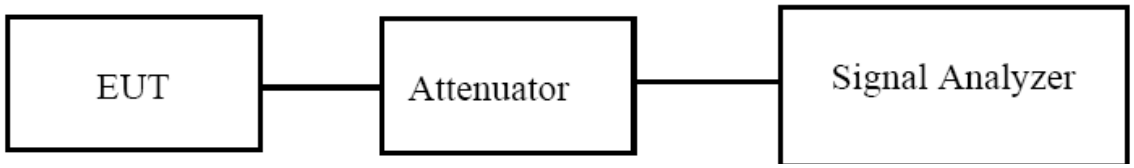


PSD NVNT ac80 5775MHz



9. 26dB & 6dB & 99% Emission Bandwidth

9.1 Block Diagram Of Test Setup



9.2 Limit

The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power
is integrated over the full reference bandwidth.
(6dB bandwidth)>500kHz

9.3 Test Procedure

a) Set RBW = approximately 1% of the emission bandwidth.
b) Set the VBW > RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

The following procedure shall be used for measuring (99 %) power bandwidth:
1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW ≥ 3 · RBW
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
6. Use the 99 % power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

6dB
1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 x RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.

6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

9.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

9.5 Test Result

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	DC 12V
Test Mode ：	TX Frequency U-NII-1 (5180-5240MHz)		

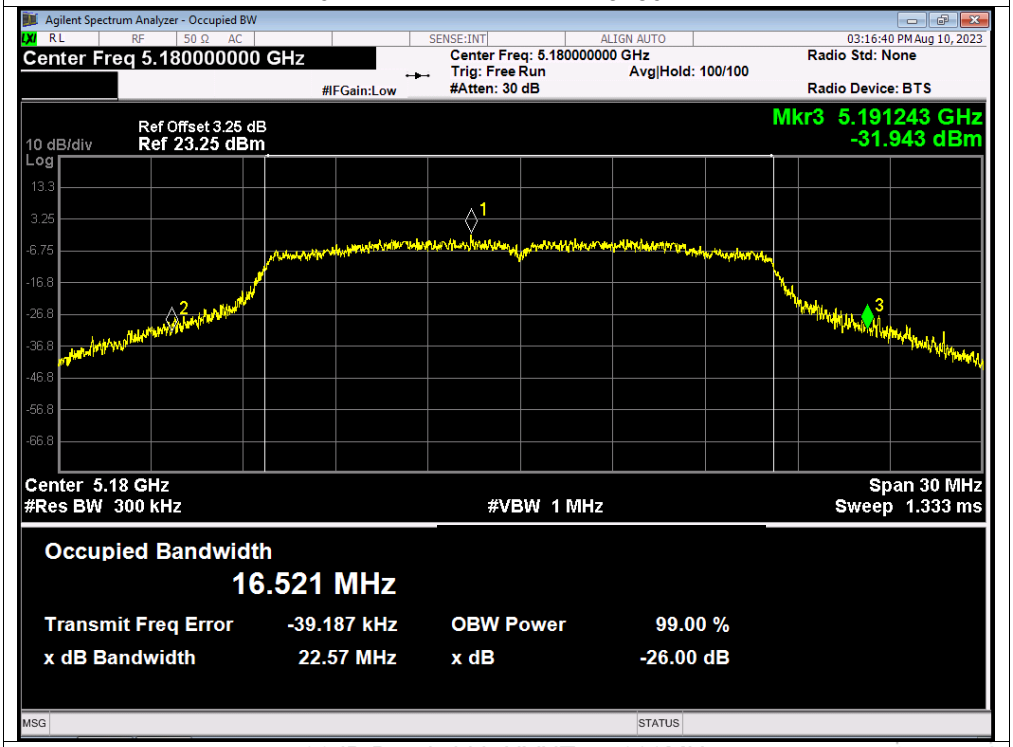
Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)		Verdict
			Ant A	Ant B	
NVNT	a	5180	22.682	22.565	Pass
NVNT	a	5200	23.149	23.729	Pass
NVNT	a	5240	22.778	22.925	Pass
NVNT	n20	5180	23.881	22.712	Pass
NVNT	n20	5200	23.537	23.074	Pass
NVNT	n20	5240	23.669	23.311	Pass
NVNT	n40	5190	42.817	43.768	Pass
NVNT	n40	5230	44.123	43.717	Pass
NVNT	ac20	5180	23.528	22.999	Pass
NVNT	ac20	5200	22.89	23.076	Pass
NVNT	ac20	5240	23.363	23.65	Pass
NVNT	ac40	5190	43.144	42.9	Pass
NVNT	ac40	5230	44.026	42.79	Pass
NVNT	ac80	5210	80.897	81.753	Pass

Condition	Mode	Frequency (MHz)	99% OBW (MHz)	
			Ant A	Ant B
NVNT	a	5180	16.432	16.404
NVNT	a	5200	16.451	16.432
NVNT	a	5240	16.403	16.438
NVNT	n20	5180	17.604	17.618
NVNT	n20	5200	17.61	17.625
NVNT	n20	5240	17.625	17.605
NVNT	n40	5190	36.042	36.06
NVNT	n40	5230	36.029	36.08
NVNT	ac20	5180	17.599	17.614
NVNT	ac20	5200	17.605	17.616
NVNT	ac20	5240	17.612	17.618
NVNT	ac40	5190	36.048	36.022
NVNT	ac40	5230	36.046	36.03
NVNT	ac80	5210	75.16	75.24

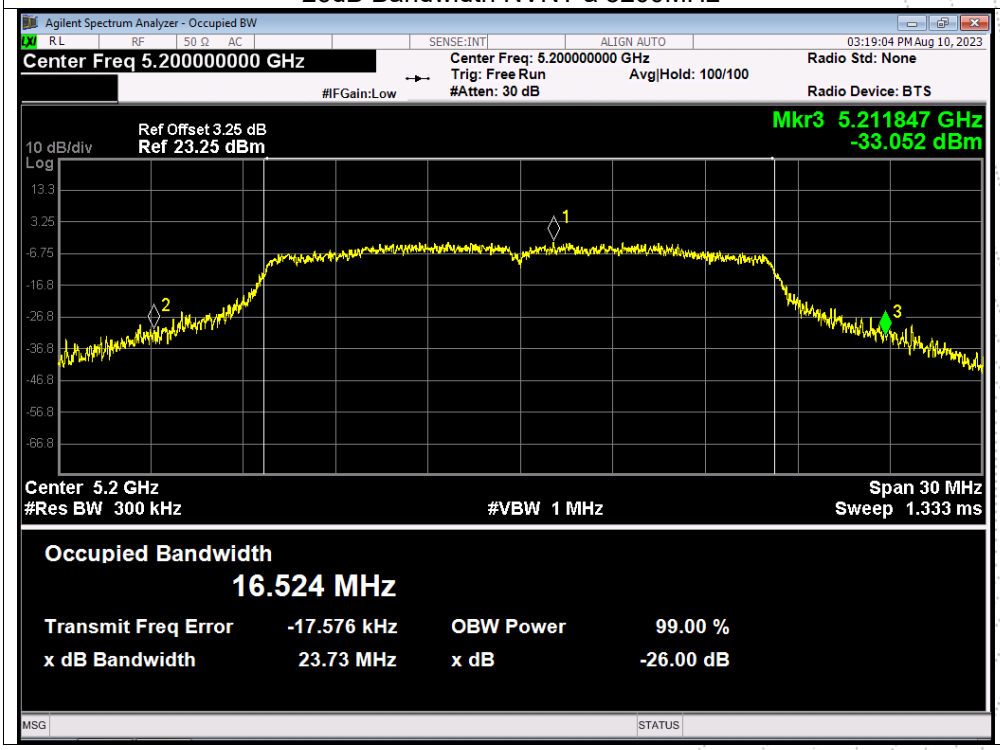
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

