

TEST REPORT

Report No.: BCTC2212965954-4E

Applicant: SHEN ZHEN NST INDUSTRY AND TRADE CO.,LTD

Product Name: 10.1inch tablet pc

Model/Type
reference: M1045W

Tested Date: 2022-12-01 to 2022-12-15

Issued Date: 2022-12-15

Shenzhen BCTC Testing Co., Ltd.



FCC ID:2AAMS-M1045W

Product Name: 10.1inch tablet pc
Trademark: N/A
Model/Type reference: M1045W
M1045W1, M1045W2, M1045W3, M1045W4, M1045W5, M1045W6, M1045W7,
M1045W8, M1045W9
Prepared For: SHEN ZHEN NST INDUSTRY AND TRADE CO.,LTD
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Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date: 2022-12-01
Sample tested Date: 2022-12-01 to 2022-12-15
Issue Date: 2022-12-15
Report No.: BCTC2212965954-4E
FCC Part15 15.407
Test Standards: ANSI C63.10-2013
KDB 662911 D01 v02r01
KDB 789033 D02 v02r01
Test Results: PASS

Tested by:



Jeff.Fu/Project Handler

Approved by:



Zero Zhou/Reviewer

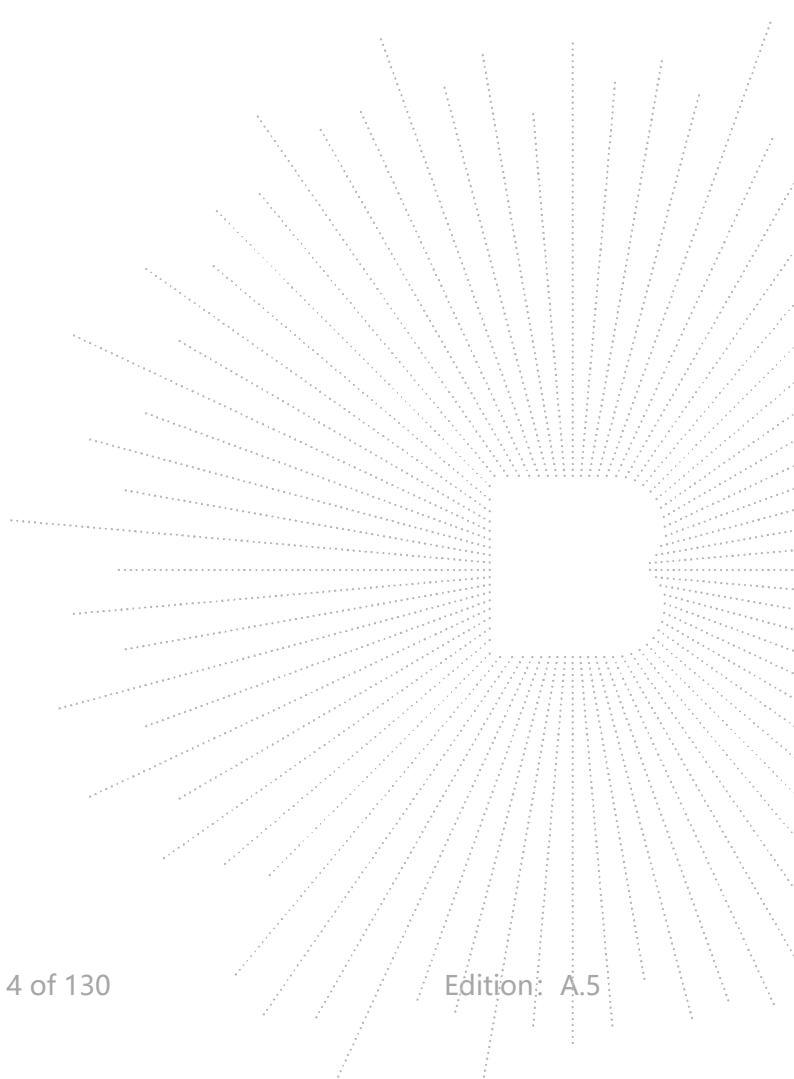
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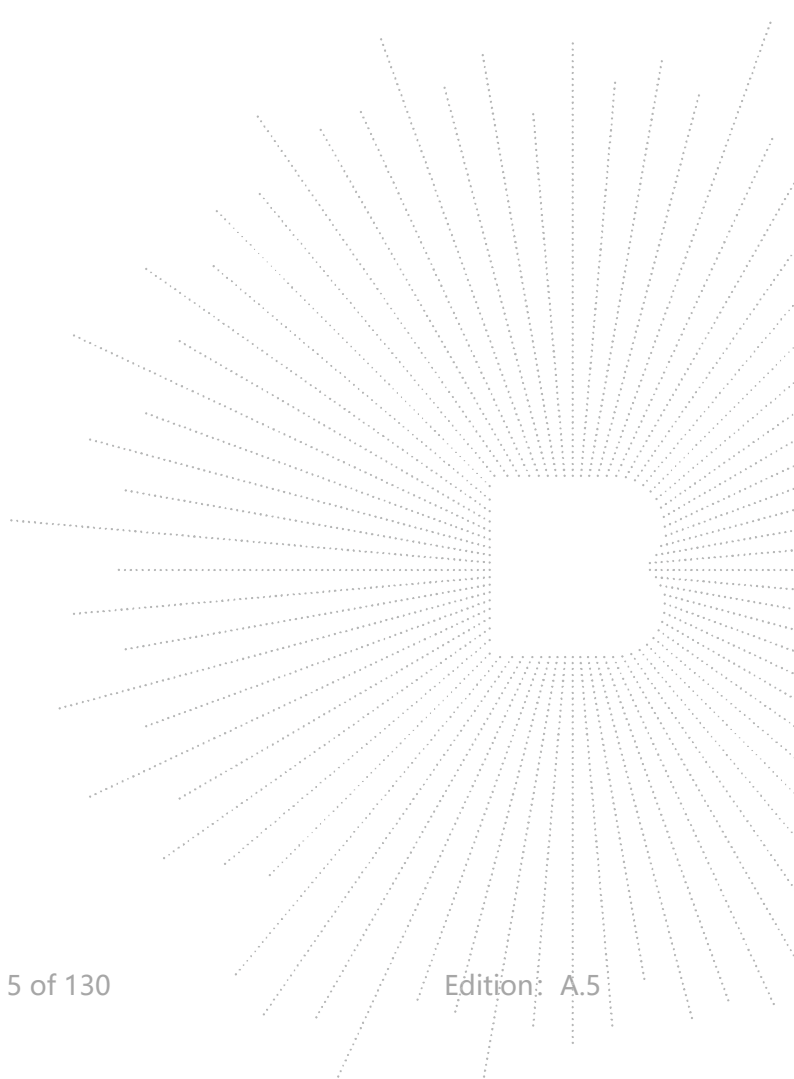
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(Note: N/A Means Not Applicable)



