TEST REPORT

Report No.:	BCTC2401771630-2E
Applicant:	BLU-CASTLE IBERIA S.L.
Product Name:	DOCSIS3.0 Residential Gateway
Test Model:	BC-RT905
Tested Date:	2024-01-27 to 2024-03-05
Issued Date:	2024-03-06

Shenzhen BCTC Testing Co., Ltd.

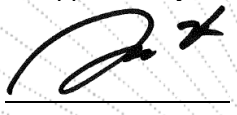
FCC ID: 2BE9E-BC-RT905

Product Name:	DOCSIS3.0 Residential Gateway
Trademark:	Blu-Castle
Model/Type reference:	BC-RT905
Prepared For:	BLU-CASTLE IBERIA S.L.
Address:	Av. Victoria 25, P2, Of.15 - 28023, Madrid, Spain
Manufacturer:	HF.Radio Communication Technology Co., Ltd
Address:	No.108, YinXing Road, High-tech Development Zone, Hefei, Anhui Province, China
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:	2024-01-27
Sample tested Date:	2024-01-27 to 2024-03-05
Issue Date:	2024-03-06
Report No.:	BCTC2401771630-2E
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

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Table Of Content

(Note: N/A Means Not Applicable)

1. Version

Report No.	Issue Date	Description	Approved
BCTC2401771630-2E	2024-03-06	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)	PASS
2	Conducted Emission	15.207	PASS
3	26 dB and 99% Emission Bandwidth	15.407 a 15.1049	PASS
4	Minimum 6 dB bandwidth	15.407(e)	PASS
5	Maximum Conducted Output Power	15.407 a	PASS
6	Band Edge	15.407 b	PASS
7	Power Spectral Density	15.407 a	PASS
8	Spurious Emissions at Antenna Terminals	15.407 b	PASS
9	Antenna Requirement	15.203	PASS

Note：The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure.

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 reference:	BC-RT905
Model differences:	N/A
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/ac(HT20); 5190-5230MHz for 802.11n/ac(HT40); 5210MHz for 802.11 ac80; 5745-5825 MHz for 802.11a/n/ac(HT20); 5755-5795 MHz for 802.11n/ac(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-MCS9
Type of Modulation:	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11a/n/ac;
Antenna installation:	Internal antenna*4
Antenna Gain:	5G: Antenna A & B: 3.87 dBi, Antenna C & D: 3.86 dBi Remark: ☒ The antenna gain of the product comes from the antenna report provided by the customer, and the test data is affected by the customer information. ☐ The antenna gain of the product is provided by the customer, and the test data is affected by the customer information.
Ratings:	DC 12V from adapter
Adapter Information:	MODEL: GS-P120300E454 INPUT: 100-240V~50/60Hz 1.25A OUTPUT: DC 12V 3.0A

4.2 Test Setup Configuration

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

4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	DOCSIS3.0 Residential Gateway	Blu-Castle	BC-RT905	N/A	EUT
E-2	Adapter	N/A	GS-P120300E4 54	N/A	Auxiliary
E-3	laptop	N/A	N/A	N/A	Auxiliary

Item	Shielded Type	Ferrite Core	Length	Note
C-1	N/A	N/A	3M	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

(U-NII-1) 5180MHz-5240MHz				
Bandwidth	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency**
20MHz	36	5180	40	5200
	44	5220	48	5240
40MHz	38	5190	46	5230
80MHz	42	5210		
(U-NII-3) 5745MHz-5825MHz				
Bandwidth	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency**
20MHz	149	5745	153	5765
	157	5785	161	5805
	165	5825		
40MHz	151	5775	159	5795
80MHz	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 CH 36/ CH 40/ CH 48 802.11a /n/ ac 20 CH 149/ CH 157/ CH 165
Mode 2	802.11n/ ac40 CH 38/ 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.

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&5.8G

Ant.	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
A	N/A	N/A	Internal antenna	3.87	N/A
B	N/A	N/A	Internal antenna	3.87	N/A
C	N/A	N/A	Internal antenna	3.86	N/A
D	N/A	N/A	Internal antenna	3.86	N/A

EUT has four Internal antenna with Max gain GANT 3.87 dBi on every antenna, CDD device with one spatial streams, also can operat with one spatial streams according to KDB662911 D01 v02r01, Directional gain= GANT + Array Gain, where Array Gain is as follows.

1)For power spectral density(PSD) measurements,
Array Gain=10log(NANT/NSS)dB=10log(4/1)=6.02 dBi,
So the directional gain for PSD is 9.89 dBi
2)For power measurements,
The Array gain=0 for NANT≤4,
So the directional gain for Power measurements is 3.87 dBi

Directional gain may be calculated by using the formulas applicable to equal gain antennaswith GANT set equal to the gain of the antenna having the highest gain.

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

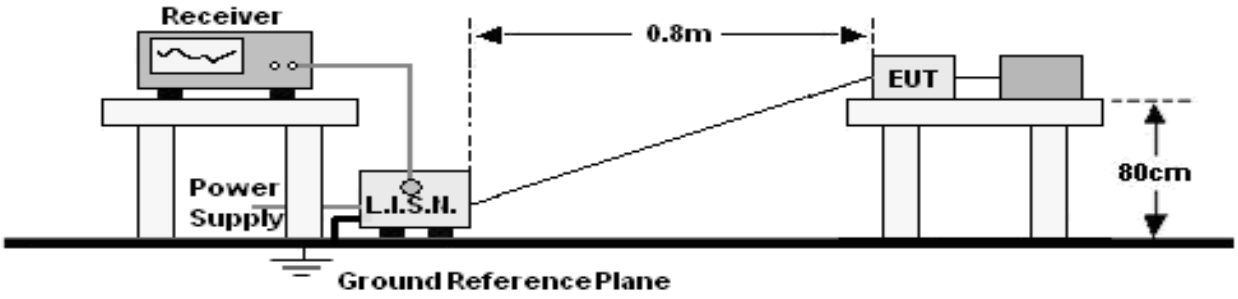
Conducted Emissions Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Receiver	R&S	ESR3	102075	May 15, 2023	May 14, 2024
LISN	R&S	ENV216	101375	May 15, 2023	May 14, 2024
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Pulse limiter	Schwarzbeck	VTSD9561-F	01323	Sept. 22, 2023	Sept. 21, 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_01G18G-45dB	SK2021040901	May 15, 2023	May 14, 2024
Horn Antenna	Schwarzbeck	BBHA9120D	1541	May 31, 2023	May 30, 2024
Amplifier(18GHz-40GHz)	MITEQ	TTA1840-35-HG	2034381	May 15, 2023	May 14, 2024
Horn Antenna(18GHz-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

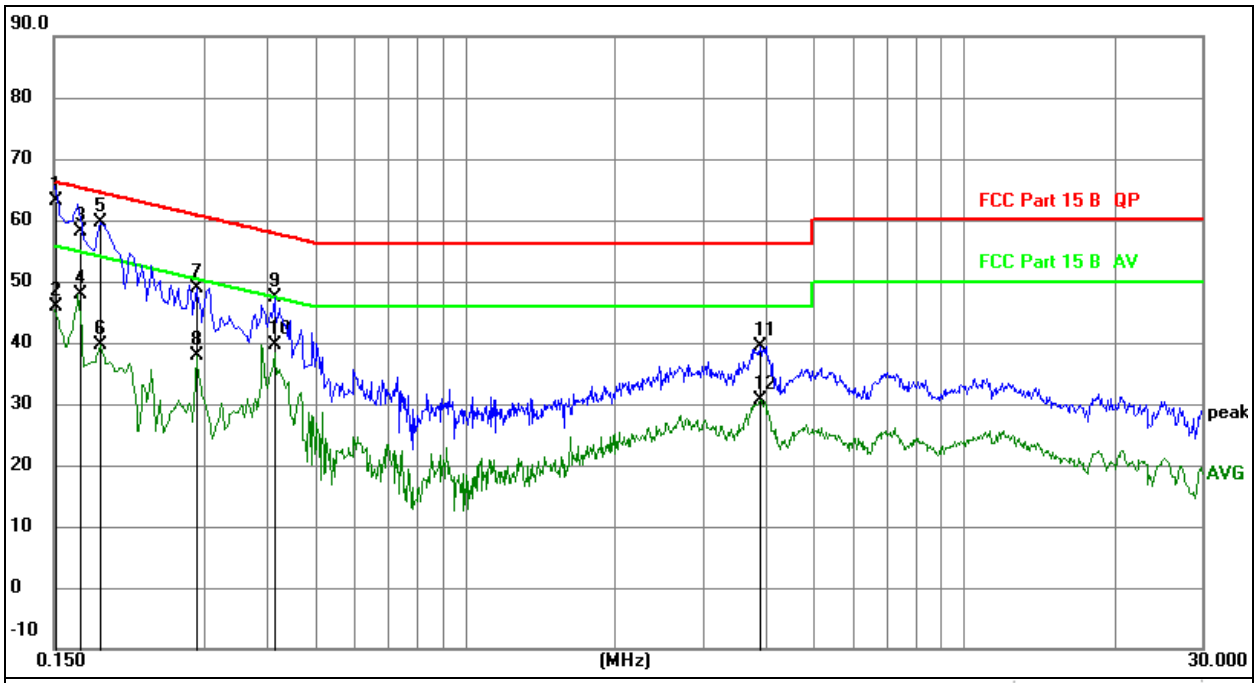
a. The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
b. The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak 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

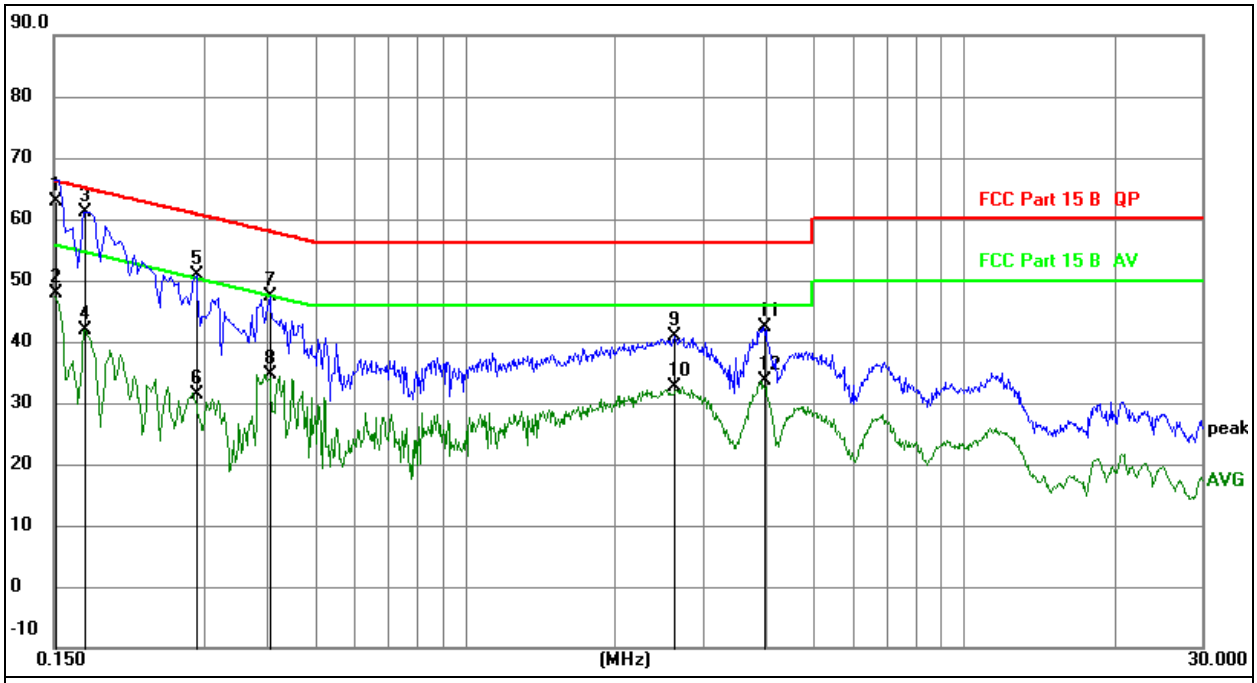
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	Mode 1	Polarization :	L



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	*	0.1510	43.50	19.73	63.23	65.94	-2.71	QP
2		0.1510	26.19	19.73	45.92	55.94	-10.02	AVG
3		0.1689	38.36	19.77	58.13	65.01	-6.88	QP
4		0.1689	28.12	19.77	47.89	55.01	-7.12	AVG
5		0.1853	39.78	19.80	59.58	64.24	-4.66	QP
6		0.1853	19.87	19.80	39.67	54.24	-14.57	AVG
7		0.2893	29.13	19.83	48.96	60.54	-11.58	QP
8		0.2893	17.97	19.83	37.80	50.54	-12.74	AVG
9		0.4148	27.47	19.84	47.31	57.55	-10.24	QP
10		0.4148	19.91	19.84	39.75	47.55	-7.80	AVG
11		3.9014	18.86	20.62	39.48	56.00	-16.52	QP
12		3.9014	10.08	20.62	30.70	46.00	-15.30	AVG

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	Mode 1	Polarization :	N



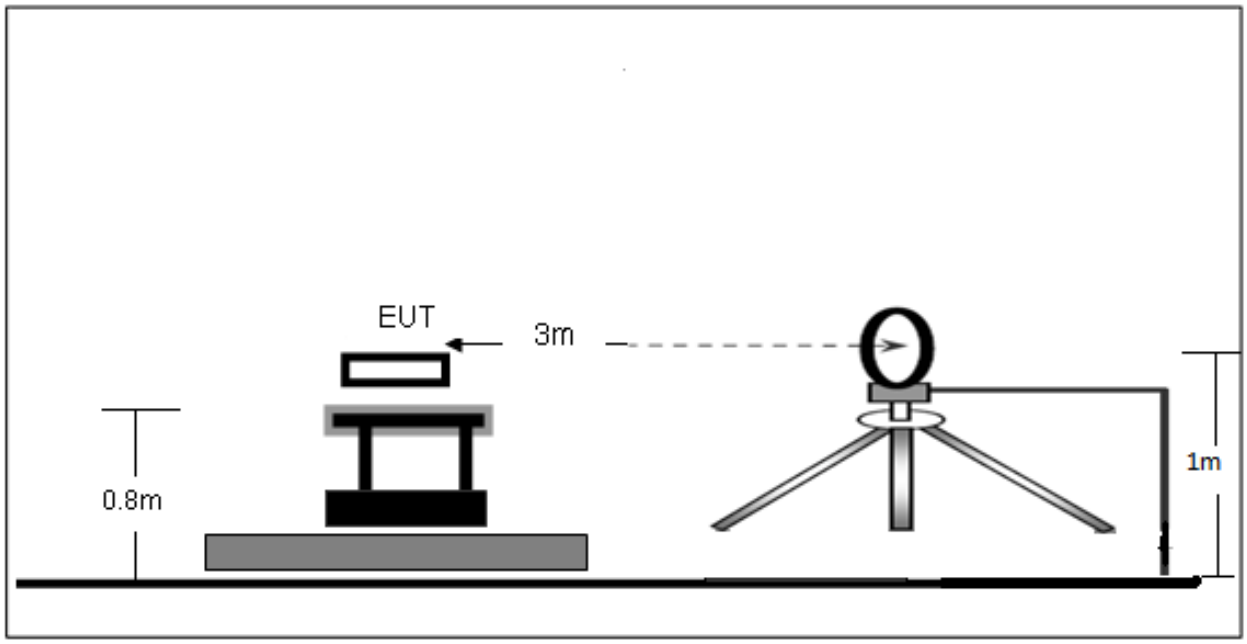
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement = Reading Level + Correct Factor
4. Over = Measurement - Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1	*	0.1510	43.09	19.73	62.82	65.94	-3.12	QP
2		0.1510	28.07	19.73	47.80	55.94	-8.14	AVG
3		0.1725	41.43	19.78	61.21	64.84	-3.63	QP
4		0.1725	22.20	19.78	41.98	54.84	-12.86	AVG
5		0.2895	31.12	19.83	50.95	60.54	-9.59	QP
6		0.2895	11.67	19.83	31.50	50.54	-19.04	AVG
7		0.4065	27.50	19.84	47.34	57.72	-10.38	QP
8		0.4065	14.75	19.84	34.59	47.72	-13.13	AVG
9		2.6250	20.63	20.17	40.80	56.00	-15.20	QP
10		2.6250	12.53	20.17	32.70	46.00	-13.30	AVG
11		3.9660	21.64	20.65	42.29	56.00	-13.71	QP
12		3.9660	12.95	20.65	33.60	46.00	-12.40	AVG

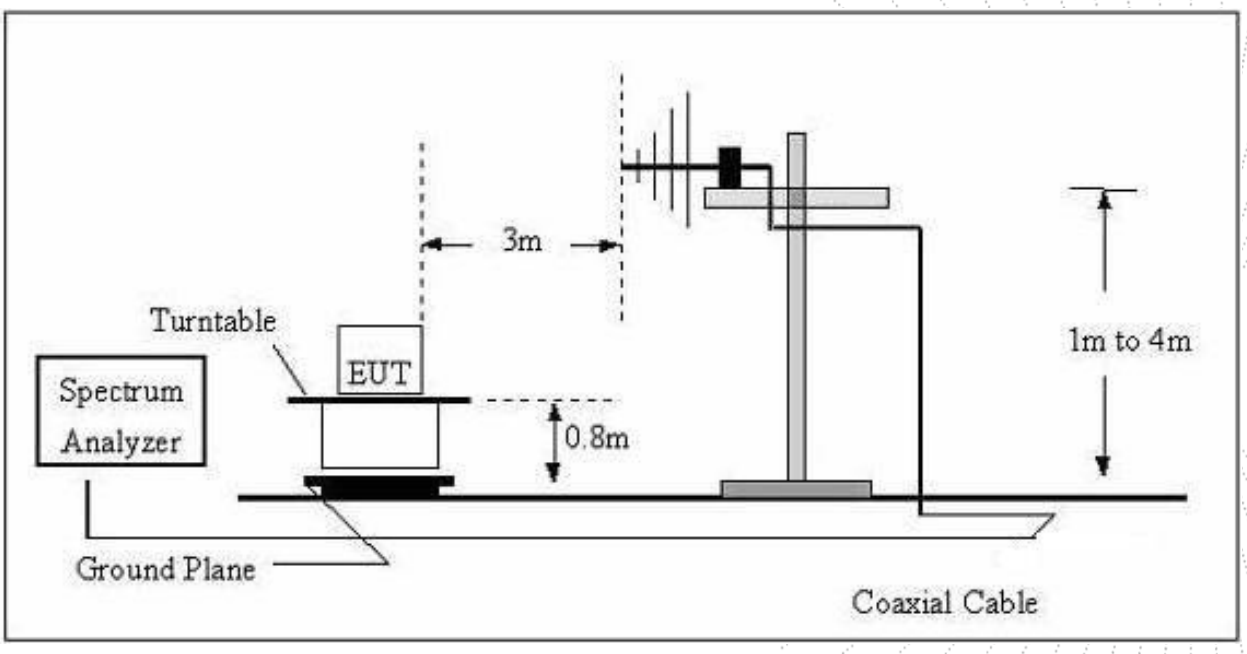
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

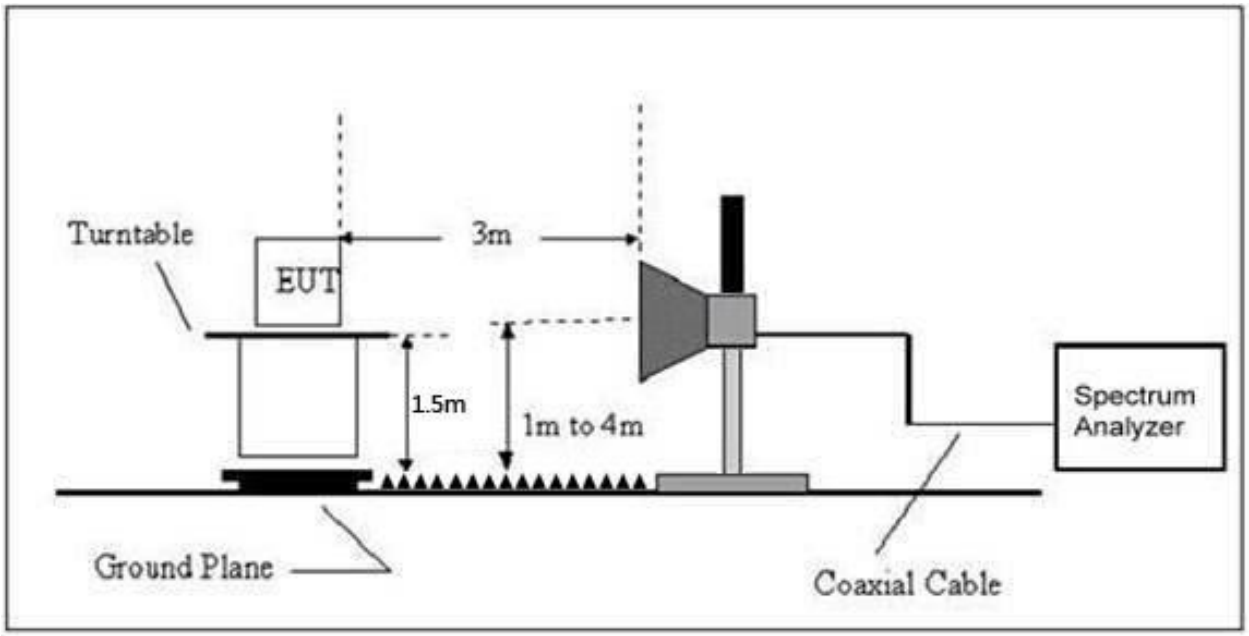
（A）Radiated Emission Test-Up Frequency Below 30MHz



（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

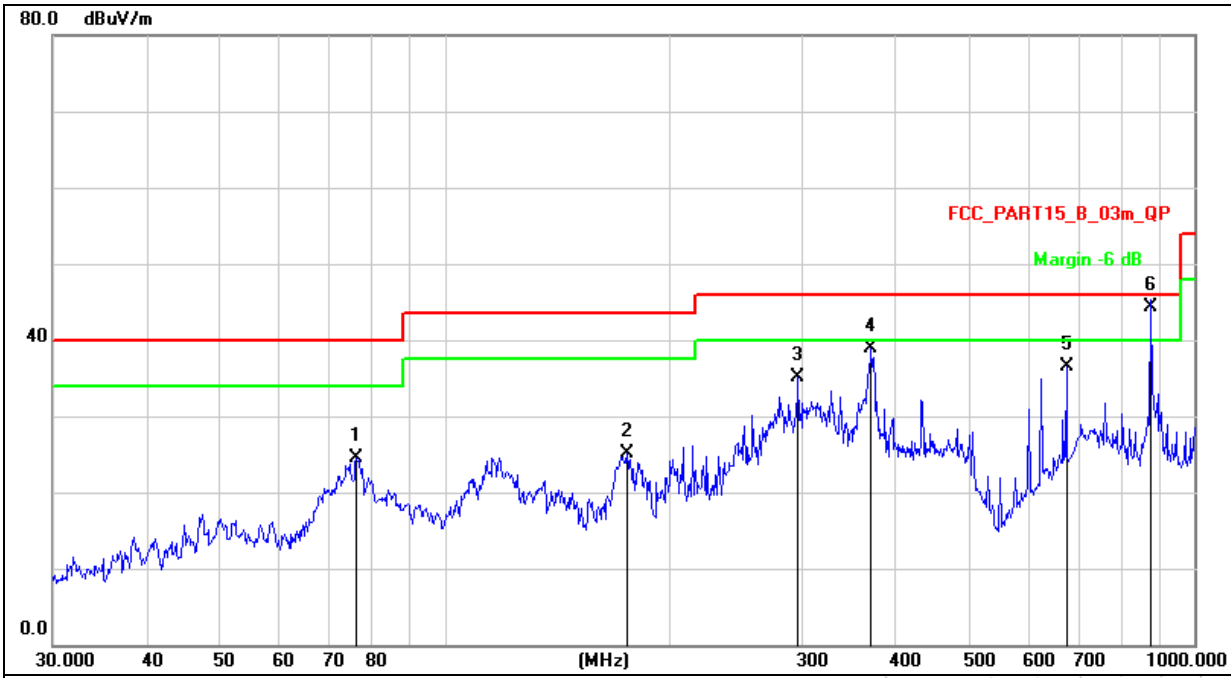
Temperature:	26℃	Relative Humidity:	24%
Pressure:	101 kPa	Test Voltage :	AC 120V/60Hz
Test Mode:	Mode 1	Polarization:	--

Freq. (MHz)	Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	State 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

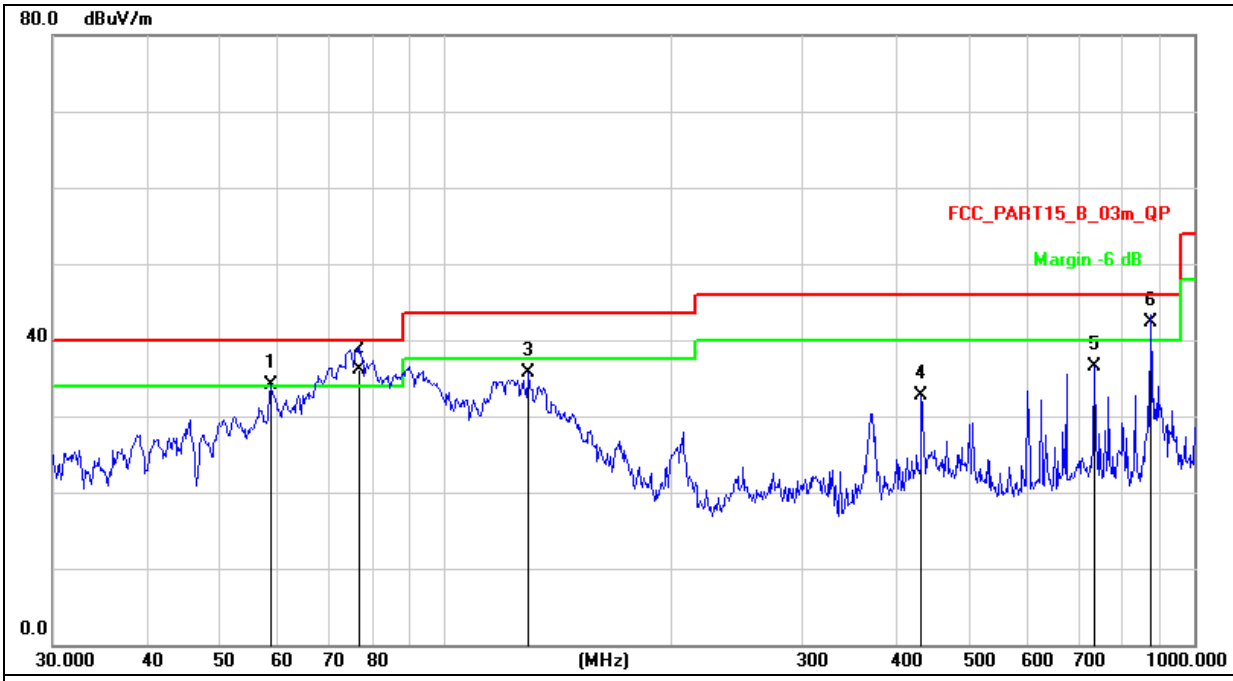
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	Mode 1	Polarization :	Horizontal



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		76.2442	43.56	-19.09	24.47	40.00	-15.53	QP
2		175.0368	42.62	-17.57	25.05	43.50	-18.45	QP
3		296.1836	48.41	-13.32	35.09	46.00	-10.91	QP
4		370.7023	50.18	-11.21	38.97	46.00	-7.03	QP
5		675.2080	42.38	-5.93	36.45	46.00	-9.55	QP
6	*	875.2470	47.77	-3.55	44.22	46.00	-1.78	QP

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	Mode 1	Polarization :	Vertical



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	!	58.6126	49.24	-15.06	34.18	40.00	-5.82	QP
2	!	76.7808	55.35	-19.19	36.16	40.00	-3.84	QP
3		129.4677	53.72	-17.99	35.73	43.50	-7.77	QP
4		432.5457	42.87	-10.20	32.67	46.00	-13.33	QP
5		734.4913	41.66	-5.21	36.45	46.00	-9.55	QP
6	*	875.2470	45.82	-3.55	42.27	46.00	-3.73	QP

Between 1GHz – 40GHz(The worst case)