Test Graphs

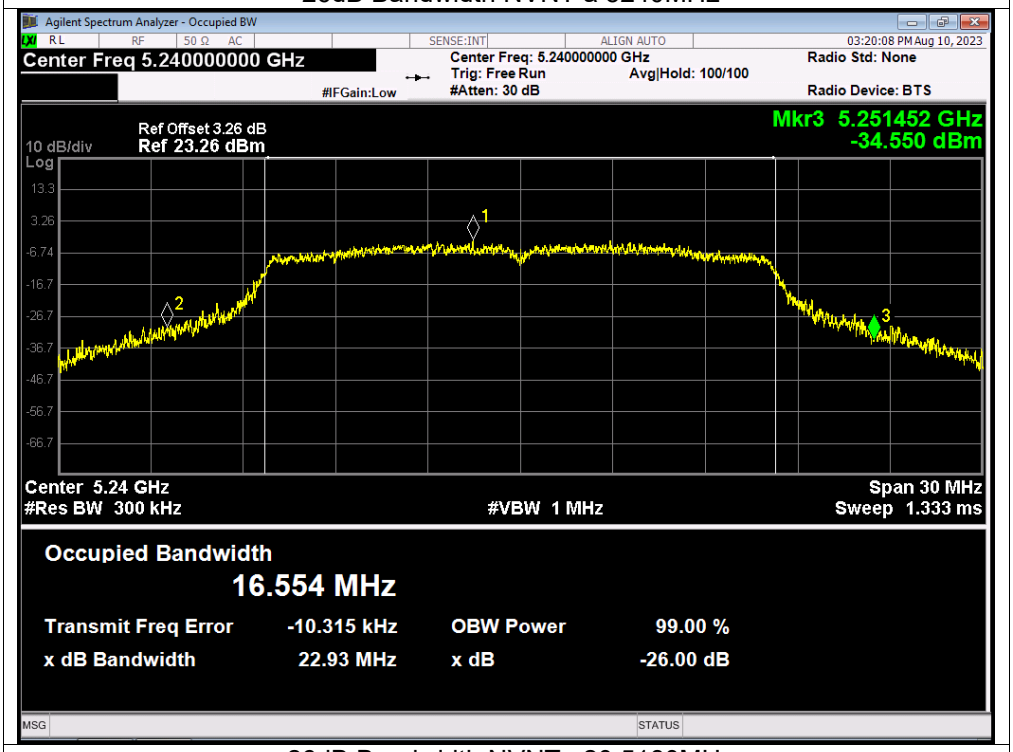
-26dB Bandwidth NVNT a 5180MHz



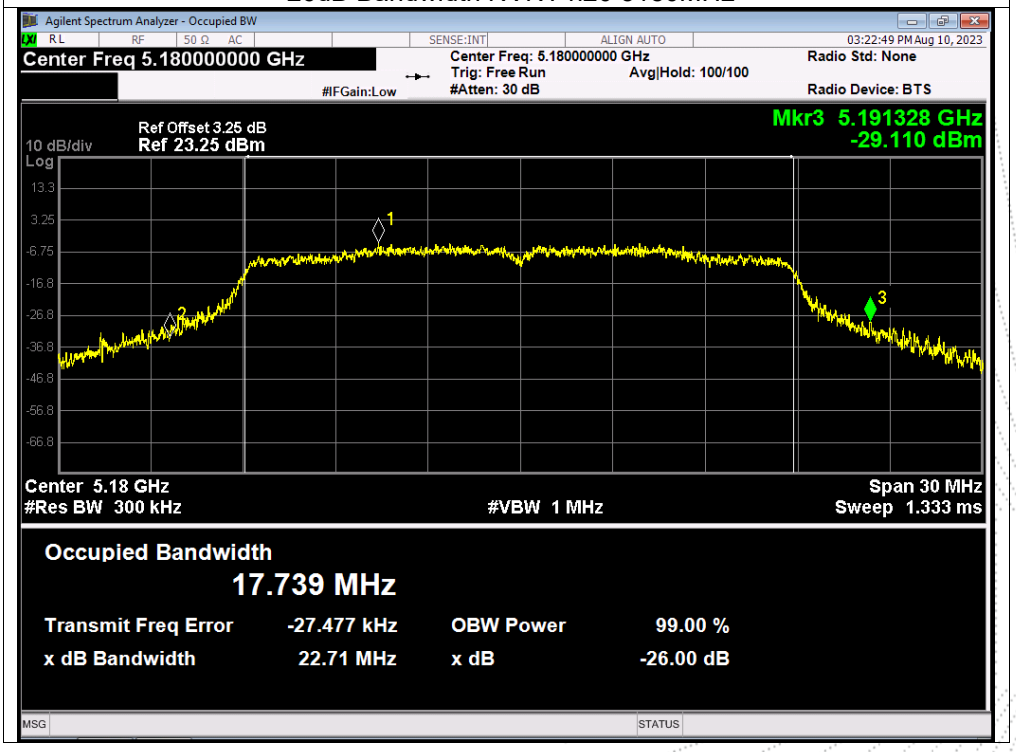
-26dB Bandwidth NVNT a 5200MHz



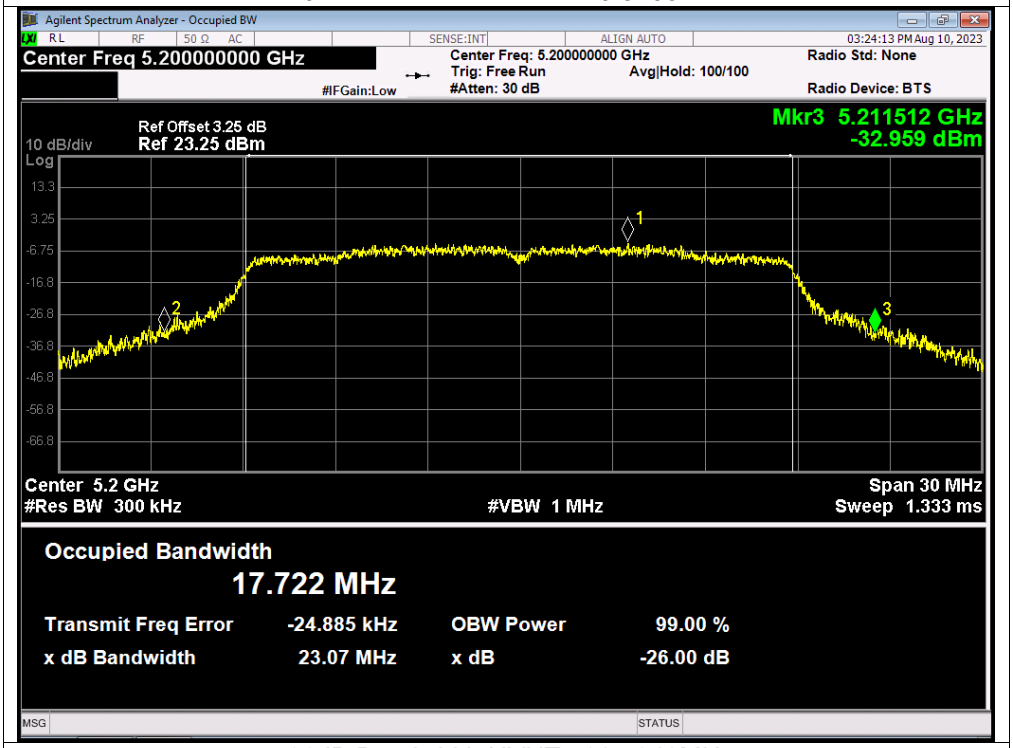
-26dB Bandwidth NVNT a 5240MHz



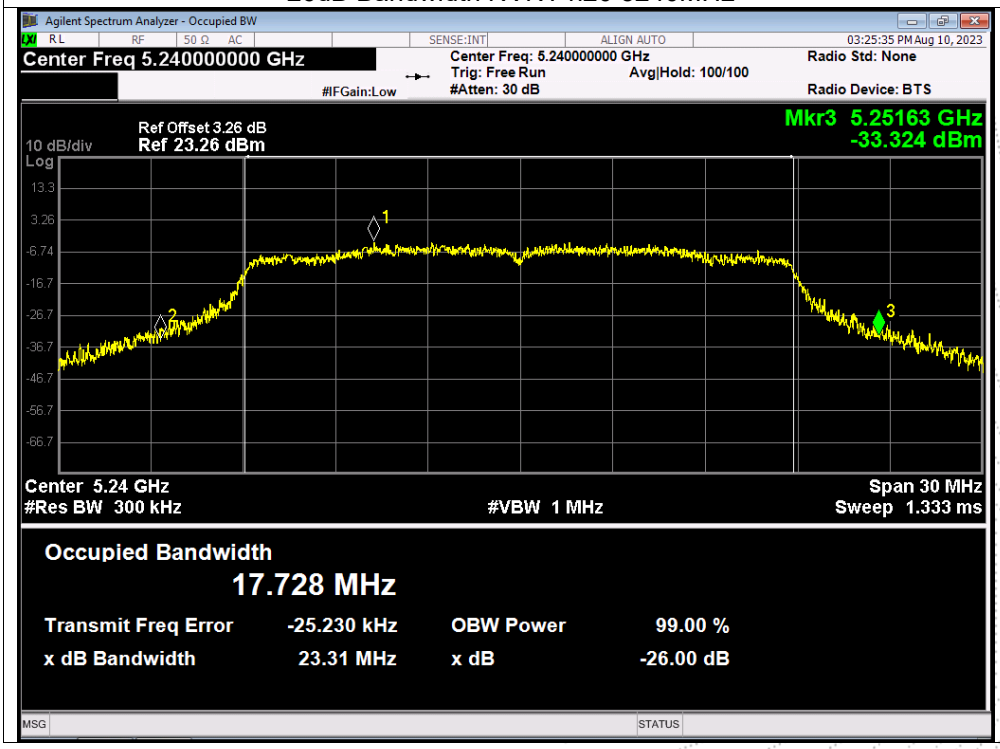
-26dB Bandwidth NVNT n20 5180MHz



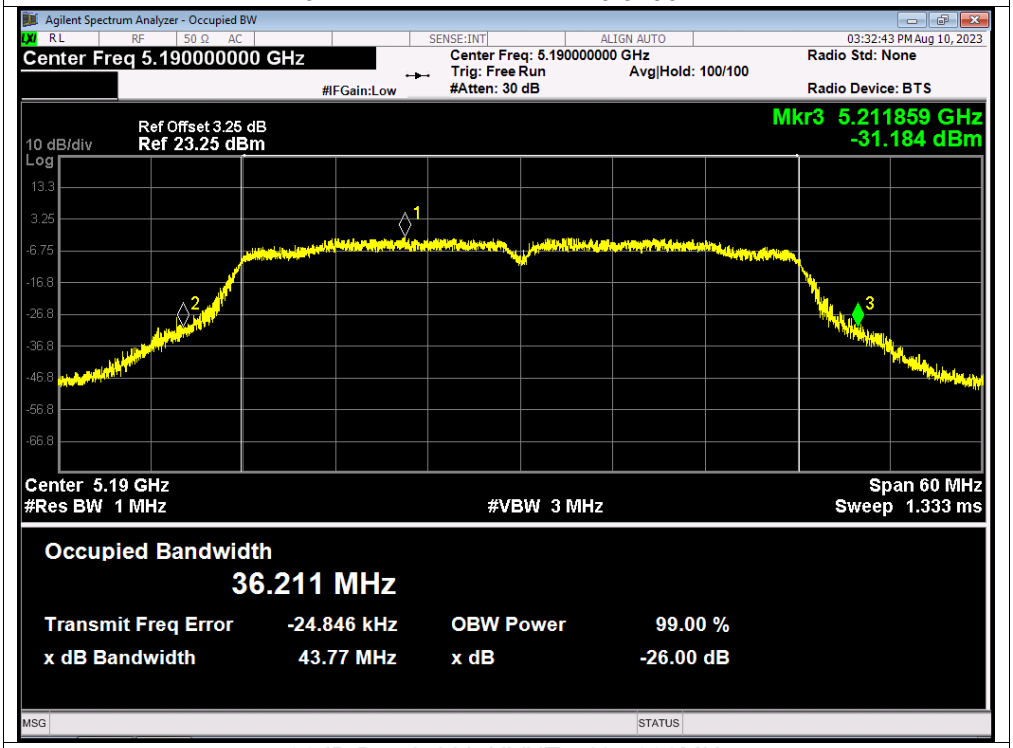
-26dB Bandwidth NVNT n20 5200MHz



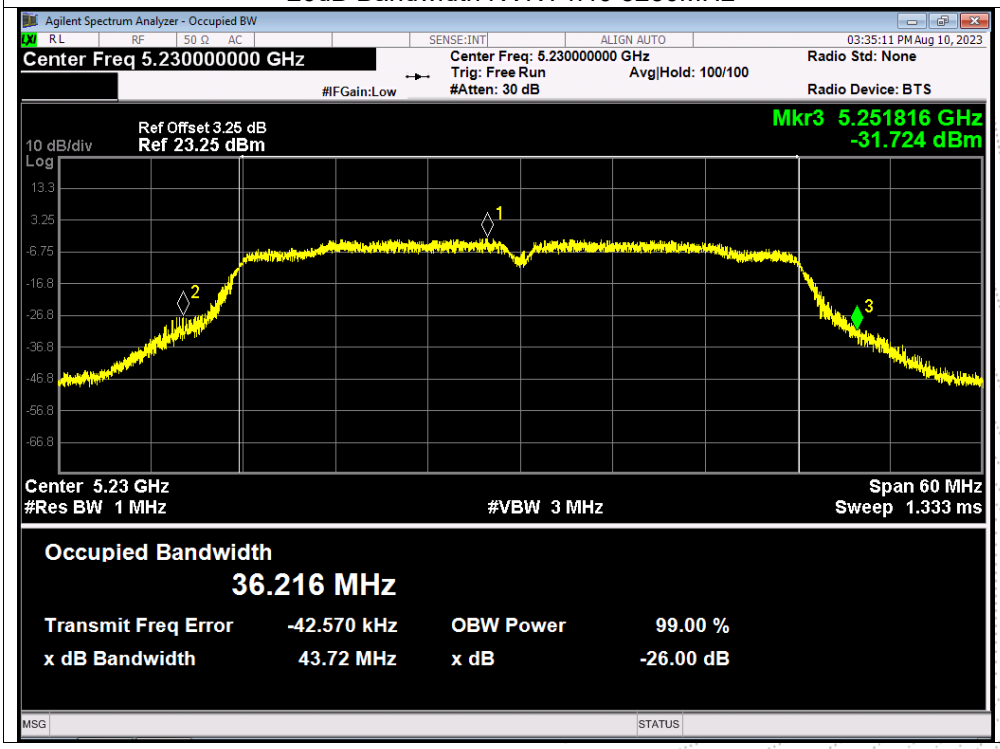
-26dB Bandwidth NVNT n20 5240MHz



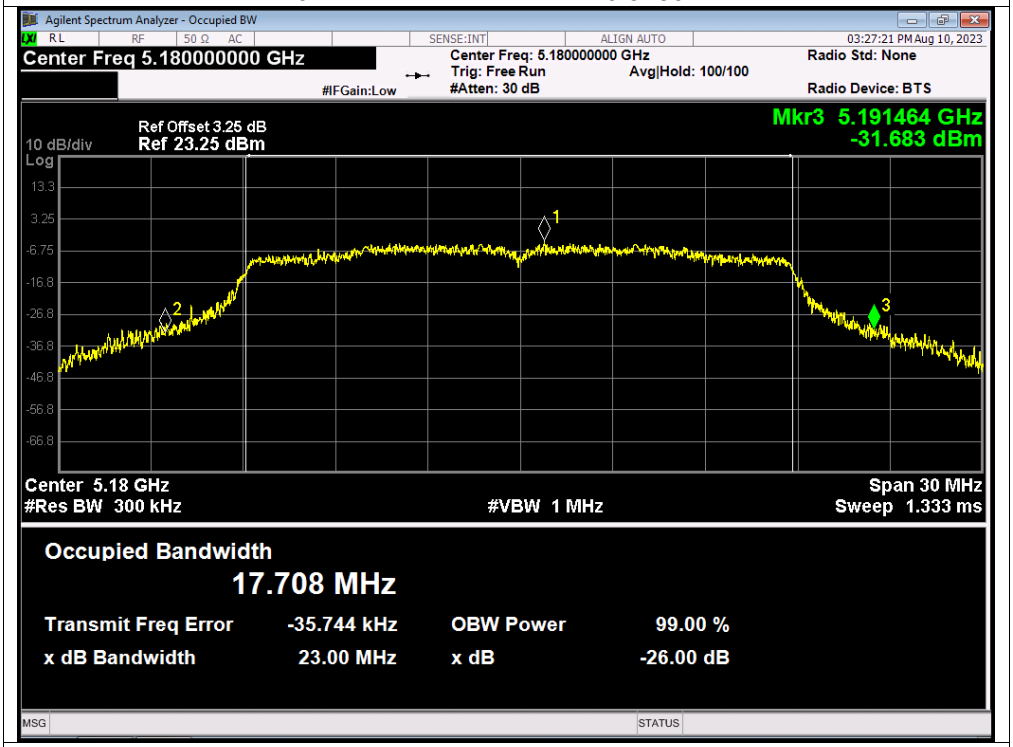
-26dB Bandwidth NVNT n40 5190MHz



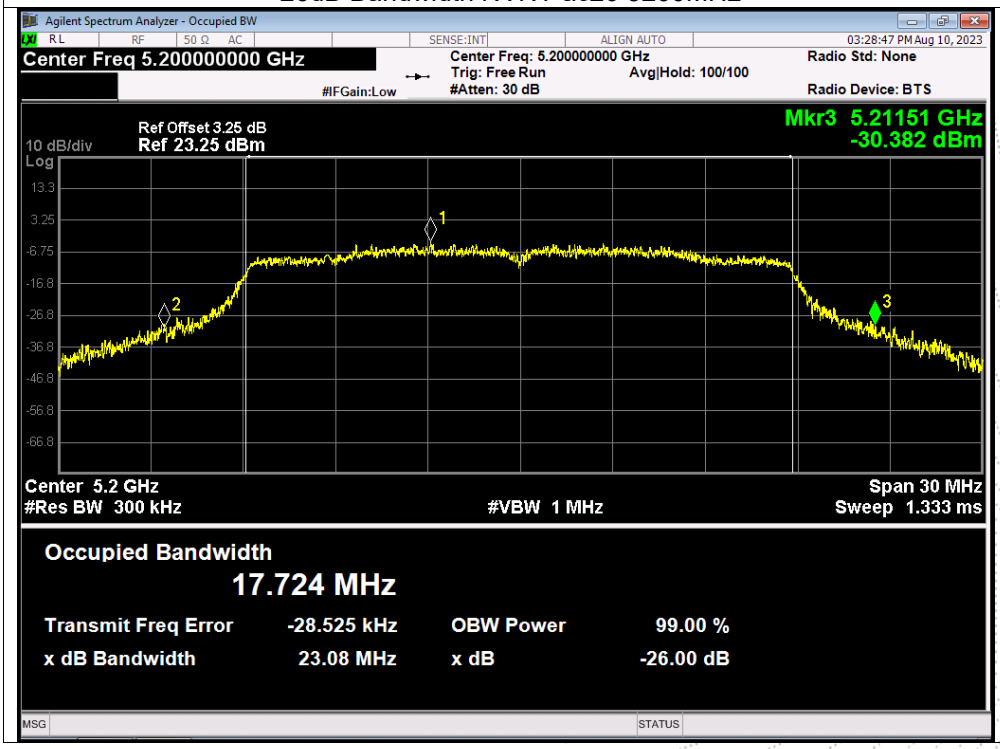
-26dB Bandwidth NVNT n40 5230MHz



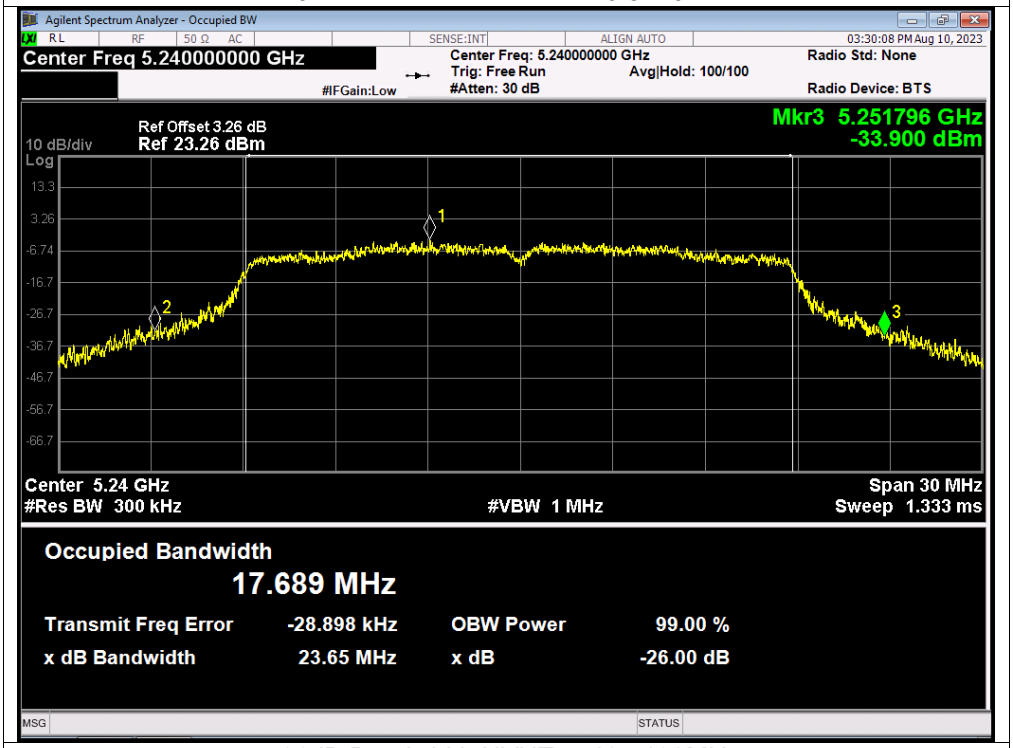
-26dB Bandwidth NVNT ac20 5180MHz



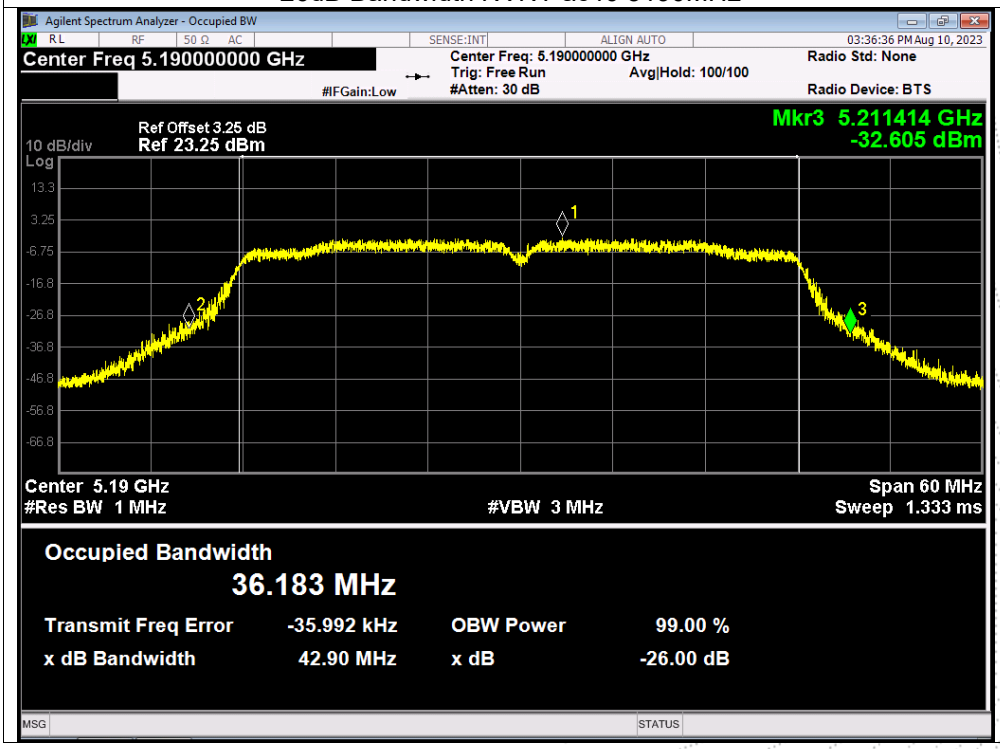
-26dB Bandwidth NVNT ac20 5200MHz



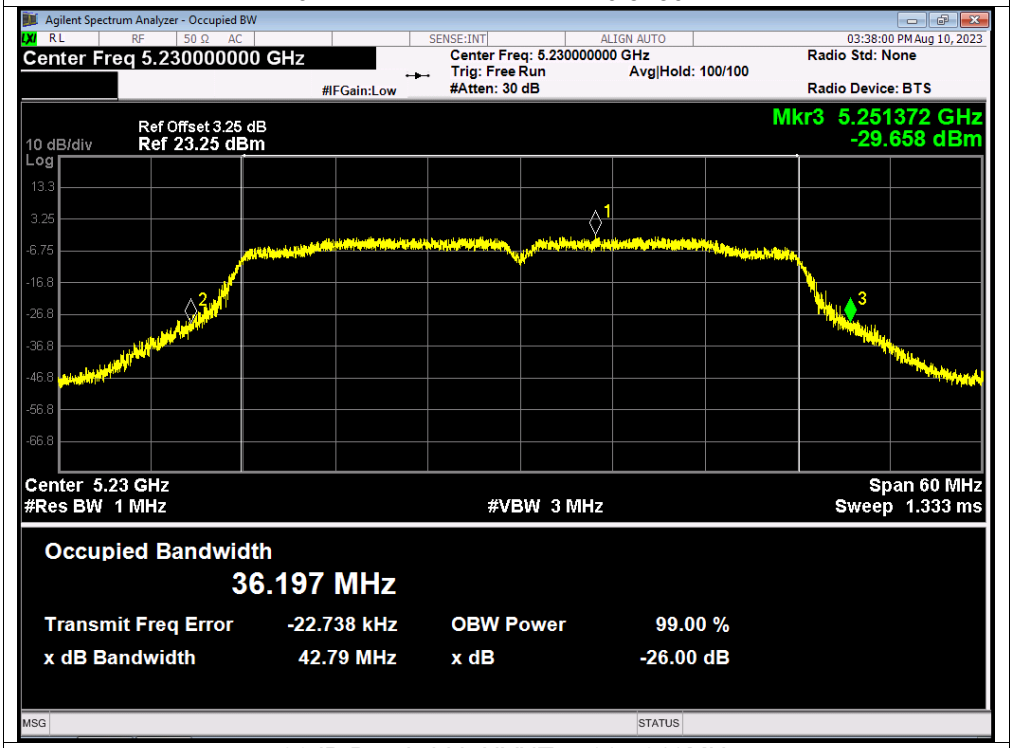
-26dB Bandwidth NVNT ac20 5240MHz



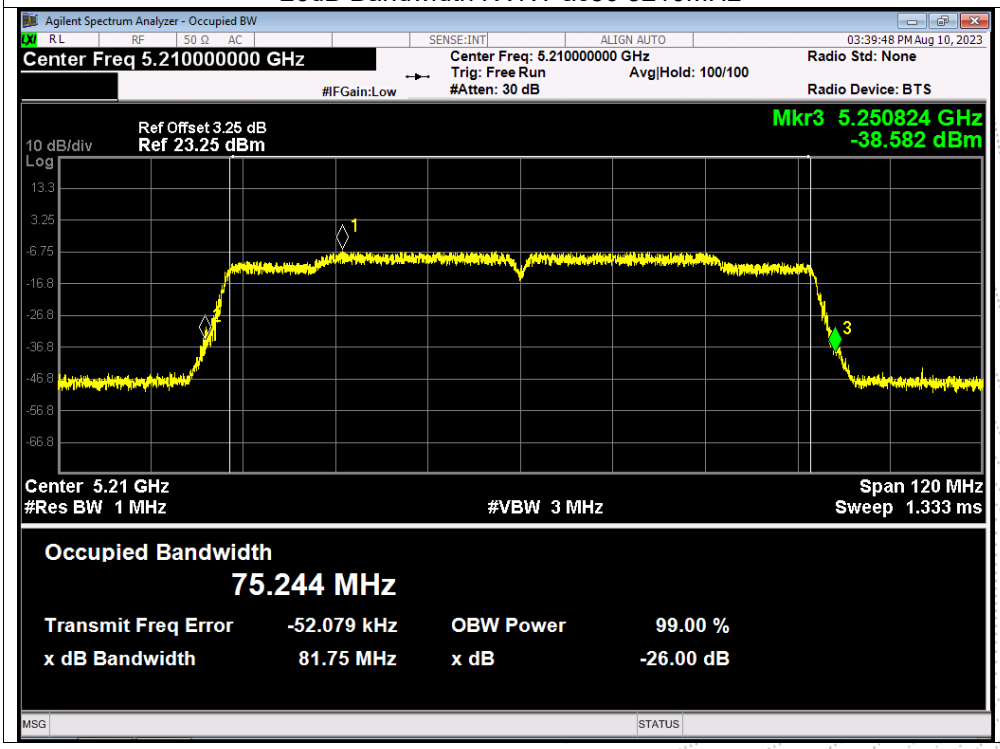
-26dB Bandwidth NVNT ac40 5190MHz



-26dB Bandwidth NVNT ac40 5230MHz

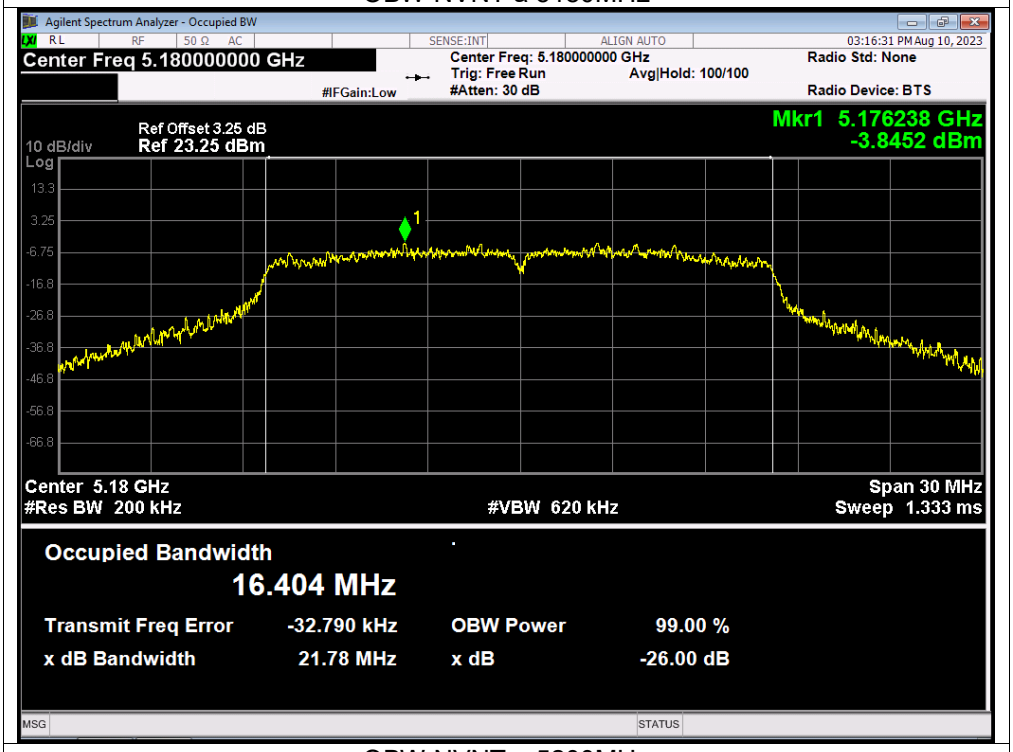


-26dB Bandwidth NVNT ac80 5210MHz

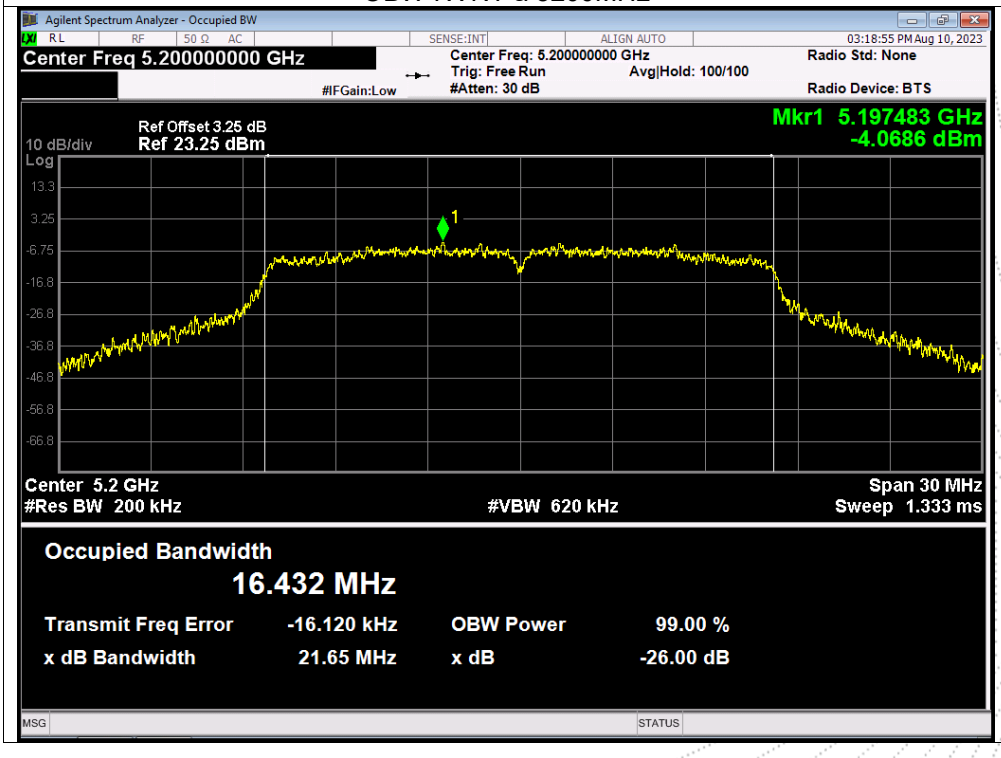