1. Version

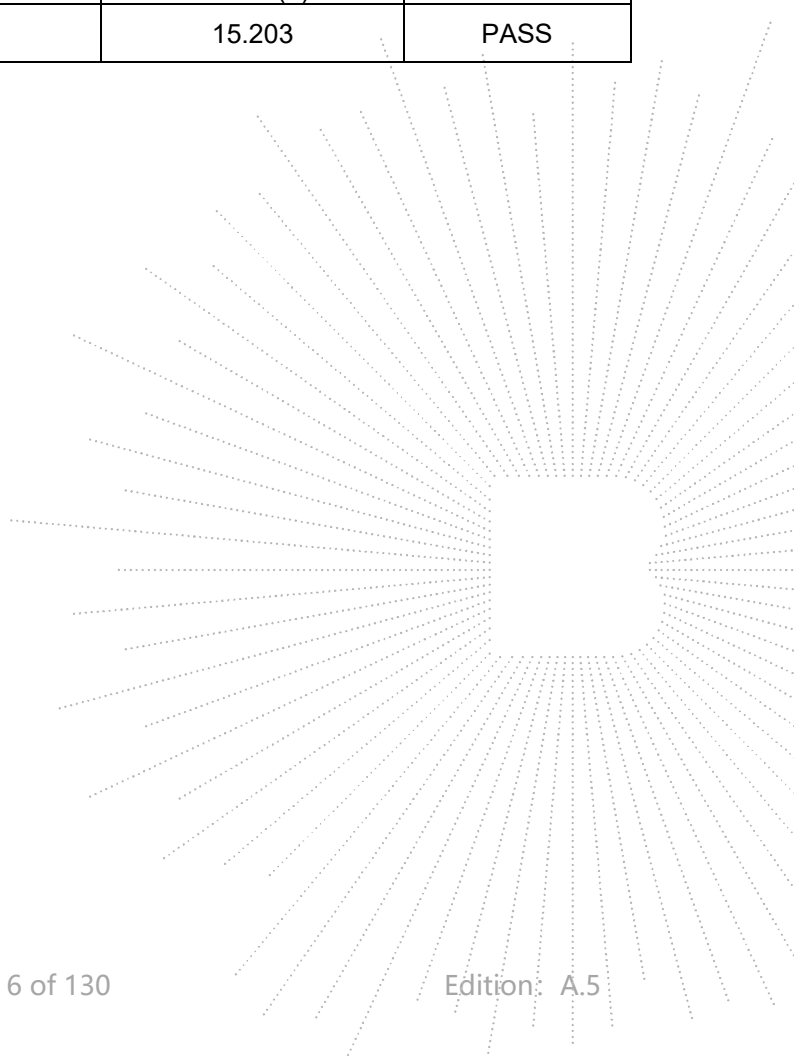
Report No.	Issue Date	Description	Approved
BCTC2212965954-4E	2022-12-15	Original	Valid