Test Mode:	TX(5.1G) - 802.11a

Polar	Fre-quency	Reading Level	Correct Factor	Measure-ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G							
Vertical	4434.17	70.19	-20.73	49.46	68.20	-18.74	PK
Vertical	4434.17	59.80	-20.73	39.07	54.00	-14.93	AV
Vertical	10360.16	62.53	-9.36	53.17	68.20	-15.03	PK
Vertical	10360.16	49.71	-9.36	40.35	54.00	-13.65	AV
Vertical	15540.11	64.04	-7.84	56.20	74.00	-17.80	PK
Vertical	15540.11	49.52	-7.84	41.68	54.00	-12.32	AV
Horizontal	4434.14	70.21	-20.73	49.48	68.20	-18.72	PK
Horizontal	4434.14	59.13	-20.73	38.40	54.00	-15.60	AV
Horizontal	10360.11	61.39	-9.36	52.03	68.20	-16.17	PK
Horizontal	10360.11	49.14	-9.36	39.78	54.00	-14.22	AV
Horizontal	15540.06	60.64	-7.84	52.80	74.00	-21.20	PK
Horizontal	15540.06	49.08	-7.84	41.24	54.00	-12.76	AV
middle Channel (5200 MHz)-Above 1G							
Vertical	4592.10	71.56	-20.42	51.15	74.00	-22.85	PK
Vertical	4592.10	59.06	-20.42	38.65	54.00	-15.35	AV
Vertical	10400.16	63.78	-9.30	54.48	68.20	-13.72	PK
Vertical	10400.16	49.69	-9.30	40.39	54.00	-13.61	AV
Vertical	15600.01	63.43	-7.82	55.61	74.00	-18.39	PK
Vertical	15600.01	49.42	-7.82	41.60	54.00	-12.40	AV
Horizontal	4592.14	74.03	-20.42	53.61	74.00	-20.39	PK
Horizontal	4592.14	59.96	-20.42	39.54	54.00	-14.46	AV
Horizontal	10400.11	61.13	-9.30	51.83	68.20	-16.37	PK
Horizontal	10400.11	49.58	-9.30	40.28	54.00	-13.72	AV
Horizontal	15600.03	61.91	-7.82	54.09	74.00	-19.91	PK
Horizontal	15600.03	49.64	-7.82	41.82	54.00	-12.18	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.09	73.25	-20.12	53.13	74.00	-20.87	PK
Vertical	4739.09	59.62	-20.12	39.50	54.00	-14.50	AV
Vertical	10480.07	60.28	-9.18	51.10	68.20	-17.10	PK
Vertical	10480.07	49.74	-9.18	40.56	54.00	-13.44	AV
Vertical	15720.09	61.69	-7.78	53.91	74.00	-20.09	PK
Vertical	15720.09	49.80	-7.78	42.02	54.00	-11.98	AV
Horizontal	4739.09	70.59	-20.12	50.47	74.00	-23.53	PK
Horizontal	4739.09	59.62	-20.12	39.50	54.00	-14.50	AV
Horizontal	10480.17	61.62	-9.18	52.44	68.20	-15.76	PK
Horizontal	10480.17	49.99	-9.18	40.81	54.00	-13.19	AV
Horizontal	15720.06	64.14	-7.78	56.36	74.00	-17.64	PK
Horizontal	15720.06	49.97	-7.78	42.19	54.00	-11.81	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	Fre-quency	Reading Level	Correct Factor	Measure-ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G							
Vertical	4434.04	72.21	-20.73	51.48	68.20	-16.72	PK
Vertical	4434.04	59.58	-20.73	38.85	54.00	-15.15	AV
Vertical	10360.14	61.56	-9.36	52.20	68.20	-16.00	PK
Vertical	10360.14	49.23	-9.36	39.87	54.00	-14.13	AV
Vertical	15540.12	62.24	-7.84	54.40	74.00	-19.60	PK
Vertical	15540.12	49.08	-7.84	41.24	54.00	-12.76	AV
Horizontal	4434.08	73.34	-20.73	52.61	68.20	-15.59	PK
Horizontal	4434.08	59.57	-20.73	38.84	54.00	-15.16	AV
Horizontal	10360.20	63.15	-9.36	53.79	68.20	-14.41	PK
Horizontal	10360.20	49.03	-9.36	39.67	54.00	-14.33	AV
Horizontal	15540.15	60.25	-7.84	52.41	74.00	-21.59	PK
Horizontal	15540.15	49.84	-7.84	42.00	54.00	-12.00	AV
middle Channel (5200 MHz)-Above 1G							
Vertical	4592.14	71.33	-20.42	50.92	74.00	-23.08	PK
Vertical	4592.14	59.26	-20.42	38.84	54.00	-15.16	AV
Vertical	10400.07	62.07	-9.30	52.77	68.20	-15.43	PK
Vertical	10400.07	49.18	-9.30	39.88	54.00	-14.12	AV
Vertical	15600.15	61.00	-7.82	53.18	74.00	-20.82	PK
Vertical	15600.15	49.83	-7.82	42.01	54.00	-11.99	AV
Horizontal	4592.20	72.80	-20.42	52.39	74.00	-21.61	PK
Horizontal	4592.20	59.89	-20.42	39.47	54.00	-14.53	AV
Horizontal	10400.13	64.73	-9.30	55.43	68.20	-12.77	PK
Horizontal	10400.13	49.54	-9.30	40.24	54.00	-13.76	AV
Horizontal	15600.16	63.40	-7.82	55.58	74.00	-18.42	PK
Horizontal	15600.16	49.41	-7.82	41.59	54.00	-12.41	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.10	74.66	-20.12	54.54	74.00	-19.46	PK
Vertical	4739.10	59.70	-20.12	39.58	54.00	-14.42	AV
Vertical	10480.02	63.74	-9.18	54.56	68.20	-13.64	PK
Vertical	10480.02	49.77	-9.18	40.59	54.00	-13.41	AV
Vertical	15720.05	60.01	-7.78	52.23	74.00	-21.77	PK
Vertical	15720.05	49.98	-7.78	42.20	54.00	-11.80	AV
Horizontal	4739.17	72.03	-20.12	51.91	74.00	-22.09	PK
Horizontal	4739.17	59.01	-20.12	38.89	54.00	-15.11	AV
Horizontal	10480.08	63.91	-9.18	54.73	68.20	-13.47	PK
Horizontal	10480.08	49.32	-9.18	40.14	54.00	-13.86	AV
Horizontal	15720.09	60.78	-7.78	53.00	74.00	-21.00	PK
Horizontal	15720.09	49.77	-7.78	41.99	54.00	-12.01	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	Fre-quency	Reading Level	Correct Factor	Measure-ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5190 MHz)-Above 1G							
Vertical	4434.09	71.17	-20.73	50.43	68.20	-17.77	PK
Vertical	4434.09	59.70	-20.73	38.97	54.00	-15.03	AV
Vertical	10380.15	61.84	-9.33	52.51	68.20	-15.69	PK
Vertical	10380.15	49.43	-9.33	40.10	54.00	-13.90	AV
Vertical	15570.19	62.38	-7.83	54.55	74.00	-19.45	PK
Vertical	15570.19	49.41	-7.83	41.58	54.00	-12.42	AV
Horizontal	4434.02	73.26	-20.73	52.53	74.00	-21.47	PK
Horizontal	4434.02	59.53	-20.73	38.80	54.00	-15.20	AV
Horizontal	10380.14	63.93	-9.33	54.60	68.20	-13.60	PK
Horizontal	10380.14	49.78	-9.33	40.45	54.00	-13.55	AV
Horizontal	15570.00	63.34	-7.83	55.51	74.00	-18.49	PK
Horizontal	15570.00	49.60	-7.83	41.77	54.00	-12.23	AV
High Channel (5230 MHz)-Above 1G							
Vertical	4739.19	72.30	-20.12	52.18	68.20	-16.02	PK
Vertical	4739.19	59.47	-20.12	39.35	54.00	-14.65	AV
Vertical	10460.11	62.02	-9.21	52.81	68.20	-15.39	PK
Vertical	10460.11	49.22	-9.21	40.01	54.00	-13.99	AV
Vertical	15690.18	63.35	-7.79	55.56	74.00	-18.44	PK
Vertical	15690.18	49.19	-7.79	41.40	54.00	-12.60	AV
Horizontal	4739.18	71.02	-20.12	50.90	68.20	-17.30	PK
Horizontal	4739.18	59.11	-20.12	38.99	54.00	-15.01	AV
Horizontal	10460.09	63.73	-9.21	54.52	68.20	-13.68	PK
Horizontal	10460.09	49.33	-9.21	40.12	54.00	-13.88	AV
Horizontal	15690.09	62.74	-7.79	54.95	74.00	-19.05	PK
Horizontal	15690.09	49.89	-7.79	42.10	54.00	-11.90	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	Fre-quency	Reading Level	Correct Factor	Measure-ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G							
Vertical	4434.02	73.72	-20.73	52.99	68.20	-15.21	PK
Vertical	4434.02	59.51	-20.73	38.78	54.00	-15.22	AV
Vertical	10360.16	60.47	-9.36	51.11	68.20	-17.09	PK
Vertical	10360.16	49.21	-9.36	39.85	54.00	-14.15	AV
Vertical	15540.07	64.21	-7.84	56.37	74.00	-17.63	PK
Vertical	15540.07	49.98	-7.84	42.14	54.00	-11.86	AV
Horizontal	4434.14	74.54	-20.73	53.81	68.20	-14.39	PK
Horizontal	4434.14	59.83	-20.73	39.10	54.00	-14.90	AV
Horizontal	10360.18	61.54	-9.36	52.18	68.20	-16.02	PK
Horizontal	10360.18	49.47	-9.36	40.11	54.00	-13.89	AV
Horizontal	15540.02	64.87	-7.84	57.03	74.00	-16.97	PK
Horizontal	15540.02	49.11	-7.84	41.27	54.00	-12.73	AV
middle Channel (5200 MHz)-Above 1G							
Vertical	4592.00	73.51	-20.42	53.09	74.00	-20.91	PK
Vertical	4592.00	59.80	-20.42	39.38	54.00	-14.62	AV
Vertical	10400.05	60.63	-9.30	51.33	68.20	-16.87	PK
Vertical	10400.05	49.30	-9.30	40.00	54.00	-14.00	AV
Vertical	15600.03	62.55	-7.82	54.73	74.00	-19.27	PK
Vertical	15600.03	49.70	-7.82	41.88	54.00	-12.12	AV
Horizontal	4592.08	71.08	-20.42	50.66	74.00	-23.34	PK
Horizontal	4592.08	59.19	-20.42	38.77	54.00	-15.23	AV
Horizontal	10400.10	60.55	-9.30	51.25	68.20	-16.95	PK
Horizontal	10400.10	49.65	-9.30	40.35	54.00	-13.65	AV
Horizontal	15600.04	64.35	-7.82	56.53	74.00	-17.47	PK
Horizontal	15600.04	49.73	-7.82	41.91	54.00	-12.09	AV
High Channel (5240 MHz)-Above 1G							
Vertical	4739.10	70.61	-20.12	50.48	74.00	-23.52	PK
Vertical	4739.10	59.48	-20.12	39.36	54.00	-14.64	AV
Vertical	10480.15	63.19	-9.18	54.01	68.20	-14.19	PK
Vertical	10480.15	49.24	-9.18	40.06	54.00	-13.94	AV
Vertical	15720.17	63.26	-7.78	55.48	74.00	-18.52	PK
Vertical	15720.17	49.77	-7.78	41.99	54.00	-12.01	AV
Horizontal	4739.20	73.86	-20.12	53.74	74.00	-20.26	PK
Horizontal	4739.20	59.31	-20.12	39.18	54.00	-14.82	AV
Horizontal	10480.05	64.33	-9.18	55.15	68.20	-13.05	PK
Horizontal	10480.05	49.97	-9.18	40.79	54.00	-13.21	AV
Horizontal	15720.14	63.89	-7.78	56.11	74.00	-17.89	PK
Horizontal	15720.14	49.08	-7.78	41.30	54.00	-12.70	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	Fre-quency	Reading Level	Correct Factor	Measure-ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5190 MHz)-Above 1G							
Vertical	4434.12	70.81	-20.73	50.08	68.20	-18.12	PK
Vertical	4434.12	59.89	-20.73	39.16	54.00	-14.84	AV
Vertical	10380.09	62.08	-9.33	52.75	68.20	-15.45	PK
Vertical	10380.09	49.27	-9.33	39.94	54.00	-14.06	AV
Vertical	15570.12	60.30	-7.83	52.47	74.00	-21.53	PK
Vertical	15570.12	49.06	-7.83	41.23	54.00	-12.77	AV
Horizontal	4434.16	71.30	-20.73	50.56	74.00	-23.44	PK
Horizontal	4434.16	59.41	-20.73	38.68	54.00	-15.32	AV
Horizontal	10380.15	62.38	-9.33	53.05	68.20	-15.15	PK
Horizontal	10380.15	49.51	-9.33	40.18	54.00	-13.82	AV
Horizontal	15570.06	61.42	-7.83	53.59	74.00	-20.41	PK
Horizontal	15570.06	49.41	-7.83	41.58	54.00	-12.42	AV
High Channel (5230 MHz)-Above 1G							
Vertical	4739.18	70.21	-20.12	50.09	68.20	-18.11	PK
Vertical	4739.18	59.64	-20.12	39.52	54.00	-14.48	AV
Vertical	10460.03	60.08	-9.21	50.87	68.20	-17.33	PK
Vertical	10460.03	49.70	-9.21	40.49	54.00	-13.51	AV
Vertical	15690.11	61.79	-7.79	54.00	74.00	-20.00	PK
Vertical	15690.11	49.51	-7.79	41.72	54.00	-12.28	AV
Horizontal	4739.07	71.90	-20.12	51.78	68.20	-16.42	PK
Horizontal	4739.07	59.03	-20.12	38.90	54.00	-15.10	AV
Horizontal	10460.00	62.05	-9.21	52.84	68.20	-15.36	PK
Horizontal	10460.00	49.76	-9.21	40.55	54.00	-13.45	AV
Horizontal	15690.04	62.80	-7.79	55.01	74.00	-18.99	PK
Horizontal	15690.04	49.47	-7.79	41.68	54.00	-12.32	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-HT80

Polar	Fre-quency	Reading Level	Correct Factor	Measure-ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
(5210 MHz)-Above 1G							
Vertical	4434.19	70.74	-20.73	50.01	68.20	-18.19	PK
Vertical	4434.19	59.25	-20.73	38.52	54.00	-15.48	AV
Vertical	10420.09	64.37	-9.27	55.10	68.20	-13.10	PK
Vertical	10420.09	49.44	-9.27	40.17	54.00	-13.83	AV
Vertical	15630.15	64.92	-7.81	57.11	74.00	-16.89	PK
Vertical	15630.15	49.51	-7.81	41.70	54.00	-12.30	AV
Horizontal	4434.10	71.91	-20.73	51.18	68.20	-17.02	PK
Horizontal	4434.10	49.58	-20.73	28.85	54.00	-25.15	AV
Horizontal	10420.10	42.64	9.27	51.91	68.20	-16.29	PK
Horizontal	10420.10	29.62	9.27	38.89	54.00	-15.11	AV
Horizontal	15630.15	64.91	-7.81	57.10	74.00	-16.90	PK
Horizontal	15630.15	49.91	-7.81	42.10	54.00	-11.90	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	Fre-quency	Reading Level	Correct Factor	Measure-ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5745 MHz)-Above 1G							
Vertical	4679.13	74.71	-20.24	54.47	74.00	-19.53	PK
Vertical	4679.13	59.54	-20.24	39.30	54.00	-14.70	AV
Vertical	11490.03	63.32	-8.79	54.53	68.20	-13.67	PK
Vertical	11490.03	49.18	-8.79	40.39	54.00	-13.61	AV
Vertical	17235.09	55.29	-3.18	52.11	68.20	-16.09	PK
Vertical	17235.09	44.25	-3.18	41.07	54.00	-12.93	AV
Horizontal	4679.07	71.24	-20.73	50.51	74.00	-23.49	PK
Horizontal	4679.07	59.22	-20.73	38.49	54.00	-15.51	AV
Horizontal	11490.08	63.96	-8.79	55.17	68.20	-13.03	PK
Horizontal	11490.08	49.03	-8.79	40.24	54.00	-13.76	AV
Horizontal	17235.15	56.89	-3.18	53.71	68.20	-14.49	PK
Horizontal	17235.15	44.20	-3.18	41.02	54.00	-12.98	AV
middle Channel (5785 MHz)-Above 1G							
Vertical	4592.12	73.44	-20.42	53.03	74.00	-20.97	PK
Vertical	4592.12	59.34	-20.42	38.93	54.00	-15.07	AV
Vertical	11570.18	61.57	-8.86	52.71	68.20	-15.49	PK
Vertical	11570.18	49.53	-8.86	40.67	54.00	-13.33	AV
Vertical	17355.09	58.65	-2.52	56.13	68.20	-12.07	PK
Vertical	17355.09	44.12	-2.52	41.60	54.00	-12.40	AV
Horizontal	4592.11	74.58	-20.42	54.17	74.00	-19.83	PK
Horizontal	4592.11	59.76	-20.42	39.35	54.00	-14.65	AV
Horizontal	11570.06	61.51	-8.86	52.65	68.20	-15.55	PK
Horizontal	11570.06	49.23	-8.86	40.37	54.00	-13.63	AV
Horizontal	17355.09	55.36	-2.52	52.84	68.20	-15.36	PK
Horizontal	17355.09	44.68	-2.52	42.16	54.00	-11.84	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.00	73.88	-18.93	54.95	68.20	-13.25	PK
Vertical	6039.00	59.25	-18.93	40.32	54.00	-13.68	AV
Vertical	11650.09	61.34	-8.92	52.42	74.00	-21.58	PK
Vertical	11650.09	49.69	-8.92	40.77	54.00	-13.23	AV
Vertical	17475.07	55.87	-1.86	54.01	68.20	-14.19	PK
Vertical	17475.07	44.69	-1.86	42.83	54.00	-11.17	AV
Horizontal	6039.13	71.72	-18.93	52.79	68.20	-15.41	PK
Horizontal	6039.13	59.03	-18.93	40.10	54.00	-13.90	AV
Horizontal	11650.07	64.88	-8.92	55.96	74.00	-18.04	PK
Horizontal	11650.07	49.72	-8.92	40.80	54.00	-13.20	AV
Horizontal	17475.09	55.81	-1.86	53.95	68.20	-14.25	PK
Horizontal	17475.09	44.97	-1.86	43.11	54.00	-10.89	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(5.8G) - 802.11n-HT20

Polar	Fre-quency	Reading Level	Correct Factor	Measure-ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5745 MHz)-Above 1G							
Vertical	4679.18	70.23	-20.24	49.99	74.00	-24.01	PK
Vertical	4679.18	59.22	-20.24	38.98	54.00	-15.02	AV
Vertical	11490.14	64.95	-8.79	56.16	68.20	-12.04	PK
Vertical	11490.14	49.98	-8.79	41.19	54.00	-12.81	AV
Vertical	17235.00	56.04	-3.18	52.86	68.20	-15.34	PK
Vertical	17235.00	44.66	-3.18	41.48	54.00	-12.52	AV
Horizontal	4679.12	74.82	-20.24	54.58	74.00	-19.42	PK
Horizontal	4679.12	59.59	-20.24	39.35	54.00	-14.65	AV
Horizontal	11490.10	64.43	-8.79	55.64	68.20	-12.56	PK
Horizontal	11490.10	49.15	-8.79	40.36	54.00	-13.64	AV
Horizontal	17235.04	57.45	-3.18	54.27	68.20	-13.93	PK
Horizontal	17235.04	44.92	-3.18	41.74	54.00	-12.26	AV
middle Channel (5785 MHz)-Above 1G							
Vertical	4592.13	71.66	-20.42	51.24	74.00	-22.76	PK
Vertical	4592.13	59.95	-20.42	39.54	54.00	-14.46	AV
Vertical	11570.16	60.47	-8.86	51.61	68.20	-16.59	PK
Vertical	11570.16	49.94	-8.86	41.08	54.00	-12.92	AV
Vertical	17355.01	58.22	-2.52	55.70	68.20	-12.50	PK
Vertical	17355.01	44.84	-2.52	42.32	54.00	-11.68	AV
Horizontal	4592.04	73.94	-20.42	53.52	74.00	-20.48	PK
Horizontal	4592.04	59.68	-20.42	39.26	54.00	-14.74	AV
Horizontal	11570.05	61.96	-8.86	53.10	68.20	-15.10	PK
Horizontal	11570.05	49.60	-8.86	40.74	54.00	-13.26	AV
Horizontal	17355.13	58.51	-2.52	55.99	68.20	-12.21	PK
Horizontal	17355.13	44.67	-2.52	42.15	54.00	-11.85	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.10	74.07	-18.93	55.14	68.20	-13.06	PK
Vertical	6039.10	59.23	-18.93	40.30	54.00	-13.70	AV
Vertical	11650.03	64.07	-8.92	55.15	74.00	-18.85	PK
Vertical	11650.03	49.16	-8.92	40.24	54.00	-13.76	AV
Vertical	17475.10	55.54	-1.86	53.68	68.20	-14.52	PK
Vertical	17475.10	44.83	-1.86	42.97	54.00	-11.03	AV
Horizontal	6039.12	74.17	-18.93	55.23	68.20	-12.97	PK
Horizontal	6039.12	59.83	-18.93	40.90	54.00	-13.10	AV
Horizontal	11650.09	63.31	-8.92	54.39	74.00	-19.61	PK
Horizontal	11650.09	49.89	-8.92	40.97	54.00	-13.03	AV
Horizontal	17475.13	59.15	-1.86	57.29	68.20	-10.91	PK
Horizontal	17475.13	44.84	-1.86	42.98	54.00	-11.02	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	Fre-quency	Reading Level	Correct Factor	Measure-ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5755 MHz)-Above 1G							
Vertical	4679.09	70.25	-20.24	50.01	74.00	-23.99	PK
Vertical	4679.09	59.16	-20.24	38.92	54.00	-15.08	AV
Vertical	11510.04	63.75	-8.81	54.94	74.00	-19.06	PK
Vertical	11510.04	49.74	-8.81	40.93	54.00	-13.07	AV
Vertical	17265.14	58.64	-3.01	55.63	68.20	-12.57	PK
Vertical	17265.14	44.16	-3.01	41.15	54.00	-12.85	AV
Horizontal	4679.19	72.59	-20.24	52.35	74.00	-21.65	PK
Horizontal	4679.19	59.69	-20.24	39.45	54.00	-14.55	AV
Horizontal	11510.02	62.61	-8.81	53.80	74.00	-20.20	PK
Horizontal	11510.02	49.15	-8.81	40.34	54.00	-13.66	AV
Horizontal	17265.01	57.08	-3.01	54.07	68.20	-14.13	PK
Horizontal	17265.01	44.04	-3.01	41.03	54.00	-12.97	AV
High Channel (5795 MHz)-Above 1G							
Vertical	6039.04	74.48	-18.93	55.54	68.20	-12.66	PK
Vertical	6039.04	59.90	-18.93	40.96	54.00	-13.04	AV
Vertical	11590.08	64.81	-8.87	55.94	74.00	-18.06	PK
Vertical	11590.08	49.90	-8.87	41.03	54.00	-12.97	AV
Vertical	17385.09	57.11	-2.35	54.76	68.20	-13.44	PK
Vertical	17385.09	44.13	-2.35	41.78	54.00	-12.22	AV
Horizontal	6039.06	71.69	-18.93	52.76	68.20	-15.44	PK
Horizontal	6039.06	59.44	-18.93	40.51	54.00	-13.49	AV
Horizontal	11590.11	64.34	-8.87	55.47	74.00	-18.53	PK
Horizontal	11590.11	49.09	-8.87	40.22	54.00	-13.78	AV
Horizontal	17385.16	56.52	-2.35	54.17	68.20	-14.03	PK
Horizontal	17385.16	44.43	-2.35	42.08	54.00	-11.92	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	Fre-quency	Reading Level	Correct Factor	Measure-ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5745 MHz)-Above 1G							
Vertical	4679.05	70.08	-20.24	49.84	74.00	-24.16	PK
Vertical	4679.05	59.64	-20.24	39.40	54.00	-14.60	AV
Vertical	11490.05	60.41	-8.79	51.62	68.20	-16.58	PK
Vertical	11490.05	49.43	-8.79	40.64	54.00	-13.36	AV
Vertical	17235.05	59.72	-3.18	56.54	68.20	-11.66	PK
Vertical	17235.05	44.08	-3.18	40.90	54.00	-13.10	AV
Horizontal	4679.20	70.30	-20.24	50.06	74.00	-23.94	PK
Horizontal	4679.20	59.99	-20.24	39.74	54.00	-14.26	AV
Horizontal	11490.16	64.49	-8.79	55.70	68.20	-12.50	PK
Horizontal	11490.16	49.31	-8.79	40.52	54.00	-13.48	AV
Horizontal	17235.11	59.38	-3.18	56.20	68.20	-12.00	PK
Horizontal	17235.11	44.10	-3.18	40.92	54.00	-13.08	AV
middle Channel (5785 MHz)-Above 1G							
Vertical	4592.05	70.95	-20.42	50.53	74.00	-23.47	PK
Vertical	4592.05	59.58	-20.42	39.17	54.00	-14.83	AV
Vertical	11570.17	60.84	-8.86	51.98	68.20	-16.22	PK
Vertical	11570.17	49.96	-8.86	41.10	54.00	-12.90	AV
Vertical	17355.05	57.30	-2.52	54.78	68.20	-13.42	PK
Vertical	17355.05	44.11	-2.52	41.59	54.00	-12.41	AV
Horizontal	4592.05	74.41	-20.42	54.00	74.00	-20.00	PK
Horizontal	4592.05	59.66	-20.42	39.25	54.00	-14.75	AV
Horizontal	11570.12	64.96	-8.86	56.10	68.20	-12.10	PK
Horizontal	11570.12	49.77	-8.86	40.91	54.00	-13.09	AV
Horizontal	17355.02	58.72	-2.52	56.20	68.20	-12.00	PK
Horizontal	17355.02	44.15	-2.52	41.63	54.00	-12.37	AV
High Channel (5825 MHz)-Above 1G							
Vertical	6039.05	70.44	-18.93	51.51	68.20	-16.69	PK
Vertical	6039.05	59.43	-18.93	40.50	54.00	-13.50	AV
Vertical	11650.12	64.83	-8.92	55.91	74.00	-18.09	PK
Vertical	11650.12	49.64	-8.92	40.72	54.00	-13.28	AV
Vertical	17475.19	58.60	-1.86	56.74	68.20	-11.46	PK
Vertical	17475.19	44.04	-1.86	42.18	54.00	-11.82	AV
Horizontal	6039.15	72.81	-18.93	53.87	68.20	-14.33	PK
Horizontal	6039.15	59.66	-18.93	40.72	54.00	-13.28	AV
Horizontal	11650.15	64.30	-8.92	55.38	74.00	-18.62	PK
Horizontal	11650.15	49.07	-8.92	40.15	54.00	-13.85	AV
Horizontal	17475.09	58.45	-1.86	56.59	68.20	-11.61	PK
Horizontal	17475.09	44.70	-1.86	42.84	54.00	-11.16	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	Fre-quency	Reading Level	Correct Factor	Measure-ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5755 MHz)-Above 1G							
Vertical	4679.02	70.68	-20.24	50.44	74.00	-23.56	PK
Vertical	4679.02	59.65	-20.24	39.41	54.00	-14.59	AV
Vertical	11510.02	64.62	-8.81	55.81	74.00	-18.19	PK
Vertical	11510.02	49.34	-8.81	40.53	54.00	-13.47	AV
Vertical	17265.18	56.57	-3.01	53.56	68.20	-14.64	PK
Vertical	17265.18	44.72	-3.01	41.71	54.00	-12.29	AV
Horizontal	4679.10	72.98	-20.24	52.74	74.00	-21.26	PK
Horizontal	4679.10	59.04	-20.24	38.80	54.00	-15.20	AV
Horizontal	11510.01	61.57	-8.81	52.76	74.00	-21.24	PK
Horizontal	11510.01	49.44	-8.81	40.63	54.00	-13.37	AV
Horizontal	17265.05	55.74	-3.01	52.73	68.20	-15.47	PK
Horizontal	17265.05	44.69	-3.01	41.68	54.00	-12.32	AV
High Channel (5795 MHz)-Above 1G							
Vertical	6039.05	71.49	-18.93	52.56	68.20	-15.64	PK
Vertical	6039.05	59.95	-18.93	41.02	54.00	-12.98	AV
Vertical	11590.09	63.26	-8.87	54.39	74.00	-19.61	PK
Vertical	11590.09	49.08	-8.87	40.21	54.00	-13.79	AV
Vertical	17385.06	59.45	-2.35	57.10	68.20	-11.10	PK
Vertical	17385.06	44.44	-2.35	42.09	54.00	-11.91	AV
Horizontal	6039.06	73.31	-18.93	54.38	68.20	-13.82	PK
Horizontal	6039.06	59.56	-18.93	40.62	54.00	-13.38	AV
Horizontal	11590.07	62.33	-8.87	53.46	74.00	-20.54	PK
Horizontal	11590.07	49.45	-8.87	40.58	54.00	-13.42	AV
Horizontal	17385.15	57.29	-2.35	54.94	68.20	-13.26	PK
Horizontal	17385.15	44.70	-2.35	42.35	54.00	-11.65	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.

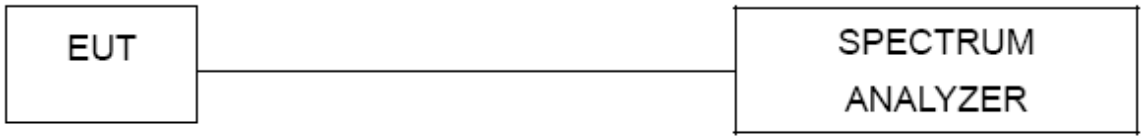
Test Mode:	TX(5.8G) - 802.11ac-HT80

Polar	Fre-quency	Reading Level	Correct Factor	Measure-ment	Limits	Over	Detector Type
(H/V)	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
(5775 MHz)-Above 1G							
Vertical	4679.16	73.23	-20.24	52.99	74.00	-21.01	PK
Vertical	4679.16	59.27	-20.24	39.03	54.00	-14.97	AV
Vertical	11550.11	63.75	-8.84	54.91	74.00	-19.09	PK
Vertical	11550.11	49.64	-8.84	40.80	54.00	-13.20	AV
Vertical	17325.02	55.25	-2.68	52.57	68.20	-15.63	PK
Vertical	17325.02	44.78	-2.68	42.10	54.00	-11.90	AV
Horizontal	4679.10	73.08	-20.24	52.84	74.00	-21.16	PK
Horizontal	4679.10	59.75	-20.24	39.51	54.00	-14.49	AV
Horizontal	11550.17	61.67	-8.84	52.83	74.00	-21.17	PK
Horizontal	11550.17	49.14	-8.84	40.30	54.00	-13.70	AV
Horizontal	17325.06	56.58	-2.68	53.90	68.20	-14.30	PK
Horizontal	17325.06	44.27	-2.68	41.59	54.00	-12.41	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

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands
(b) (2) The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, 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.

(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:	AC 120V/60Hz
Test Mode:	(5180-5240MHz)		

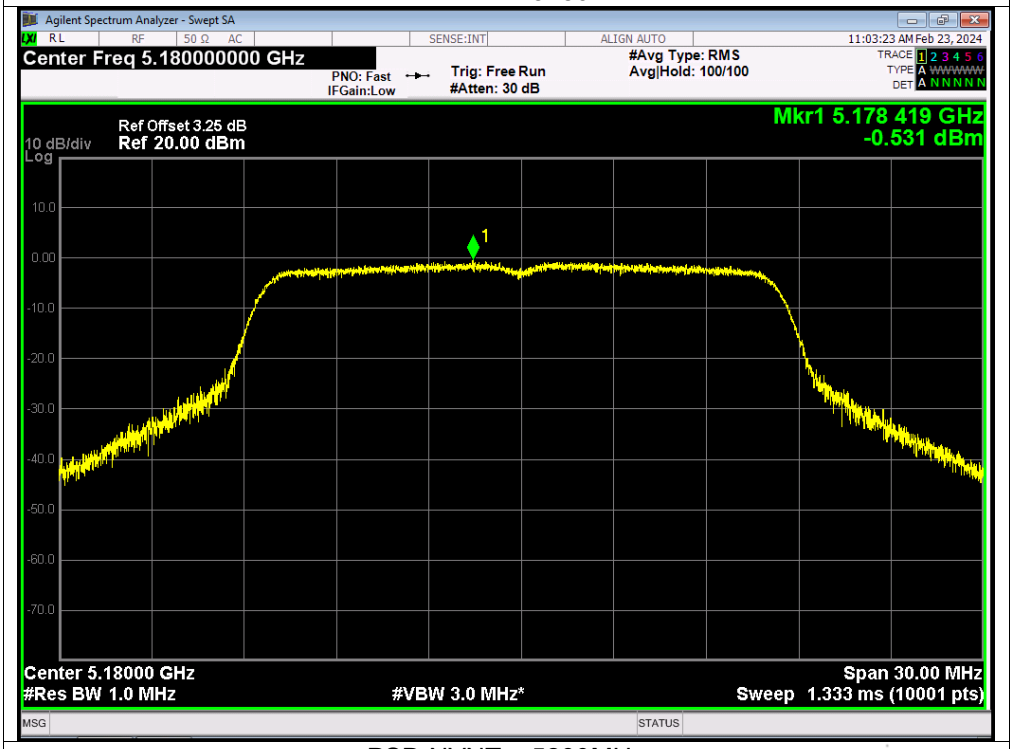
Condi-tion	Mode	Fre-quency (MHz)	Conducted PSD (dBm/MHz)					Limit (dBm/ MHz)	Verdict
			Ant A	Ant B	Ant C	Ant D	Total		
NVNT	a	5180	1.38	-0.53	-0.55	-0.17	/	17	Pass
NVNT	a	5200	**1.61**	-2.97	-3.6	-0.43	/	17	Pass
NVNT	a	5240	0.76	-0.39	-0.6	-0.56	/	17	Pass
NVNT	n20	5180	0.36	-2.47	-3.02	-1.31	4.61	-13.11	Pass
NVNT	n20	5200	-0.12	-3.46	-4.16	-1.2	4.09	-13.11	Pass
NVNT	n20	5240	-0.51	-1.91	-2.06	-0.77	4.76	-13.11	Pass
NVNT	n40	5190	-4.66	-6.54	-6.94	-5.51	0.20	-13.11	Pass
NVNT	n40	5230	-3.86	-6.06	-6.53	-5.96	0.55	-13.11	Pass
NVNT	ac20	5180	-0.03	-2.28	-3.09	-1.78	4.38	-13.11	Pass
NVNT	ac20	5200	-0.05	-3.7	-4.18	-1.94	3.87	-13.11	Pass
NVNT	ac20	5240	-0.8	-2.19	-2.12	-2.51	4.17	-13.11	Pass
NVNT	ac40	5190	-4.47	-6.35	-6.57	-5.23	0.45	-13.11	Pass
NVNT	ac40	5230	-3.96	-6.19	-6.37	-7.22	0.26	-13.11	Pass
NVNT	ac80	5210	-7.87	-9.13	-10.61	-10.13	-3.28	-13.11	Pass

Note:
Antenna A & B gain: 3.87 dBi, Antenna C & D gain: 3.86 dBi, Directional gain=[GainANT + 10 log(NANT/NSS) dBi] =9.89 dbi>6dbi
EIRP Limit=17-(9.89-6)=7.11 dbi

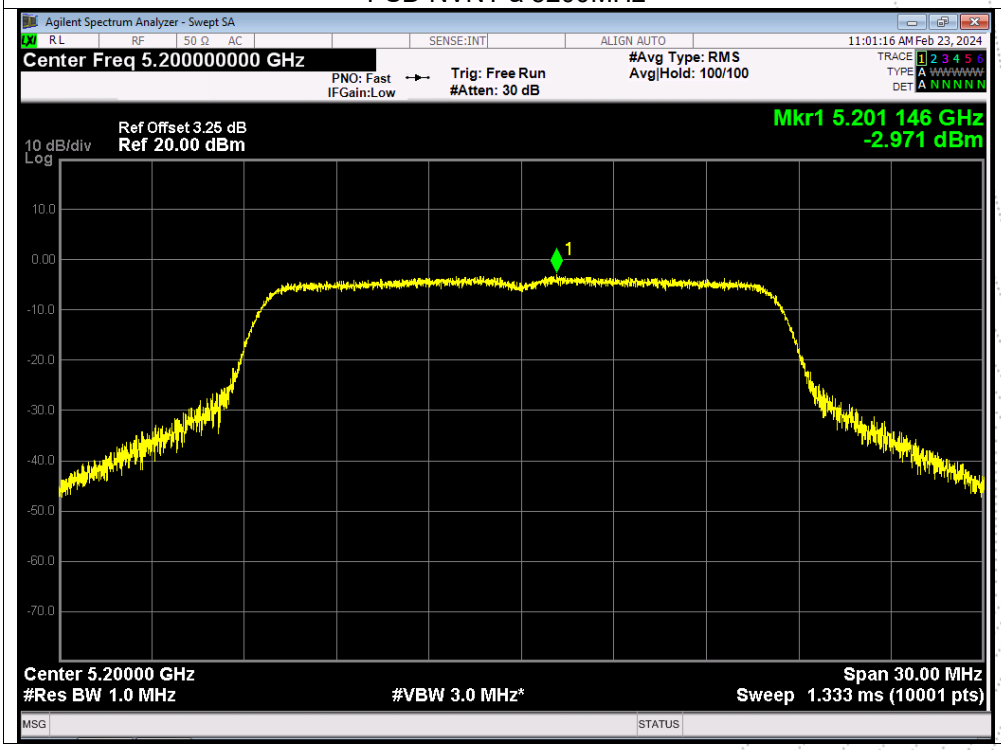
Note: A(B) Represent the value of antenna A/B/C and D, The worst data is Antenna A, only shown Antenna A Plot.