Test Graphs

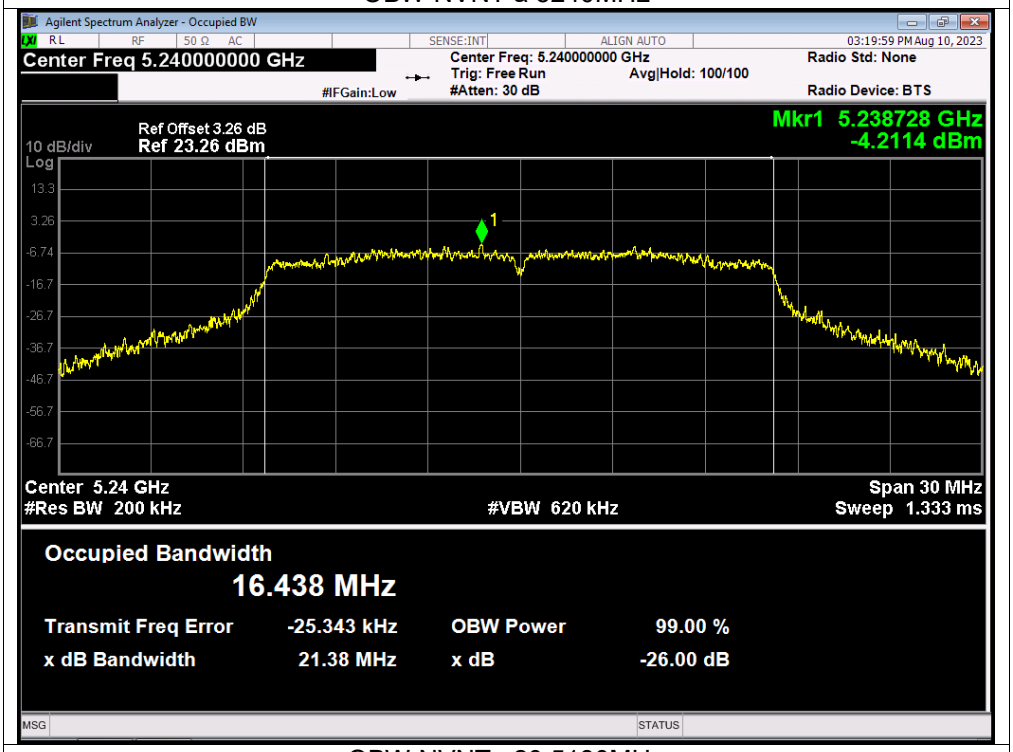
OBW NVNT a 5180MHz



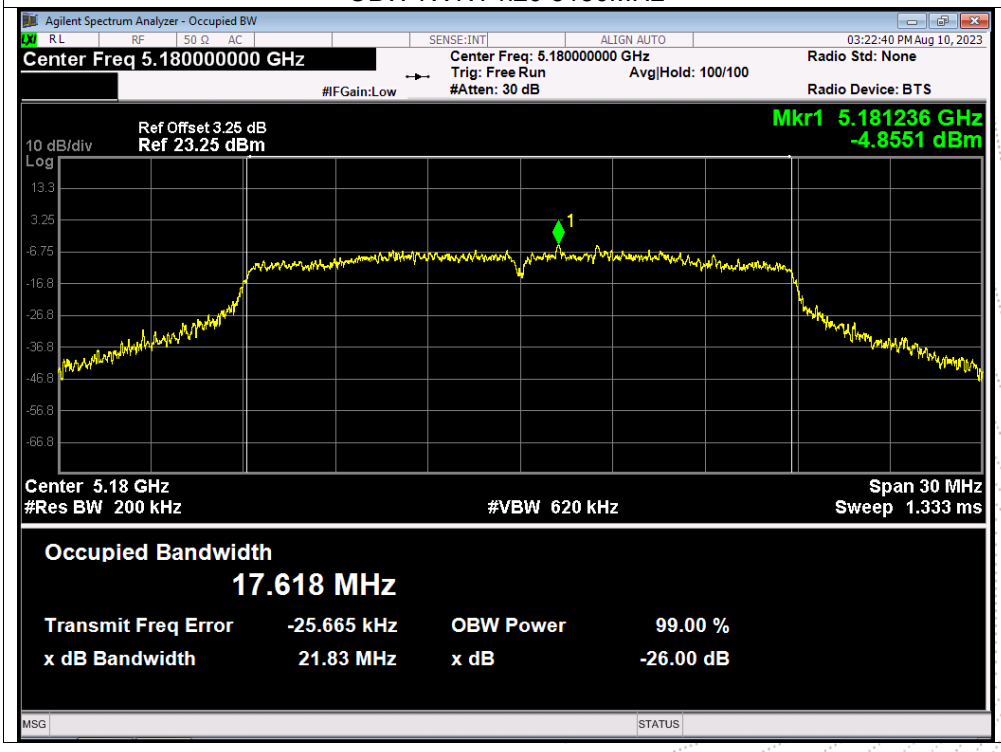
OBW NVNT a 5200MHz



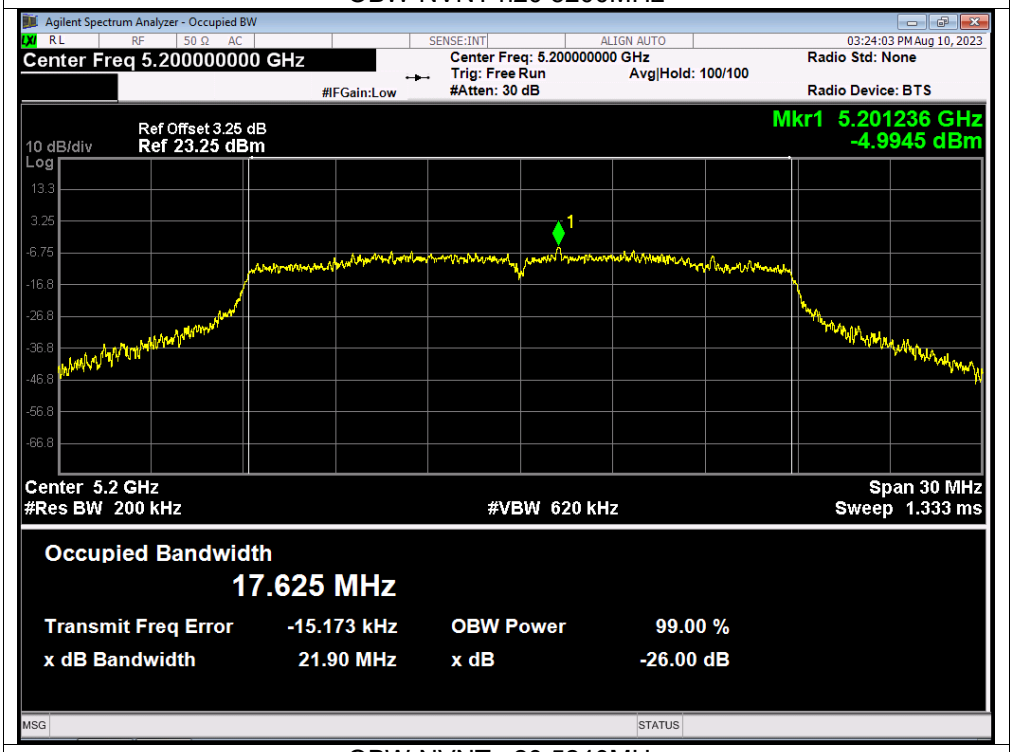
OBW NVNT a 5240MHz



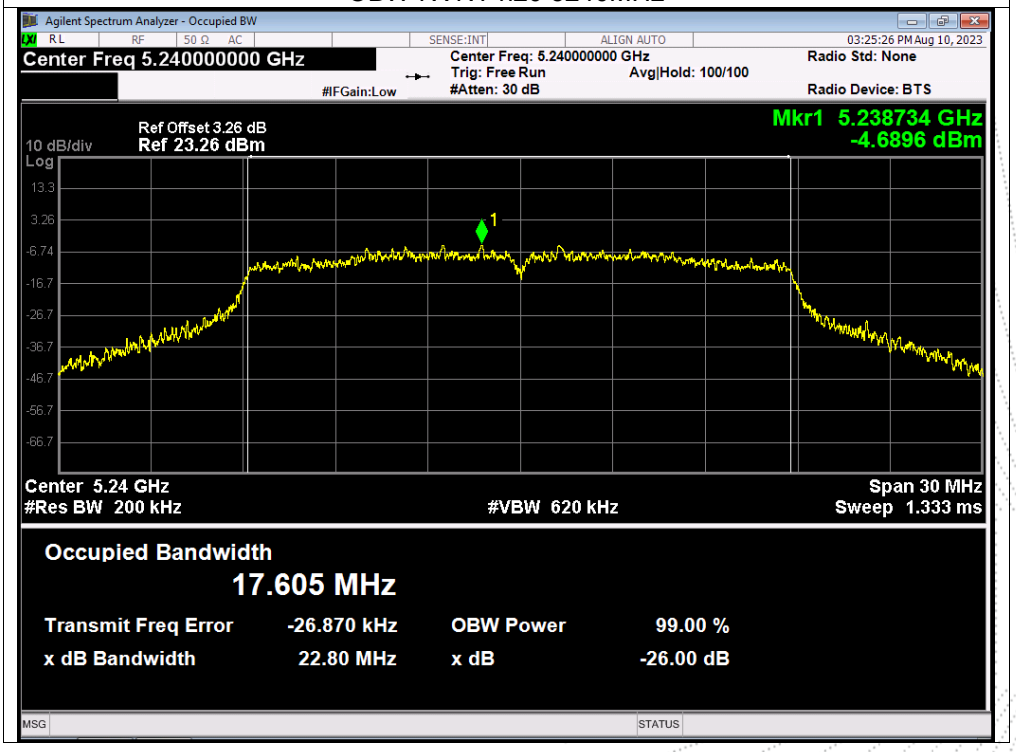
OBW NVNT n20 5180MHz



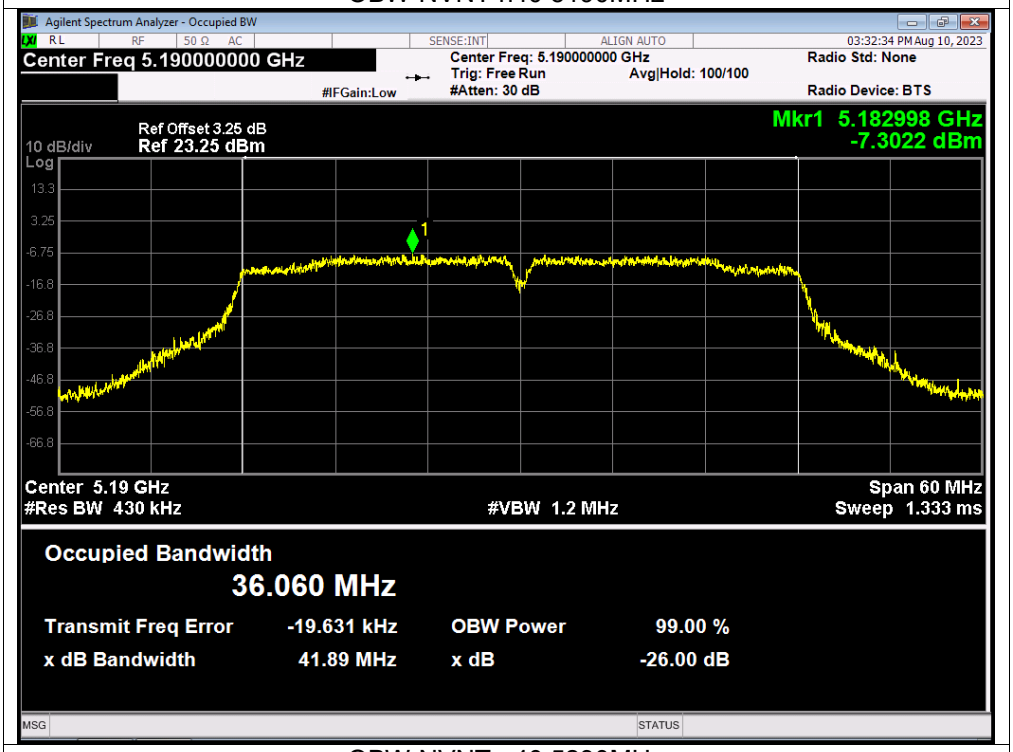
OBW NVNT n20 5200MHz



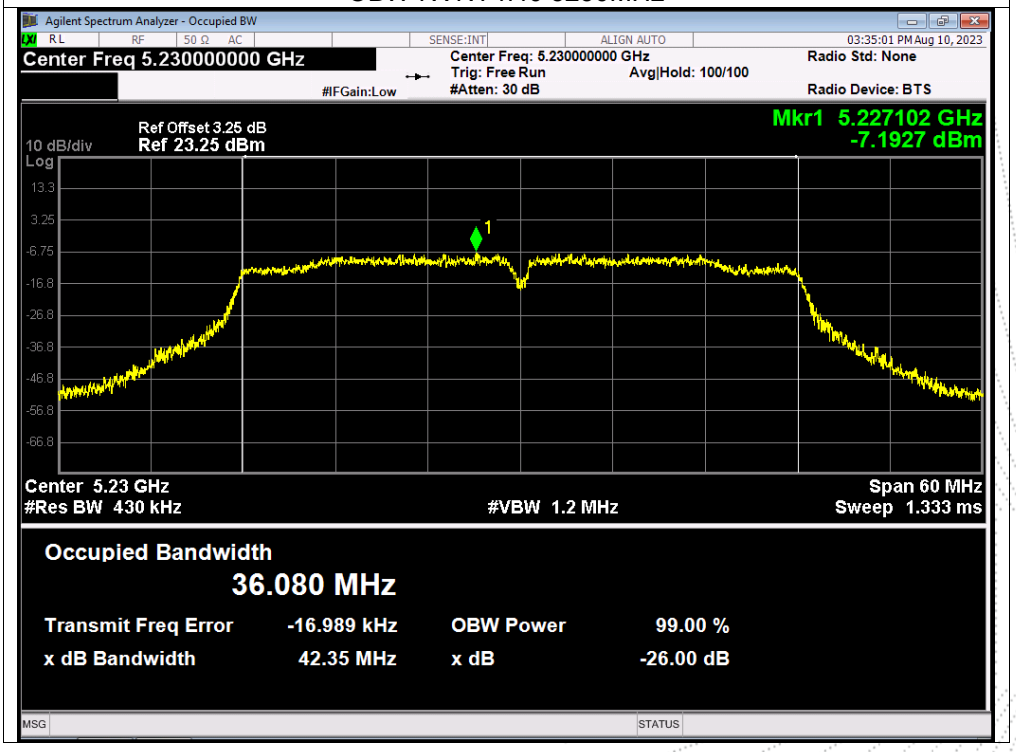
OBW NVNT n20 5240MHz



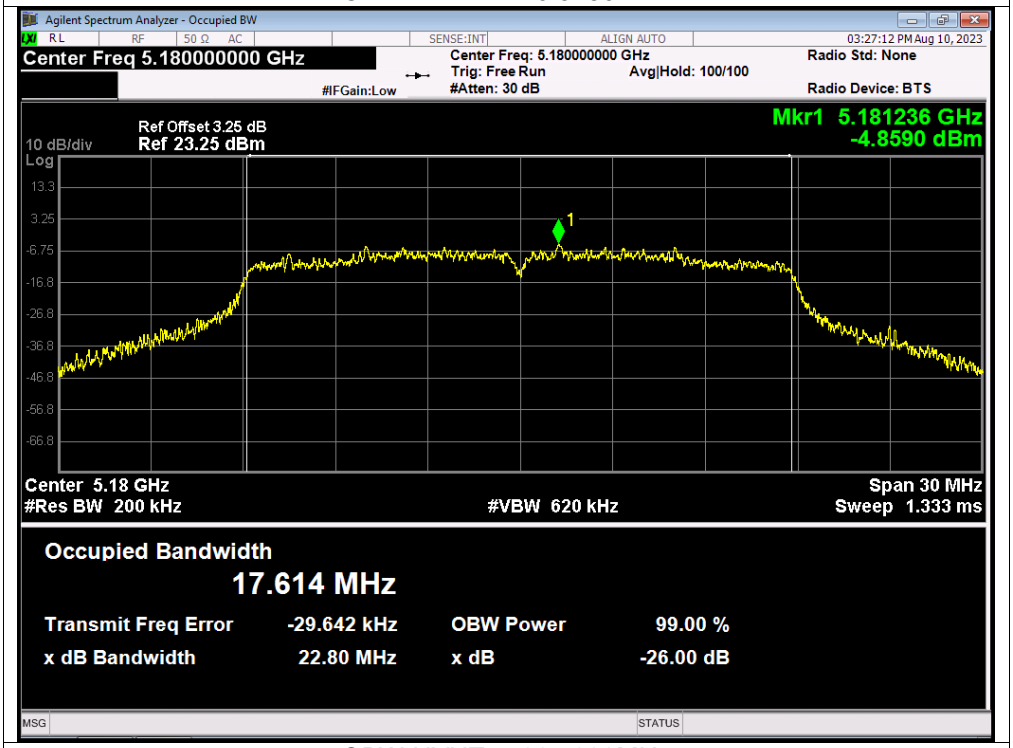
OBW NVNT n40 5190MHz



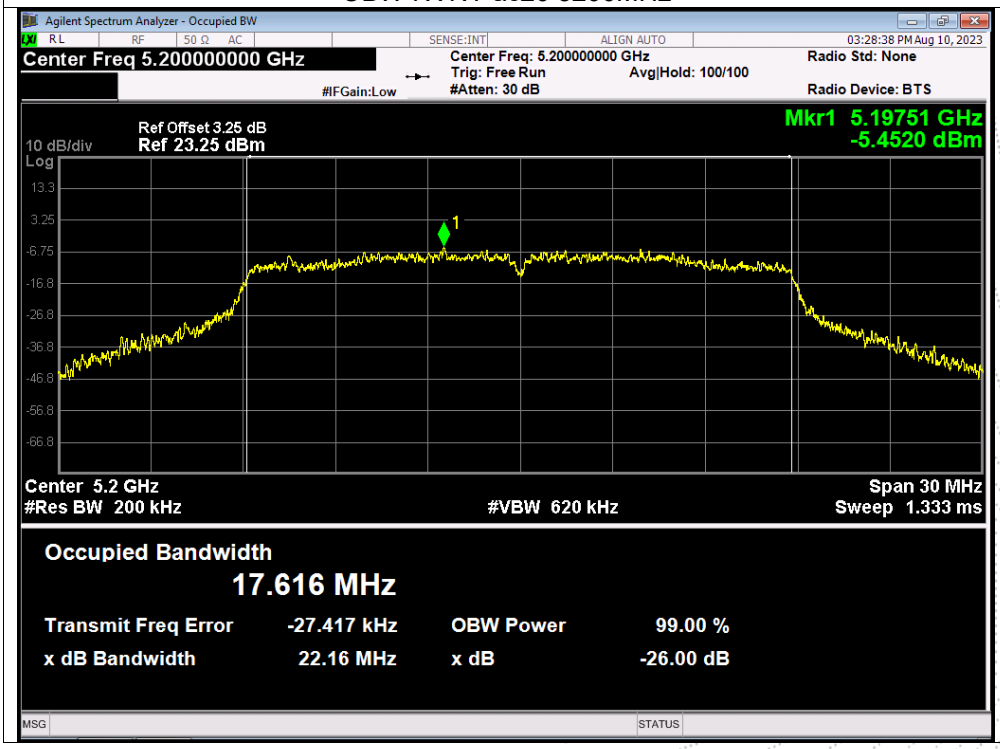
OBW NVNT n40 5230MHz



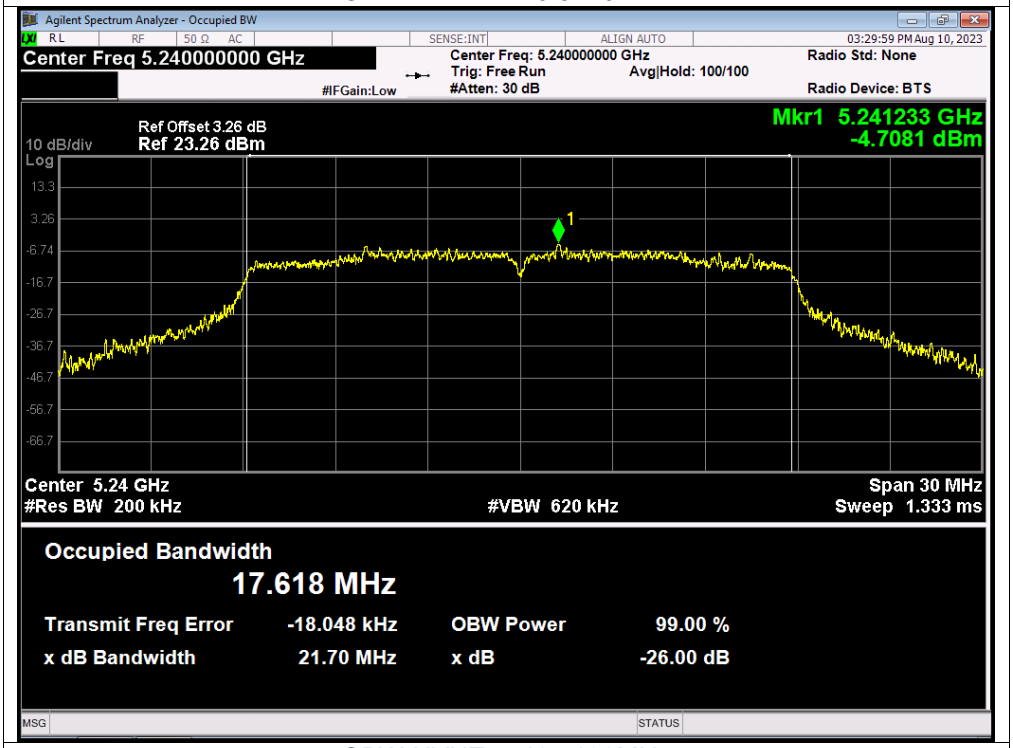
OBW NVNT ac20 5180MHz



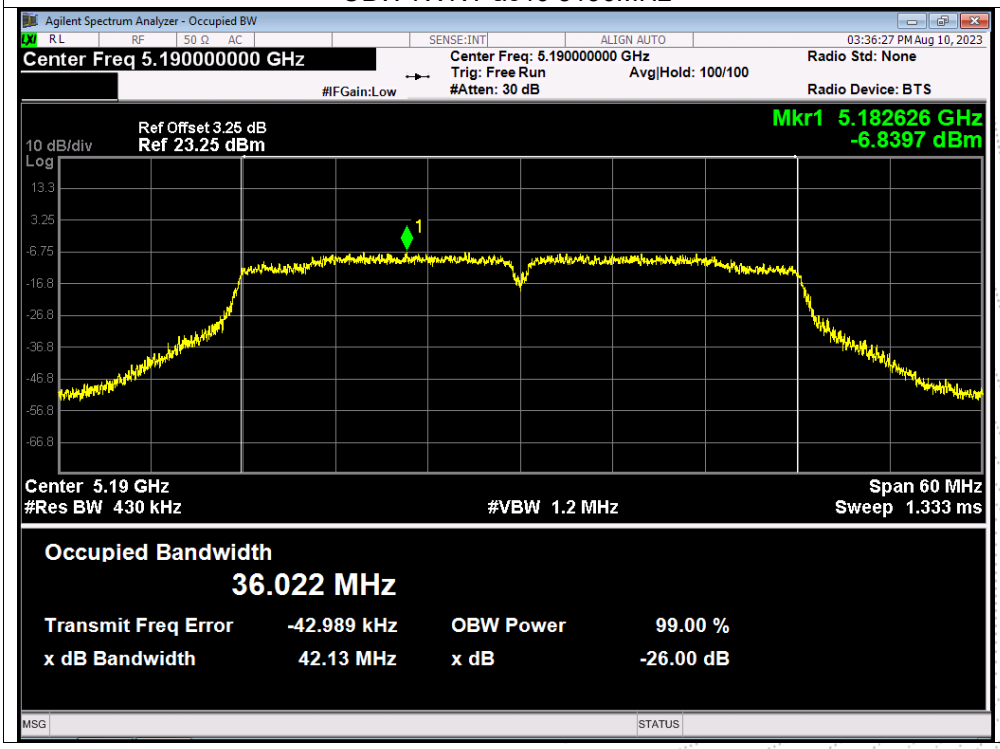
OBW NVNT ac20 5200MHz



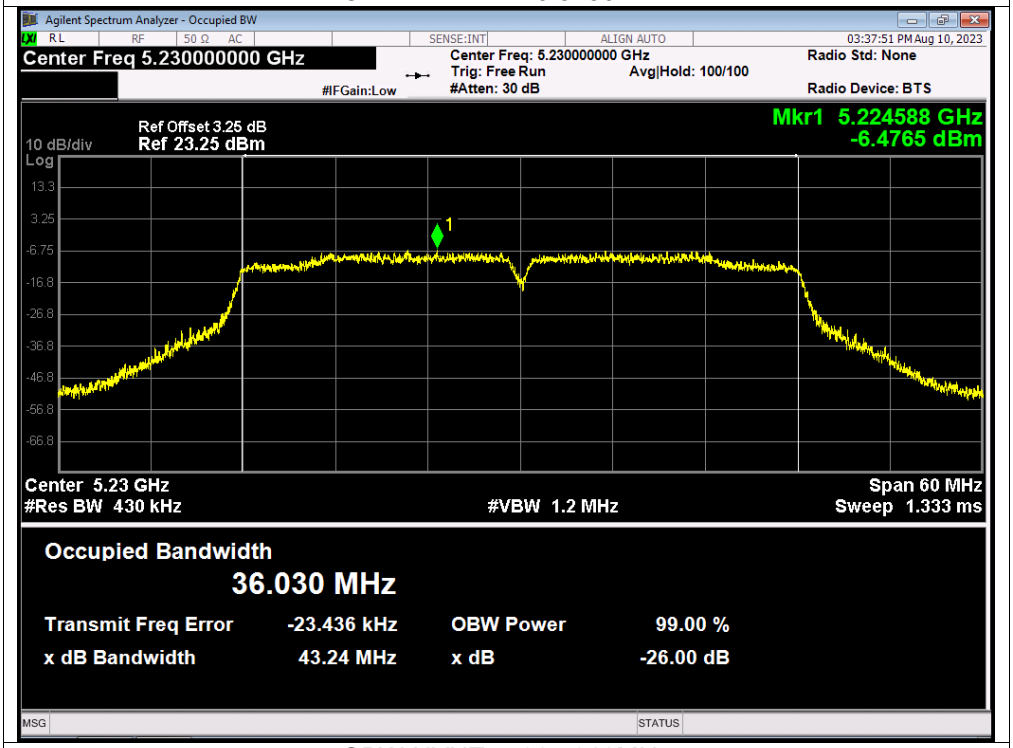
OBW NVNT ac20 5240MHz



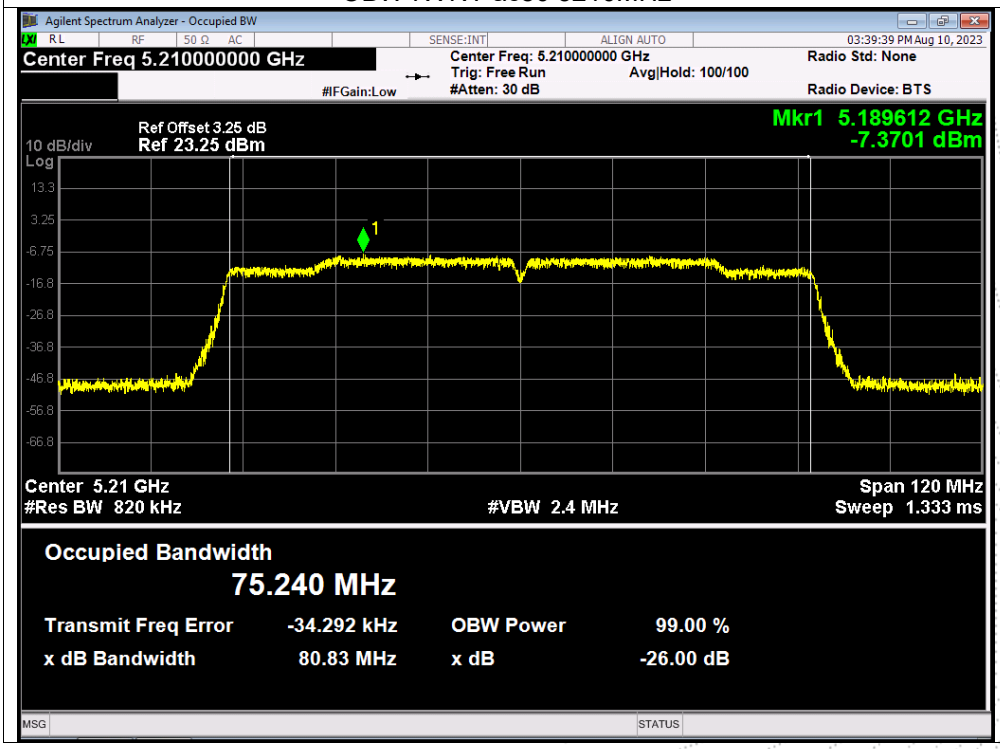
OBW NVNT ac40 5190MHz



OBW NVNT ac40 5230MHz



OBW NVNT ac80 5210MHz



Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	DC 12V
Test Mode ：	TX Frequency U-NII-3(5745-5825MHz)		

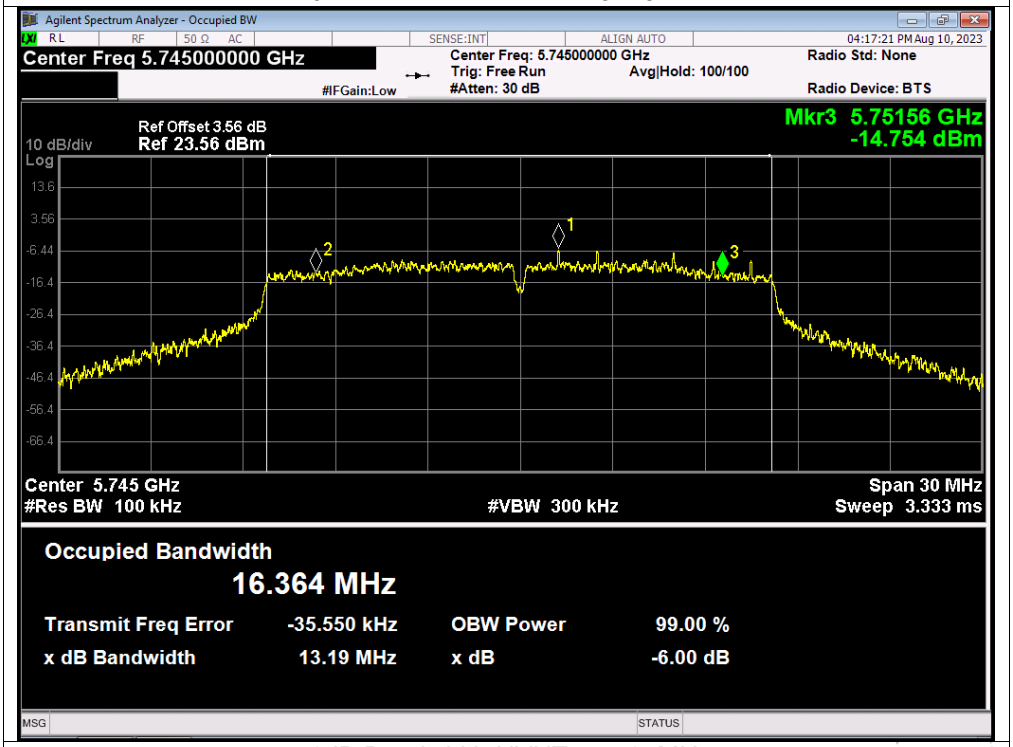
Condition	Mode	Frequency (MHz)	-6 dB Bandwidth (MHz)		Limit -6 dB Bandwidth (MHz)	Verdict