Test Graphs

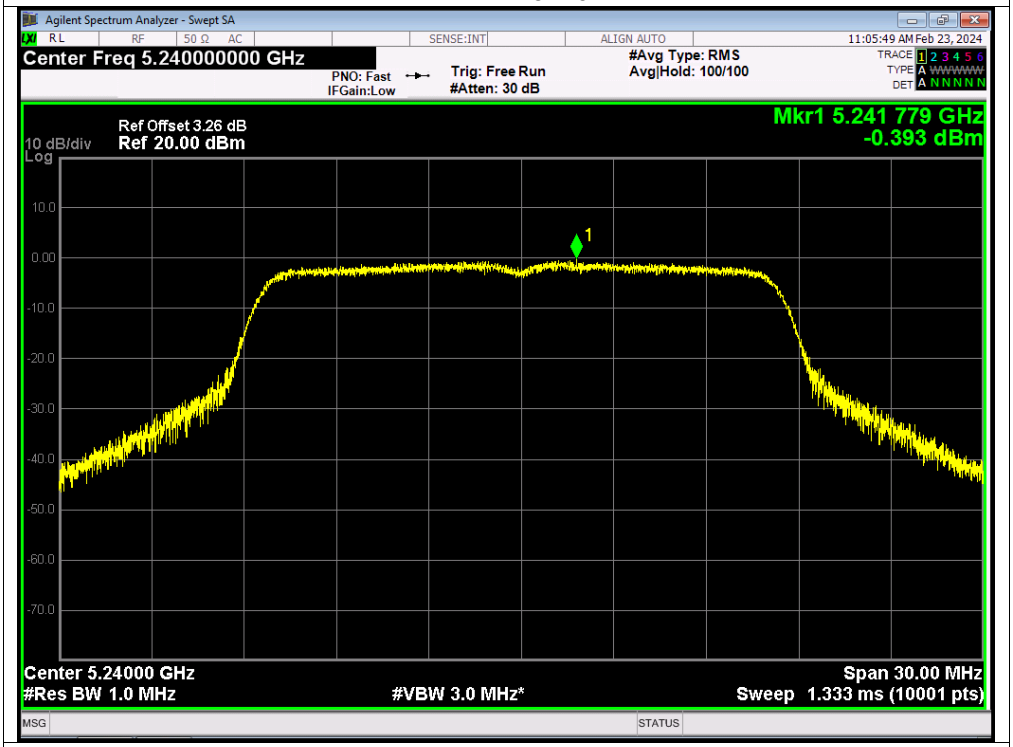
PSD NVNT a 5180MHz



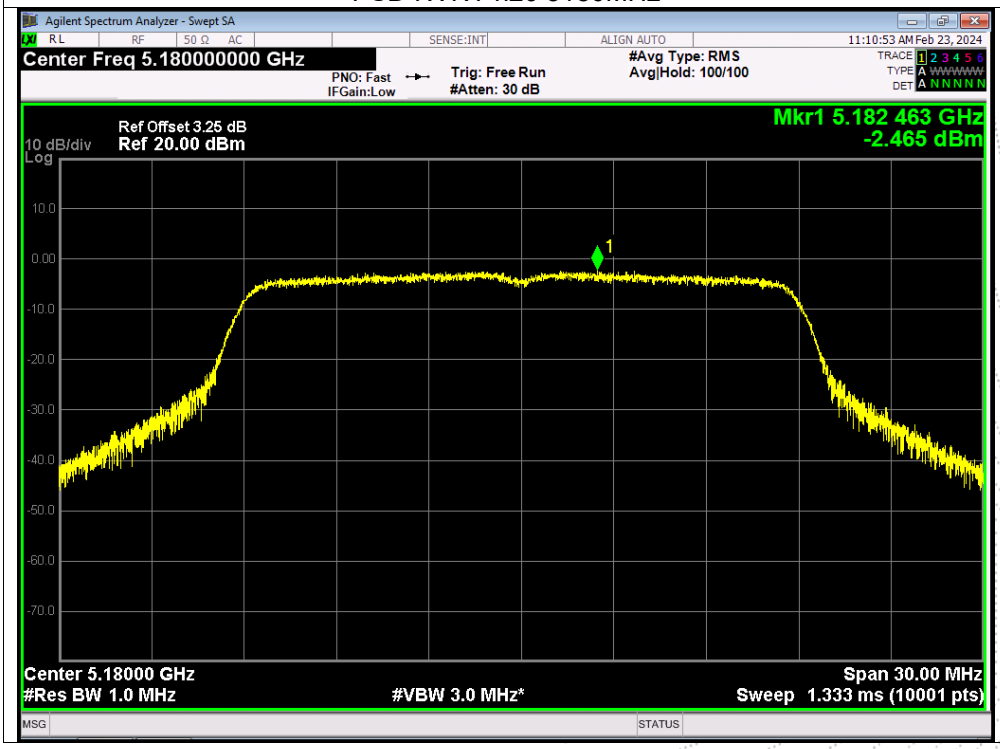
PSD NVNT a 5200MHz



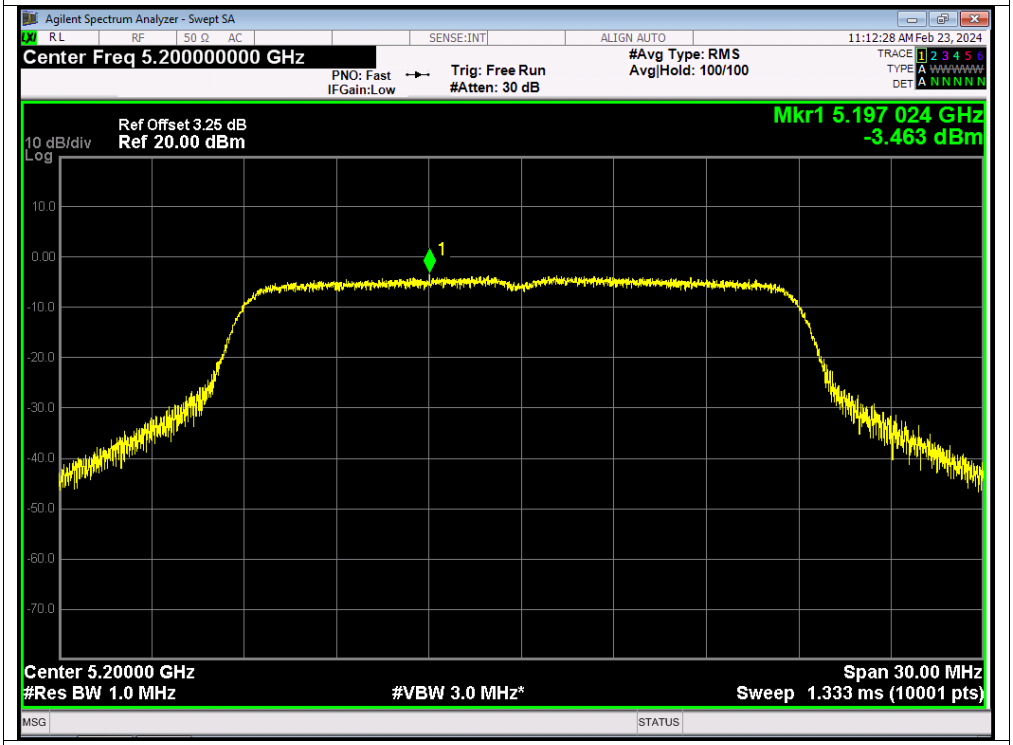
PSD NVNT a 5240MHz



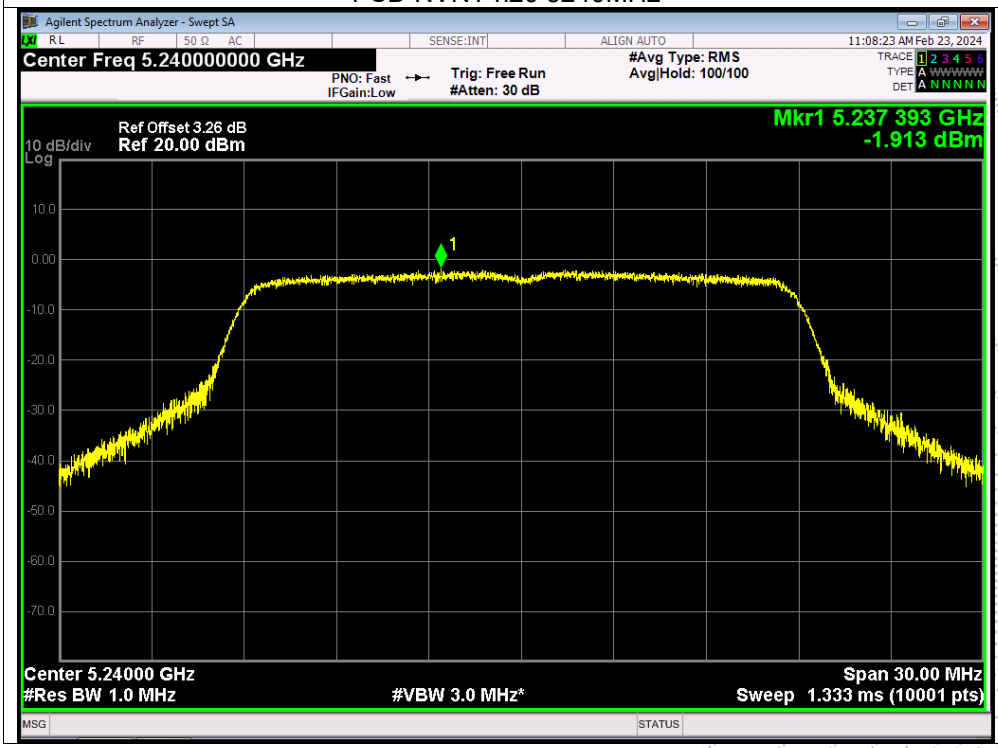
PSD NVNT n20 5180MHz



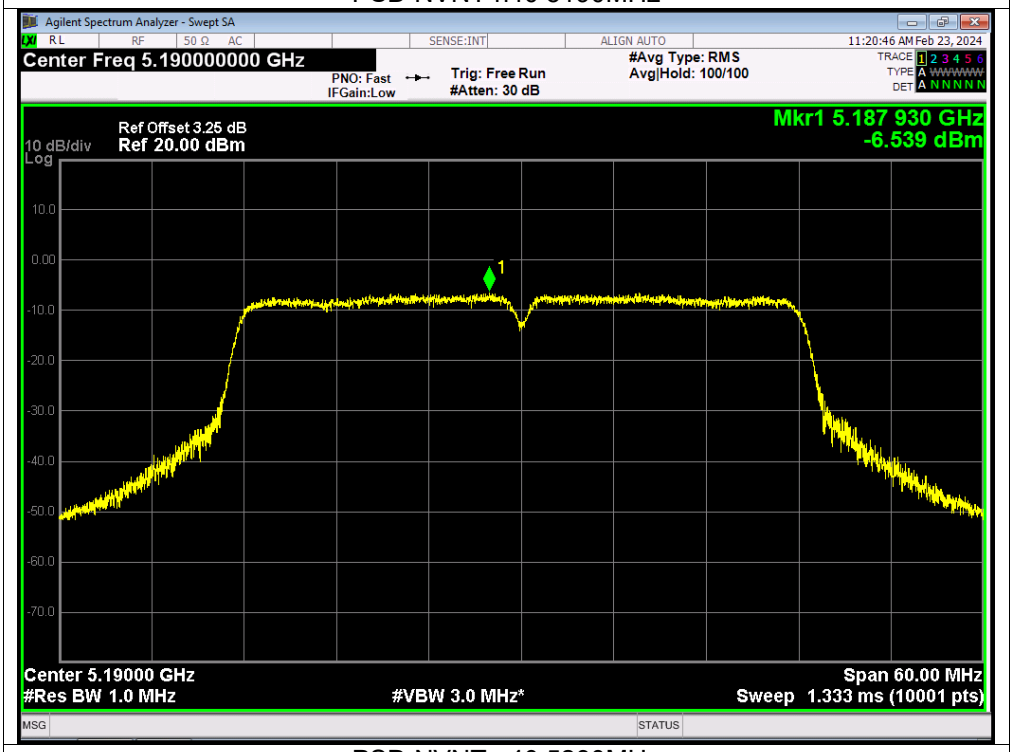
PSD NVNT n20 5200MHz



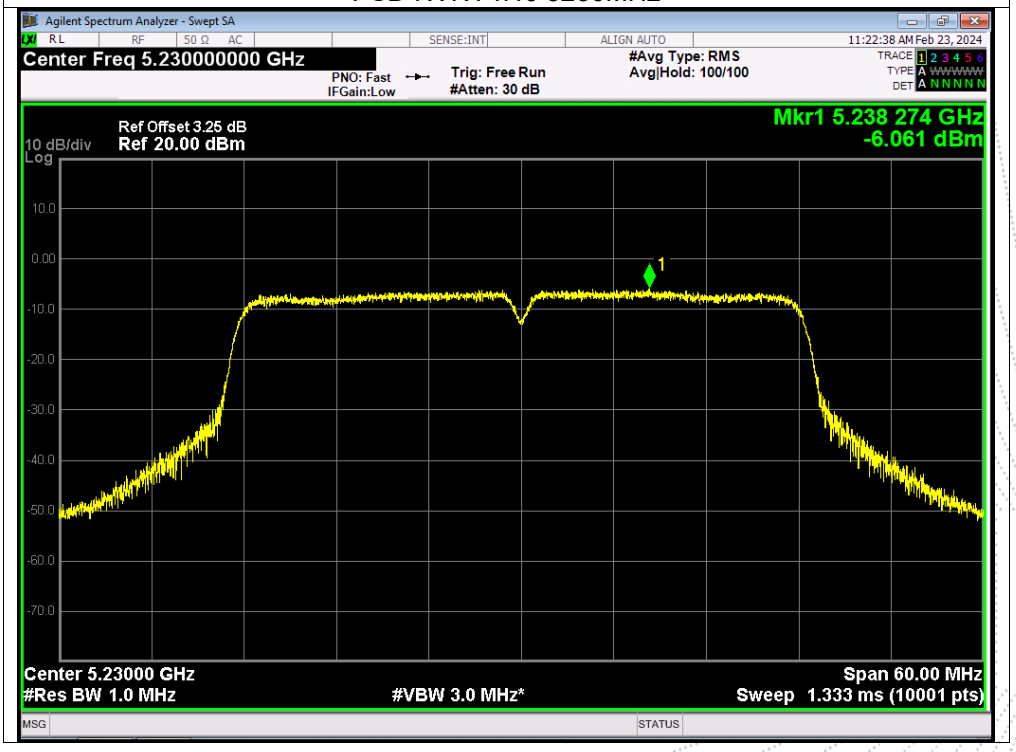
PSD NVNT n20 5240MHz



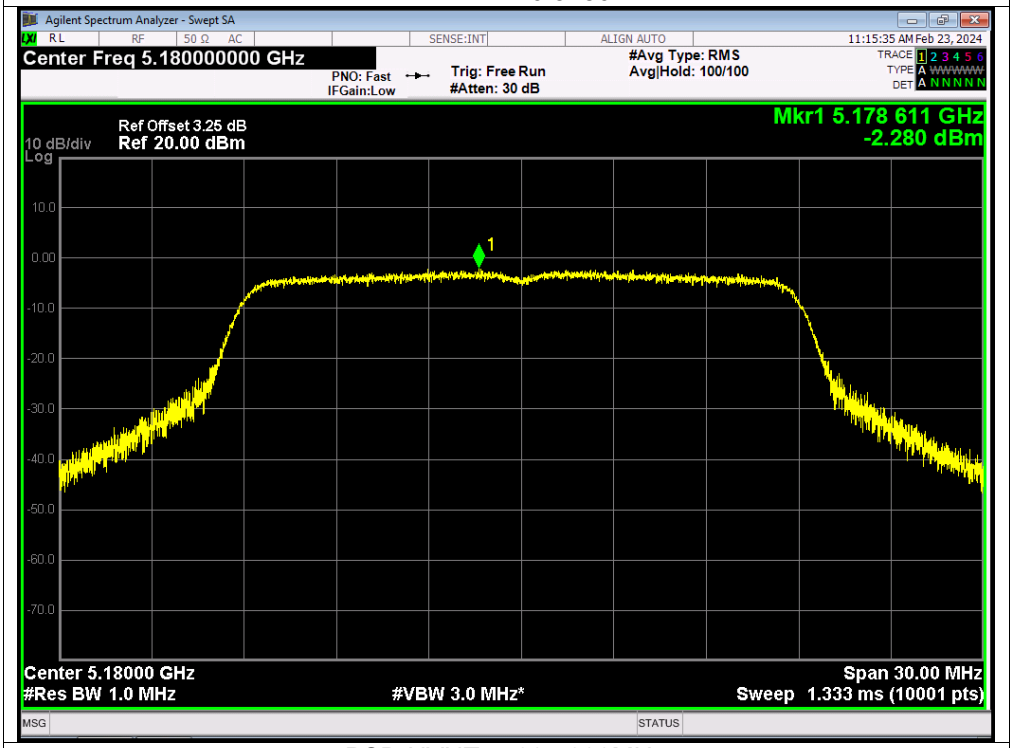
PSD NVNT n40 5190MHz



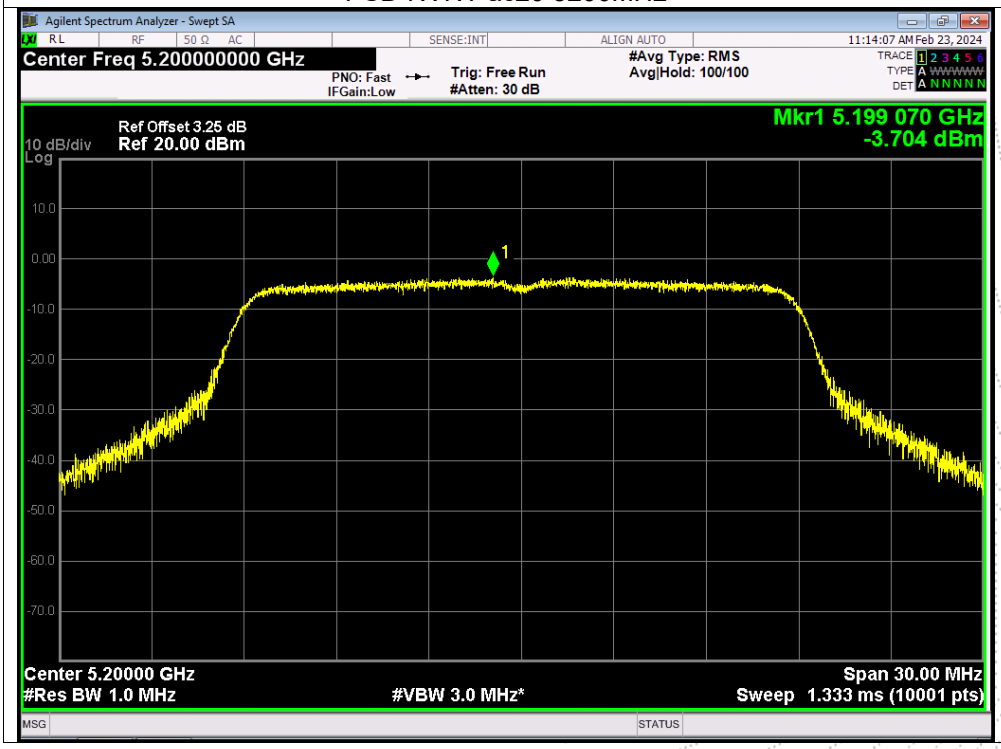
PSD NVNT n40 5230MHz



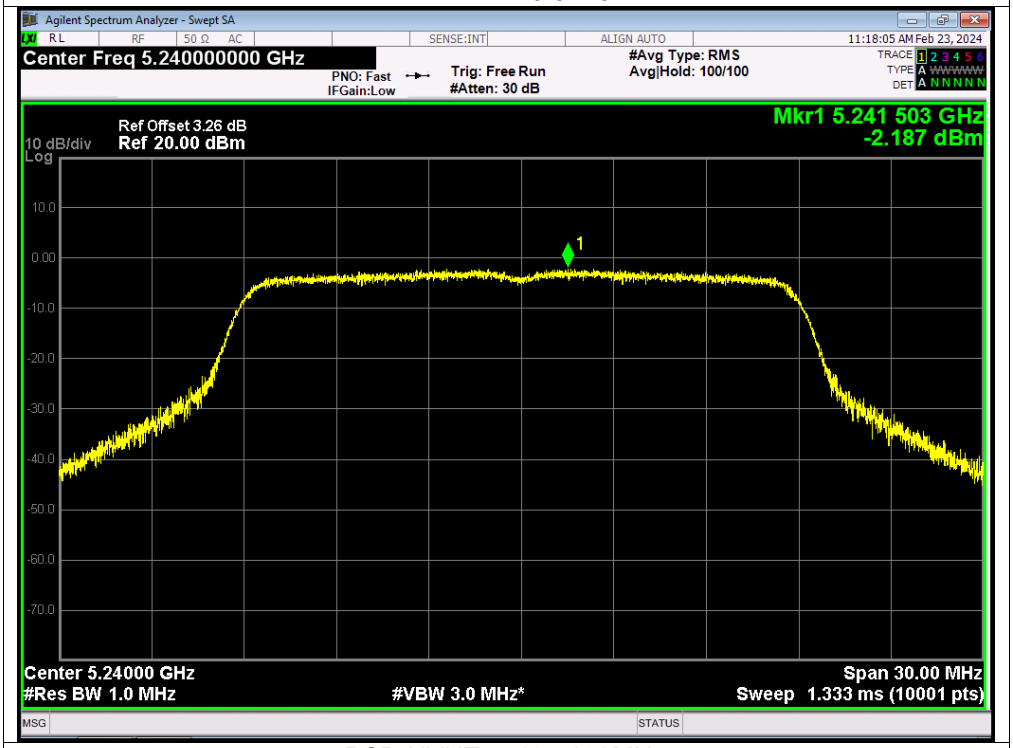
PSD NVNT ac20 5180MHz



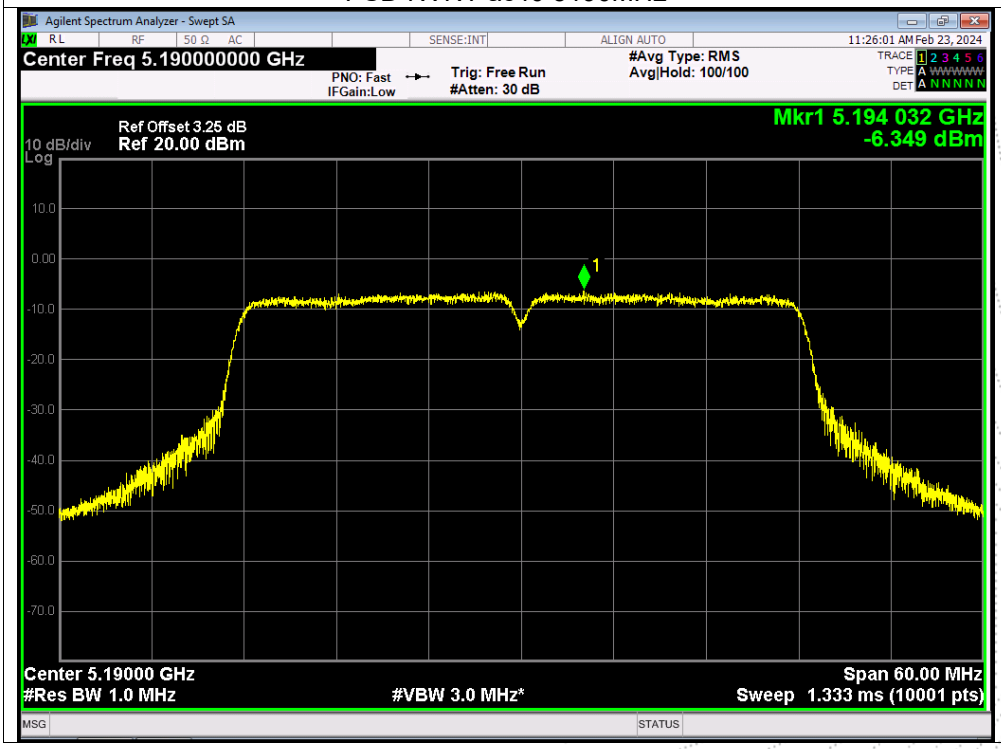
PSD NVNT ac20 5200MHz



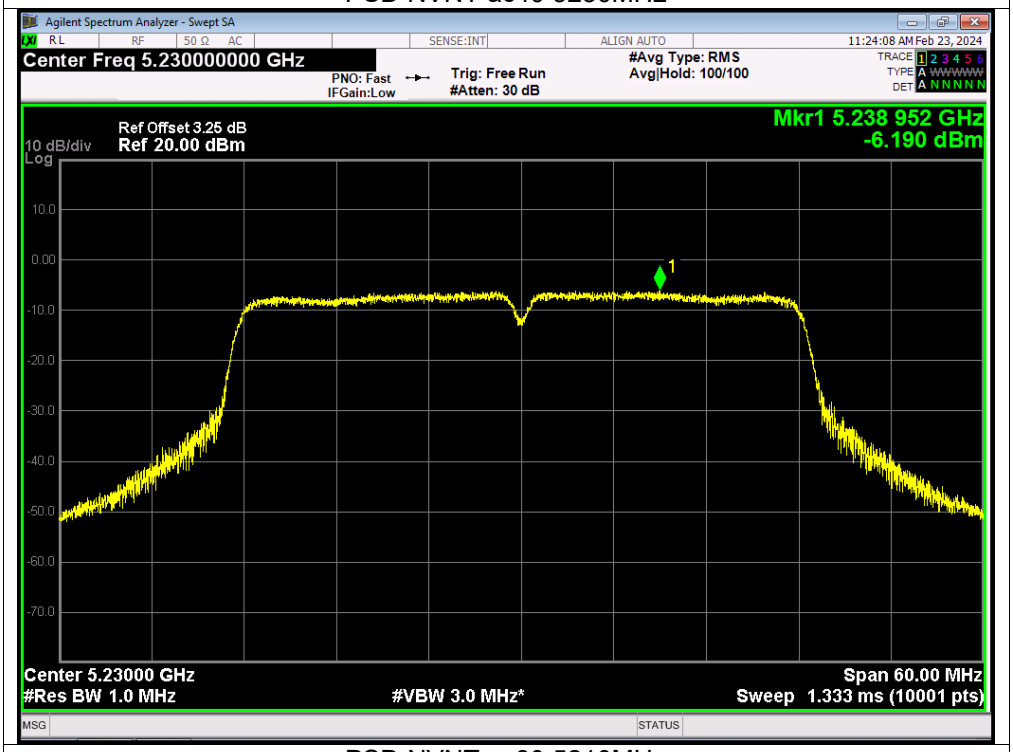
PSD NVNT ac20 5240MHz



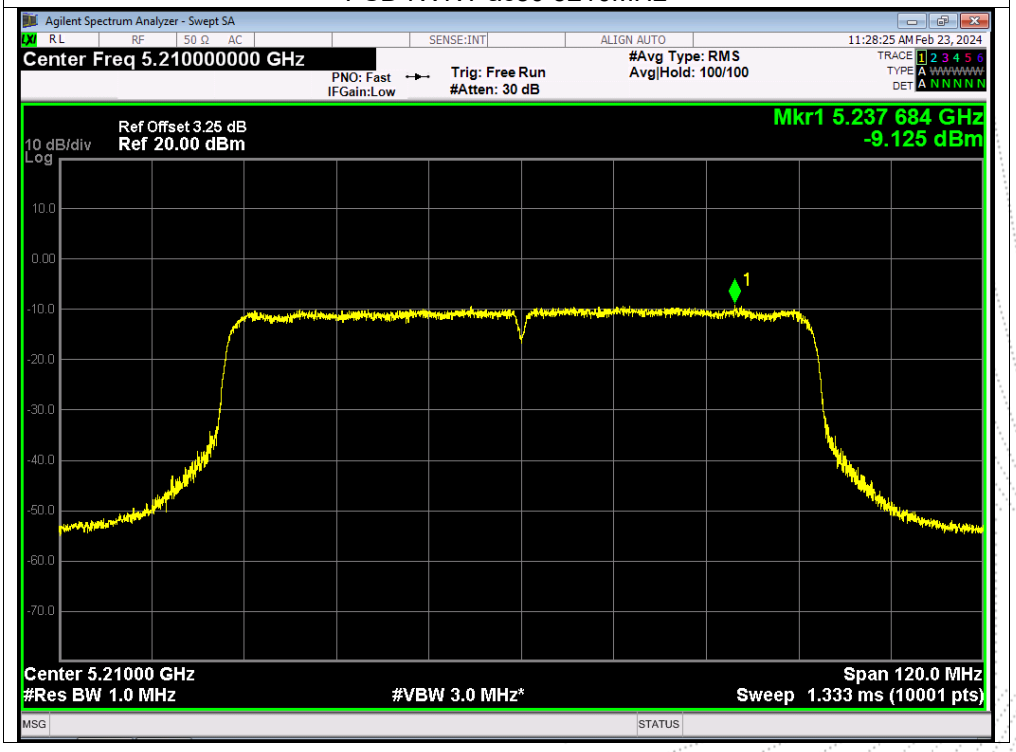
PSD NVNT ac40 5190MHz



PSD NVNT ac40 5230MHz



PSD NVNT ac80 5210MHz



Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V/60Hz
Test Mode:	(5745-5825MHz)		

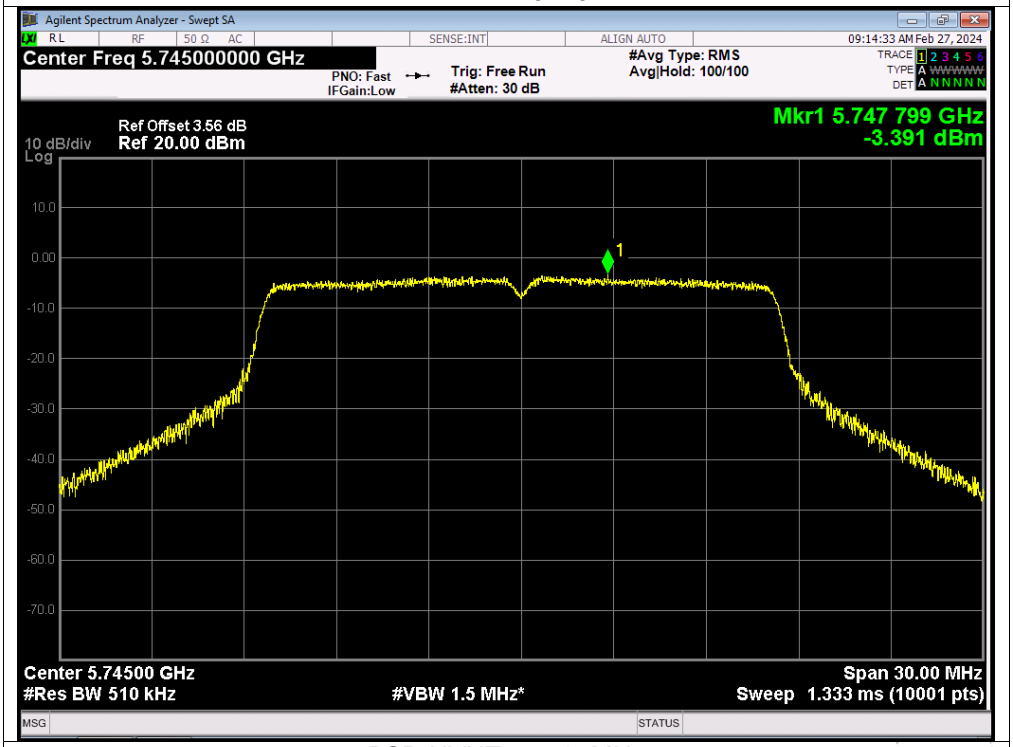
Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/510KHz)			
			Ant A	Ant B	Ant C	Ant D
NVNT	a	5745	-3.39	-3.84	-4.84	-3.43
NVNT	a	5785	-4.38	-3.54	-5.79	-4.61
NVNT	a	5825	**-3.36**	-5.15	-4.64	-4.12
NVNT	n20	5745	-4.49	-5.12	-6.02	-5.07
NVNT	n20	5785	-5.3	-5.24	-6.62	-5.47
NVNT	n20	5825	-3.96	-5.24	-5.06	-5.3
NVNT	n40	5755	-8.61	-10.15	-10.56	-9.65
NVNT	n40	5795	-9.2	-10.84	-10.35	-10.75
NVNT	ac20	5745	-4.88	-5.85	-6.67	-5.73
NVNT	ac20	5785	-5.76	-6.33	-7.03	-6.1
NVNT	ac20	5825	-4.93	-6.23	-5.95	-6.03
NVNT	ac40	5755	-9.54	-10.22	-10.77	-10.83
NVNT	ac40	5795	-9.61	-11.99	-11.16	-11.78
NVNT	ac80	5775	-14.07	-14.84	-14.68	-14.75

Condition	Mode	Fre-quency (MHz)	Conducted PSD (dBm/500KHz)					Limit (dBm/ 500KHz)	Verdict
			Ant A	Ant B	Ant C	Ant D	Total		
NVNT	a	5745	-3.476	-3.926	-4.926	-3.516	/	30	Pass
NVNT	a	5785	-4.466	-3.626	-5.876	-4.696	/	30	Pass
NVNT	a	5825	-3.446	-5.236	-4.726	-4.206	/	30	Pass
NVNT	n20	5745	-4.576	-5.206	-6.106	-5.156	0.79	26.11	Pass
NVNT	n20	5785	-5.386	-5.326	-6.706	-5.556	0.31	26.11	Pass
NVNT	n20	5825	-4.046	-5.326	-5.146	-5.386	1.08	26.11	Pass
NVNT	n40	5755	-8.696	-10.236	-10.646	-9.736	-3.75	26.11	Pass
NVNT	n40	5795	-9.286	-10.926	-10.436	-10.836	-4.30	26.11	Pass
NVNT	ac20	5745	-4.966	-5.936	-6.756	-5.816	0.20	26.11	Pass
NVNT	ac20	5785	-5.846	-6.416	-7.116	-6.186	-0.35	26.11	Pass
NVNT	ac20	5825	-5.016	-6.316	-6.036	-6.116	0.18	26.11	Pass
NVNT	ac40	5755	-9.626	-10.306	-10.856	-10.916	-4.37	26.11	Pass
NVNT	ac40	5795	-9.696	-12.076	-11.246	-11.866	-5.10	26.11	Pass
NVNT	ac80	5775	-14.156	-14.926	-14.766	-14.836	-8.64	26.11	Pass
Note: Correction Factor = 10log(500KHz/RBW in measurement) =-0.086									

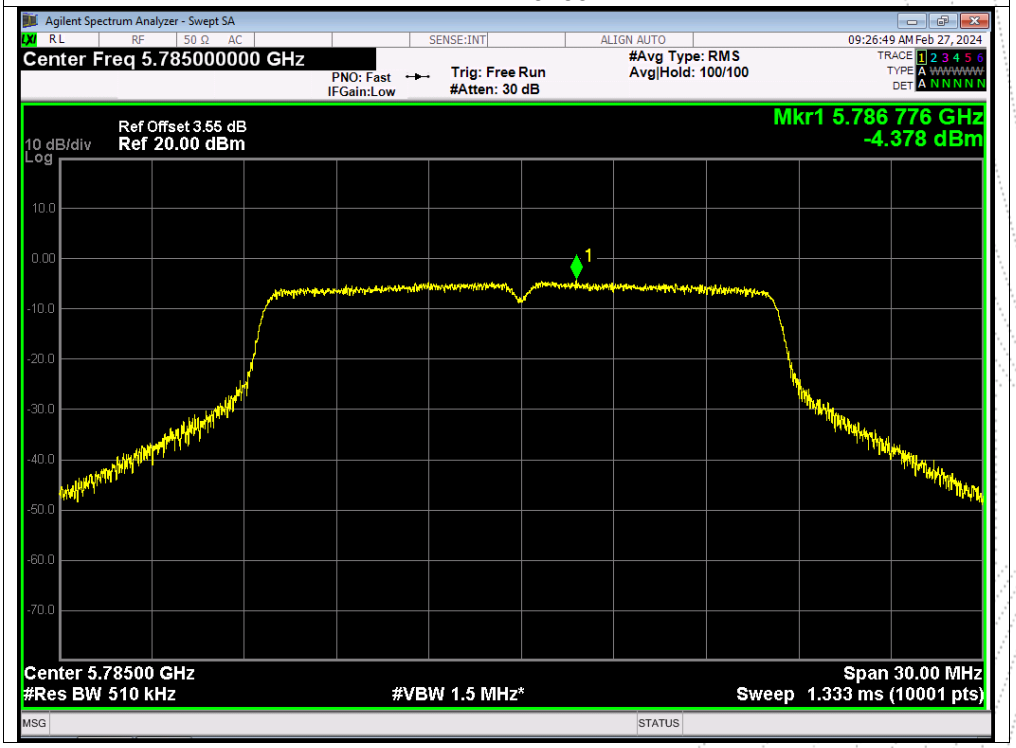
Note:
Antenna A & B gain: 3.87 dBi, Antenna C & D gain: 3.86 dBi, Directional gain=[GainANT + 10 log(NANT/NSS) dBi] =9.89 dbi>6dbi
EIRP Limit=30-(9.89-6)=26.11 dbi

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

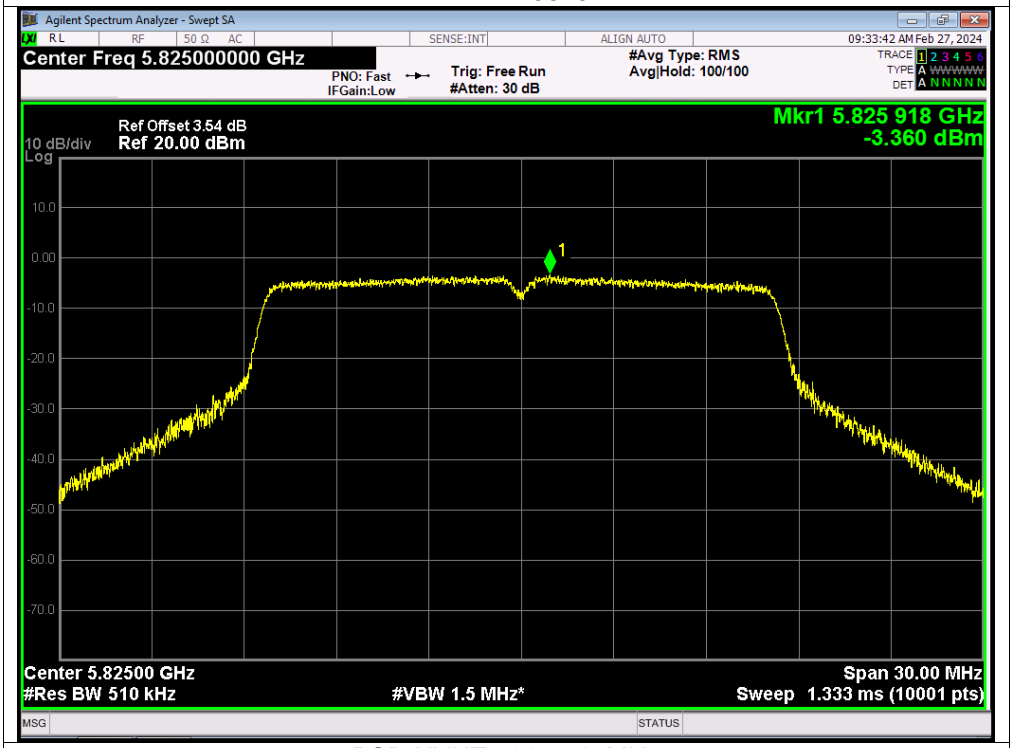
Test Graphs
PSD NVNT a 5745MHz



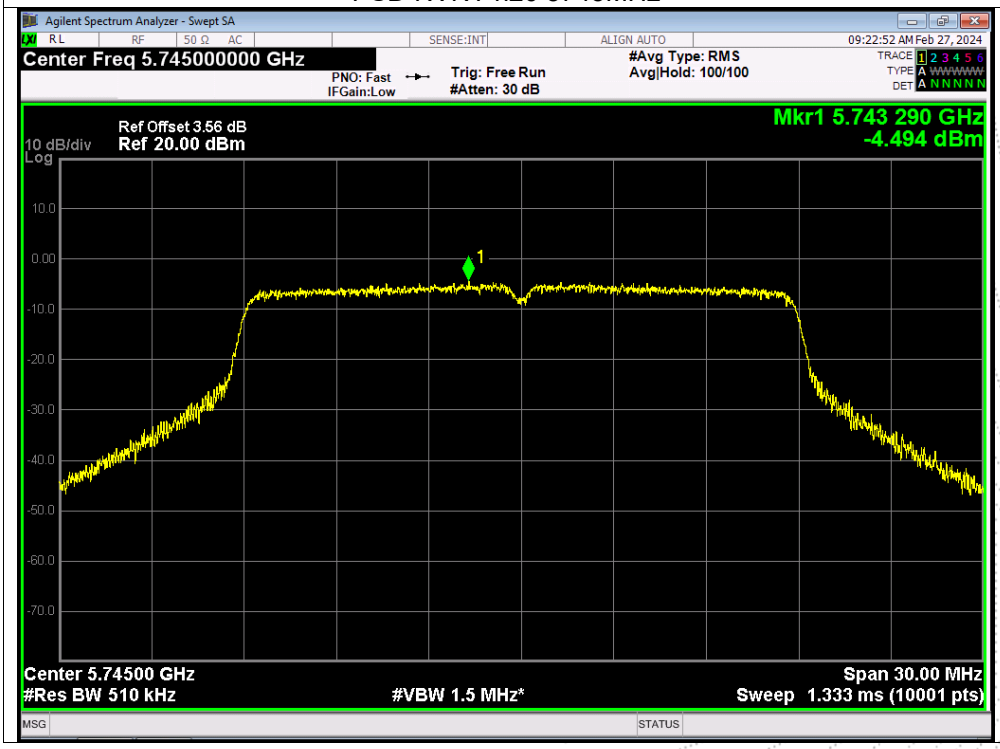
PSD NVNT a 5785MHz



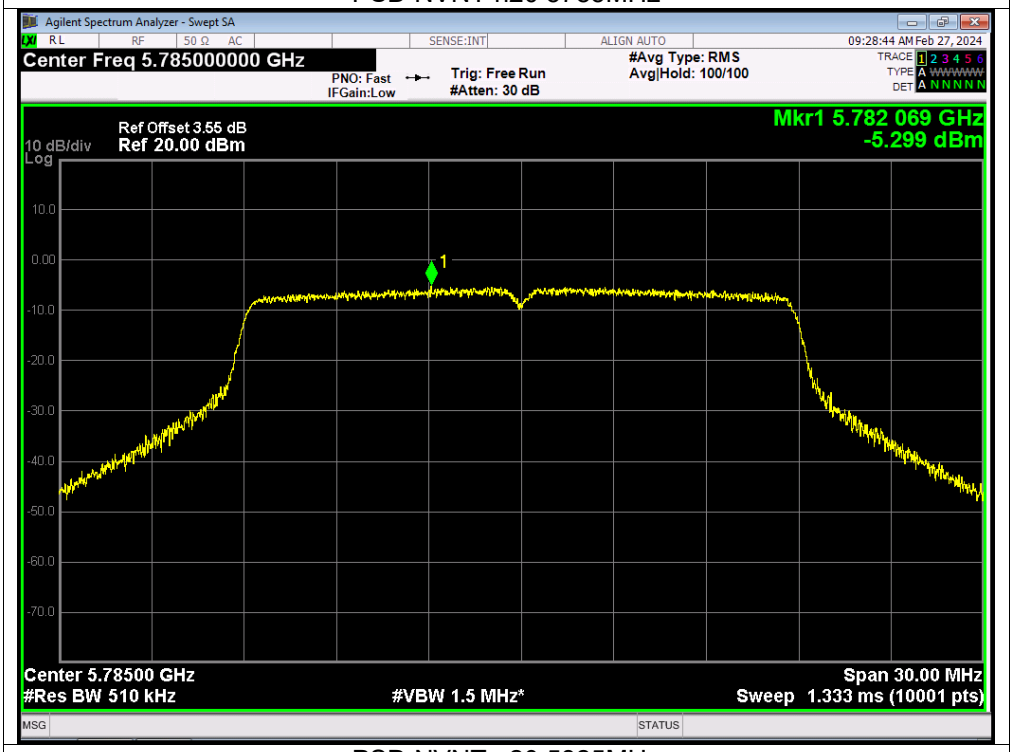
PSD NVNT a 5825MHz



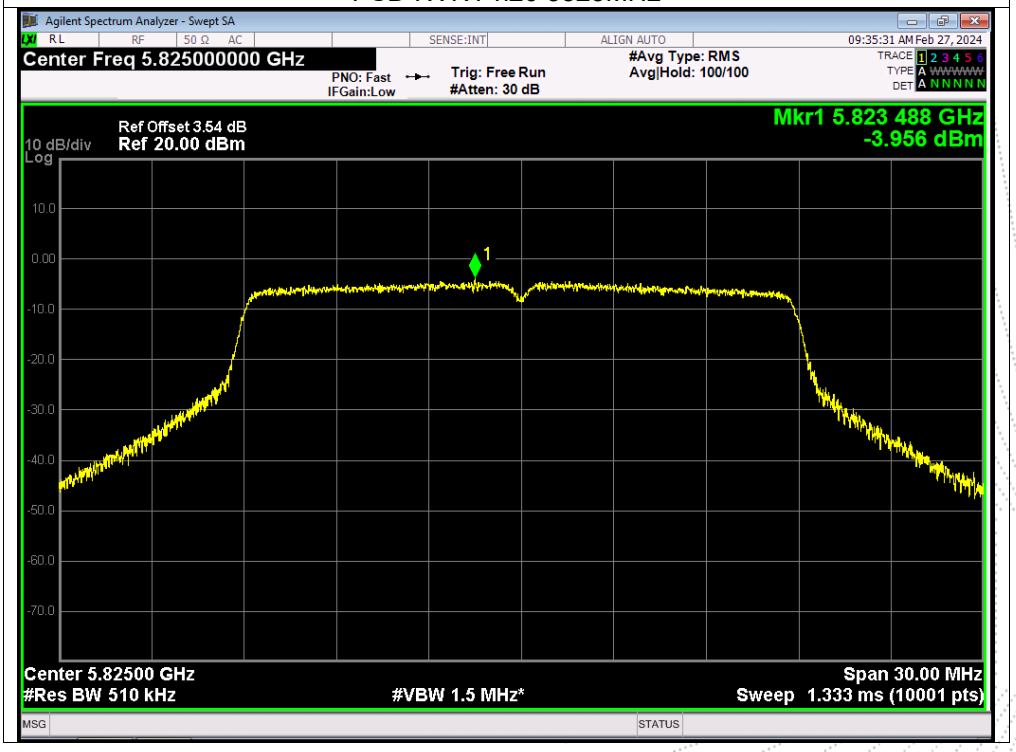
PSD NVNT n20 5745MHz



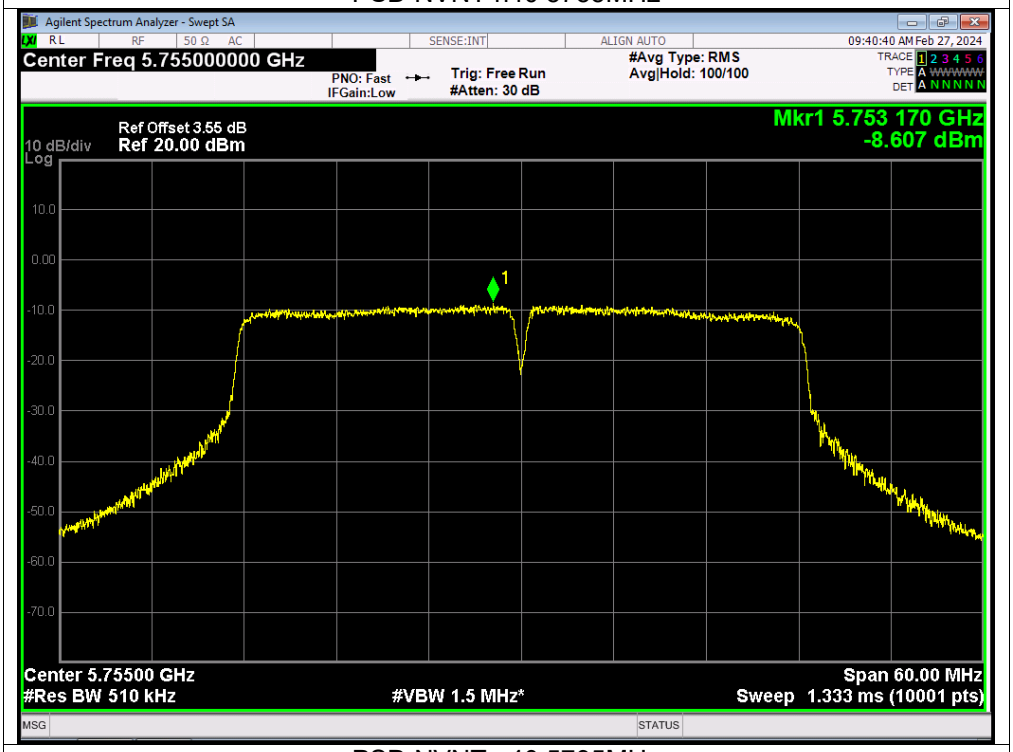
PSD NVNT n20 5785MHz



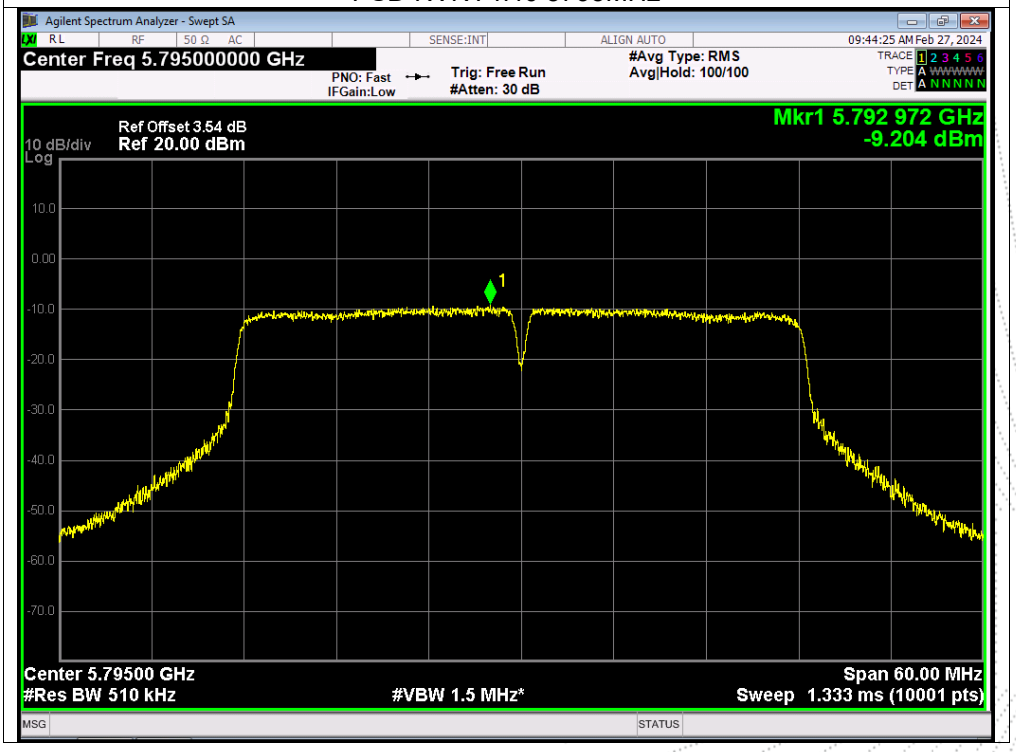
PSD NVNT n20 5825MHz



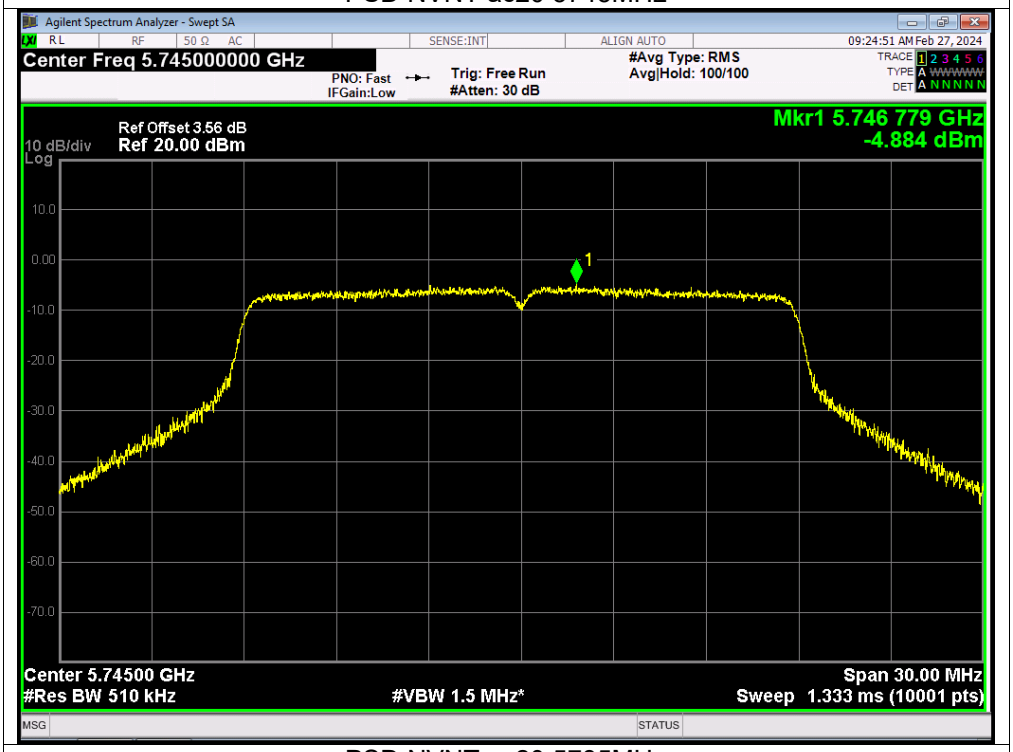
PSD NVNT n40 5755MHz



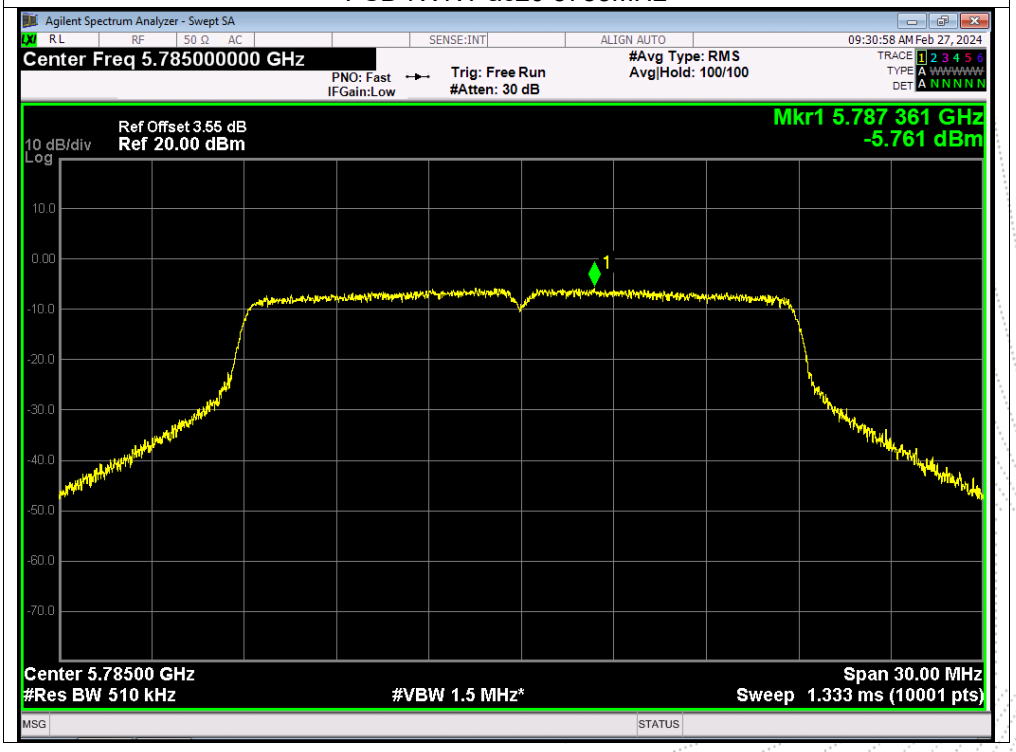
PSD NVNT n40 5795MHz



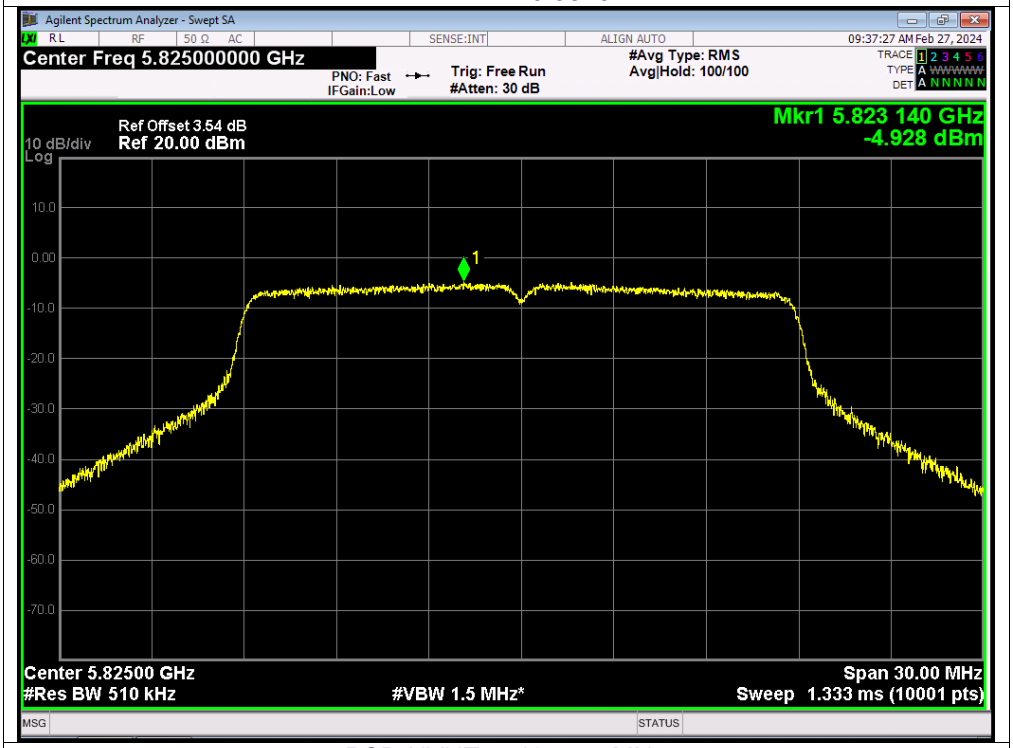
PSD NVNT ac20 5745MHz



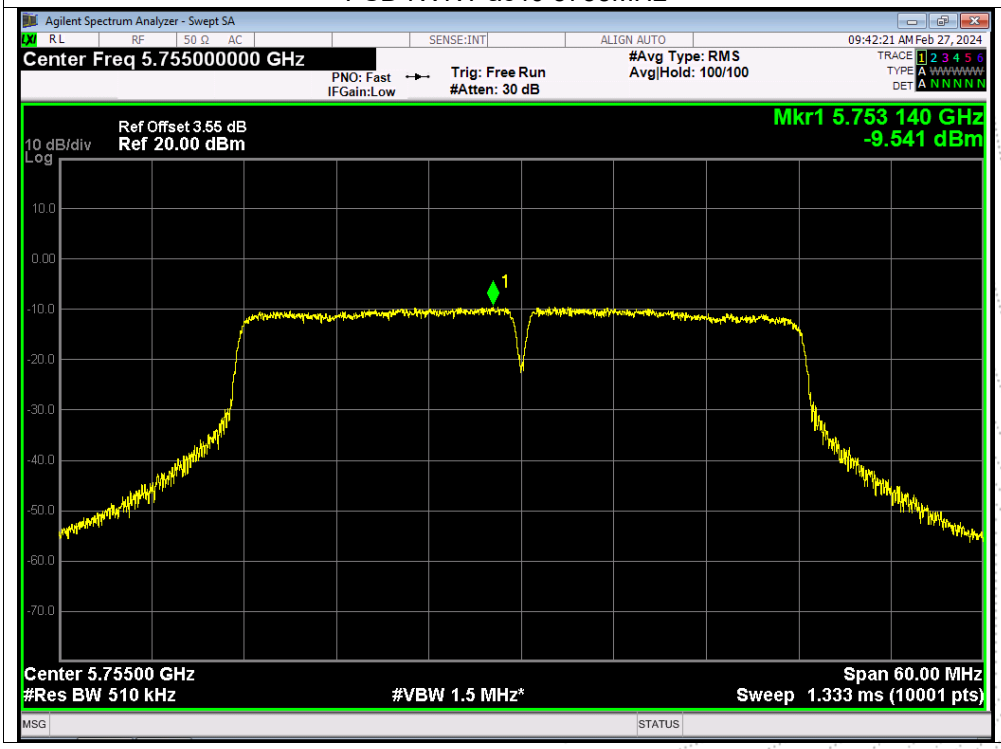
PSD NVNT ac20 5785MHz



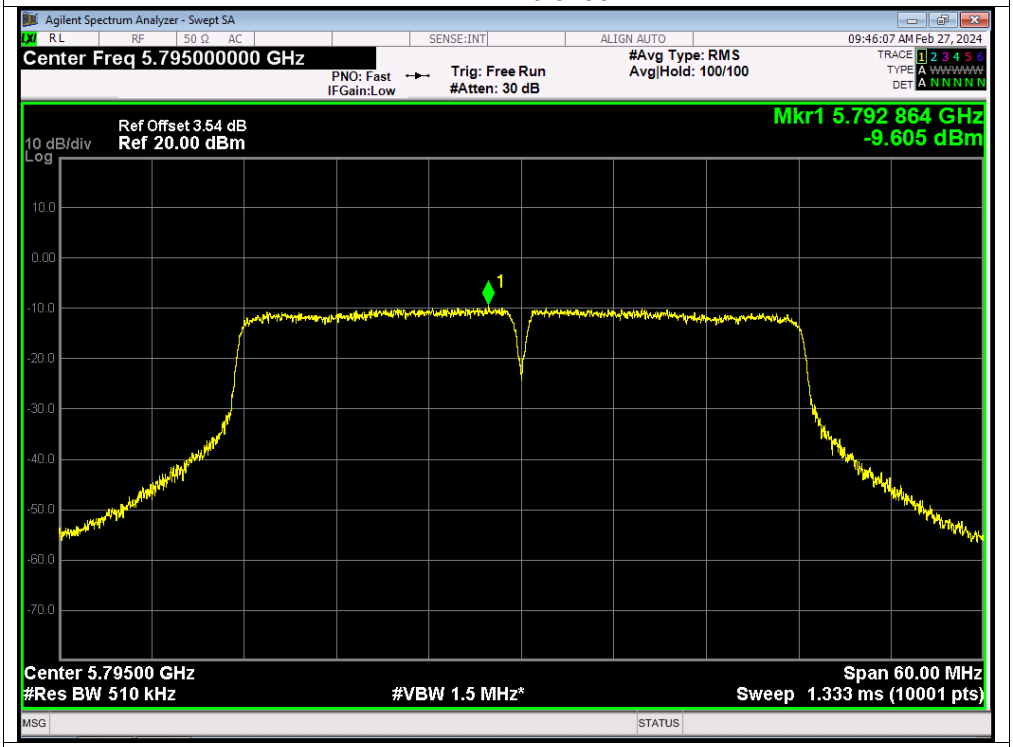
PSD NVNT ac20 5825MHz



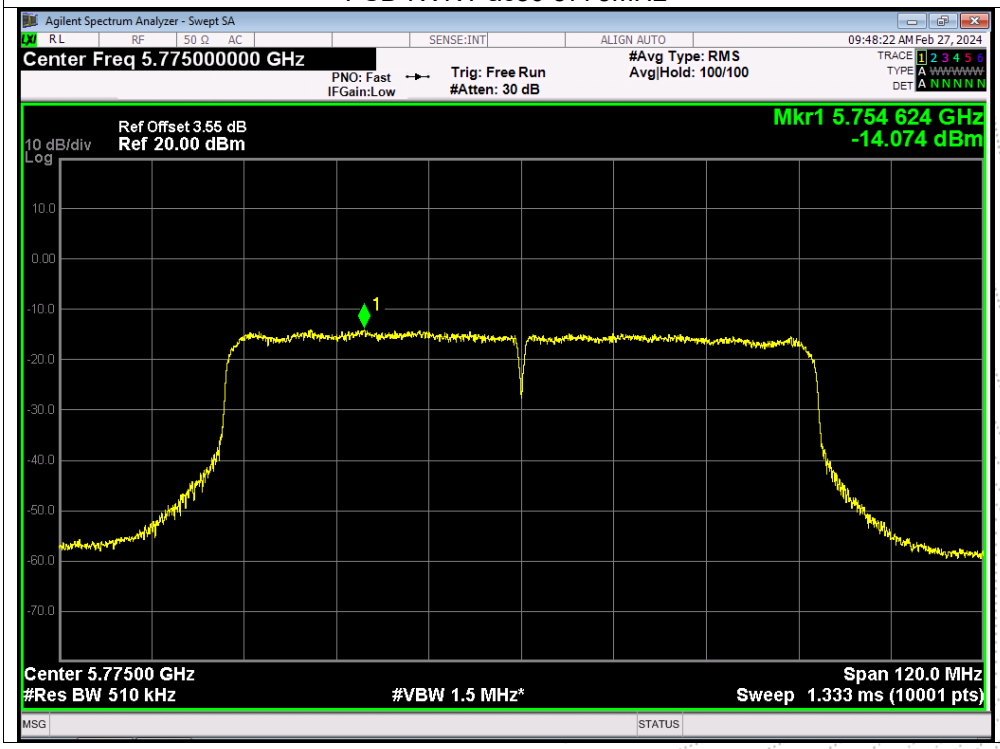
PSD NVNT ac40 5755MHz



PSD NVNT ac40 5795MHz

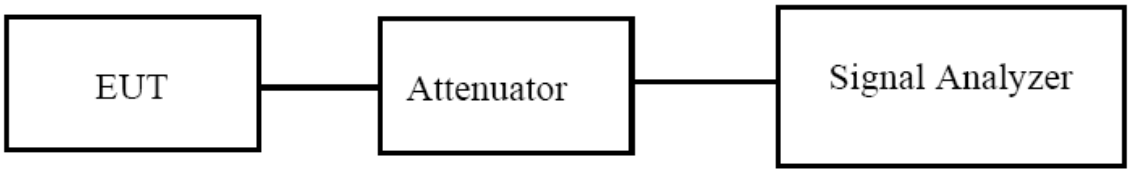


PSD NVNT ac80 5775MHz



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

9.1 Block Diagram Of Test Setup



9.2 Limit

(1) For the band 5.15-5.25 GHz.
(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, 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.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, 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.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. 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.

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.

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:	AC 120V/60Hz
Test Mode:	(5180-5240MHz)		

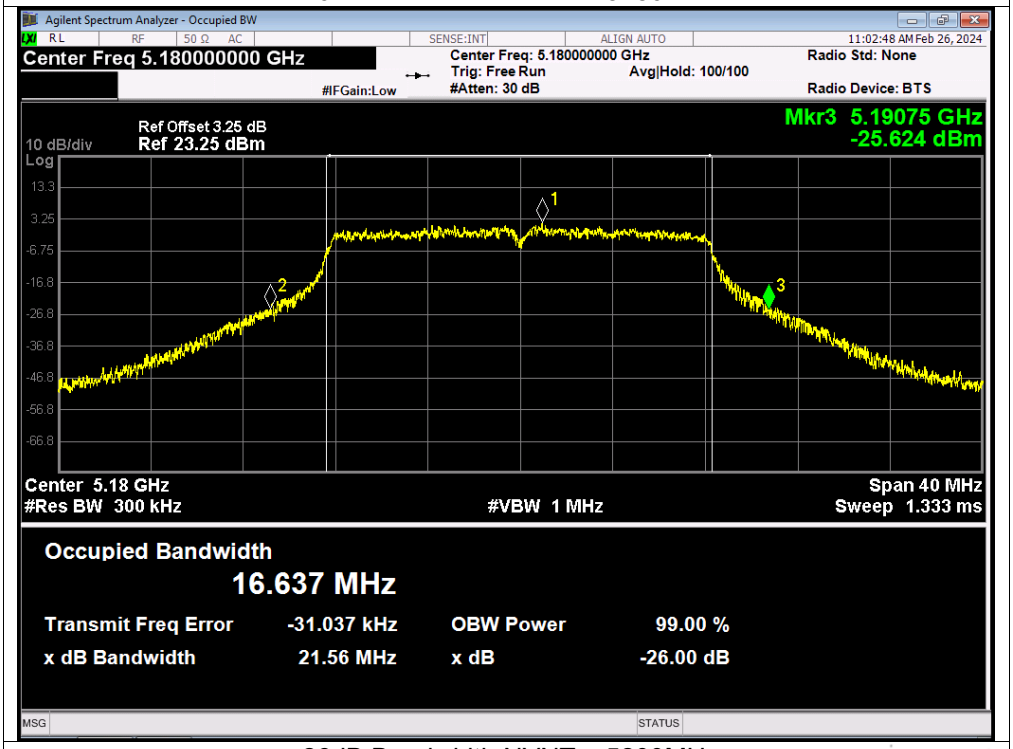
Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)				Verdict
			Ant A	Ant B	Ant C	Ant D	
NVNT	a	5180	22.008	22.047	21.559	21.561	Pass
NVNT	a	5200	21.551	22.33	21.672	21.815	Pass
NVNT	a	5240	21.561	21.369	21.66	21.133	Pass
NVNT	n20	5180	21.452	22.961	22.816	23.023	Pass
NVNT	n20	5200	21.561	23.163	23.298	23.241	Pass
NVNT	n20	5240	22.766	22.976	22.735	22.411	Pass
NVNT	n40	5190	45.779	45.7	46.233	45.507	Pass
NVNT	n40	5230	45.221	45.766	45.322	45.306	Pass
NVNT	ac20	5180	22.858	23.4	22.91	22.551	Pass
NVNT	ac20	5200	22.93	23.487	22.737	22.795	Pass
NVNT	ac20	5240	22.936	22.723	22.939	23.012	Pass
NVNT	ac40	5190	45.979	46.126	45.841	45.592	Pass
NVNT	ac40	5230	45.803	46.05	45.703	45.708	Pass
NVNT	ac80	5210	86.504	86.206	86.435	**85.592**	Pass

Condition	Mode	Frequency (MHz)	99% OBW (MHz)				Verdict
			Ant A	Ant B	Ant C	Ant D	
NVNT	a	5180	16.479	16.499	16.461	16.492	Pass
NVNT	a	5200	16.492	16.515	16.513	16.519	Pass
NVNT	a	5240	16.469	16.457	16.462	16.492	Pass
NVNT	n20	5180	16.483	17.701	17.697	17.695	Pass
NVNT	n20	5200	16.497	17.706	17.711	17.705	Pass
NVNT	n20	5240	17.678	17.702	17.695	17.694	Pass
NVNT	n40	5190	36.199	36.177	36.18	36.118	Pass
NVNT	n40	5230	36.122	36.147	36.19	36.147	Pass
NVNT	ac20	5180	17.691	17.691	17.684	17.689	Pass
NVNT	ac20	5200	17.71	17.704	17.695	17.694	Pass
NVNT	ac20	5240	17.715	17.702	17.689	17.71	Pass
NVNT	ac40	5190	36.182	36.23	36.176	36.18	Pass
NVNT	ac40	5230	36.128	36.18	36.123	36.168	Pass
NVNT	ac80	5210	**75.114**	75.053	74.953	75.042	Pass

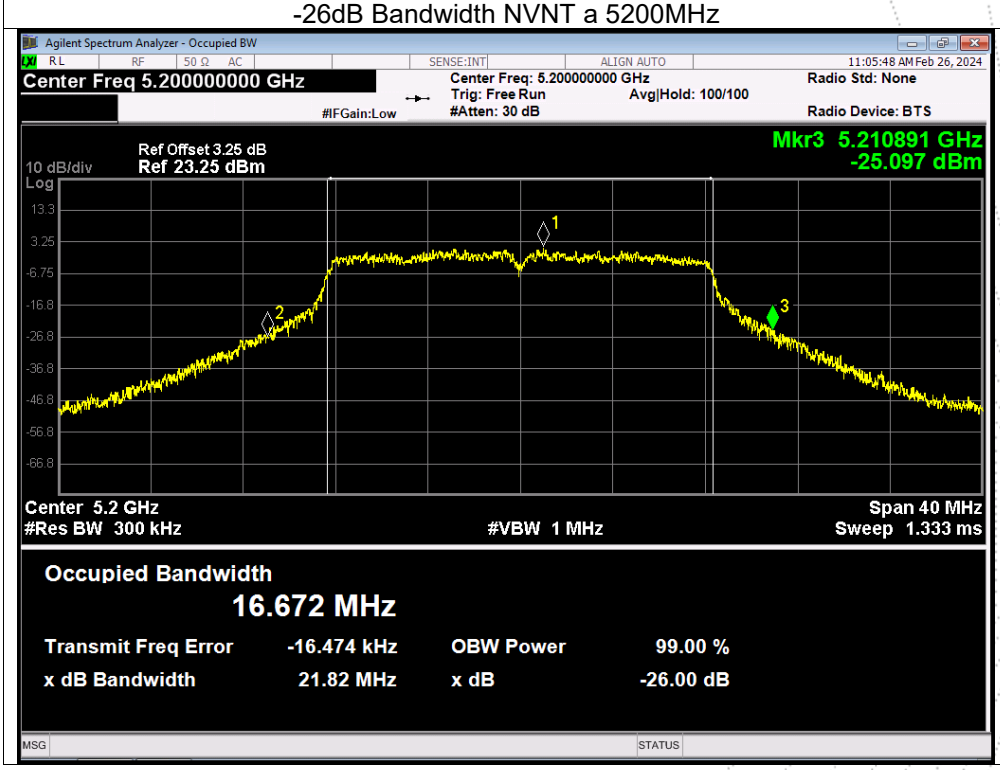
Note: A(B) Represent the value of antenna A/B/C and D, The worst data is Antenna D, only shown Antenna D Plot.