			Ant A	Ant B		
NVNT	a	5745	13.192	13.852	0.5	Pass
NVNT	a	5785	15.068	15.428	0.5	Pass
NVNT	a	5825	14.783	13.14	0.5	Pass
NVNT	n20	5745	14.929	11.934	0.5	Pass
NVNT	n20	5785	15.09	15.367	0.5	Pass
NVNT	n20	5825	11.97	15.027	0.5	Pass
NVNT	n40	5755	33.831	34.929	0.5	Pass
NVNT	n40	5795	35.11	32.595	0.5	Pass
NVNT	ac20	5745	13.104	15.306	0.5	Pass
NVNT	ac20	5785	13.771	15.384	0.5	Pass
NVNT	ac20	5825	15.034	14.952	0.5	Pass
NVNT	ac40	5755	32.624	35.006	0.5	Pass
NVNT	ac40	5795	31.358	33.887	0.5	Pass
NVNT	ac80	5775	75.129	75.093	0.5	Pass

Condition	Mode	Frequency (MHz)	99% OBW (MHz)	
			Ant A	Ant B
NVNT	a	5745	16.444	16.414
NVNT	a	5785	16.468	16.485
NVNT	a	5825	16.428	16.433
NVNT	n20	5745	17.587	17.601
NVNT	n20	5785	17.659	17.639
NVNT	n20	5825	17.607	17.607
NVNT	n40	5755	36.052	36.071
NVNT	n40	5795	36.07	36.046
NVNT	ac20	5745	17.612	17.587
NVNT	ac20	5785	17.621	17.621
NVNT	ac20	5825	17.622	17.583
NVNT	ac40	5755	36.021	36.033
NVNT	ac40	5795	36.081	36.062
NVNT	ac80	5775	75.194	75.219

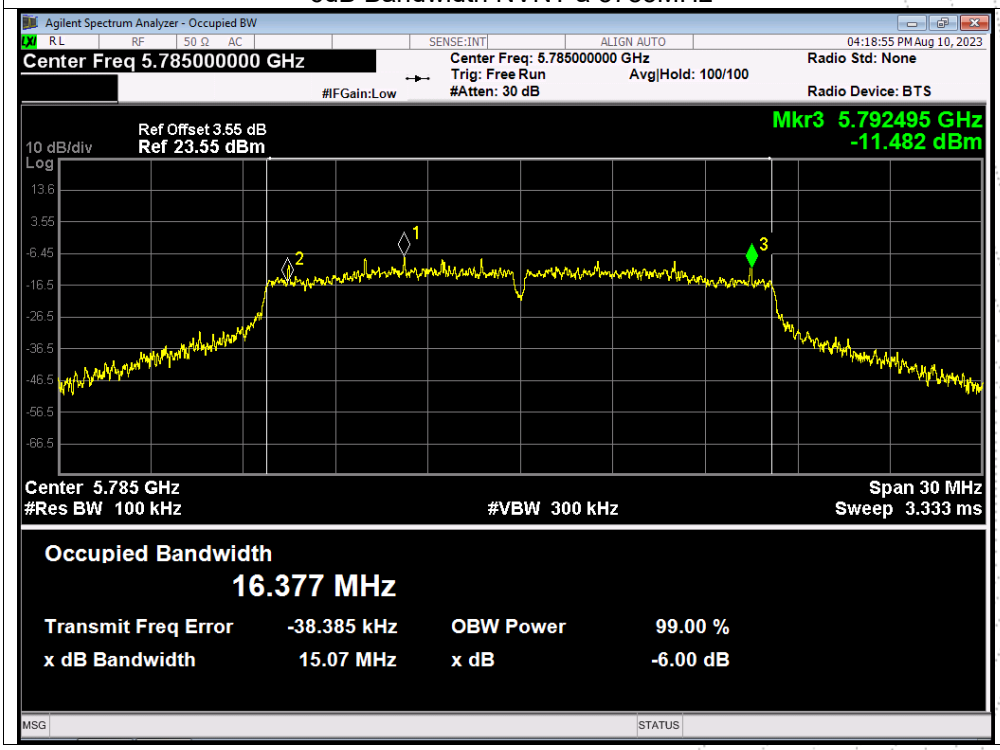
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