Test Graphs

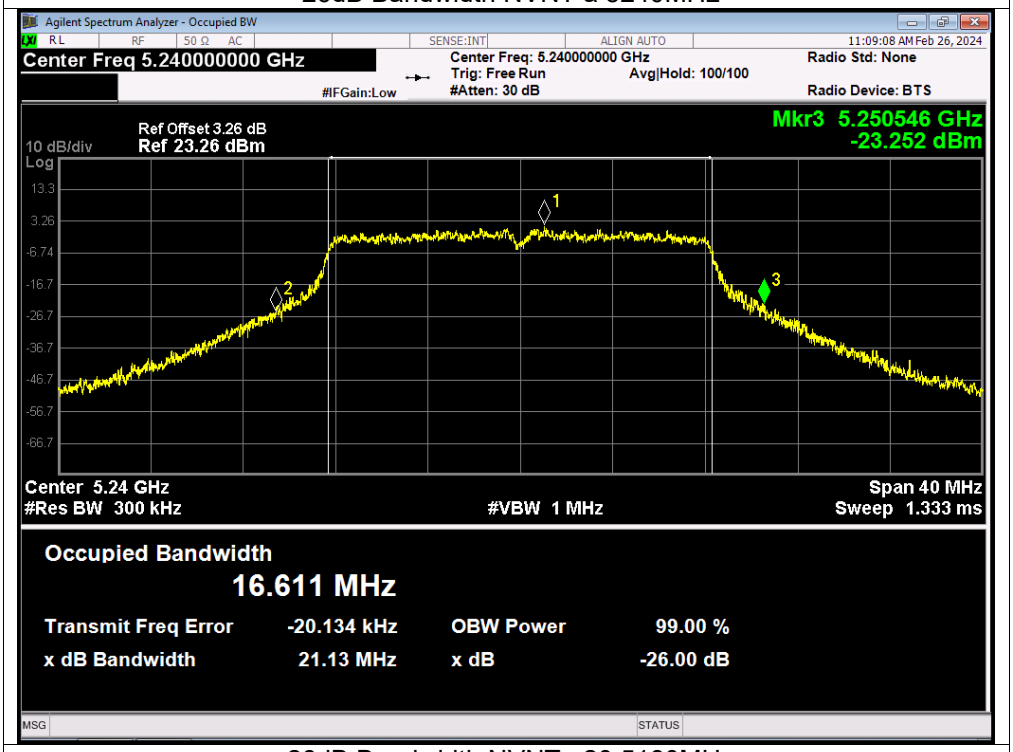
-26dB Bandwidth NVNT a 5180MHz



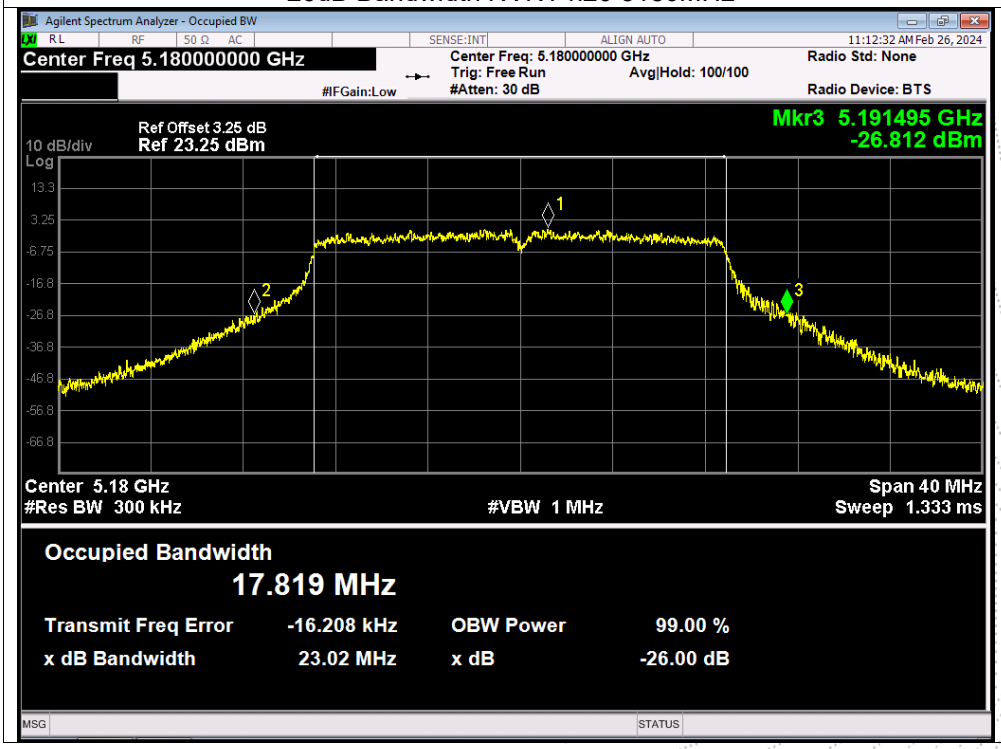
-26dB Bandwidth NVNT a 5200MHz



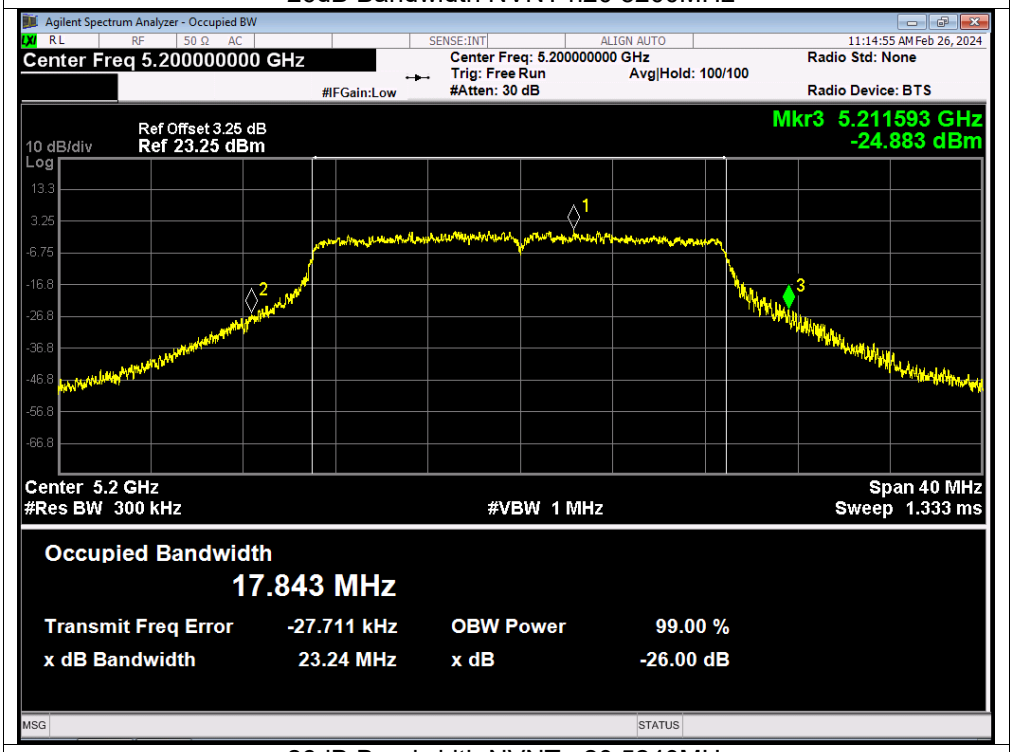
-26dB Bandwidth NVNT a 5240MHz



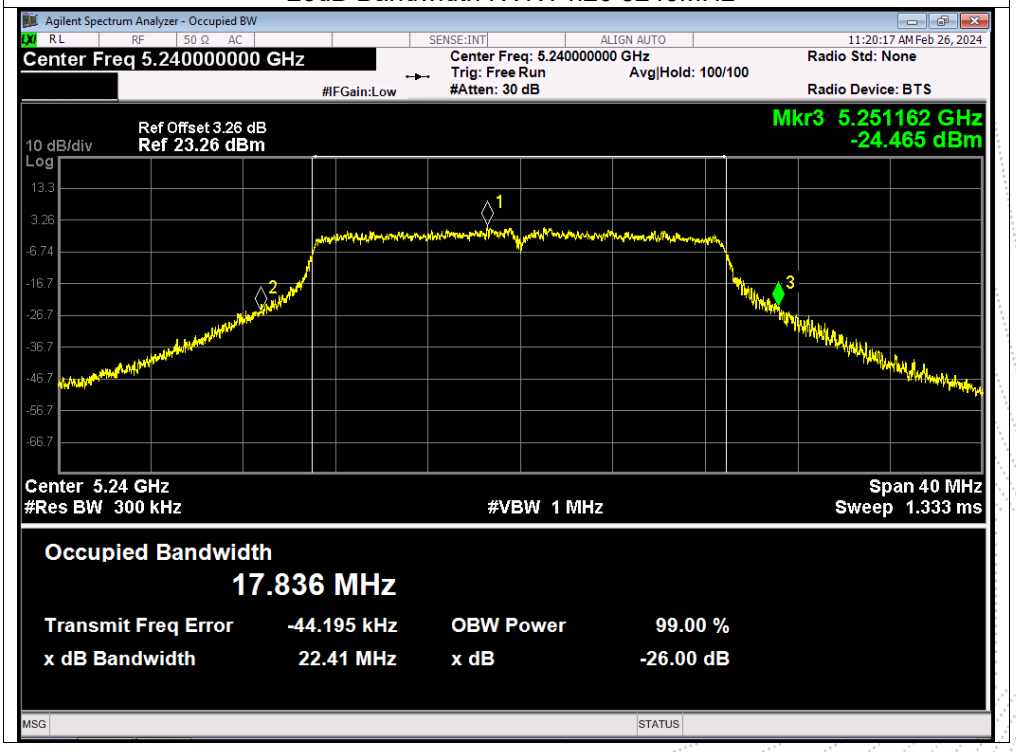
-26dB Bandwidth NVNT n20 5180MHz



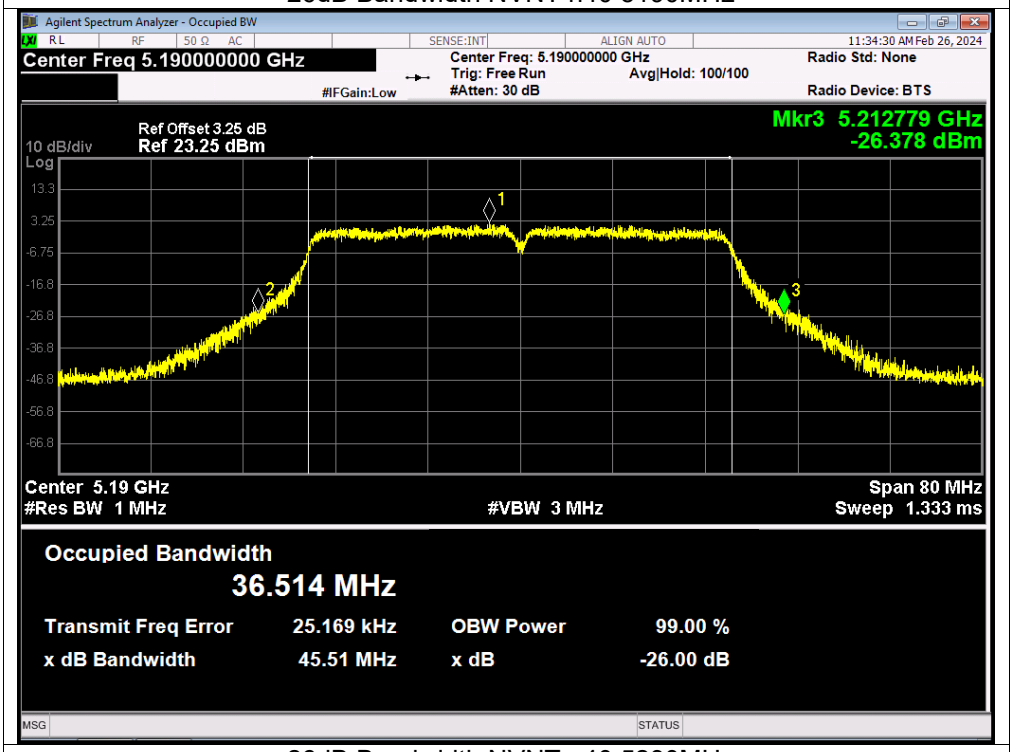
-26dB Bandwidth NVNT n20 5200MHz



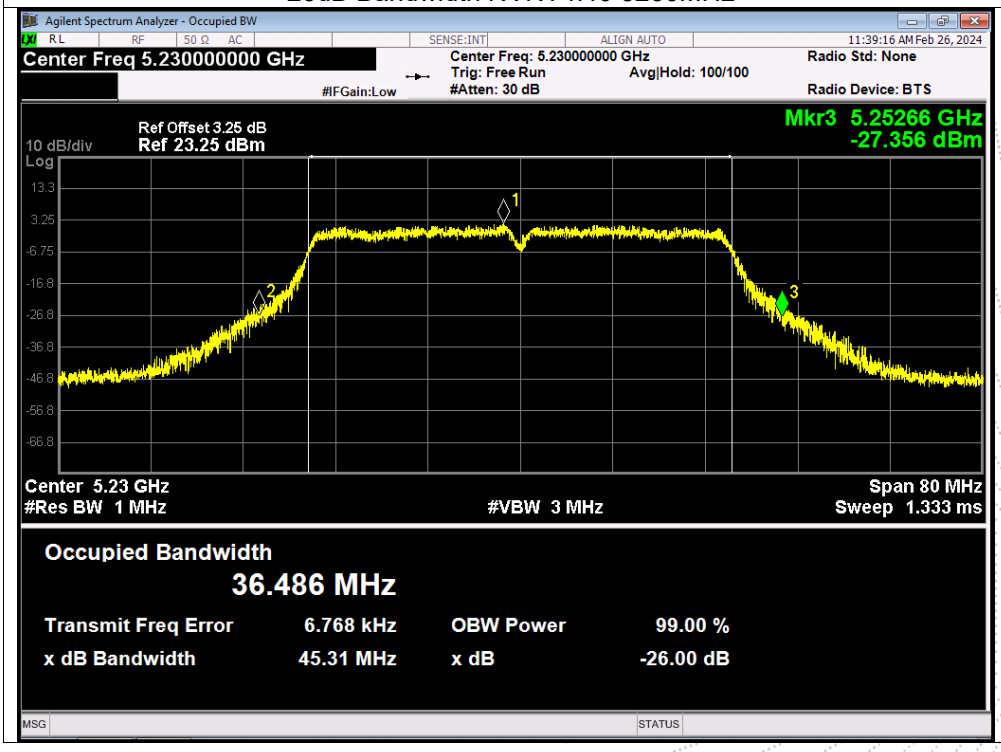
-26dB Bandwidth NVNT n20 5240MHz



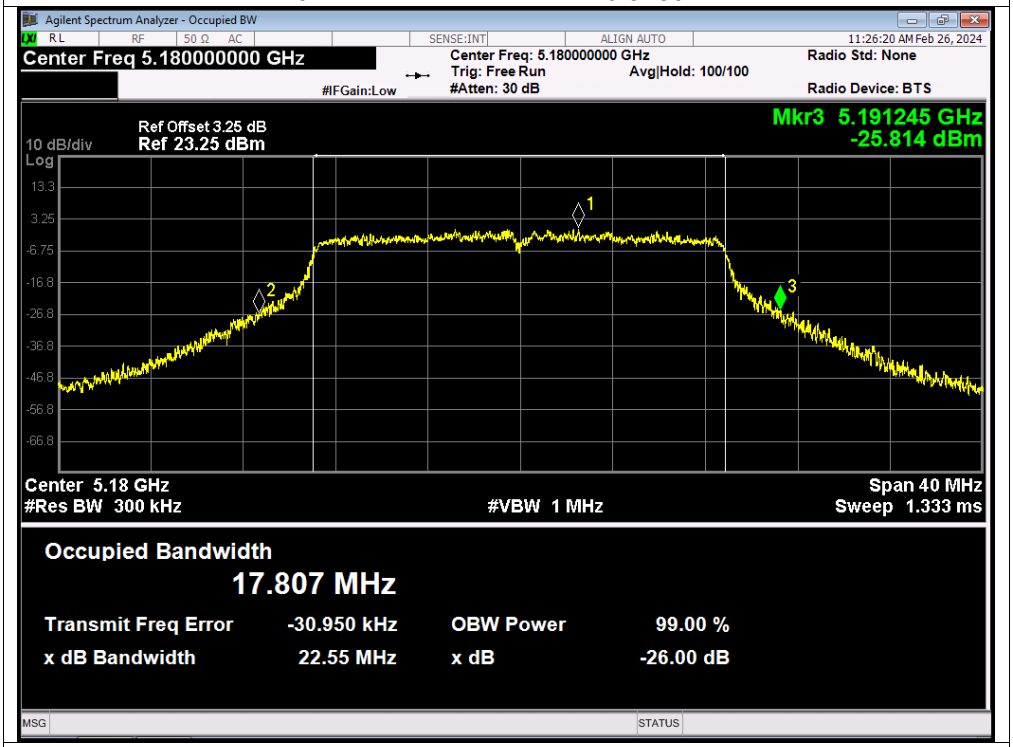
-26dB Bandwidth NVNT n40 5190MHz



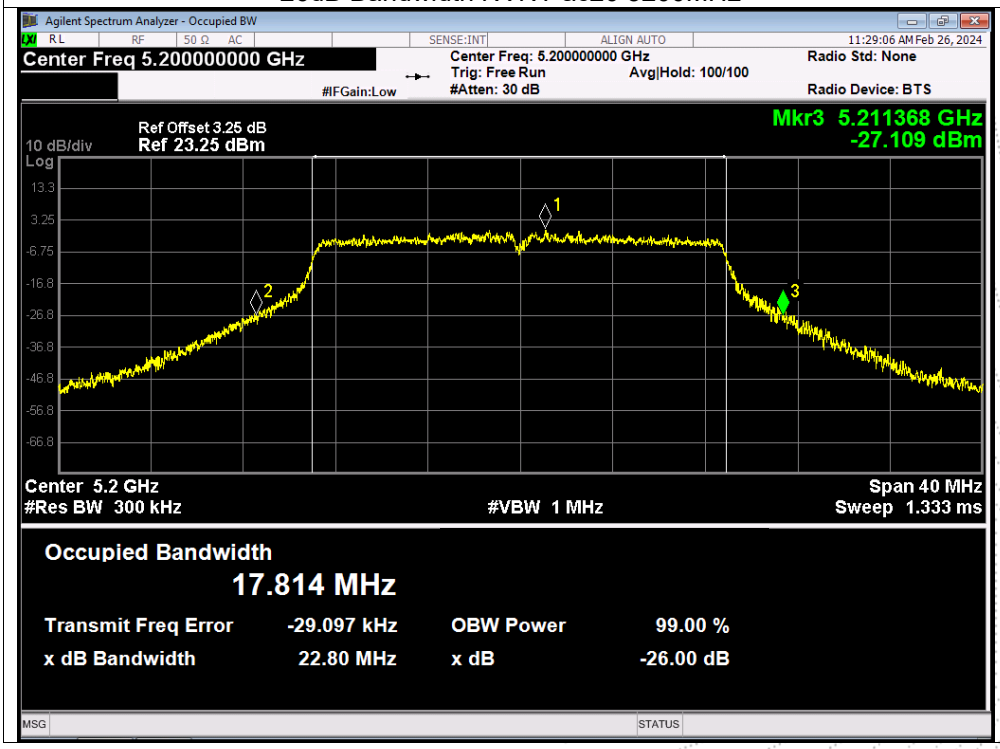
-26dB Bandwidth NVNT n40 5230MHz



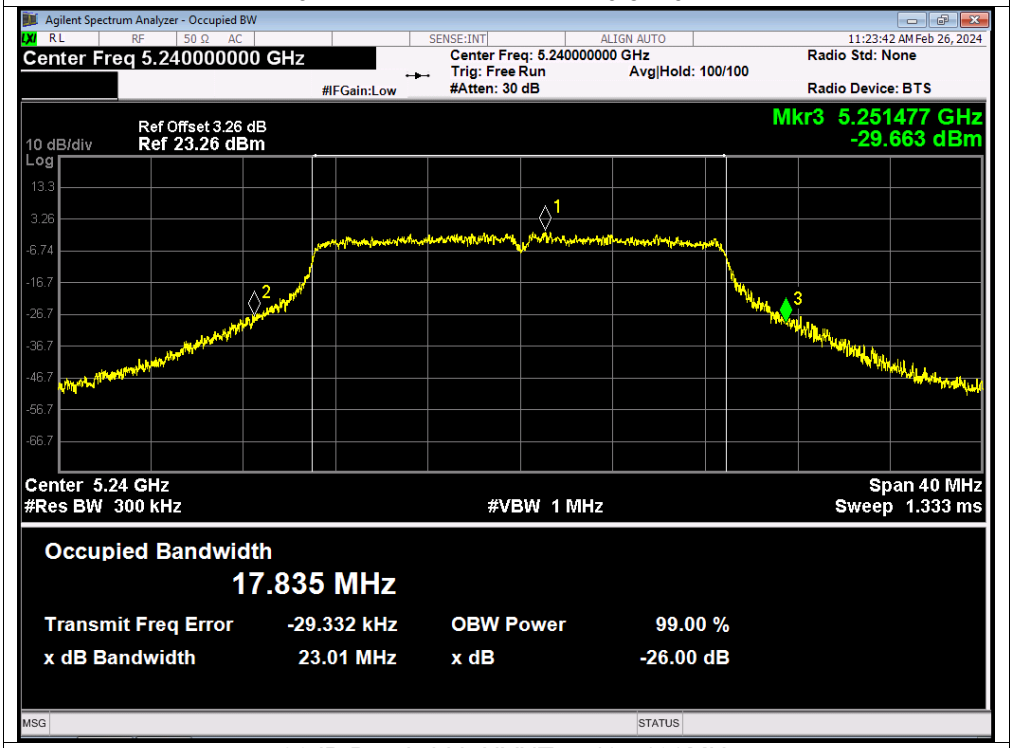
-26dB Bandwidth NVNT ac20 5180MHz



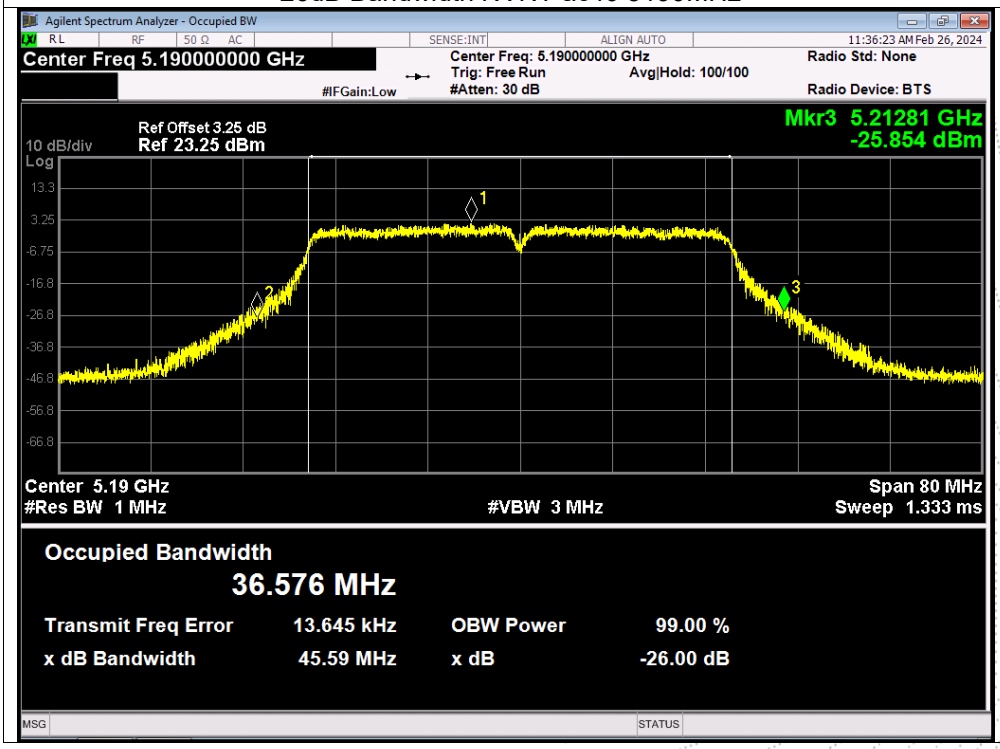
-26dB Bandwidth NVNT ac20 5200MHz



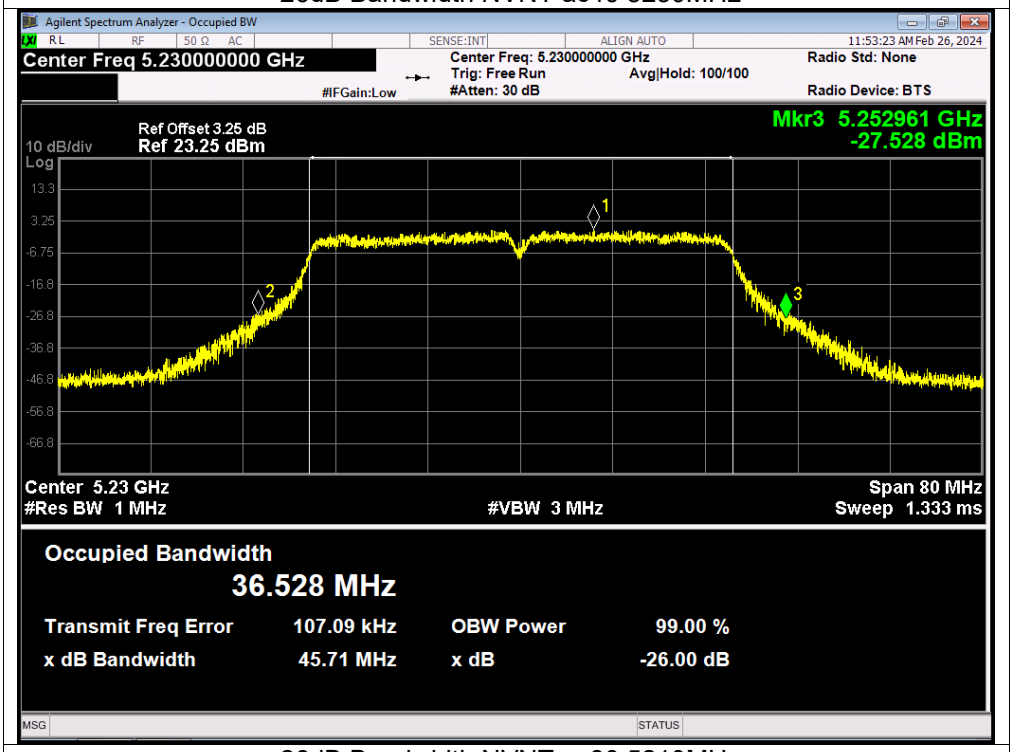
-26dB Bandwidth NVNT ac20 5240MHz



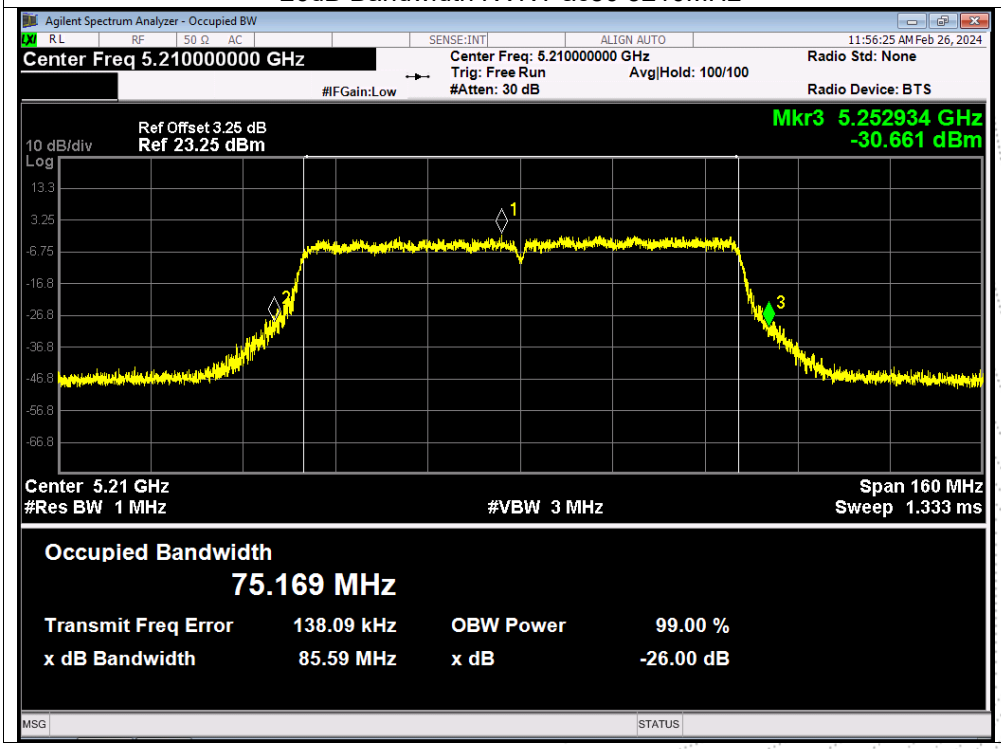
-26dB Bandwidth NVNT ac40 5190MHz



-26dB Bandwidth NVNT ac40 5230MHz



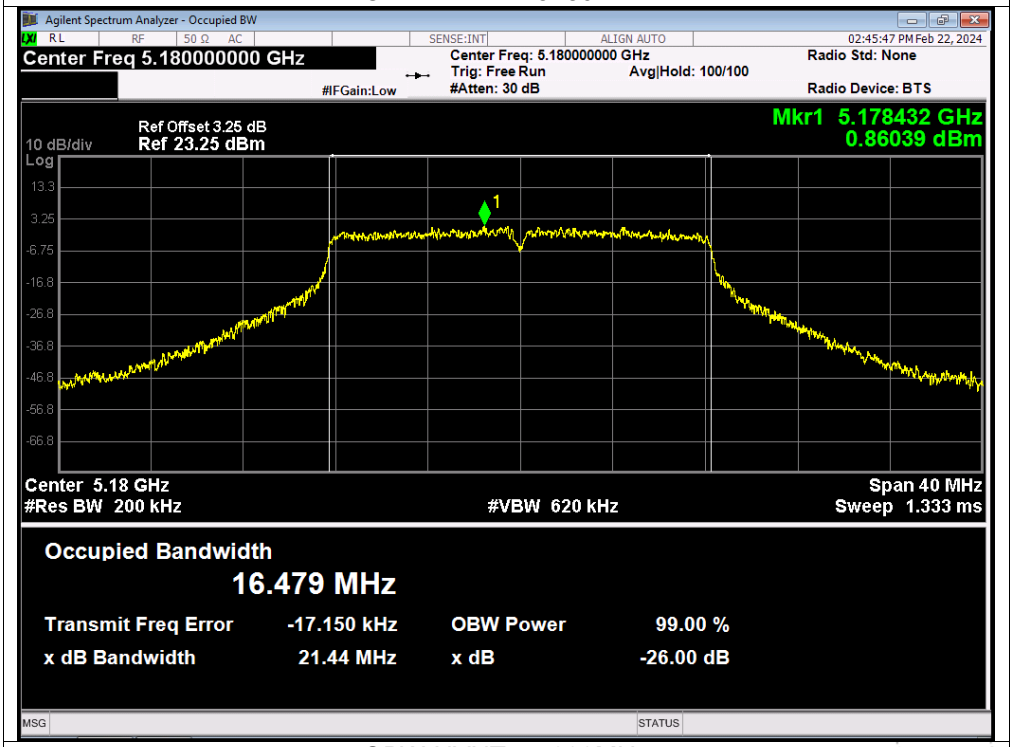
-26dB Bandwidth NVNT ac80 5210MHz



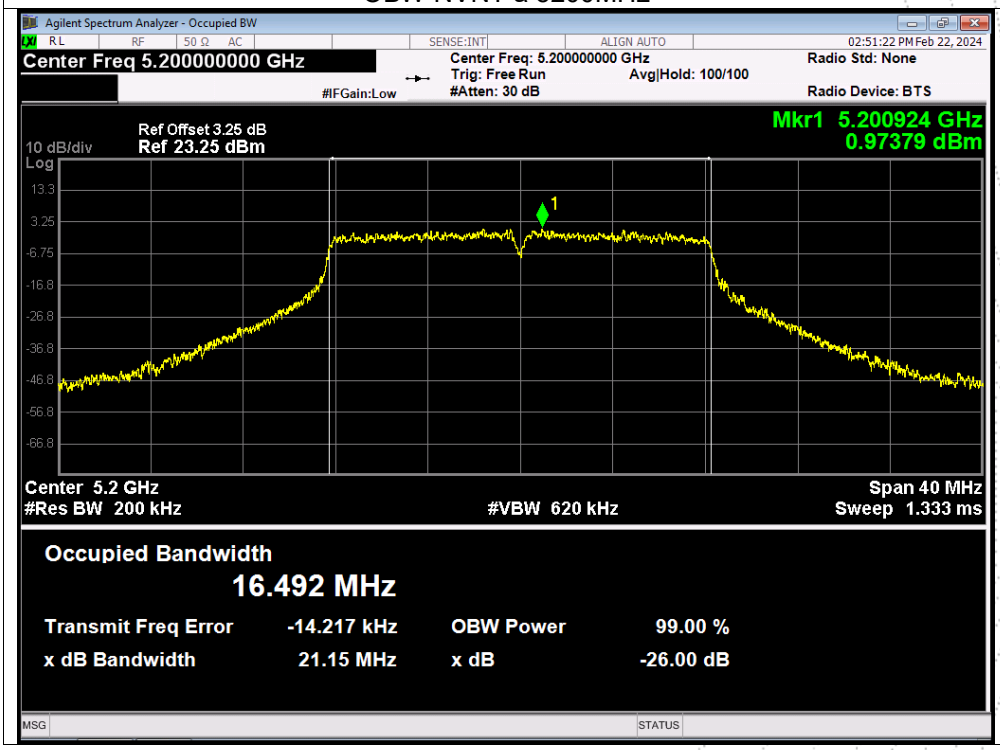
Note: A(B) Represent the value of antenna A/B/C and D, The worst data is Antenna A, only shown Antenna A Plot.