Test Graphs

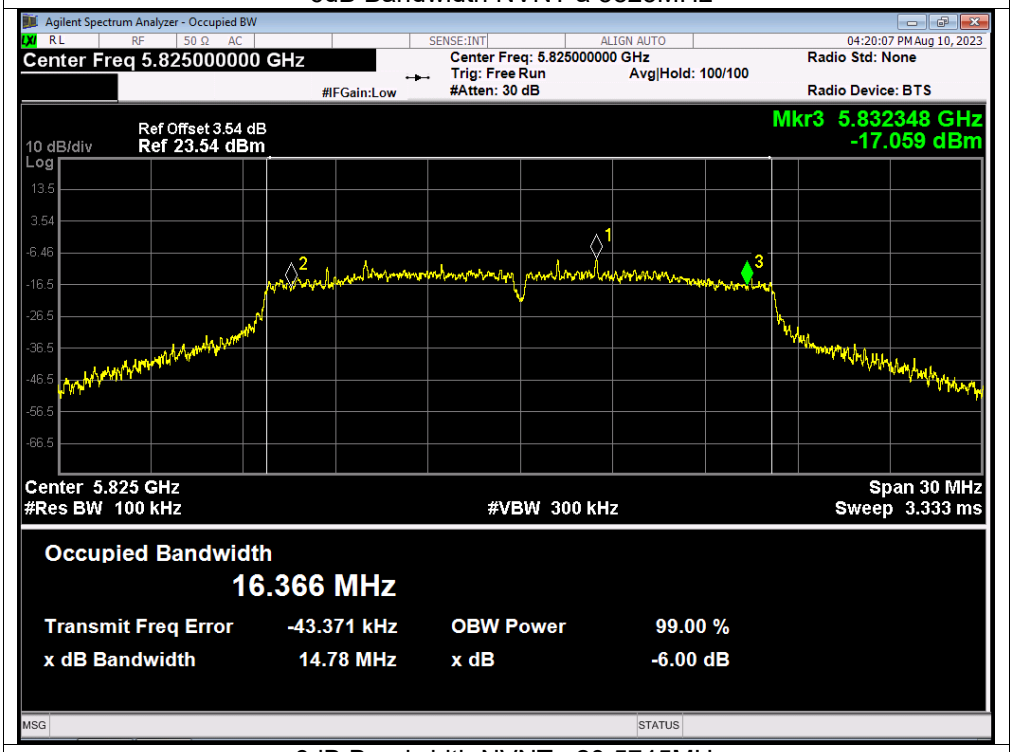
-6dB Bandwidth NVNT a 5745MHz



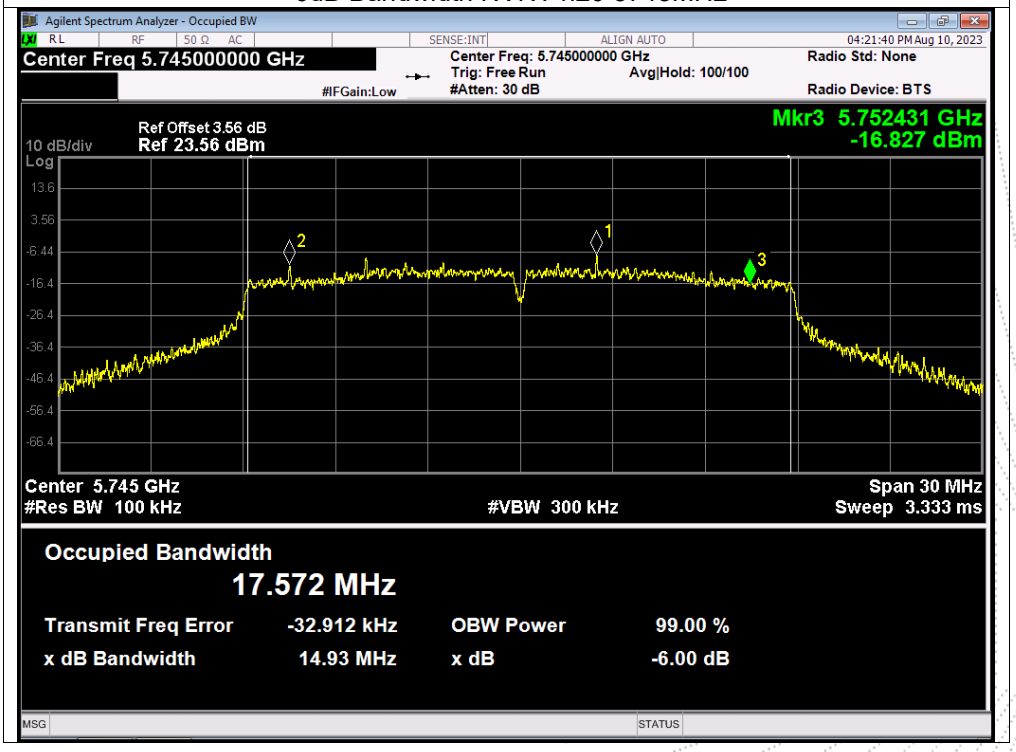
-6dB Bandwidth NVNT a 5785MHz



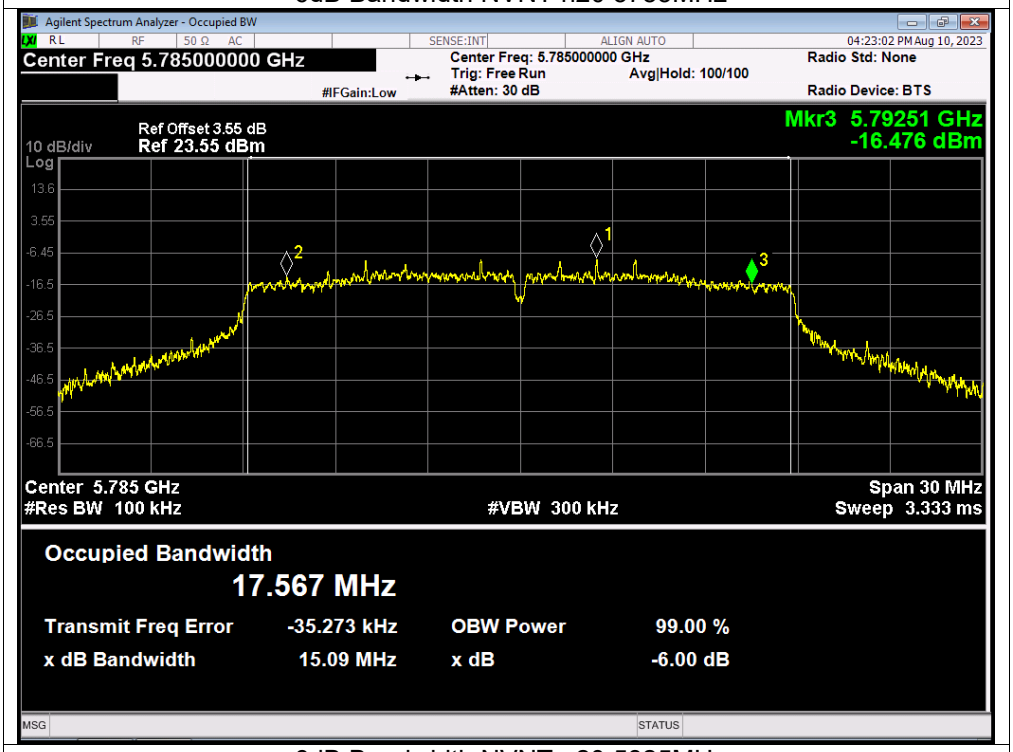
-6dB Bandwidth NVNT a 5825MHz



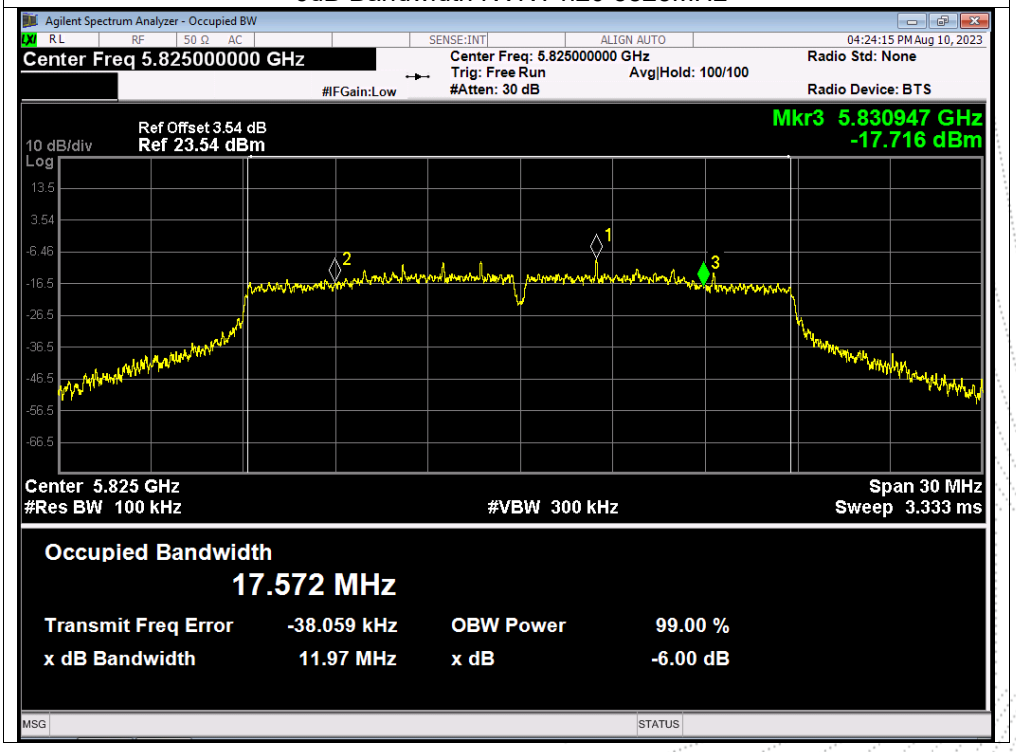
-6dB Bandwidth NVNT n20 5745MHz



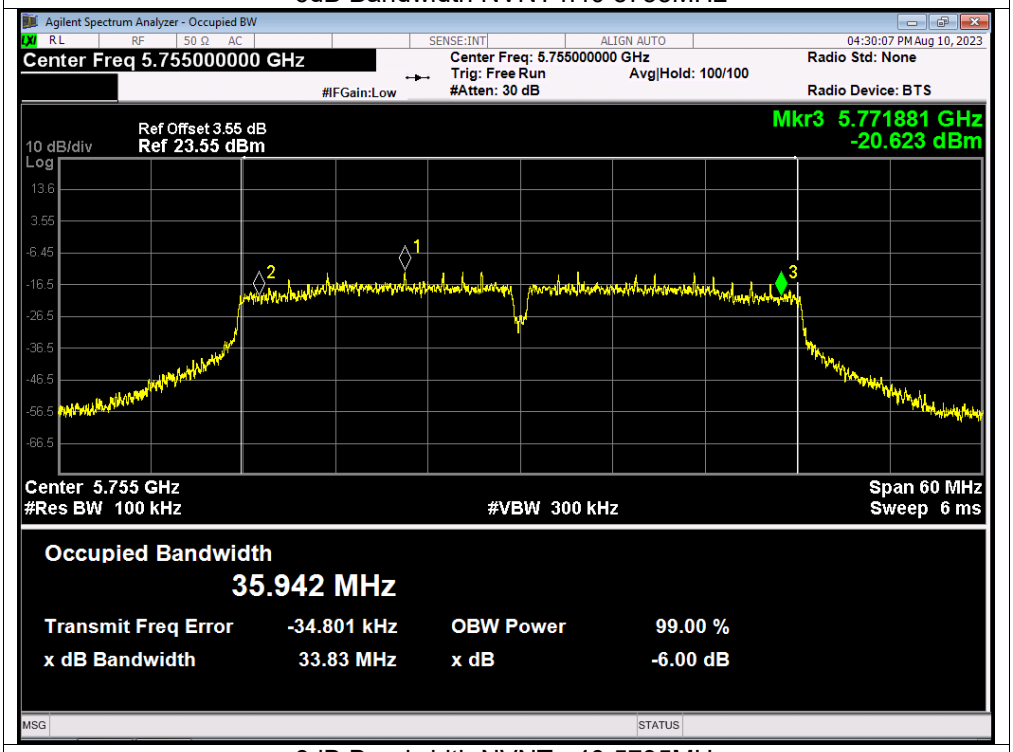
-6dB Bandwidth NVNT n20 5785MHz



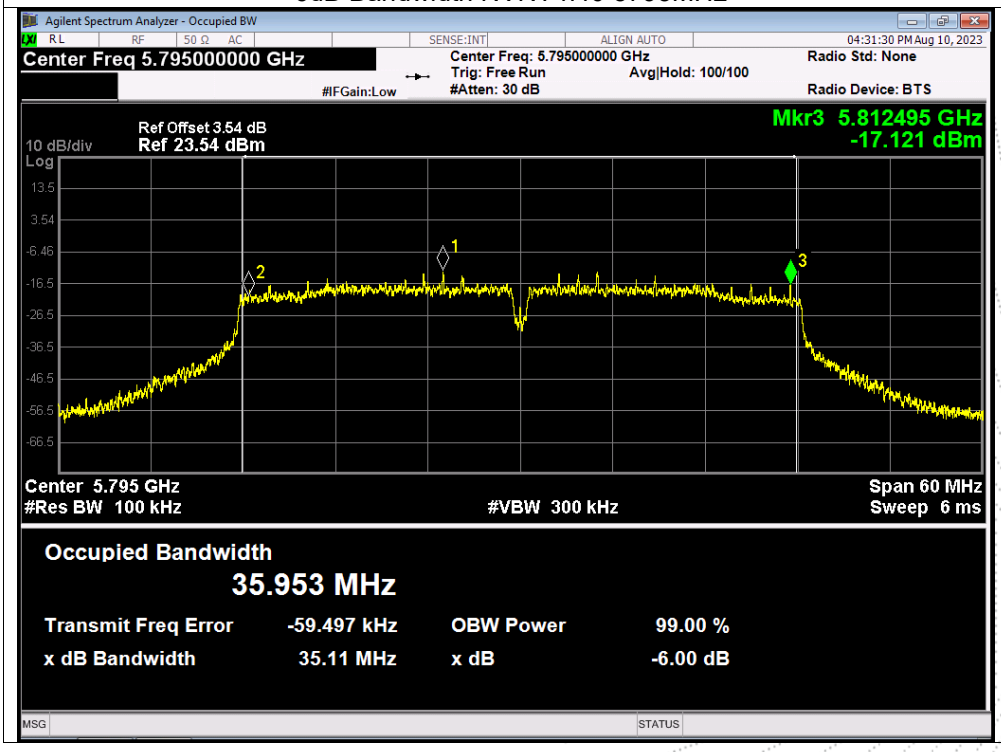
-6dB Bandwidth NVNT n20 5825MHz



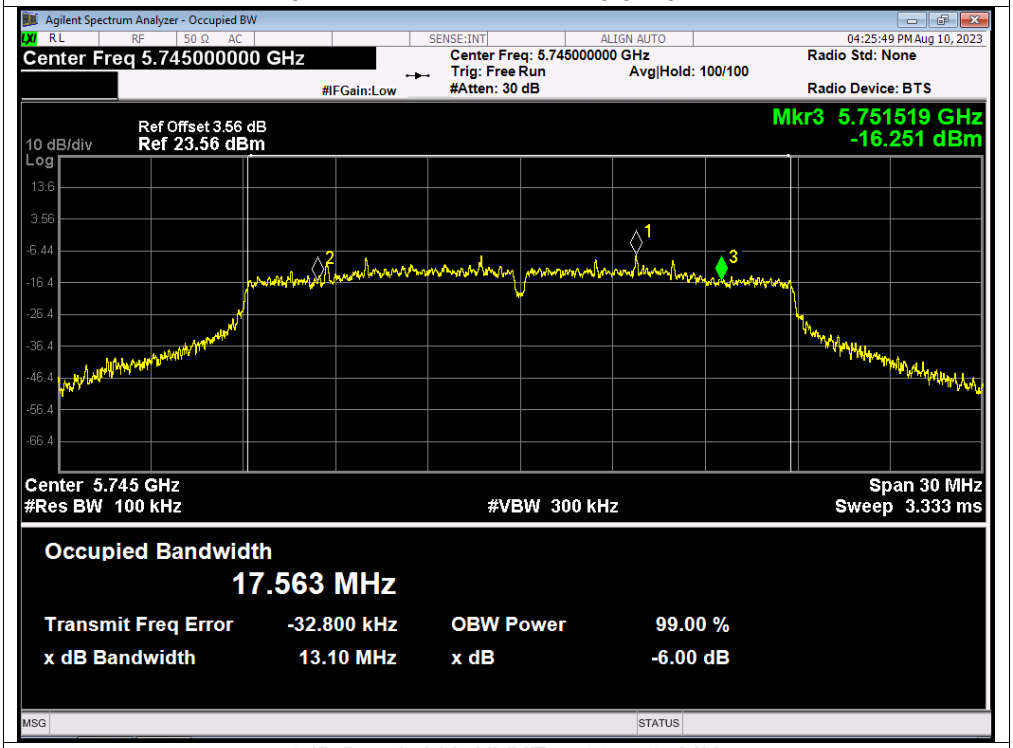
-6dB Bandwidth NVNT n40 5755MHz



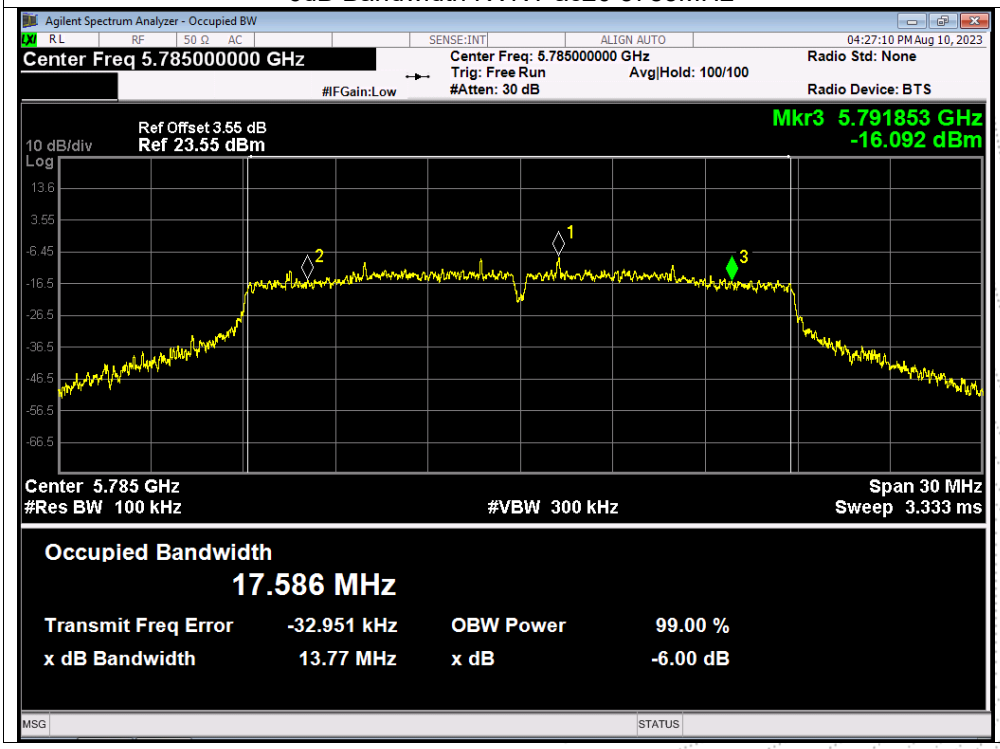