Test Graphs

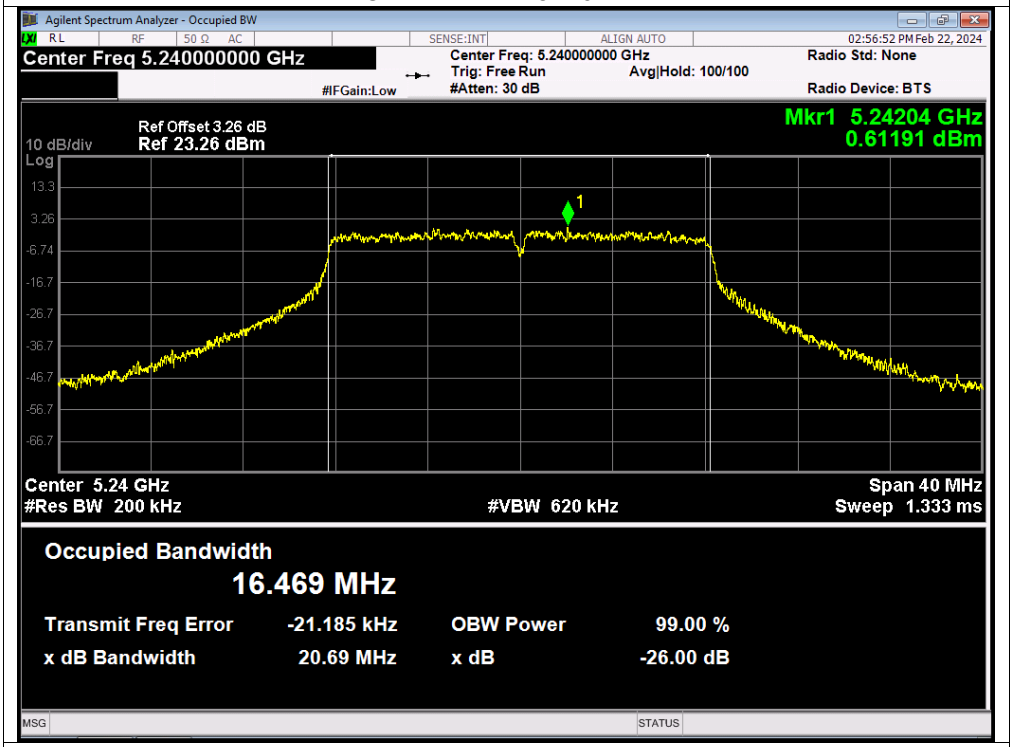
OBW NVNT a 5180MHz



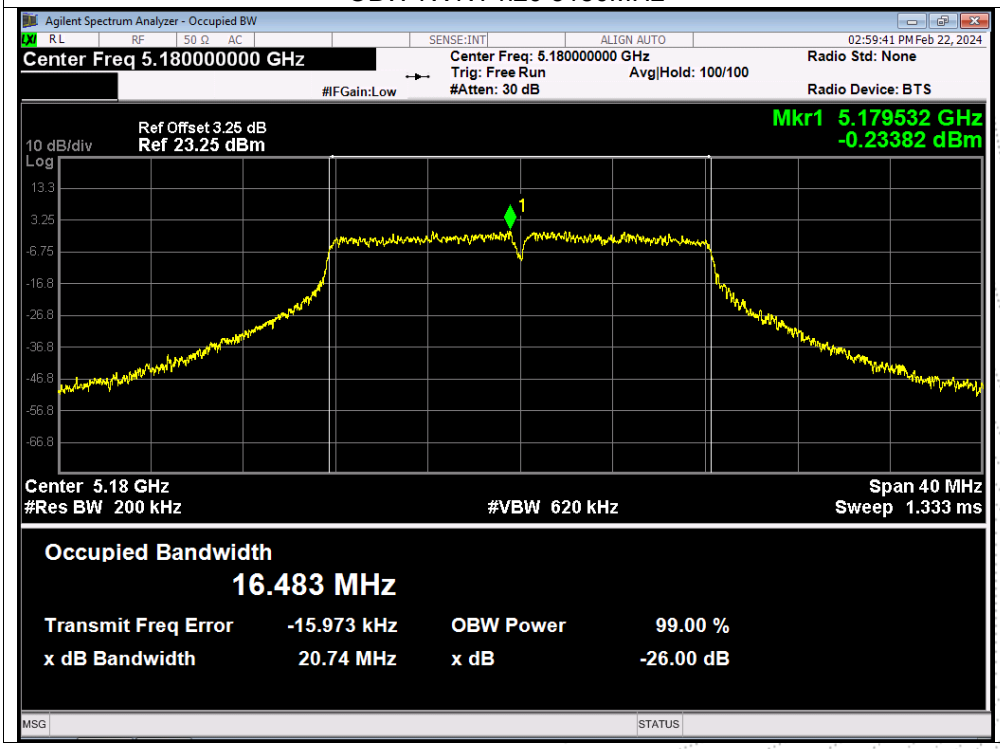
OBW NVNT a 5200MHz



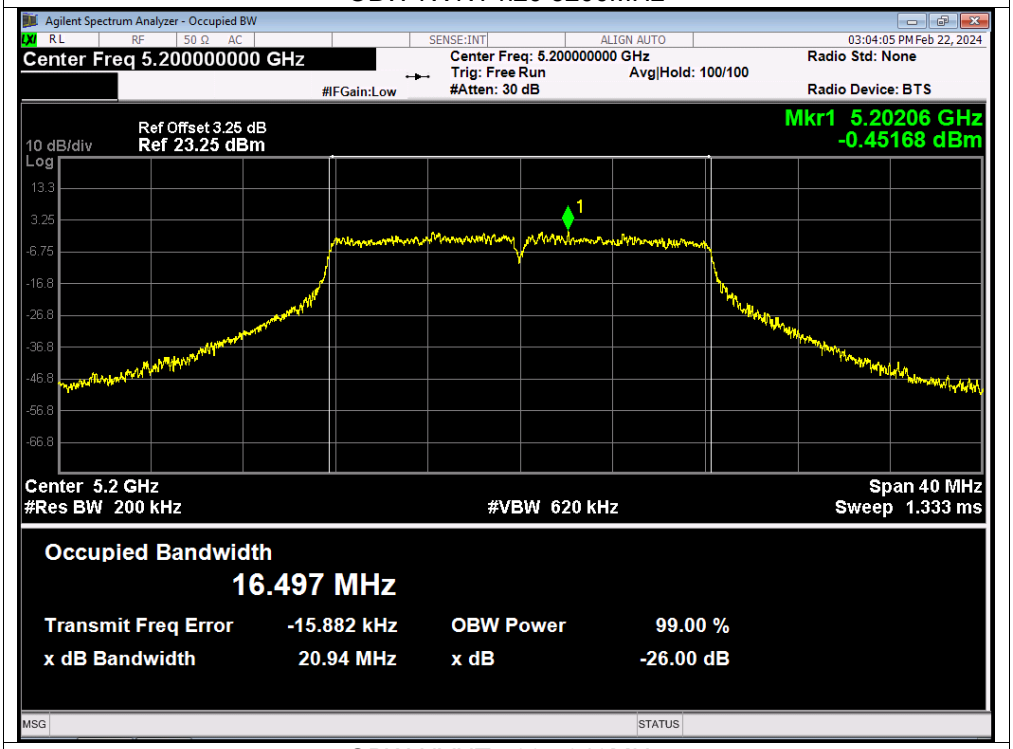
OBW NVNT a 5240MHz



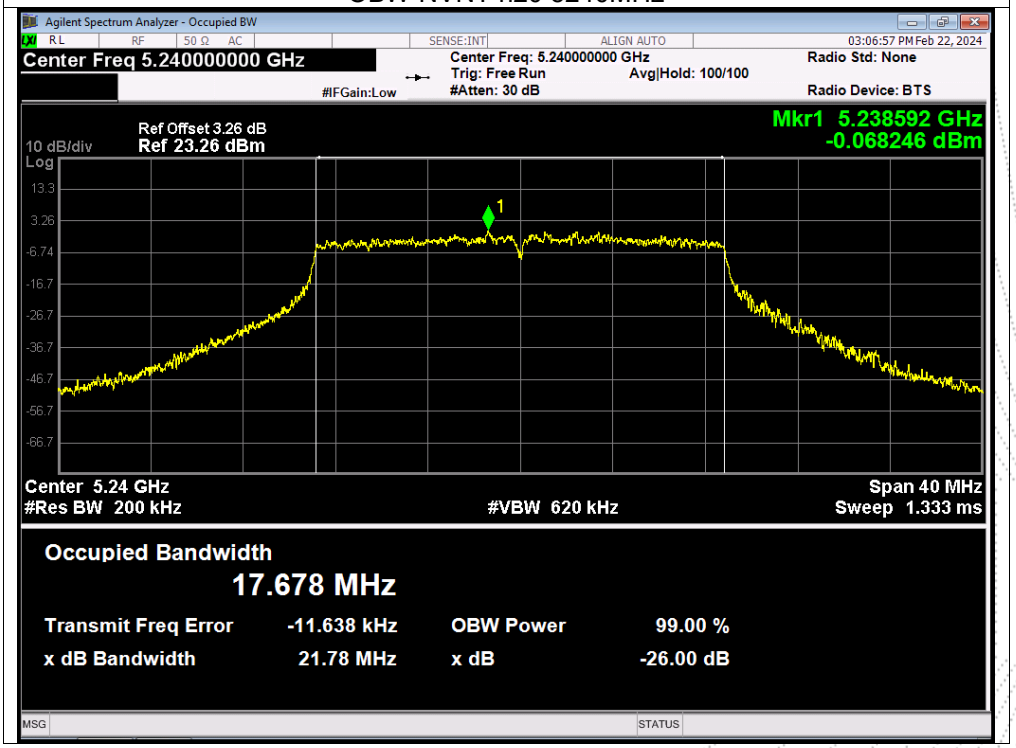
OBW NVNT n20 5180MHz



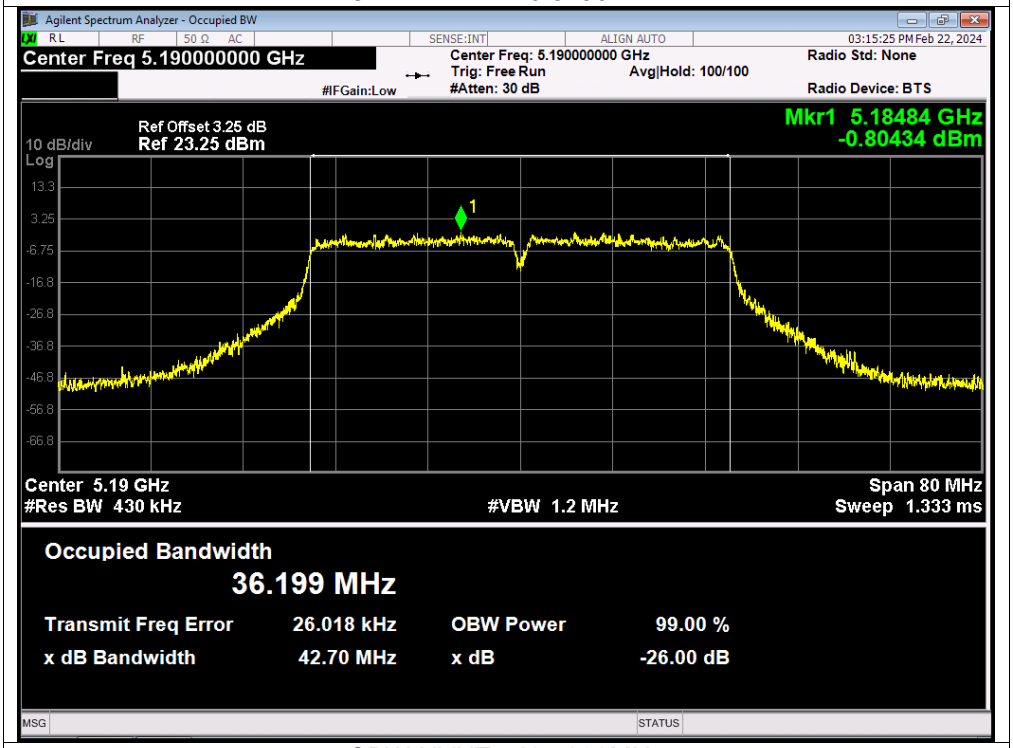
OBW NVNT n20 5200MHz



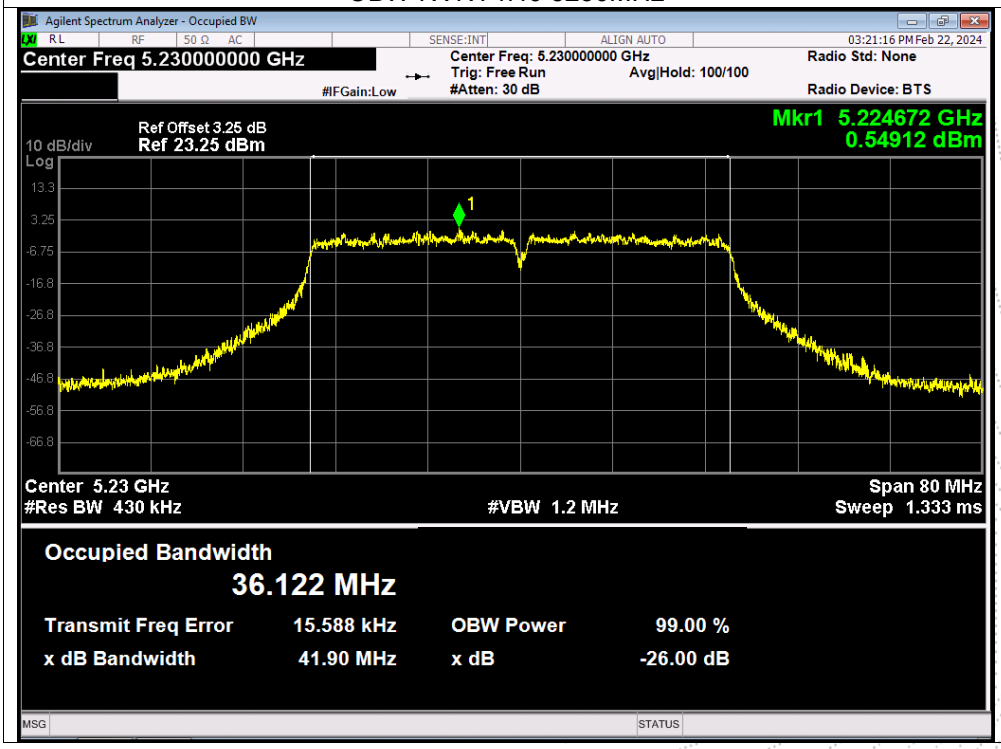
OBW NVNT n20 5240MHz



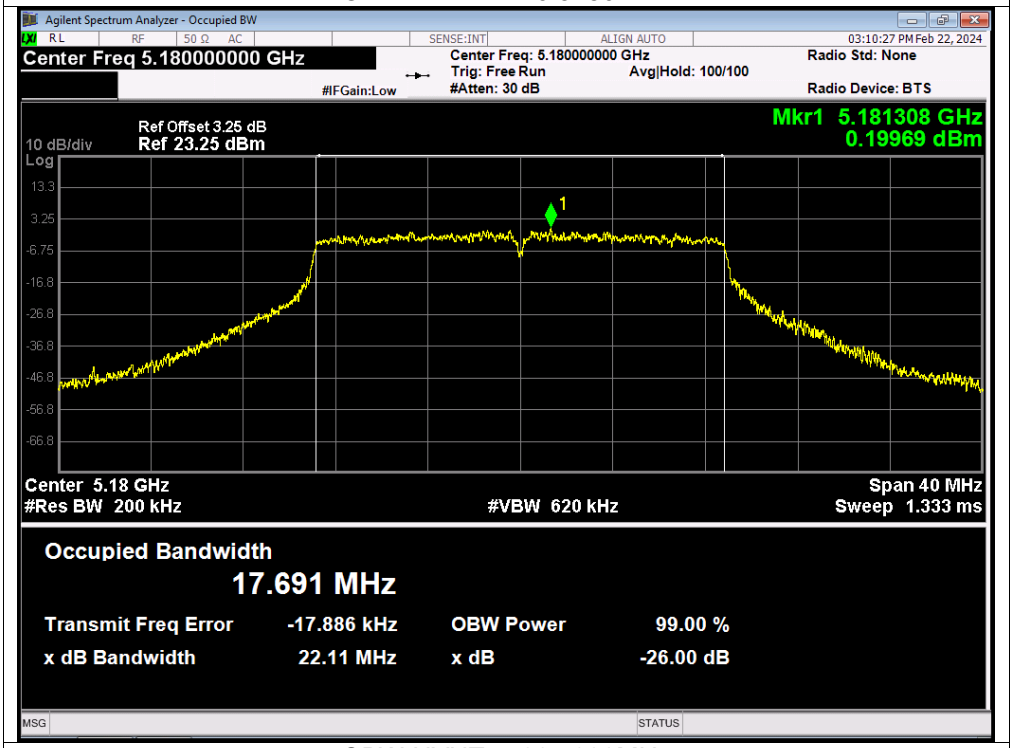
OBW NVNT n40 5190MHz



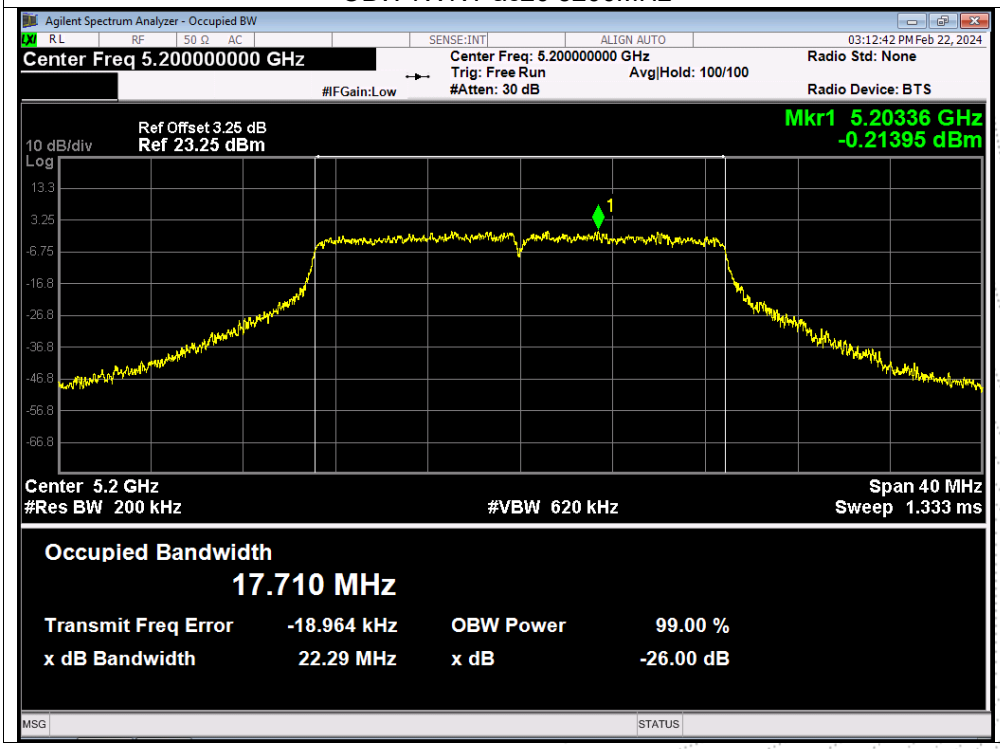
OBW NVNT n40 5230MHz



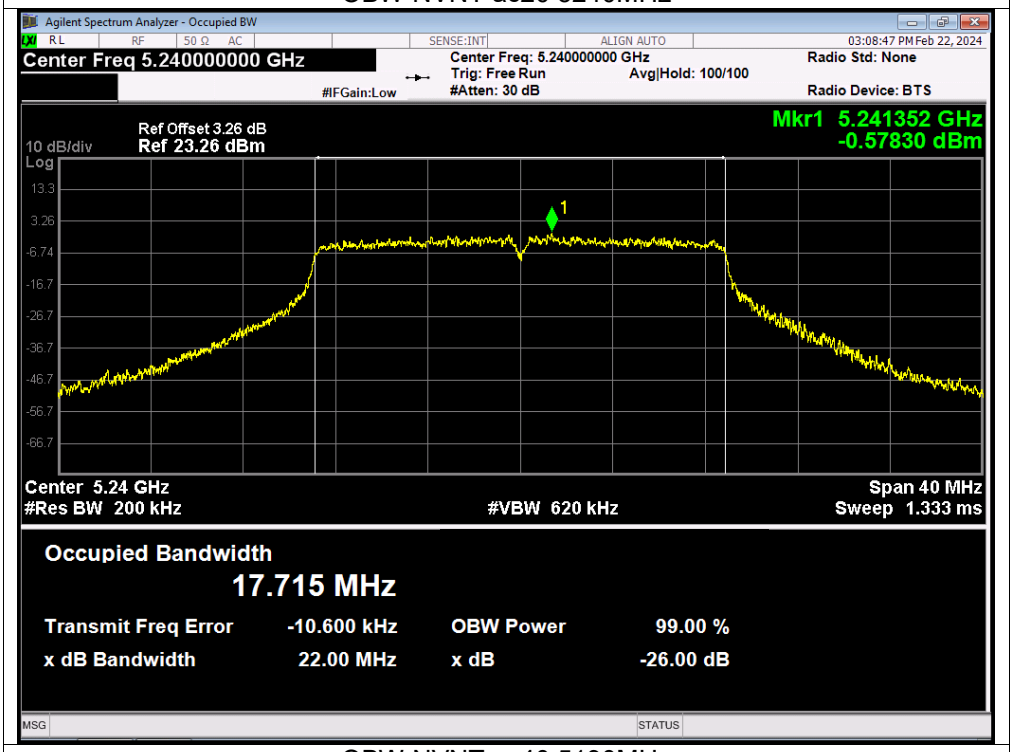
OBW NVNT ac20 5180MHz



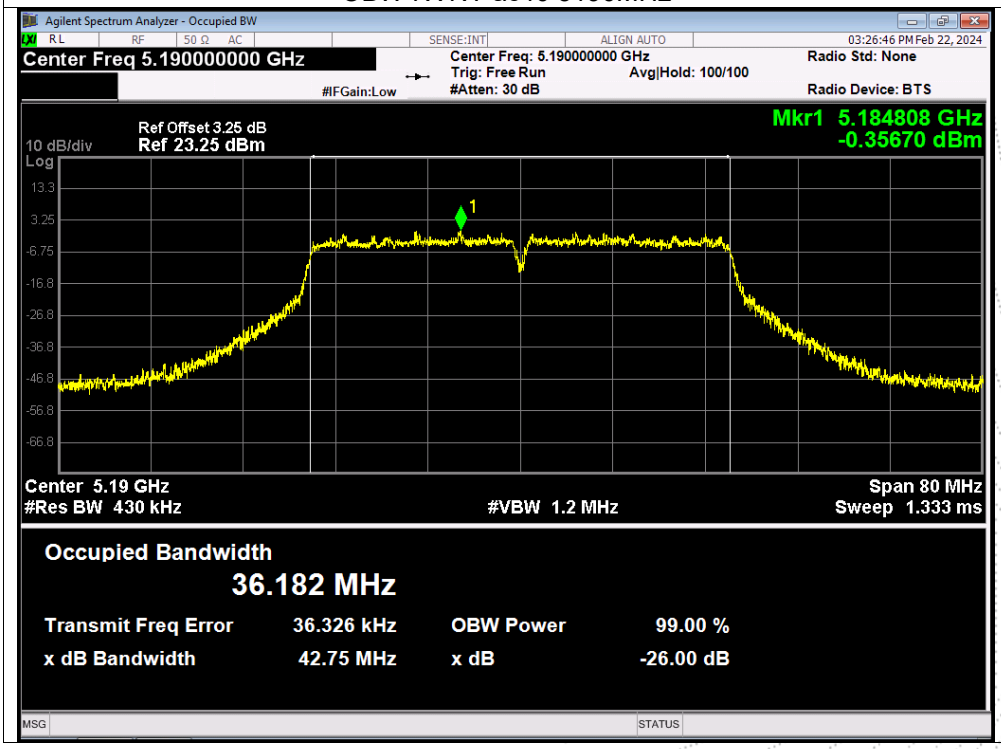
OBW NVNT ac20 5200MHz



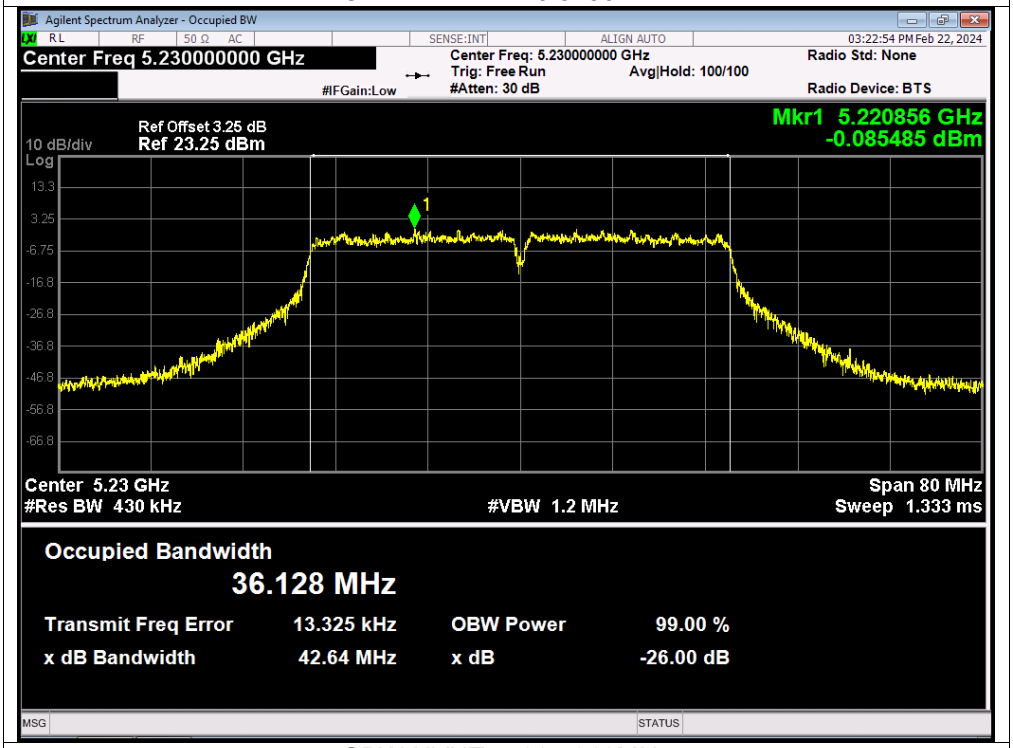
OBW NVNT ac20 5240MHz



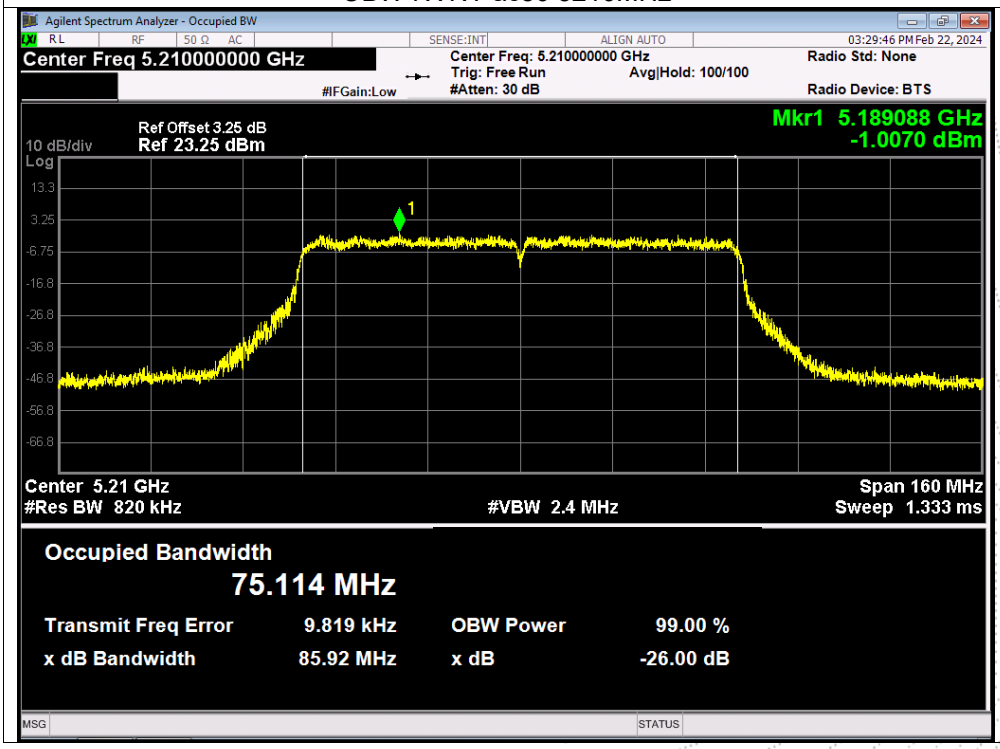
OBW NVNT ac40 5190MHz



OBW NVNT ac40 5230MHz



OBW NVNT ac80 5210MHz



Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V/60Hz
Test Mode:	(5745-5825MHz)		

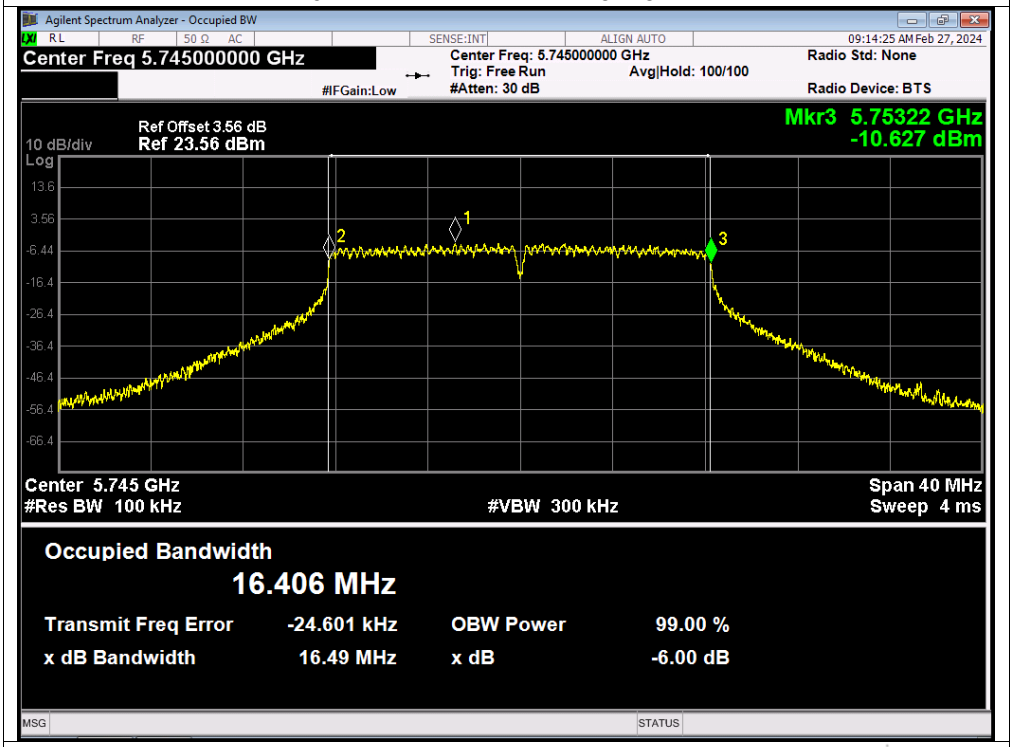
Condition	Mode	Frequency (MHz)	-6 dB Bandwidth (MHz)				Verdict
			Ant A	Ant B	Ant C	Ant D	
NVNT	a	5745	16.489	16.494	16.486	16.471	Pass
NVNT	a	5785	16.474	16.497	16.48	16.466	Pass
NVNT	a	5825	16.475	16.478	16.467	16.487	Pass
NVNT	n20	5745	17.727	17.747	17.734	17.738	Pass
NVNT	n20	5785	17.725	17.731	17.71	17.732	Pass
NVNT	n20	5825	17.719	17.716	17.71	17.717	Pass
NVNT	n40	5755	36.427	36.358	36.416	36.415	Pass
NVNT	n40	5795	36.396	36.299	36.348	36.356	Pass
NVNT	ac20	5745	17.708	17.739	17.74	17.723	Pass
NVNT	ac20	5785	17.714	17.719	17.728	17.731	Pass
NVNT	ac20	5825	17.707	17.733	17.713	17.727	Pass
NVNT	ac40	5755	36.379	36.405	36.408	36.448	Pass
NVNT	ac40	5795	36.441	36.432	36.394	36.382	Pass
NVNT	ac80	5775	**75.418**	75.153	75.1	75.371	Pass

Condition	Mode	Fre-quency (MHz)	99% OBW (MHz)				Limit -6 dB Band-width (MHz)	Verdict
			Ant A	Ant B	Ant C	Ant D		
NVNT	a	5745	16.51	16.508	16.486	16.474	0.5	Pass
NVNT	a	5785	16.51	16.517	16.503	16.508	0.5	Pass
NVNT	a	5825	16.508	16.471	16.512	16.459	0.5	Pass
NVNT	n20	5745	17.699	17.715	17.72	17.709	0.5	Pass
NVNT	n20	5785	17.685	17.707	17.702	17.694	0.5	Pass
NVNT	n20	5825	17.699	17.705	17.68	17.69	0.5	Pass
NVNT	n40	5755	36.122	36.112	36.083	36.098	0.5	Pass
NVNT	n40	5795	36.136	36.133	36.13	36.127	0.5	Pass
NVNT	ac20	5745	17.736	17.745	17.708	17.706	0.5	Pass
NVNT	ac20	5785	17.707	17.692	17.681	17.699	0.5	Pass
NVNT	ac20	5825	17.685	17.7	17.674	17.691	0.5	Pass
NVNT	ac40	5755	36.085	36.147	36.113	36.125	0.5	Pass
NVNT	ac40	5795	36.138	36.123	36.137	36.131	0.5	Pass
NVNT	ac80	5775	**75.089**	75.088	74.998	75.022	0.5	Pass

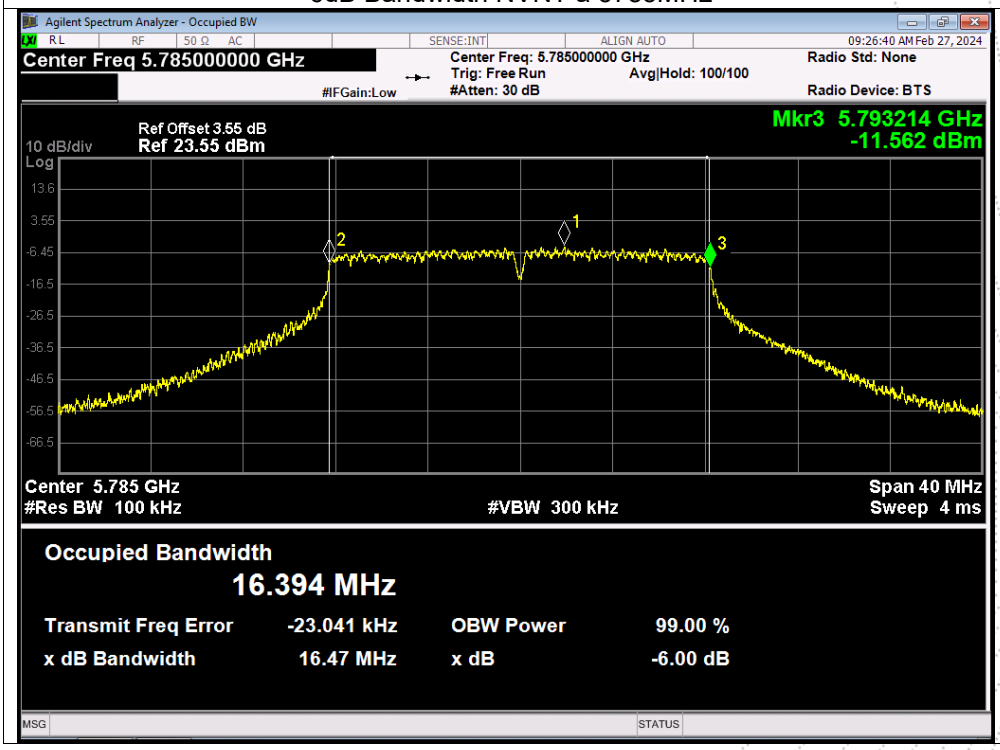
Note: A(B) Represent the value of antenna A/B/C and D, The worst data is Antenna A, only shown Antenna A Plot.