-6dB Bandwidth NVNT n40 5795MHz



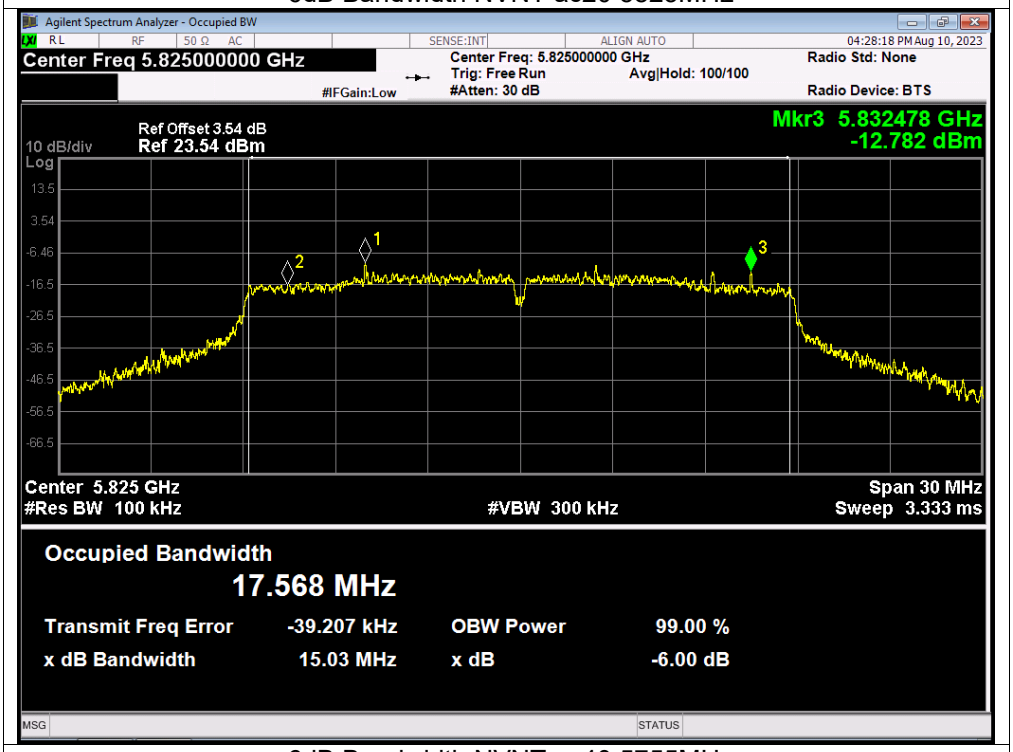
-6dB Bandwidth NVNT ac20 5745MHz



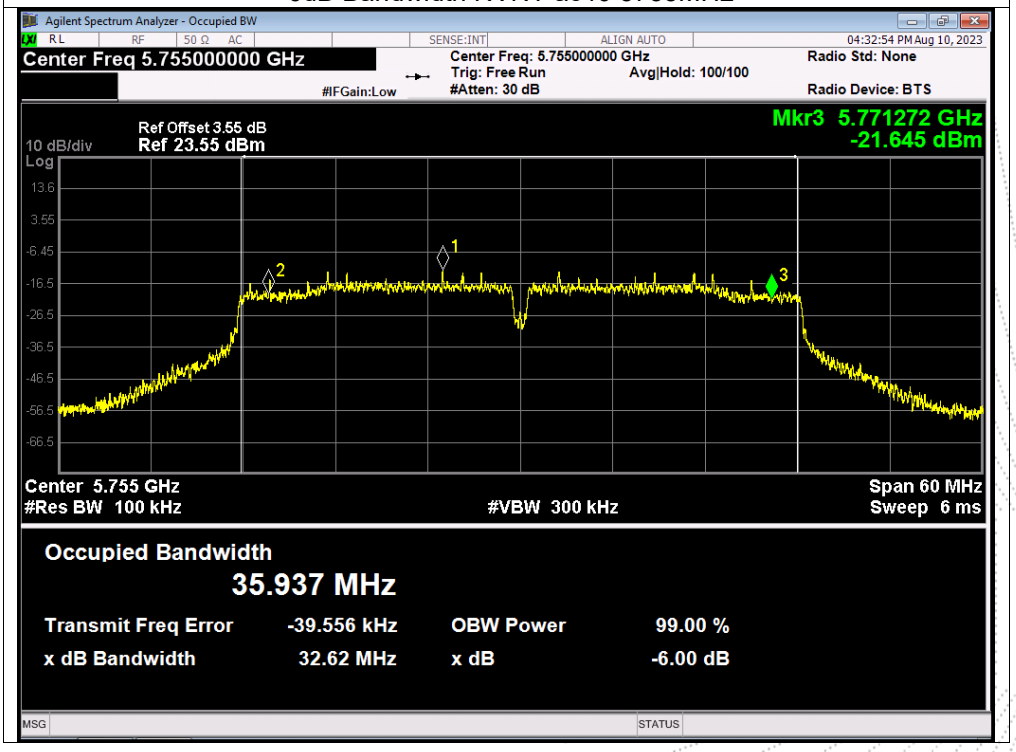
-6dB Bandwidth NVNT ac20 5785MHz



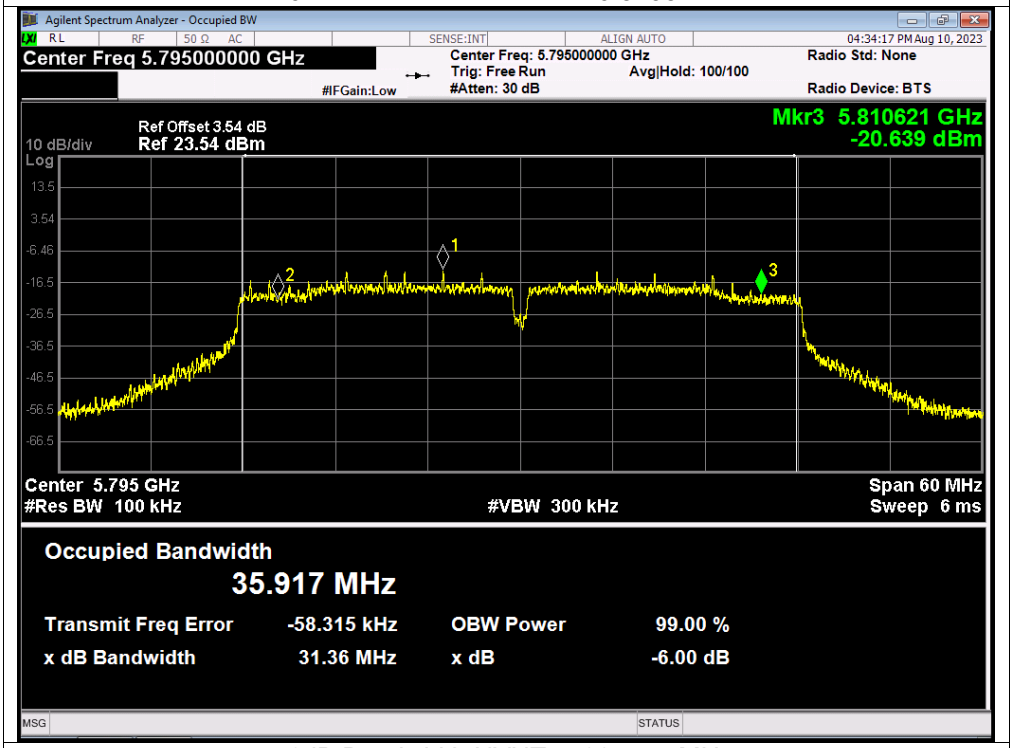
-6dB Bandwidth NVNT ac20 5825MHz



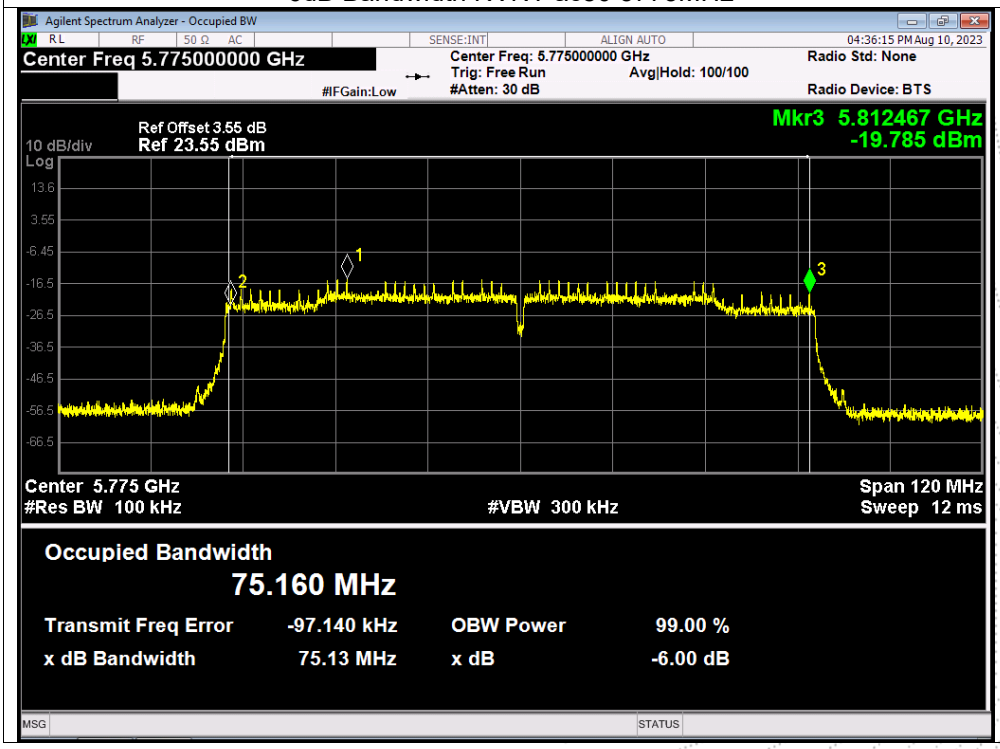
-6dB Bandwidth NVNT ac40 5755MHz



-6dB Bandwidth NVNT ac40 5795MHz



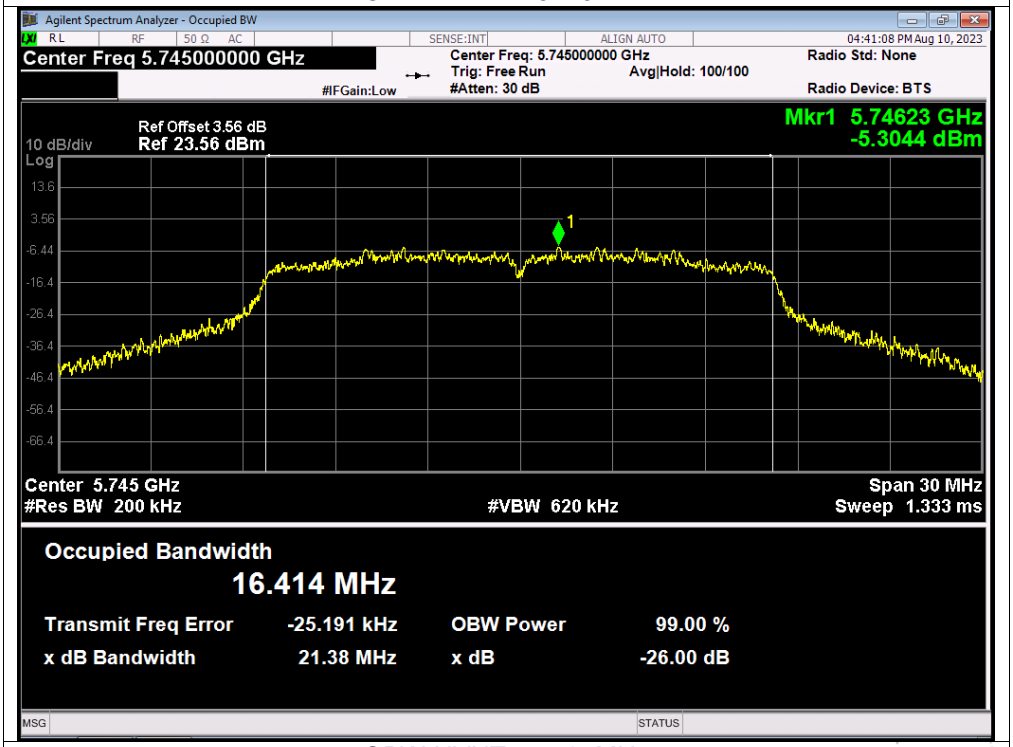
-6dB Bandwidth NVNT ac80 5775MHz



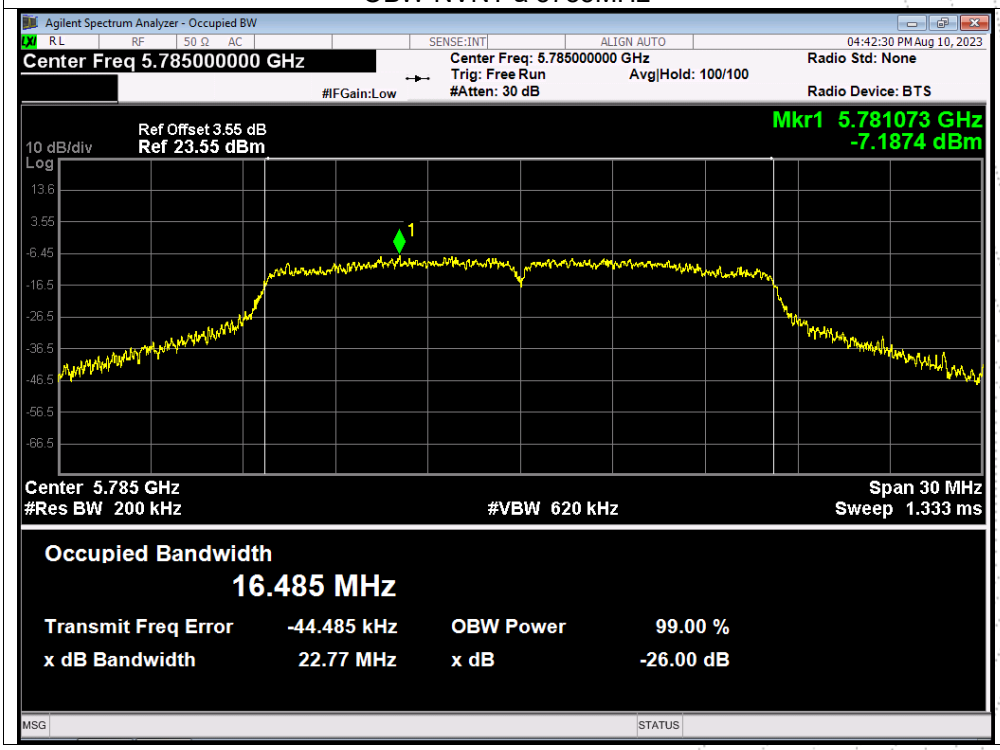
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