Test Graphs

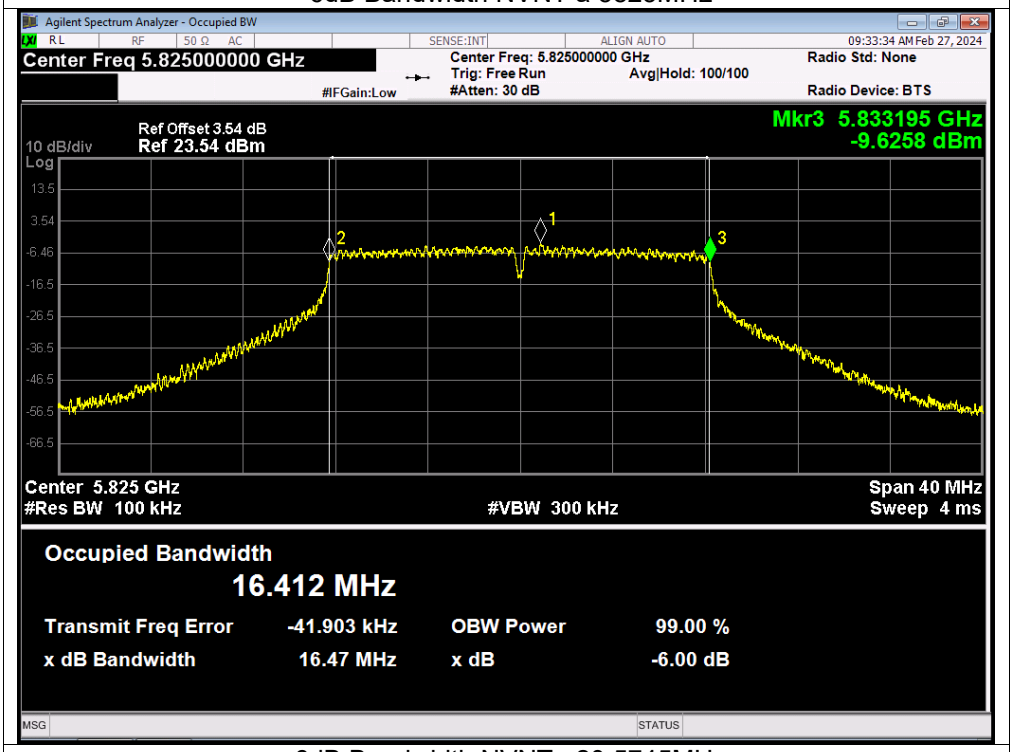
-6dB Bandwidth NVNT a 5745MHz



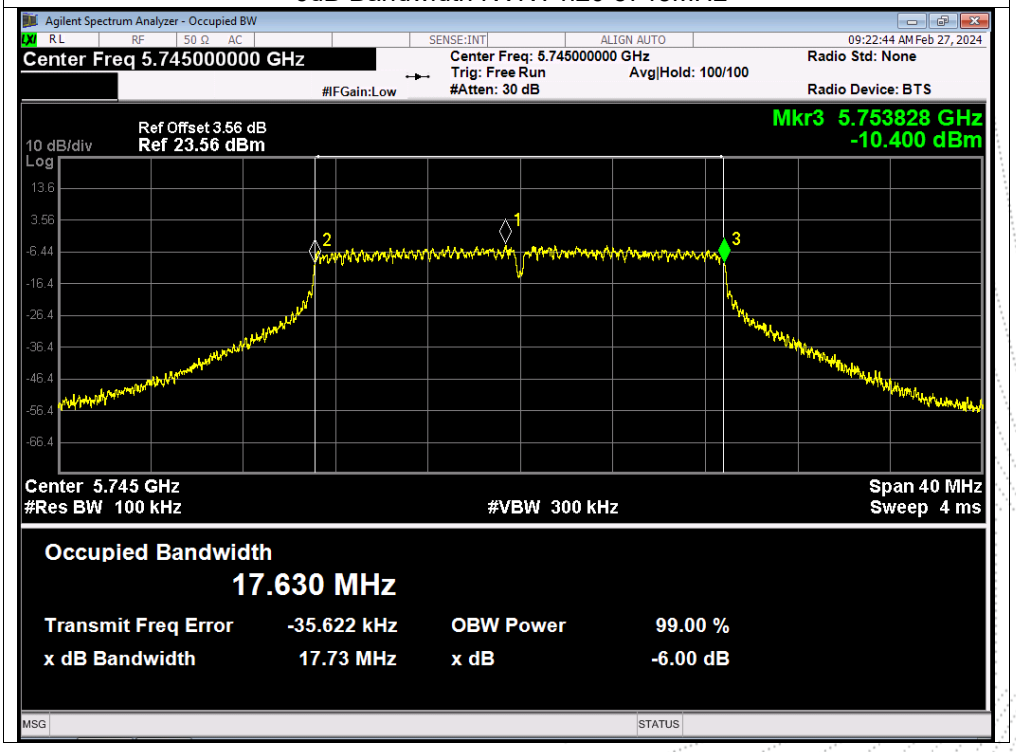
-6dB Bandwidth NVNT a 5785MHz



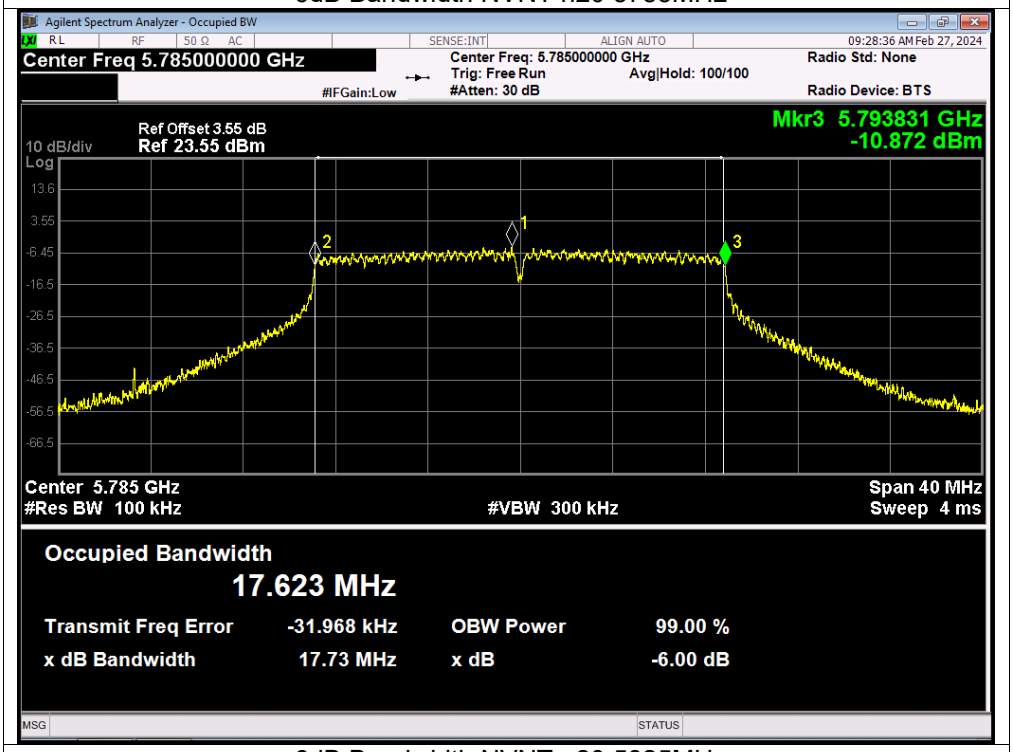
-6dB Bandwidth NVNT a 5825MHz



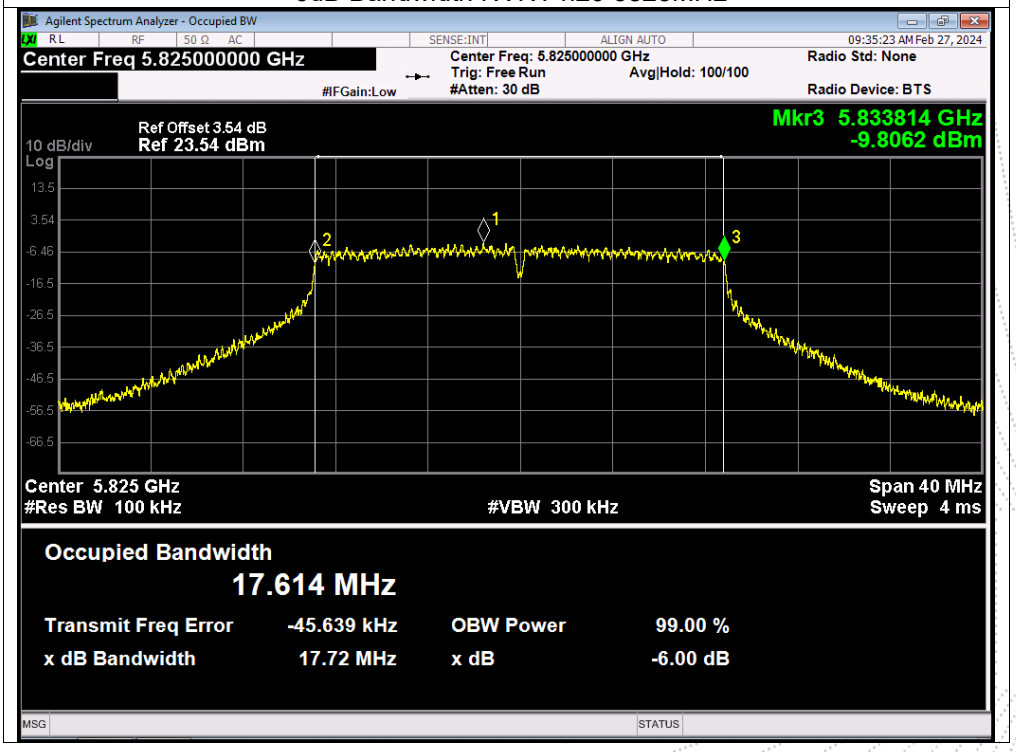
-6dB Bandwidth NVNT n20 5745MHz



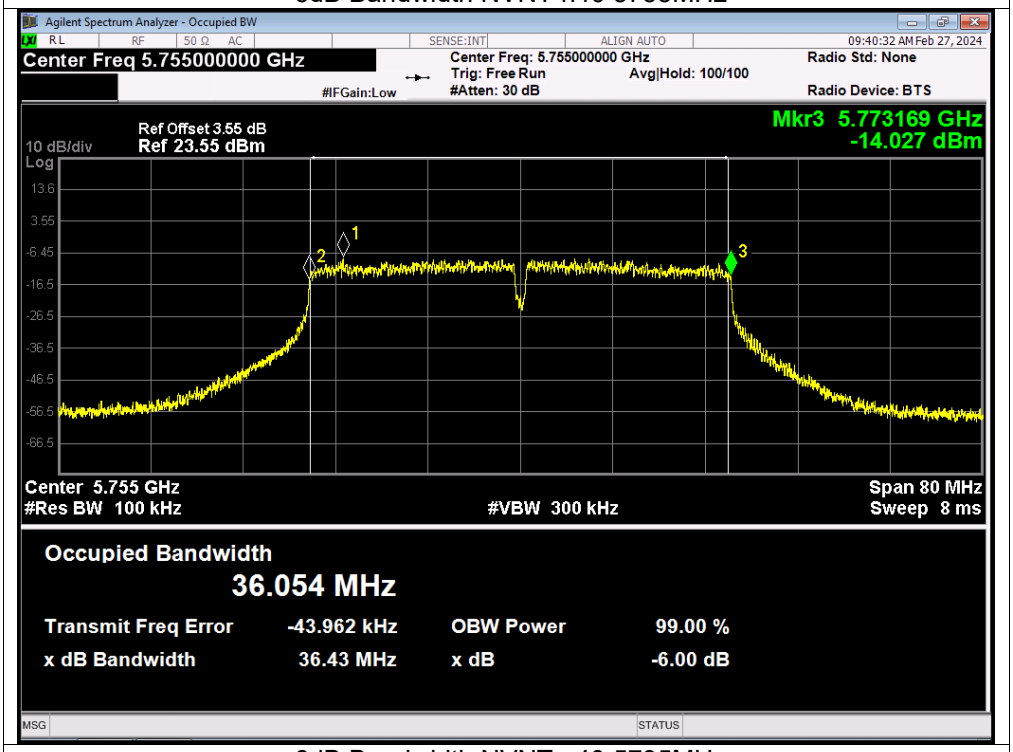
-6dB Bandwidth NVNT n20 5785MHz



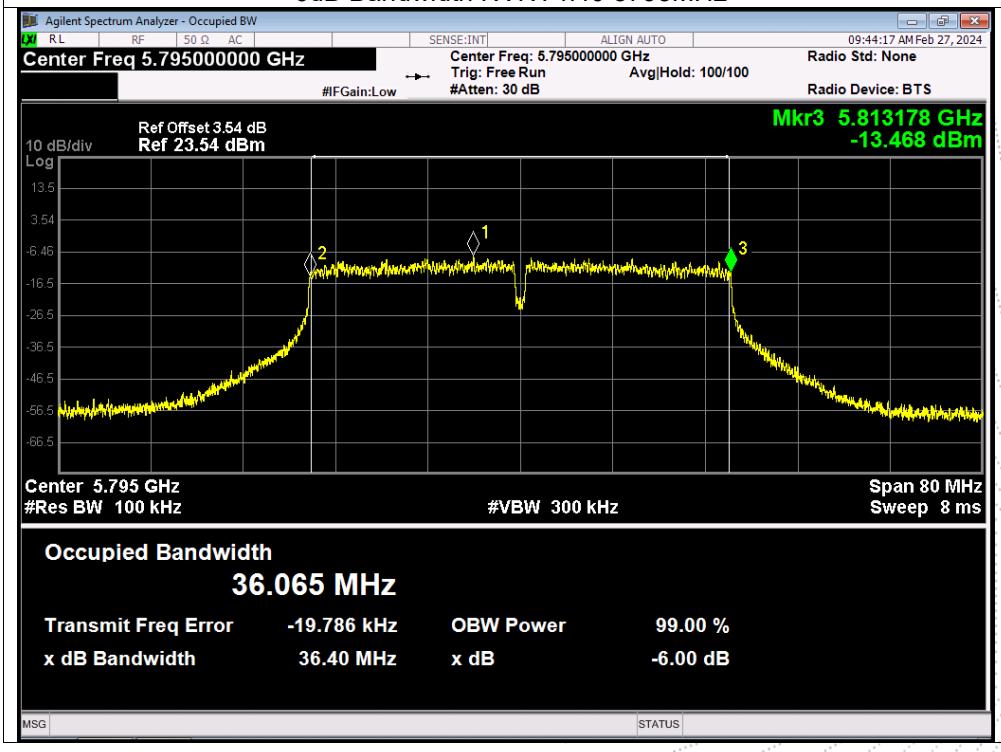
-6dB Bandwidth NVNT n20 5825MHz



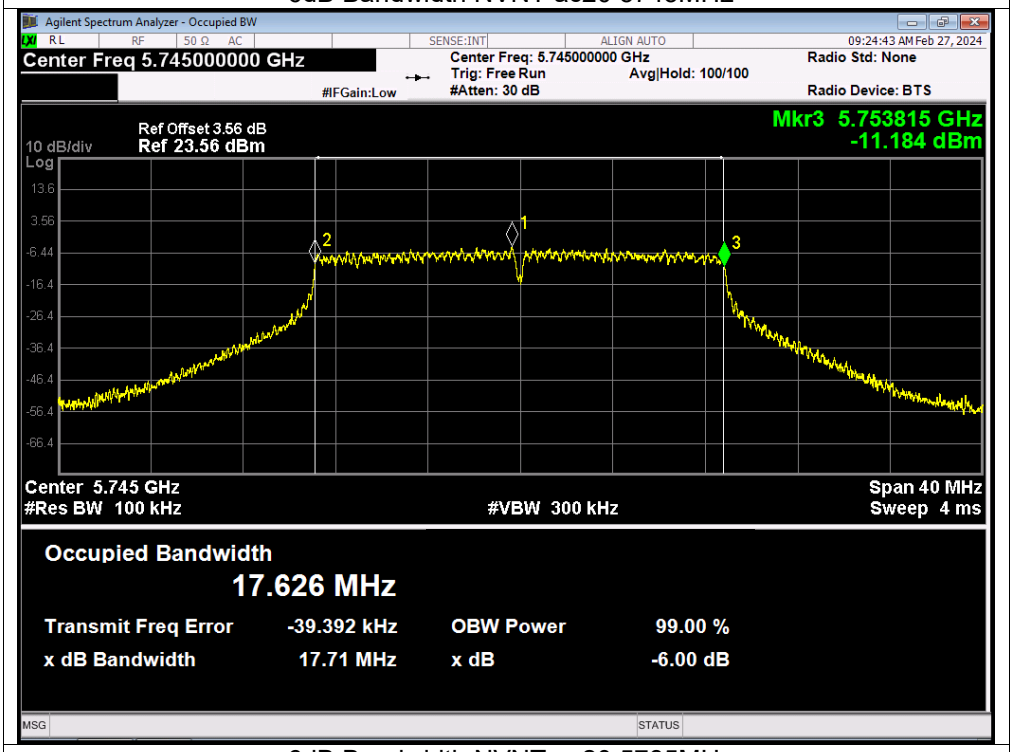
-6dB Bandwidth NVNT n40 5755MHz



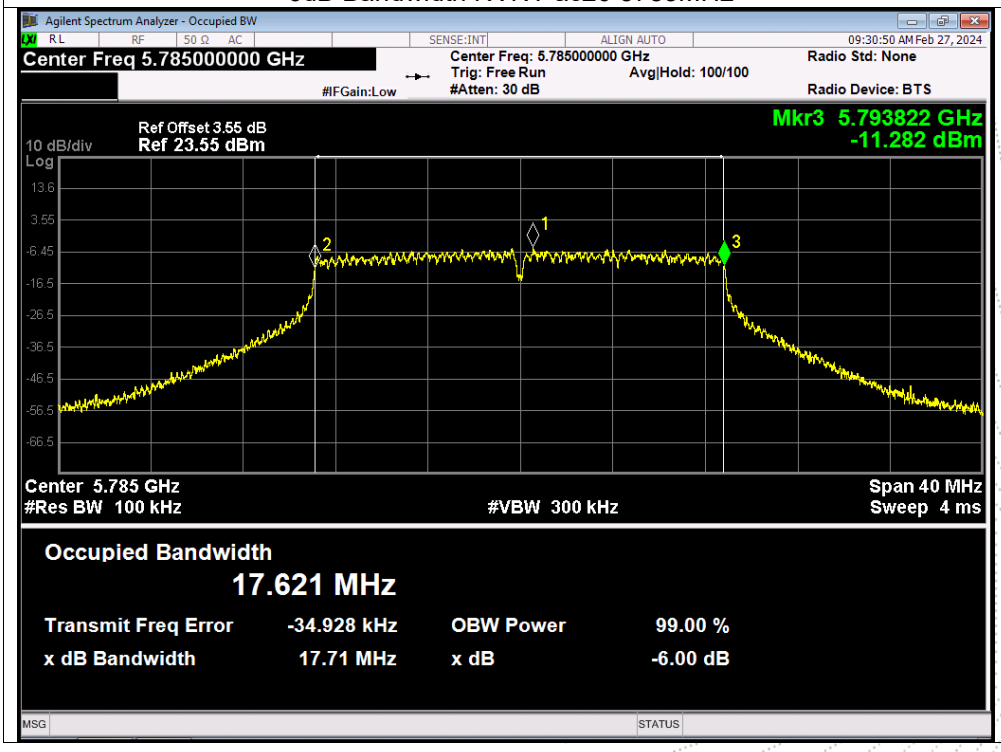
-6dB Bandwidth NVNT n40 5795MHz



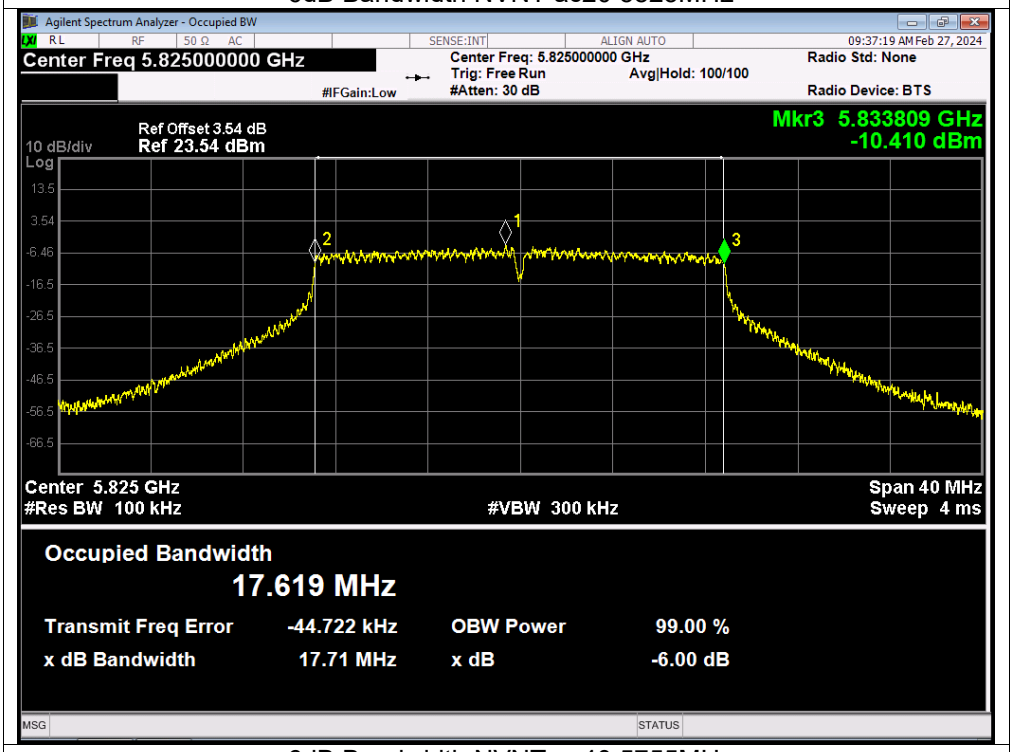
-6dB Bandwidth NVNT ac20 5745MHz



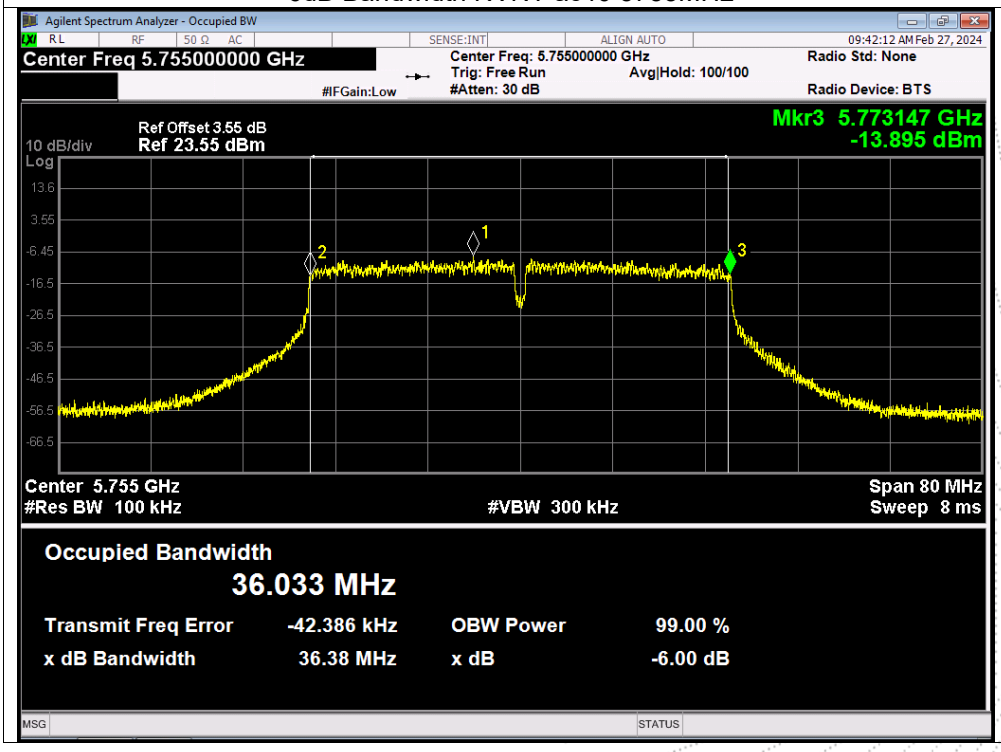
-6dB Bandwidth NVNT ac20 5785MHz



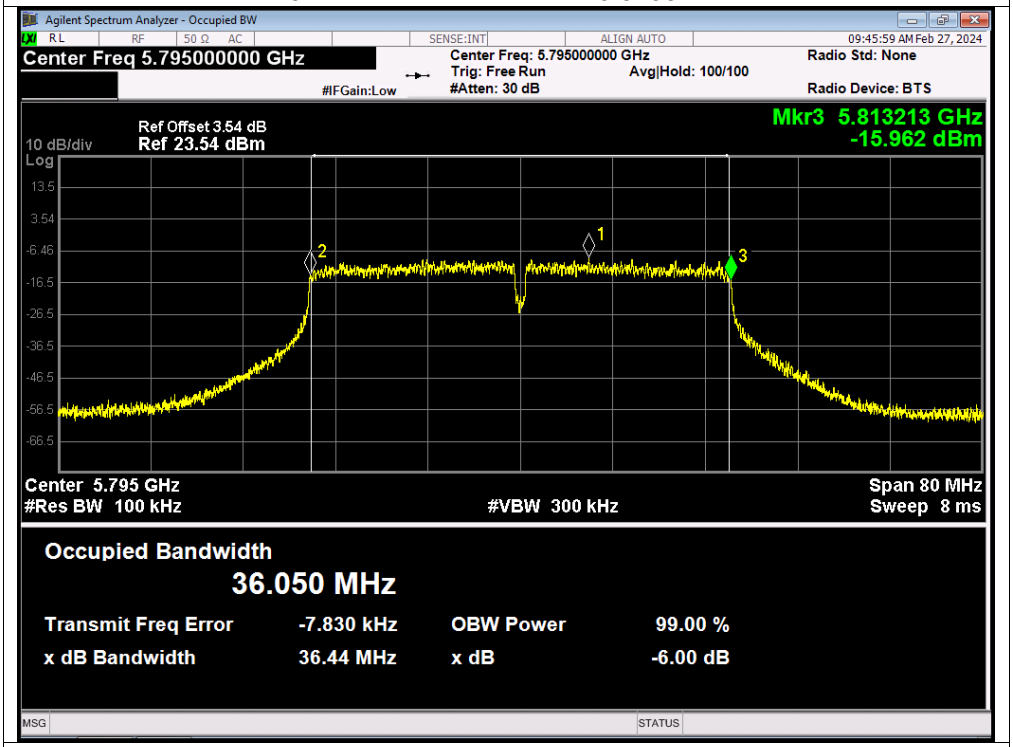
-6dB Bandwidth NVNT ac20 5825MHz



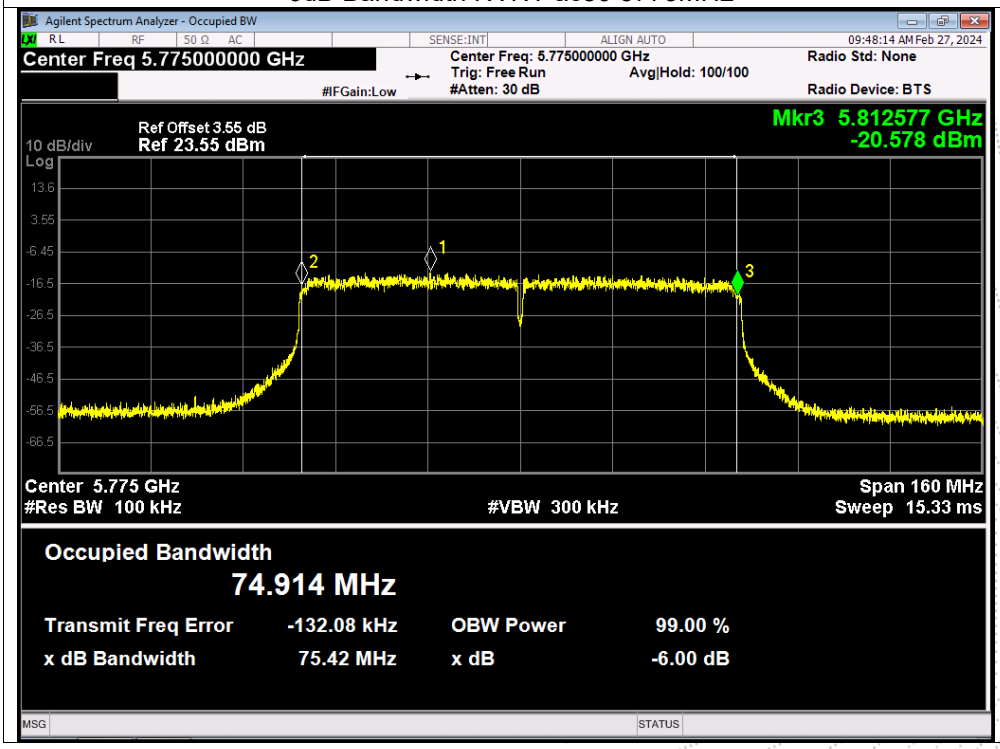
-6dB Bandwidth NVNT ac40 5755MHz



-6dB Bandwidth NVNT ac40 5795MHz



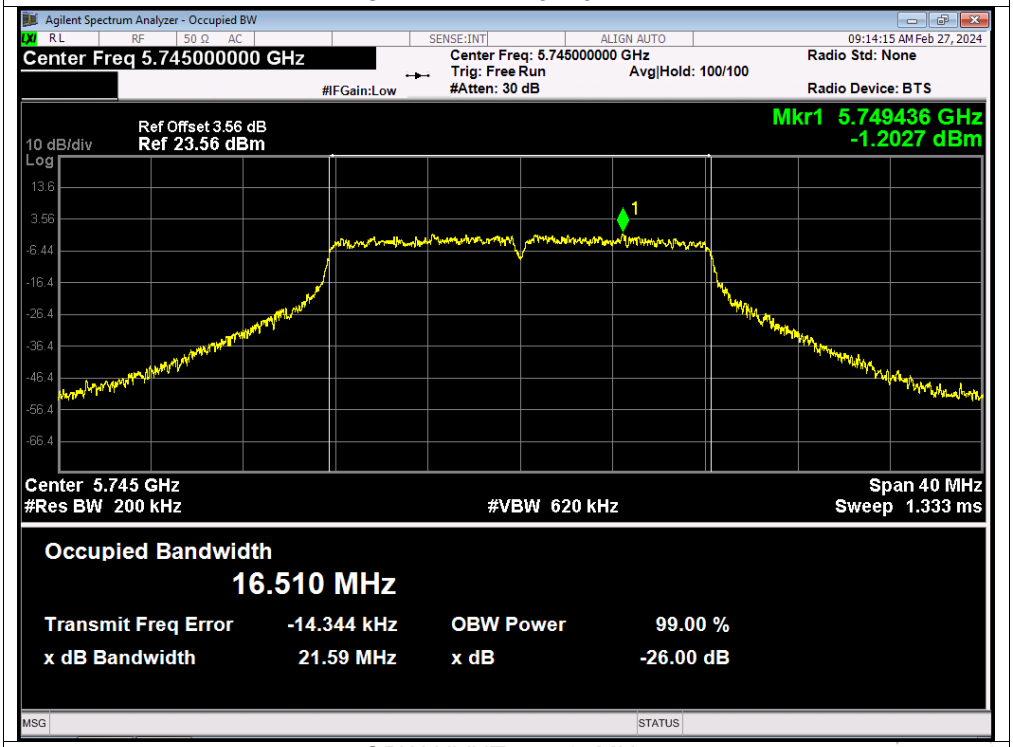
-6dB Bandwidth NVNT ac80 5775MHz



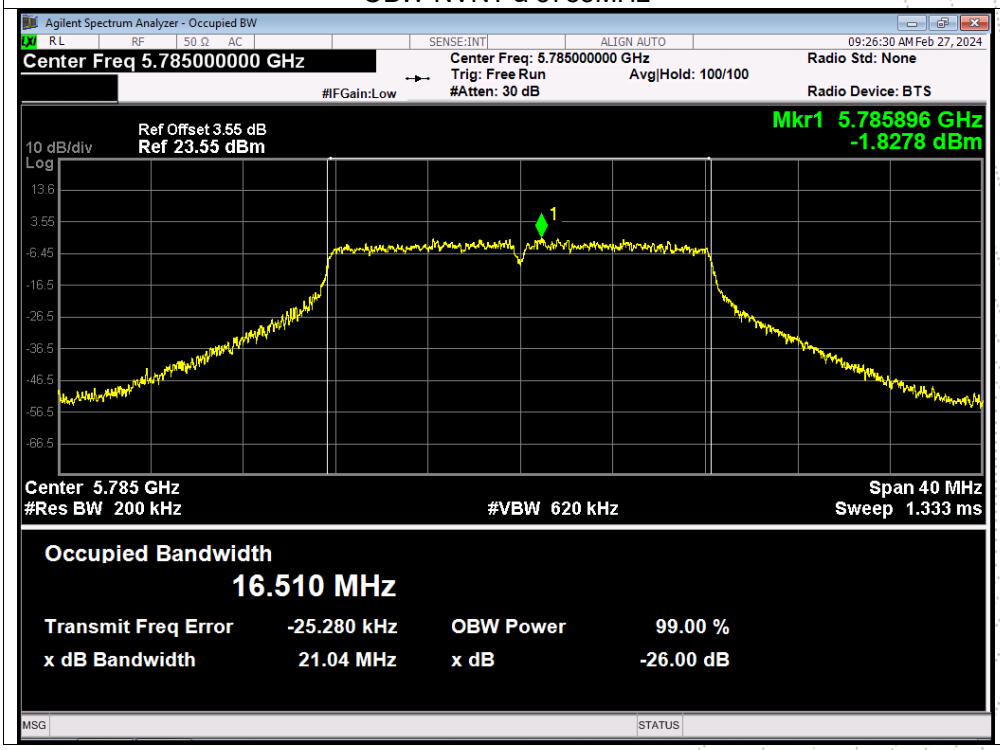
Note: A(B) Represent the value of antenna A/B/C and D, The worst data is Antenna A, only shown Antenna A Plot.