Test Graphs

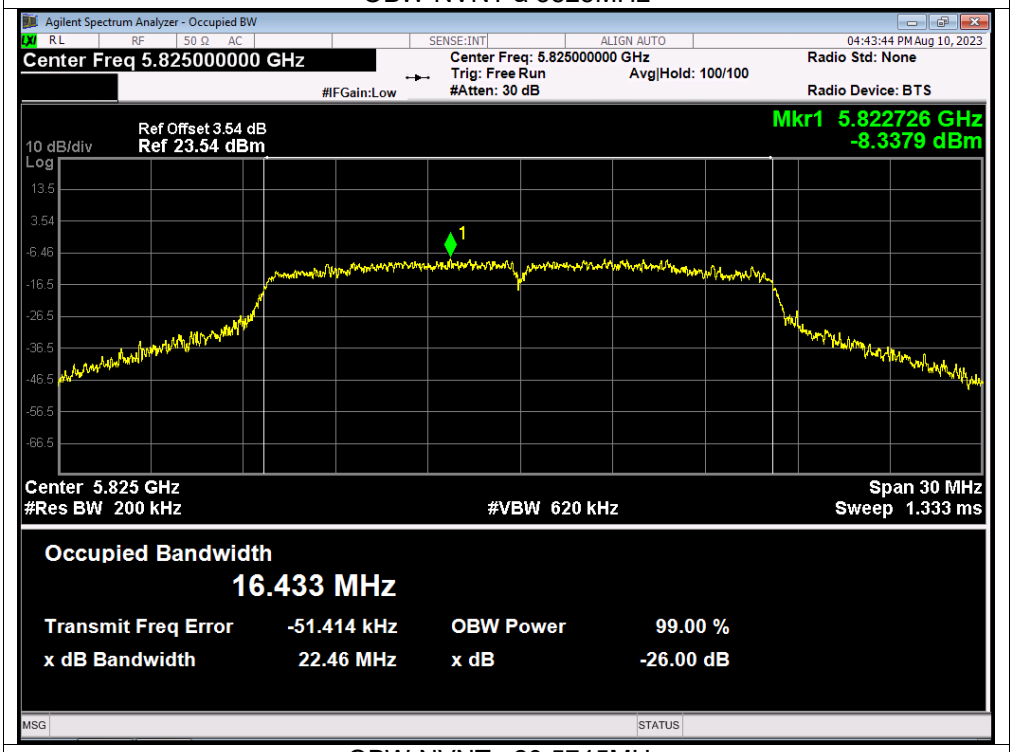
OBW NVNT a 5745MHz



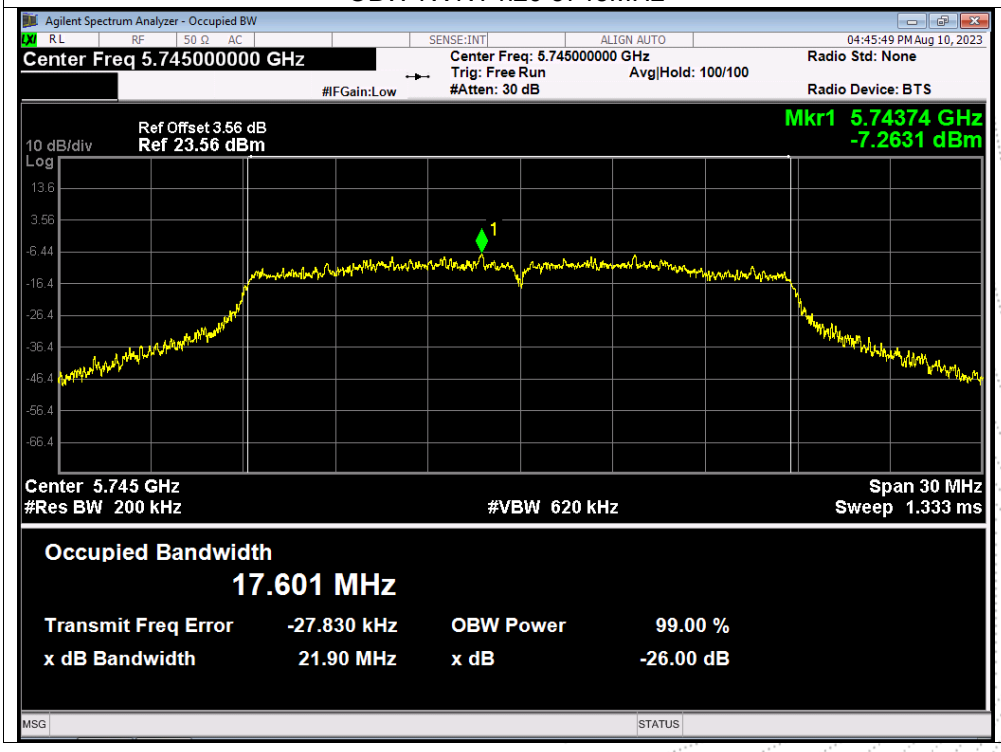
OBW NVNT a 5785MHz



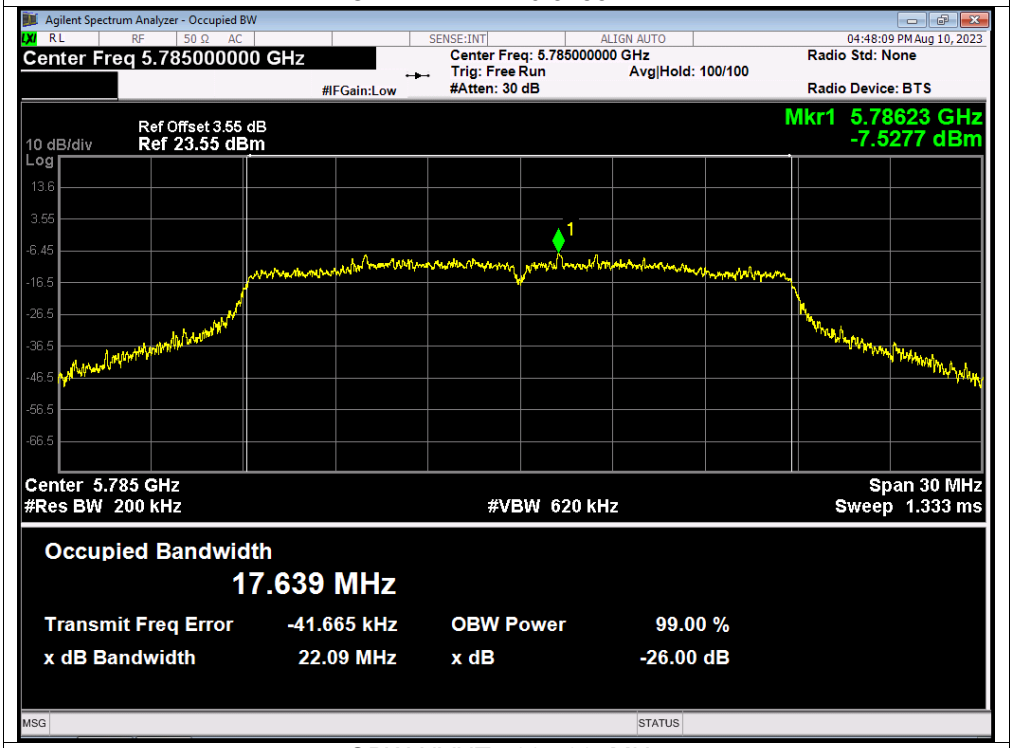
OBW NVNT a 5825MHz



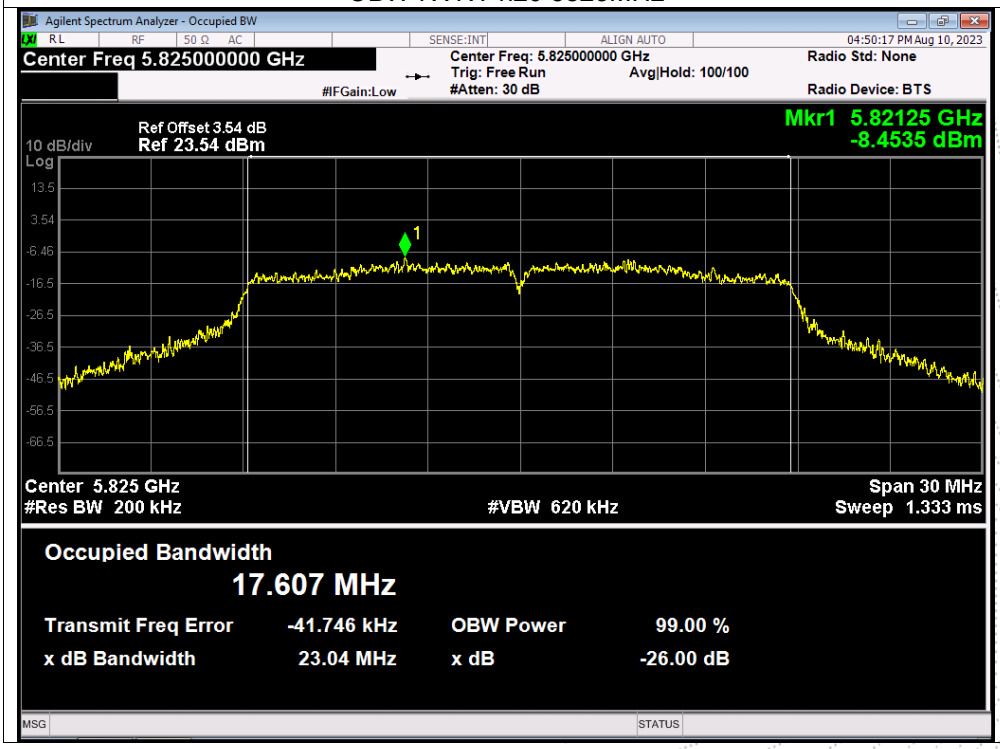
OBW NVNT n20 5745MHz



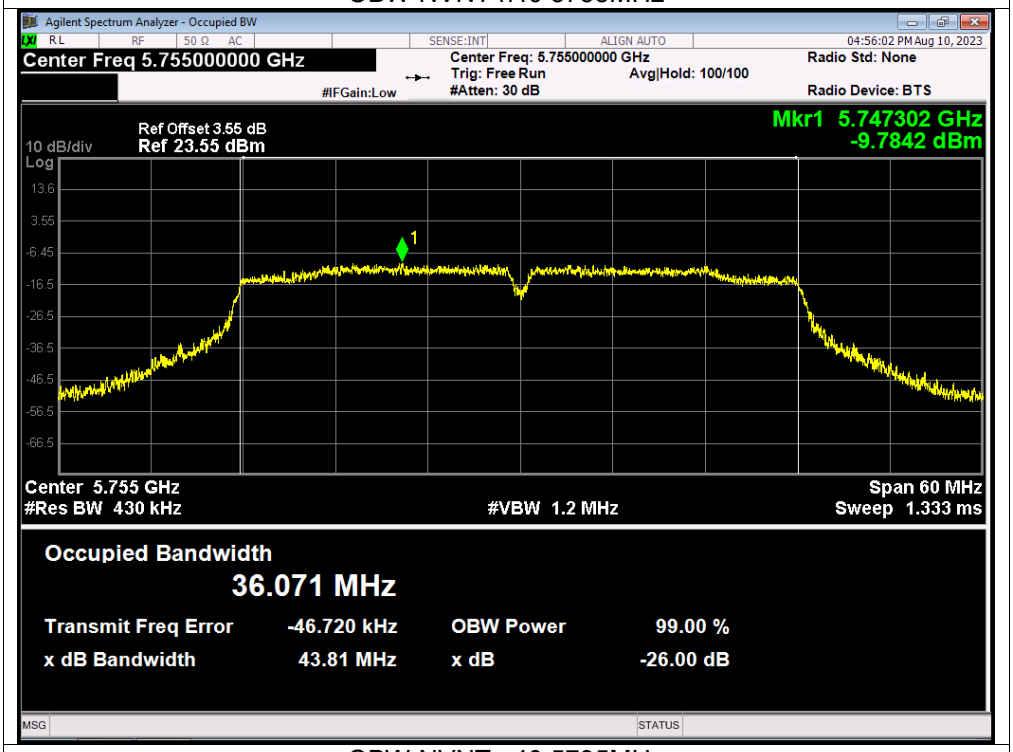
OBW NVNT n20 5785MHz



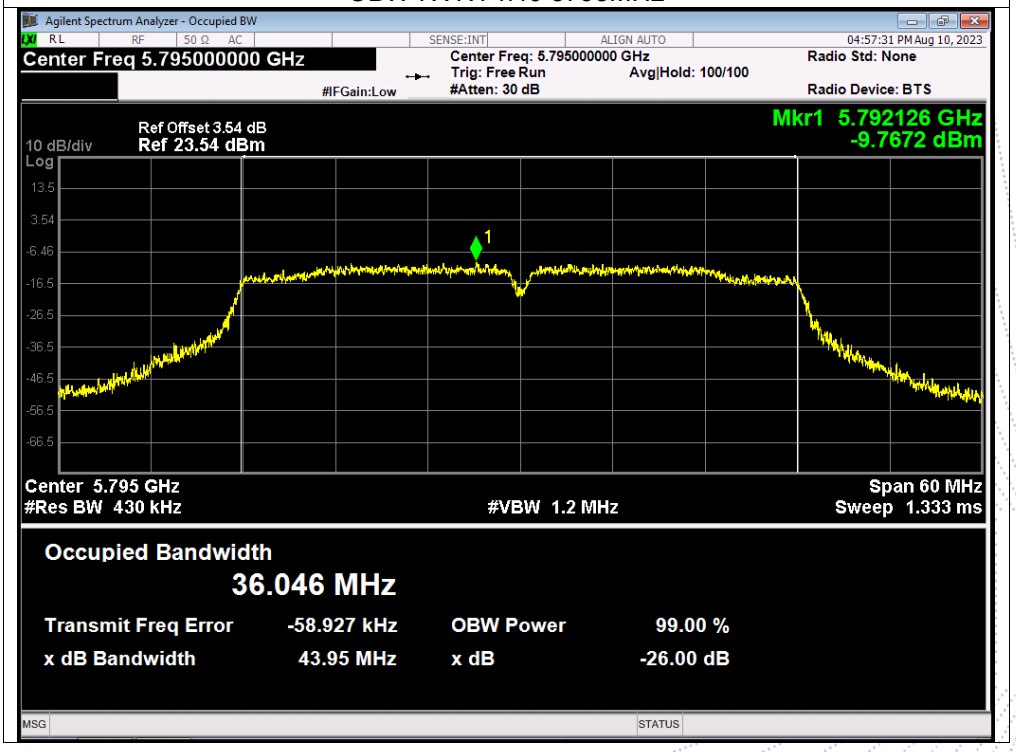
OBW NVNT n20 5825MHz



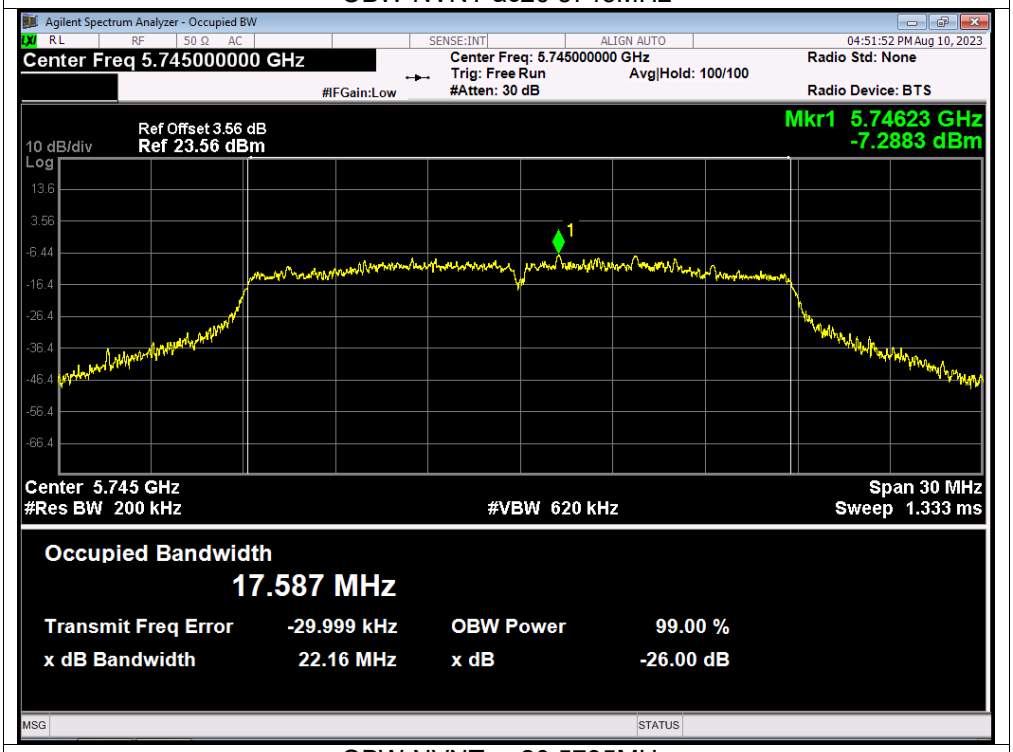
OBW NVNT n40 5755MHz



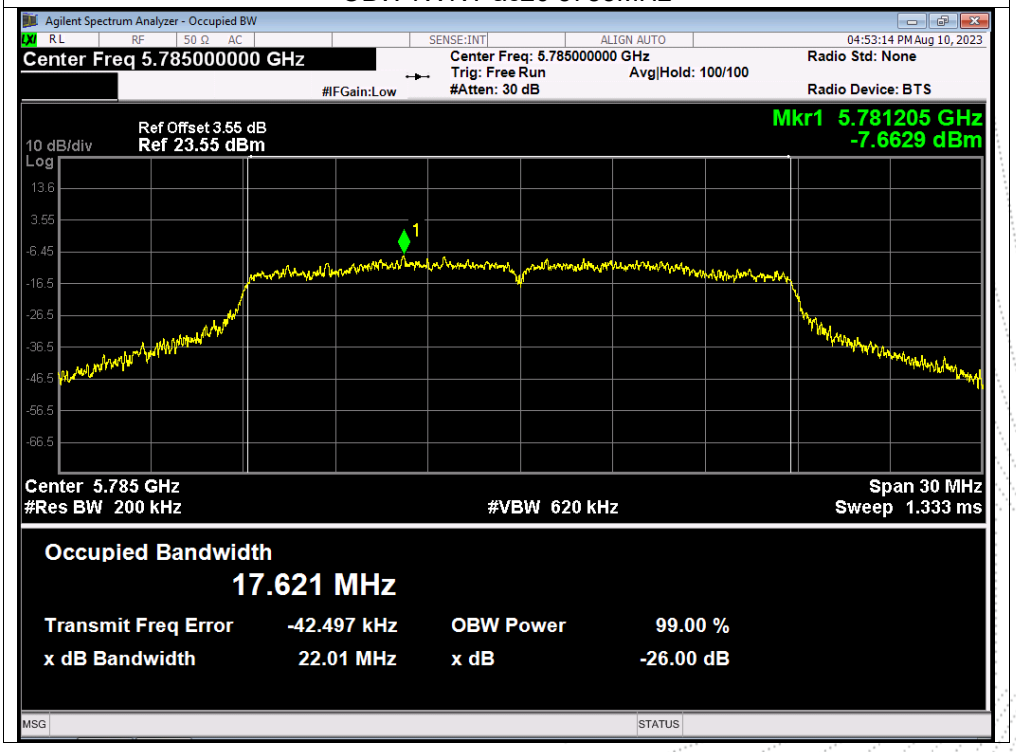
OBW NVNT n40 5795MHz



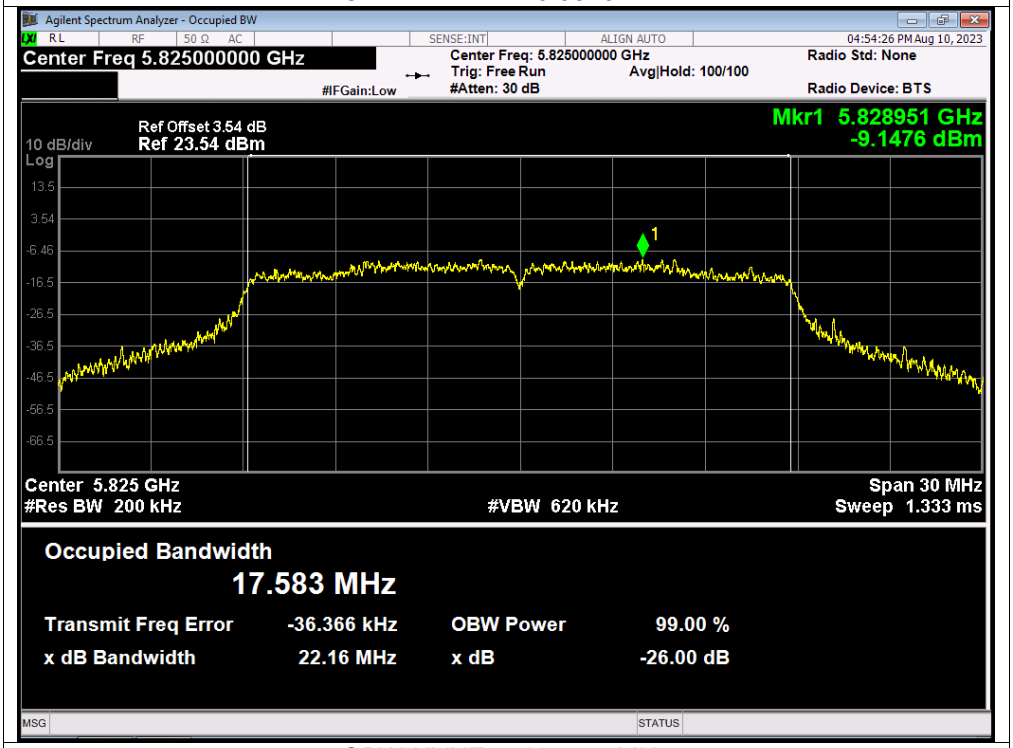
OBW NVNT ac20 5745MHz



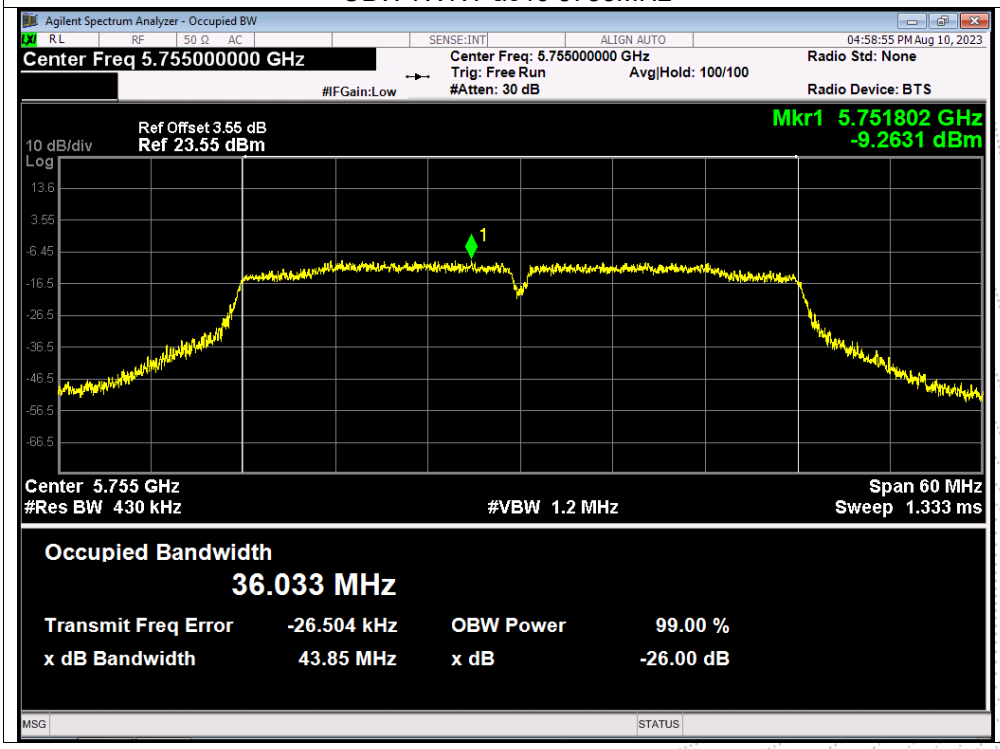
OBW NVNT ac20 5785MHz



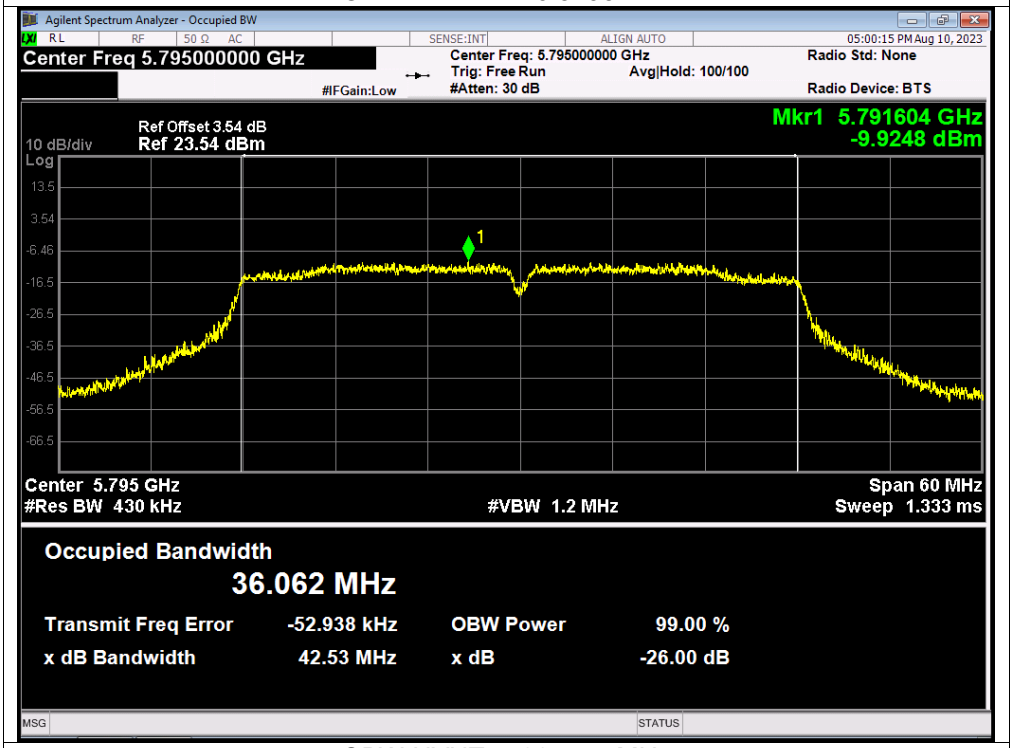
OBW NVNT ac20 5825MHz



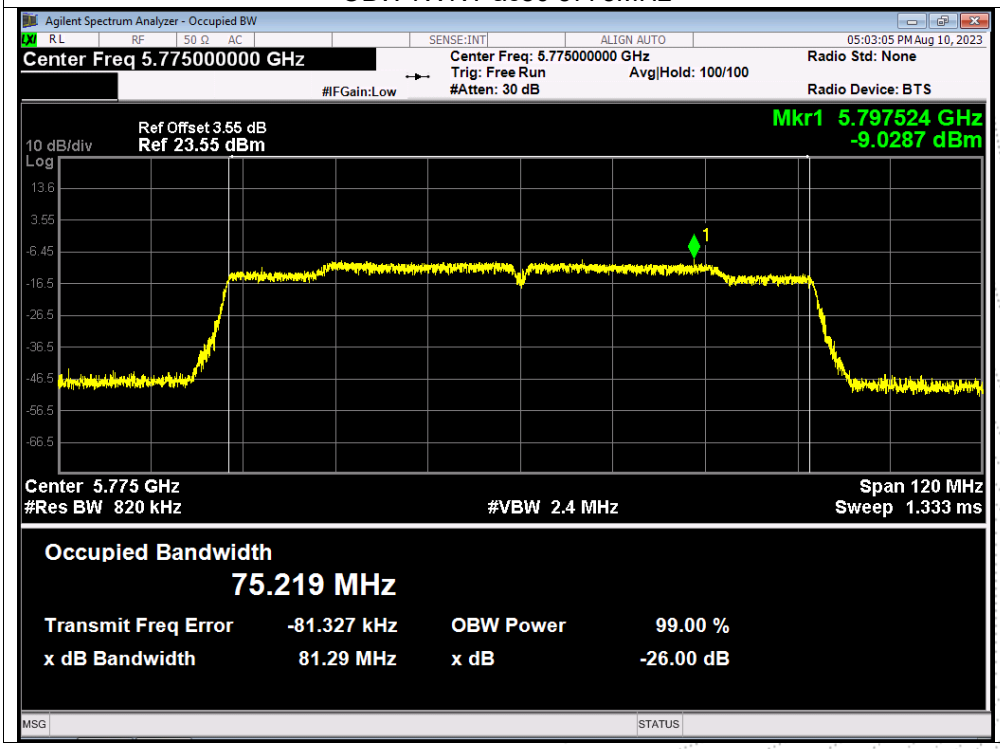
OBW NVNT ac40 5755MHz



OBW NVNT ac40 5795MHz

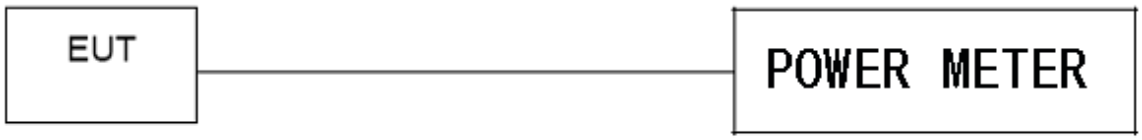


OBW NVNT ac80 5775MHz



10. Maximum Conducted Output Power

10.1 Block Diagram Of Test Setup



10.2 Limit

According to FCC §15.407

The maximum conduced output power should not exceed:

Frequency Band(MHz)	Limit
5150~5250	250mW
5725~5850	1W

10.3 Test Procedure

Maximum conducted output power may be measured using a spectrum analyzer/EMI receiver or an RF power meter.

1. Device Configuration

If possible, configure or modify the operation of the EUT so that it transmits continuously at its maximum power control level (see section II.B.).

a) The intent is to test at 100 percent duty cycle; however a small reduction in duty cycle (to no lower than 98 percent) is permitted if required by the EUT for amplitude control purposes. Manufacturers are expected to provide software to the test lab to permit such continuous operation.

b) If continuous transmission (or at least 98 percent duty cycle) cannot be achieved due to hardware limitations (e.g., overheating), the EUT shall be operated at its maximum power control level with the transmit duration as long as possible and the duty cycle as high as possible.

2. Measurement using a Spectrum Analyzer or EMI Receiver (SA)

Measurement of maximum conducted output power using a spectrum analyzer requires integrating the spectrum across a frequency span that encompasses, at a minimum, either the EBW or the 99-percent occupied bandwidth of the signal.1 However, the EBW must be used to determine bandwidth dependent limits on maximum conducted output power in accordance with § 15.407(a).

a) The test method shall be selected as follows: (i) Method SA-1 or SA-1 Alternative (averaging with the EUT transmitting at full power throughout each sweep) shall be applied if either of the following conditions can be satisfied:

• The EUT transmits continuously (or with a duty cycle ≥ 98 percent).

• Sweep triggering or gating can be implemented in a way that the device transmits at the maximum power control level throughout the duration of each of the instrument sweeps to be averaged. This condition can generally be achieved by triggering the instrument's sweep if the duration of the sweep (with the analyzer configured as in Method SA-1, below) is equal to or shorter than the duration T of each transmission from the EUT and if those transmissions exhibit full power throughout their durations.

(ii) Method SA-2 or SA-2 Alternative (averaging across on and off times of the EUT transmissions, followed by duty cycle correction) shall be applied if the conditions of (i) cannot be achieved and the transmissions exhibit a constant duty cycle during the measurement duration. Duty cycle will be considered to be constant if variations are less than ± 2 percent.

(iii) Method SA-3 (RMS detection with max hold) or SA-3 Alternative (reduced VBW with max hold) shall be applied if the conditions of (i) and (ii) cannot be achieved.

b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep): (i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.

(ii) Set RBW = 1 MHz.

(iii) Set VBW ≥ 3 MHz.

(iv) Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)

(v) Sweep time = auto.

(vi) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.

(vii) If transmit duty cycle < 98 percent, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 percent, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run”.

(viii) Trace average at least 100 traces in power averaging (i.e., RMS) mode.

(ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum

10.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

10.5 Test Result

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	DC 12V
Test Mode ：	TX (5G) Mode Frequency U-NII-1 (5180-5240MHz)		

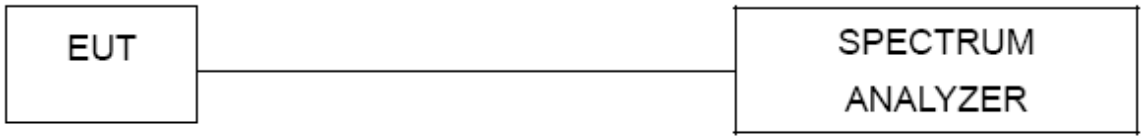
Condition	Mode	Frequency (MHz)	Conducted Power (dBm)		Total(dBm)	Limit	Verdict
			Ant A	Ant B		dBm	
NVNT	a	5180	5.2	5.23	/	24	Pass
NVNT	a	5200	5.31	5.55	/	24	Pass
NVNT	a	5240	5.71	5.36	/	24	Pass
NVNT	n20	5180	4.24	4.45	7.36	24	Pass
NVNT	n20	5200	4.63	4.38	7.52	24	Pass
NVNT	n20	5240	4.65	4.21	7.45	24	Pass
NVNT	n40	5190	3.29	3.3	6.31	24	Pass
NVNT	n40	5230	3.55	3.09	6.34	24	Pass
NVNT	ac20	5180	4.29	4.44	7.38	24	Pass
NVNT	ac20	5200	4.65	4.27	7.47	24	Pass
NVNT	ac20	5240	4.68	4.61	7.66	24	Pass
NVNT	ac40	5190	3.27	3.29	6.29	24	Pass
NVNT	ac40	5230	3.55	3.56	6.57	24	Pass
NVNT	ac80	5210	2.32	2.4	5.37	24	Pass

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	DC 12V
Test Mode ：	TX (5G) Mode Frequency U-NII-3 (5745-5825MHz)		

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)		Total(dBm)	Limit (dBm)	Verdict
			Ant A	Ant B			
NVNT	a	5745	3.35	2.99	/	30	Pass
NVNT	a	5785	2.84	3.03	/	30	Pass
NVNT	a	5825	1.84	2.13	/	30	Pass
NVNT	n20	5745	2.47	2.09	5.29	30	Pass
NVNT	n20	5785	1.76	1.93	4.86	30	Pass
NVNT	n20	5825	0.8	0.86	3.84	30	Pass
NVNT	n40	5755	1.05	0.58	3.83	30	Pass
NVNT	n40	5795	0.34	0.46	3.41	30	Pass
NVNT	ac20	5745	2.48	2.09	5.30	30	Pass
NVNT	ac20	5785	1.78	1.93	4.87	30	Pass
NVNT	ac20	5825	2.32	2.4	5.37	30	Pass
NVNT	ac40	5755	1.02	1.07	4.06	30	Pass
NVNT	ac40	5795	0.34	0.45	3.41	30	Pass
NVNT	ac80	5775	0.77	0.91	3.85	30	Pass

11. Out Of Band Emissions

11.1 Block Diagram Of Test Setup



11.2 Limit

According to FCC §15.407(b)
Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(2) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

11.3 Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

11.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data

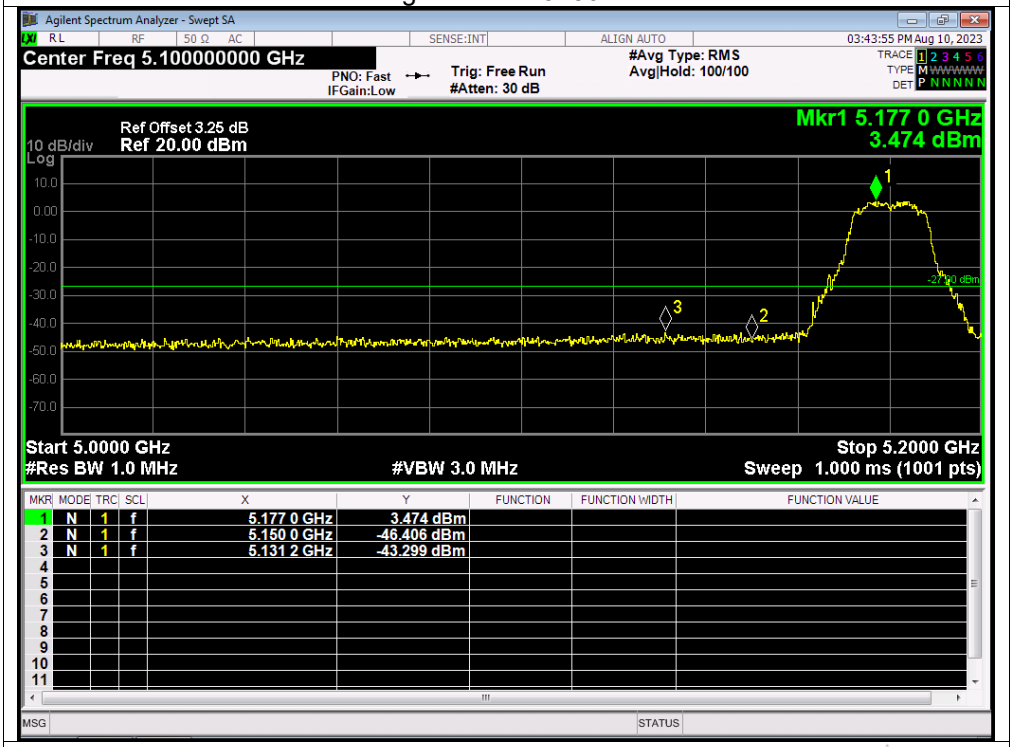
11.5 Test Result

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	DC 12V

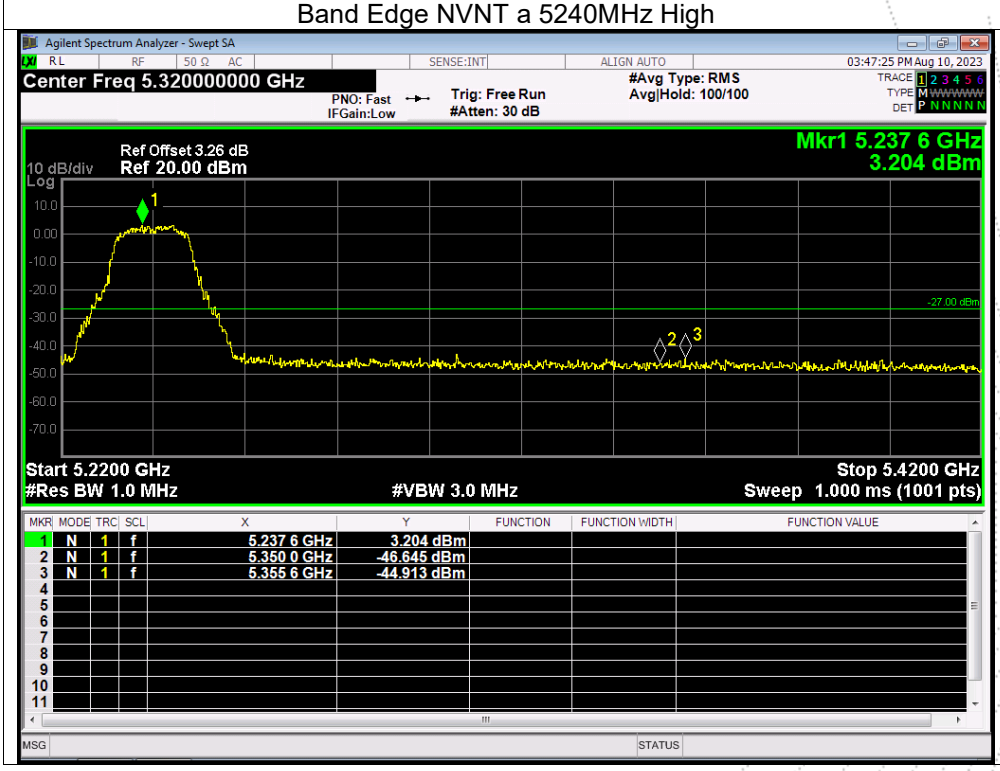
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A . Plot. Antenna B: 5180-5240MHz

Test Graphs

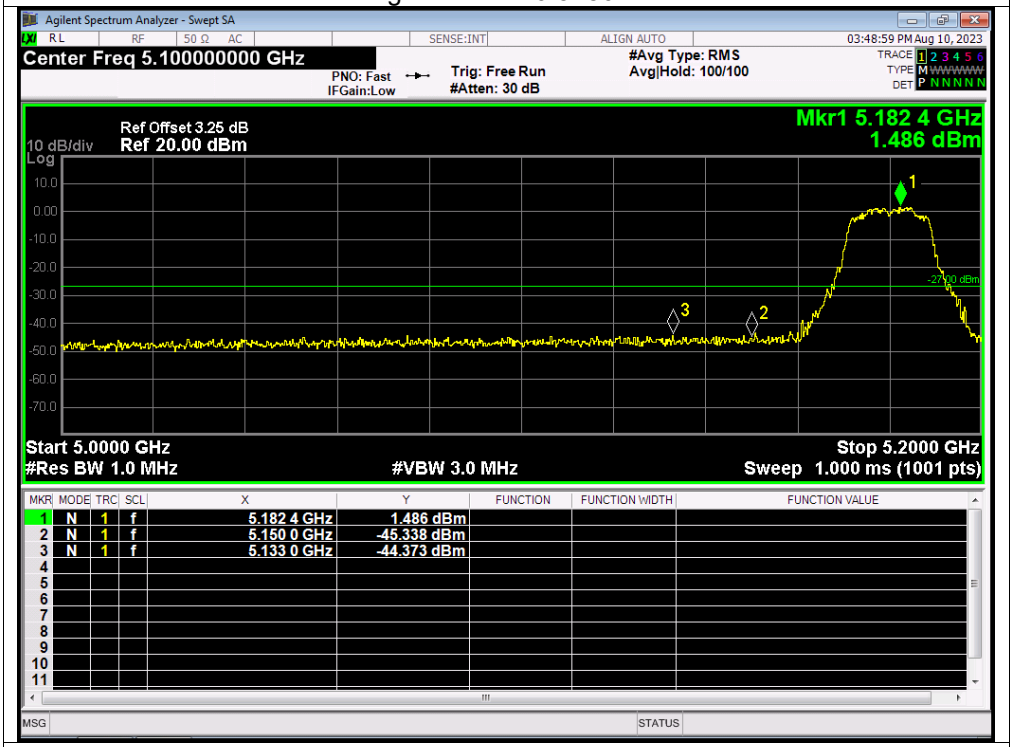
Band Edge NVNT a 5180MHz Low



Band Edge NVNT a 5240MHz High



Band Edge NVNT n20 5180MHz Low



Band Edge NVNT n20 5240MHz High