Test Graphs

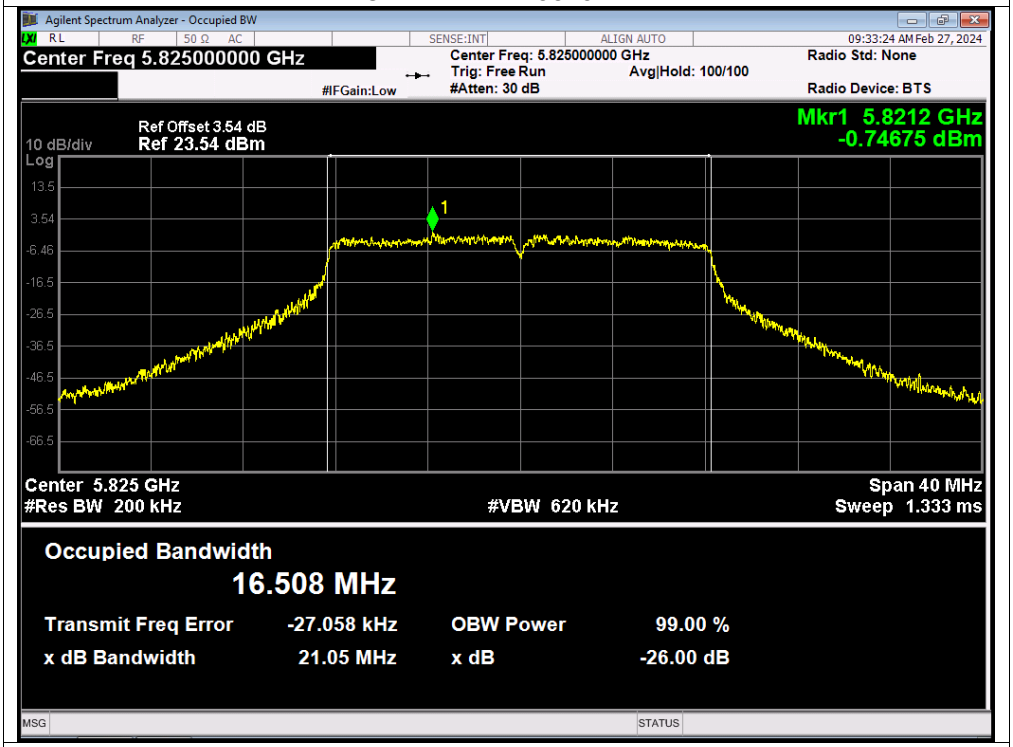
OBW NVNT a 5745MHz



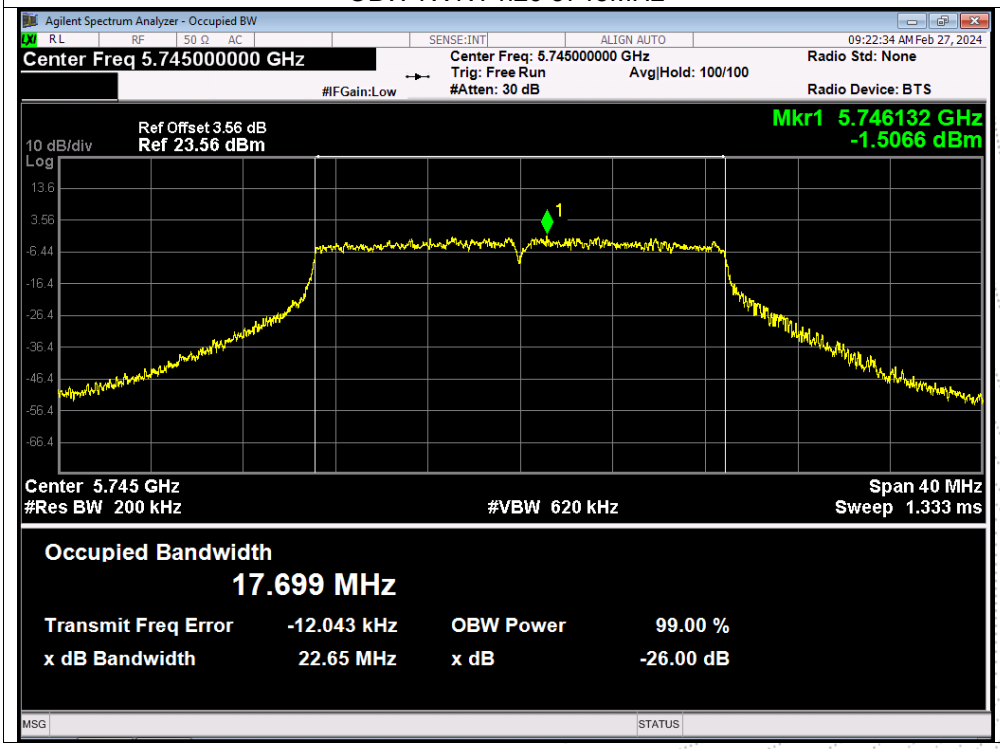
OBW NVNT a 5785MHz



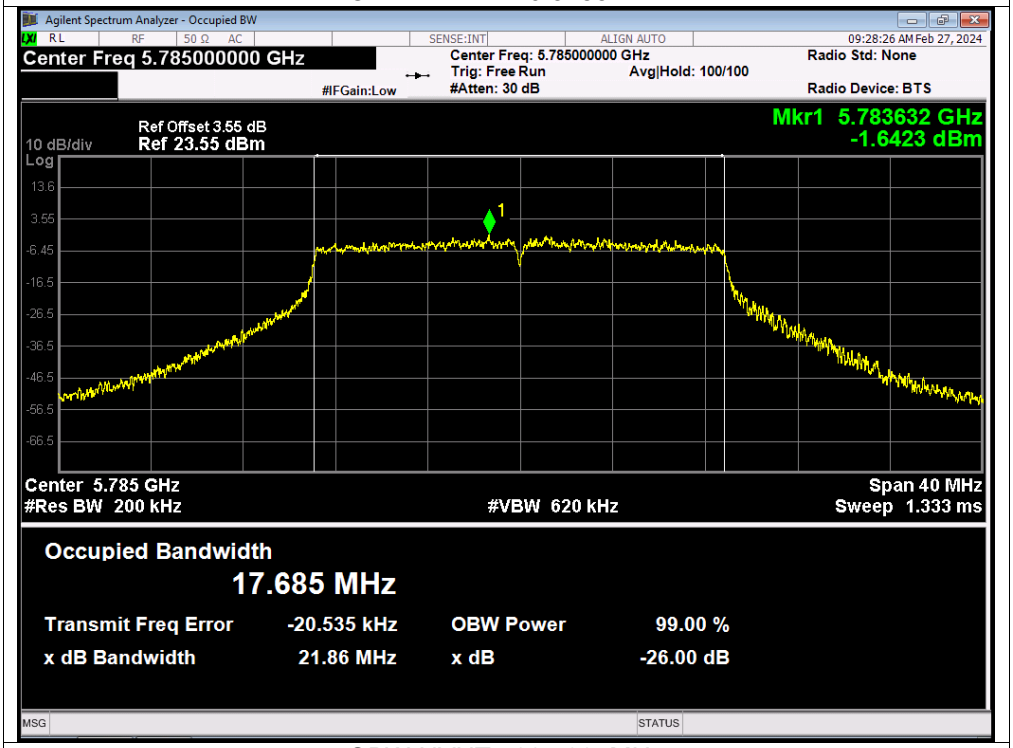
OBW NVNT a 5825MHz



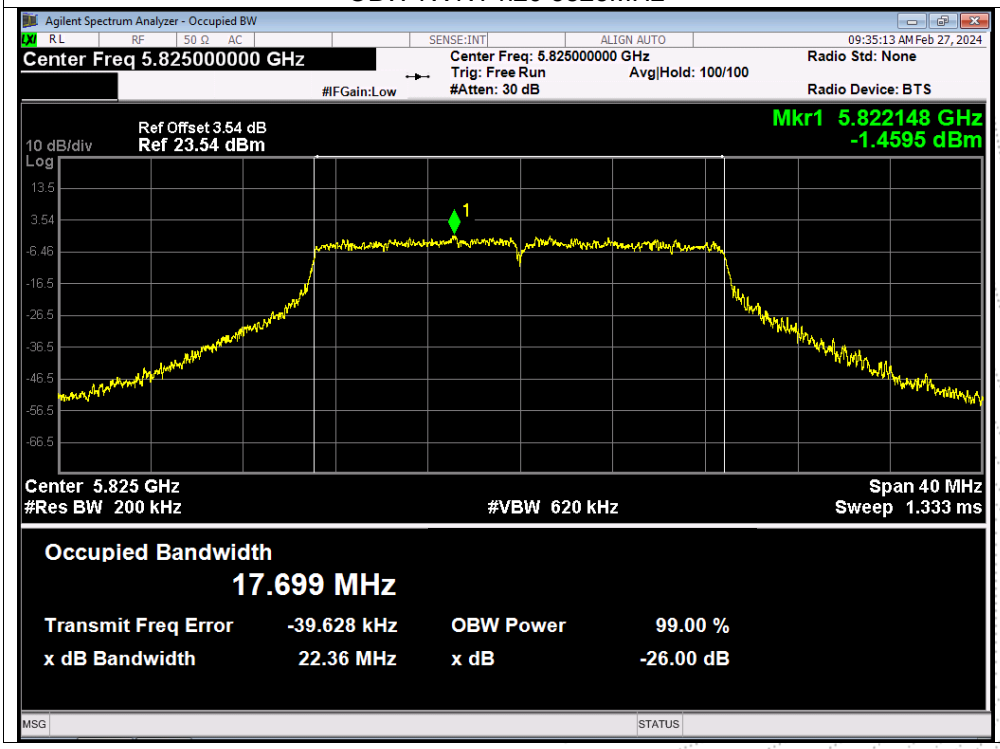
OBW NVNT n20 5745MHz



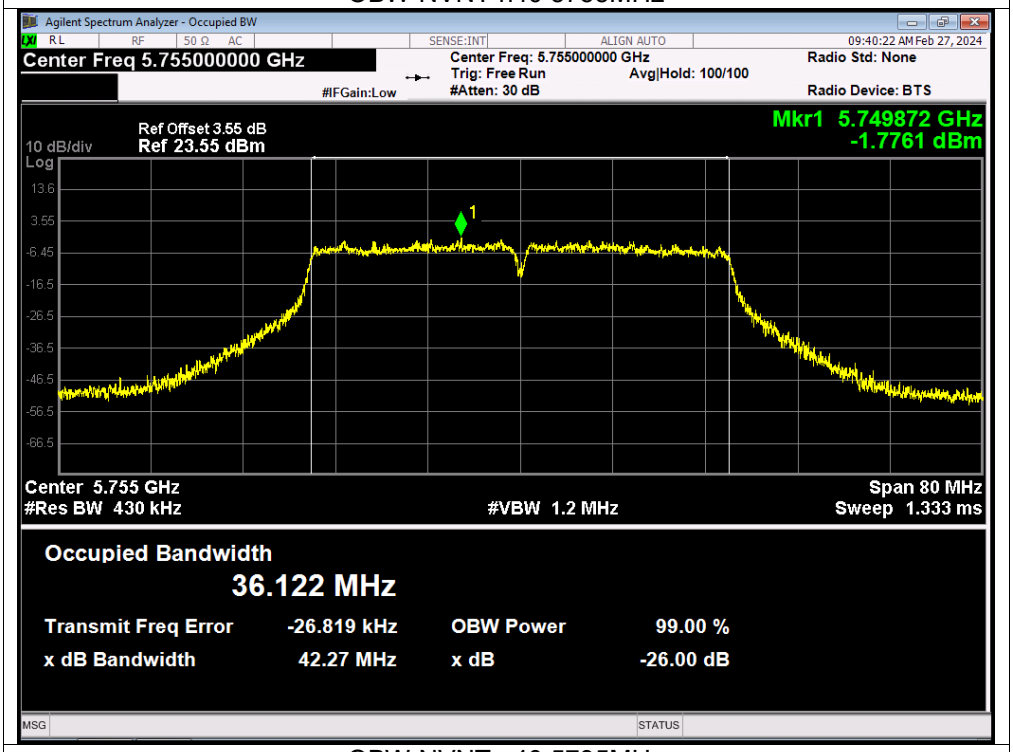
OBW NVNT n20 5785MHz



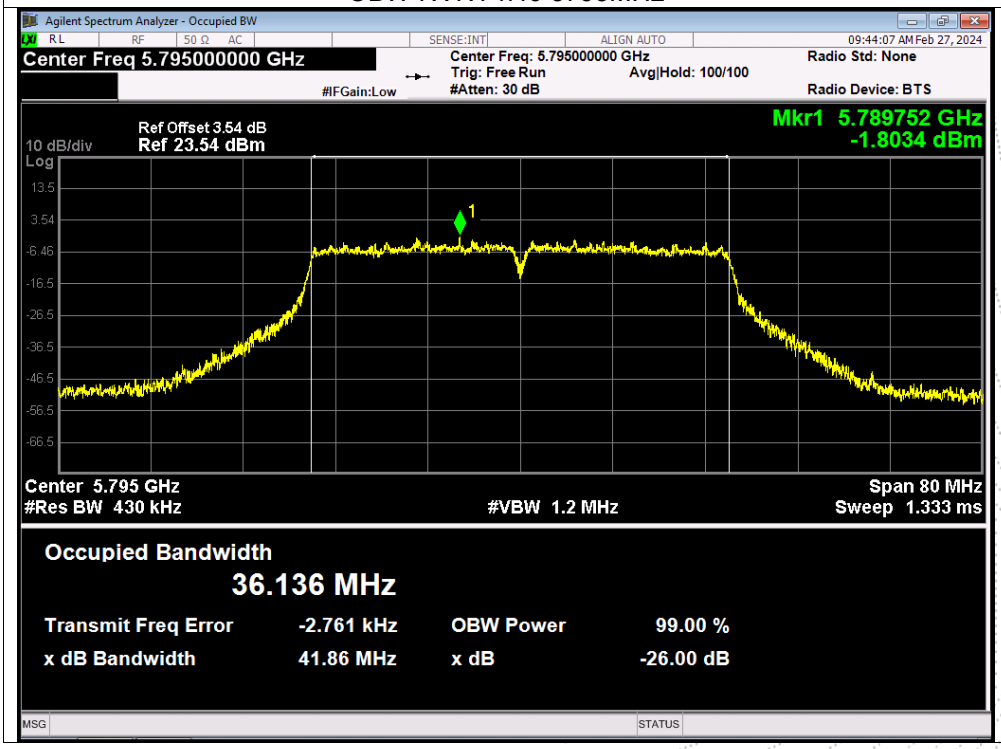
OBW NVNT n20 5825MHz



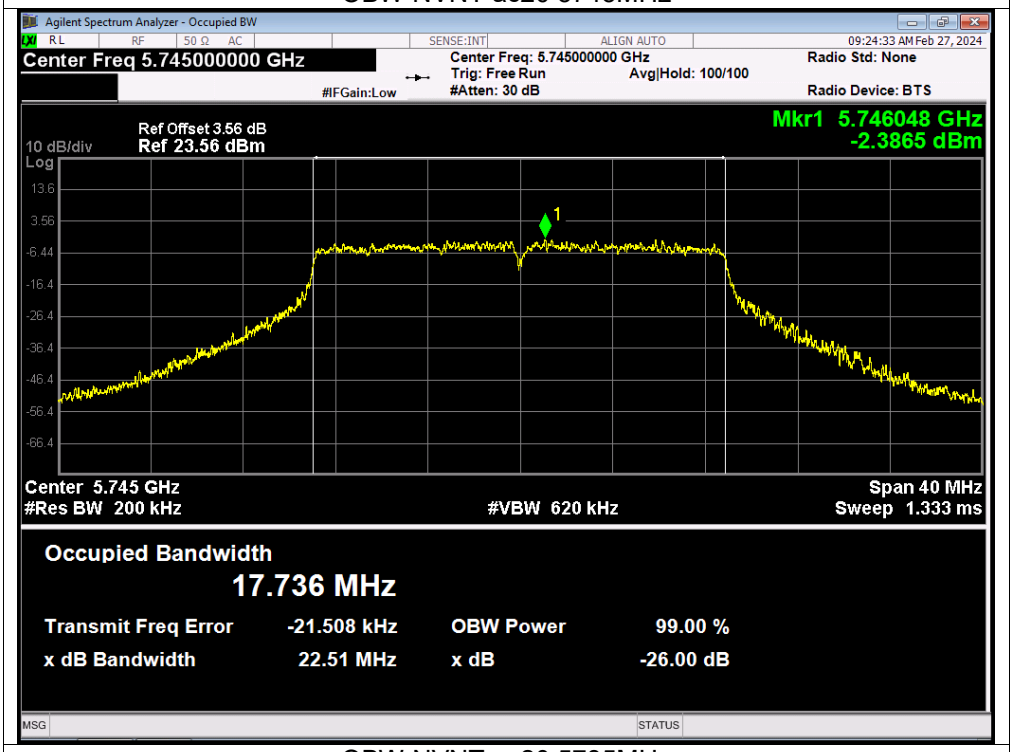
OBW NVNT n40 5755MHz



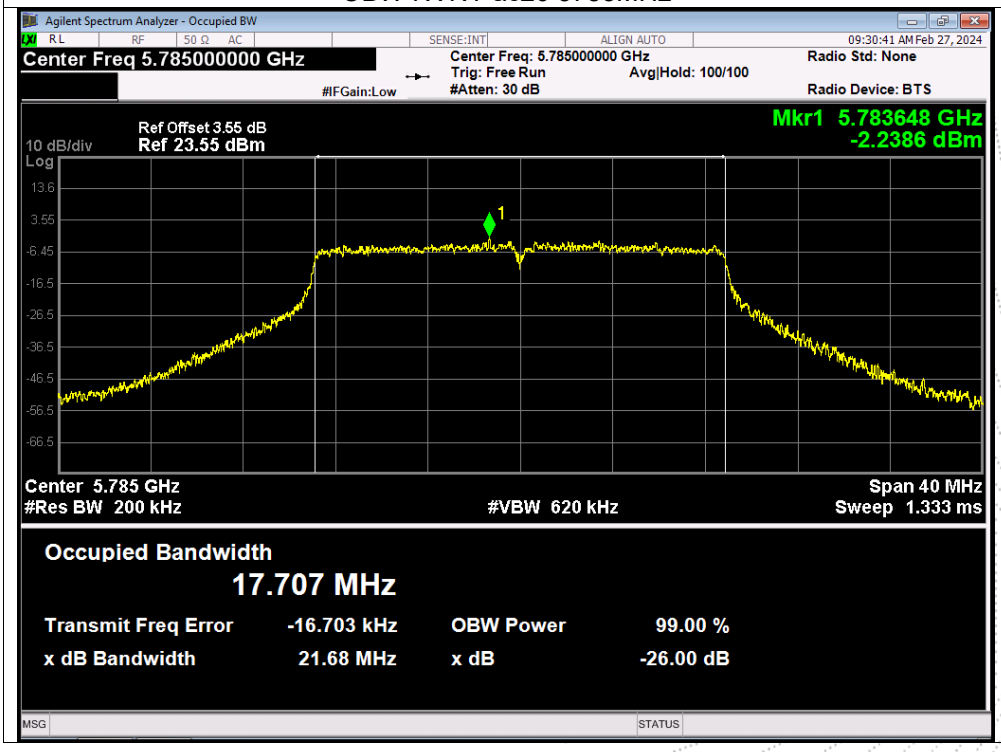
OBW NVNT n40 5795MHz



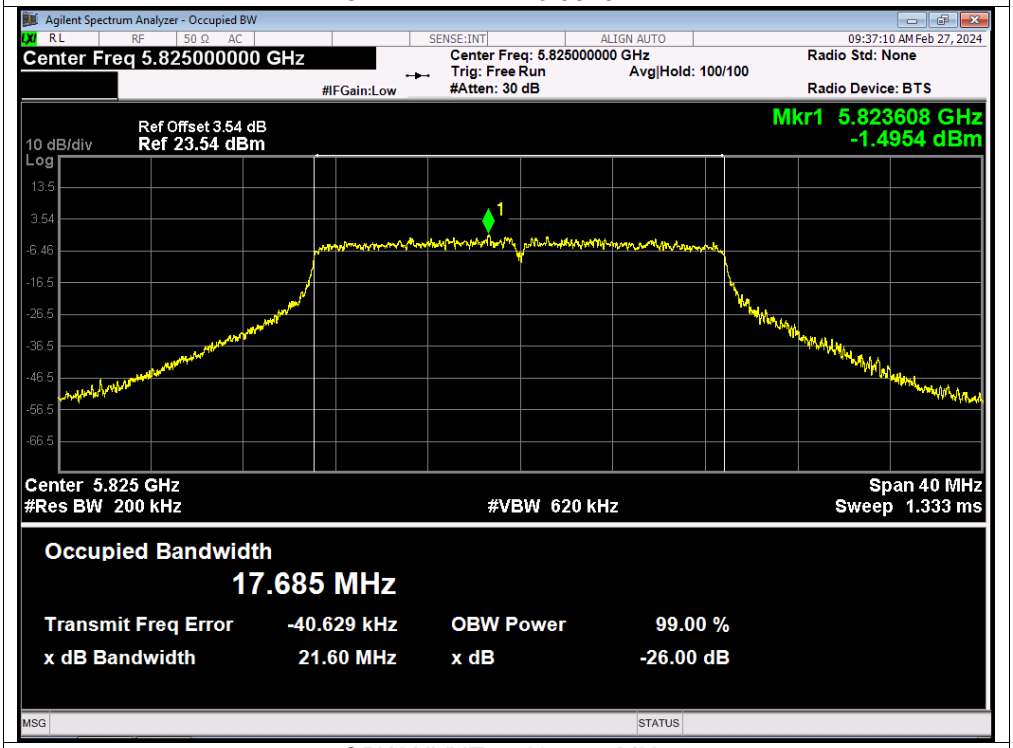
OBW NVNT ac20 5745MHz



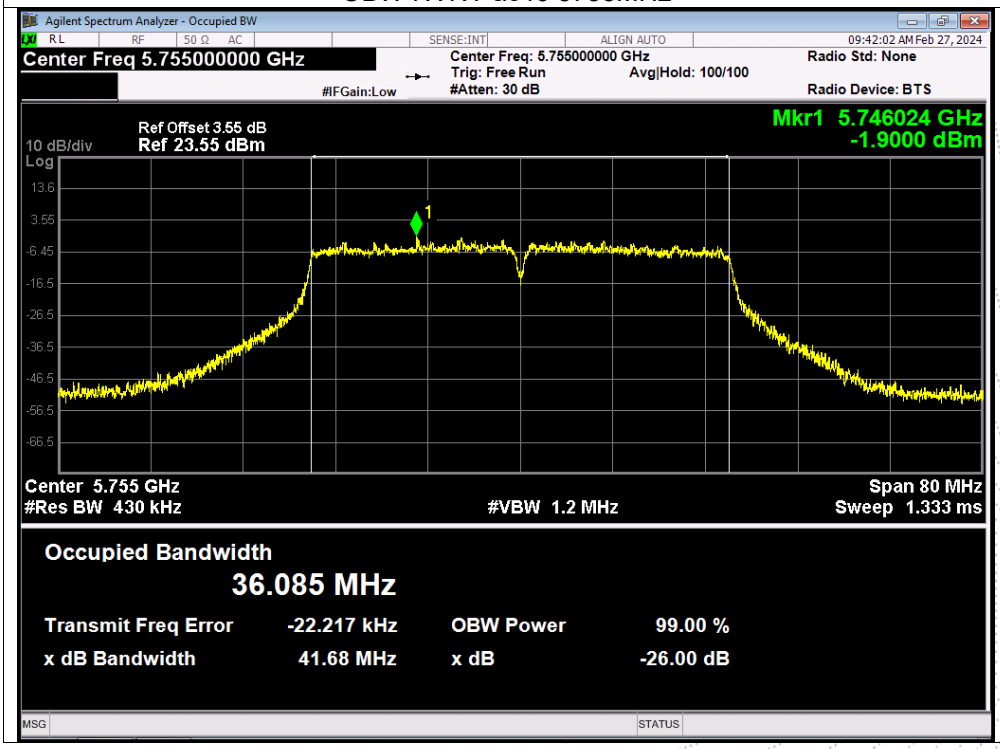
OBW NVNT ac20 5785MHz



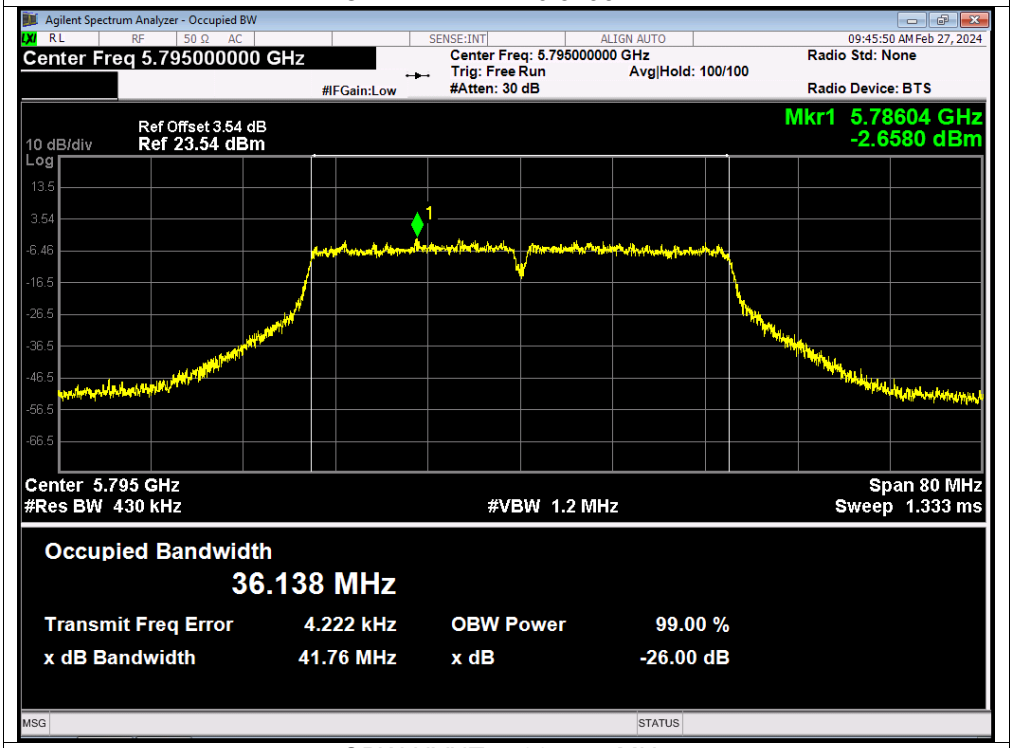
OBW NVNT ac20 5825MHz



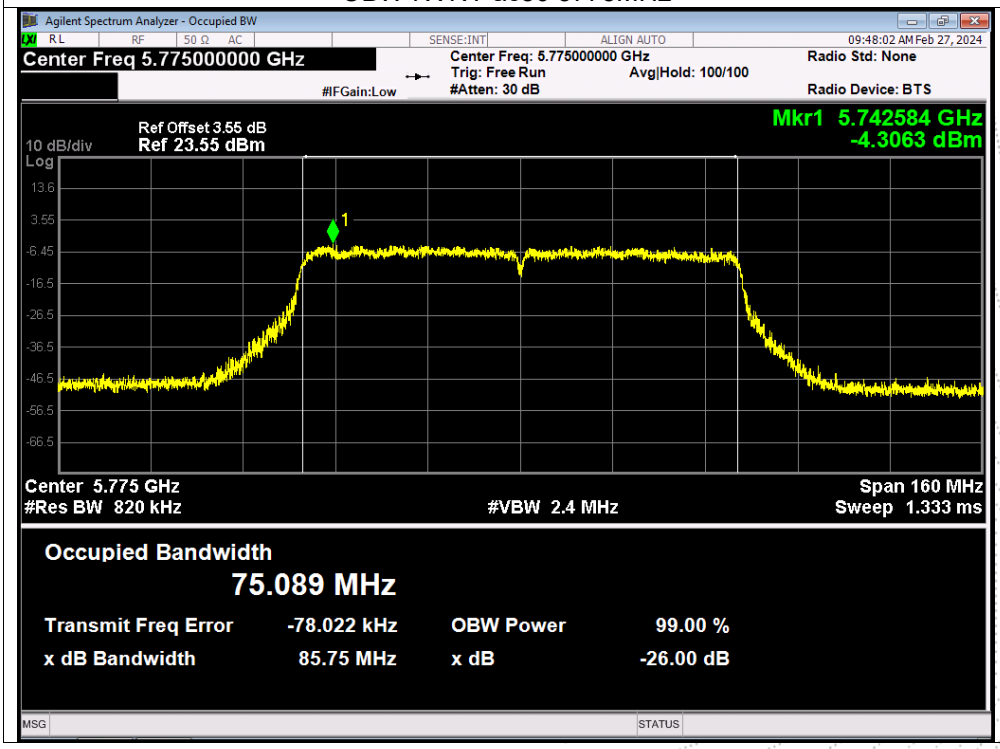
OBW NVNT ac40 5755MHz



OBW NVNT ac40 5795MHz

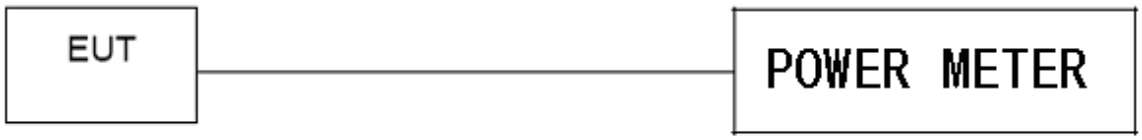


OBW NVNT ac80 5775MHz



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	1W
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:	AC 120V/60Hz
Test Mode:	5180-5240MHz		

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)					Limit (dBm)	Verdict
			Ant A	Ant B	Ant C	Ant D	Total		
NVNT	a	5180	11.87	9.79	9.95	10.38	/	30	Pass
NVNT	a	5200	11.89	7.23	6.86	9.94	/	30	Pass
NVNT	a	5240	11.15	9.84	9.58	9.9	/	30	Pass
NVNT	n20	5180	10.73	8.46	7.5	9.45	15.22	30	Pass
NVNT	n20	5200	10.26	7.04	6.61	9.24	14.57	30	Pass
NVNT	n20	5240	10.19	8.68	8.4	9.64	15.31	30	Pass
NVNT	n40	5190	8.86	7.28	6.87	8.21	13.90	30	Pass
NVNT	n40	5230	9.5	7.75	7.22	7.64	14.14	30	Pass
NVNT	ac20	5180	10.5	8.37	7.43	8.8	14.94	30	Pass
NVNT	ac20	5200	10.59	7.01	6.57	8.67	14.53	30	Pass
NVNT	ac20	5240	9.82	8.52	8.34	8.16	14.78	30	Pass
NVNT	ac40	5190	9.34	7.29	6.76	8.24	14.04	30	Pass
NVNT	ac40	5230	9.74	7.69	7.2	6.93	14.06	30	Pass
NVNT	ac80	5210	8.77	6.86	5.9	7.9	13.51	30	Pass

Note:
1.For power measurements.
The Array gain=0 for NANT≤4
So the directional gain foe Power measurements is 3.87 dBi

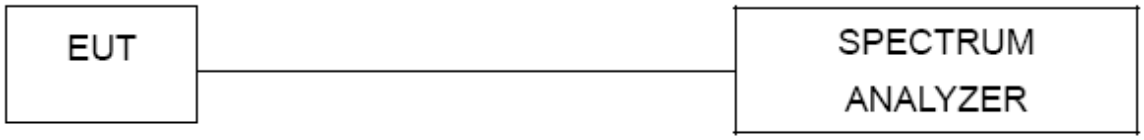
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V/60Hz
Test Mode:	5745-5825MHz		

Condi-tion	Mode	Fre-quency (MHz)	Conducted Power (dBm)					Limit (dBm)	Verdict
			Ant A	Ant B	Ant C	Ant D	Total		
NVNT	a	5745	9.98	9.58	8.79	9.81	/	30	Pass
NVNT	a	5785	8.99	9.85	7.62	8.95	/	30	Pass
NVNT	a	5825	9.95	8.29	8.74	9.06	/	30	Pass
NVNT	n20	5745	9.02	8.59	7.61	8.74	14.54	30	Pass
NVNT	n20	5785	8.41	8.41	7	8.29	14.09	30	Pass
NVNT	n20	5825	9.29	8.15	8.17	8.27	14.52	30	Pass
NVNT	n40	5755	7.84	6.34	6.1	6.83	12.85	30	Pass
NVNT	n40	5795	7.38	5.8	6.14	5.88	12.37	30	Pass
NVNT	ac20	5745	8.54	7.59	6.92	7.95	13.81	30	Pass
NVNT	ac20	5785	7.89	7.44	6.36	7.8	13.43	30	Pass
NVNT	ac20	5825	8.78	7.2	7.66	7.35	13.81	30	Pass
NVNT	ac40	5755	7.25	6.33	5.81	5.72	12.34	30	Pass
NVNT	ac40	5795	6.91	4.72	5.63	4.84	11.64	30	Pass
NVNT	ac80	5775	5.82	4.81	4.86	5.61	11.32	30	Pass

Note:
1.For power measurements.
The Array gain=0 for NANT≤4
So the directional gain foe Power measurements is 3.87 dBi

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.
(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(4) For transmitters operating in the 5.725-5.85 GHz band(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing

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