2. Test Summary

The Product has been tested according to the following specifications:

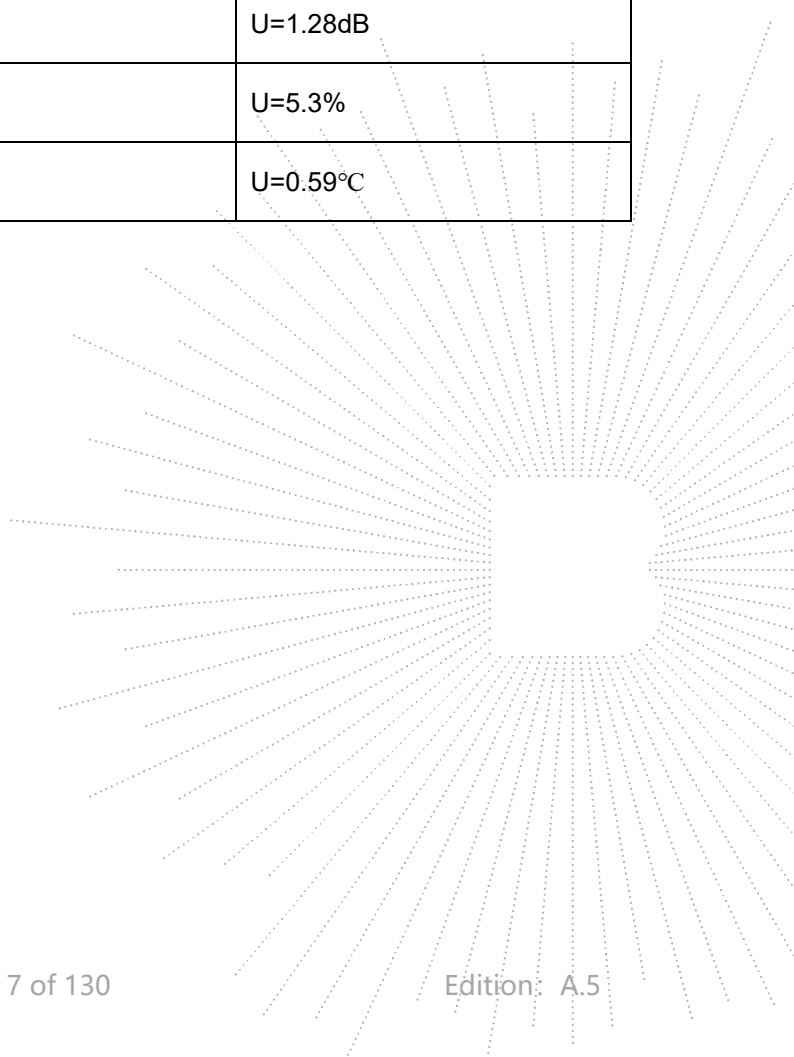
No.	Test Parameter	Clause No	Results
1	Spurious Radiated Emissions	15.209(a), 15.407 (b)(1) 15.407 (b)(4) 15.407 (b)(8)	PASS
2	Conducted Emission	15.207	PASS
3	26 dB and 99% Emission Bandwidth	15.407 (a)(12) 15.1049	PASS
4	Minimum 6 dB bandwidth	15.407(e)	PASS
5	Maximum Conducted Output Power	15.407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



3. Measurement Uncertainty

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

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



4. Product Information And Test Setup

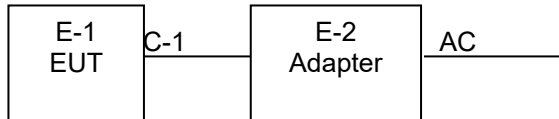
4.1 Product Information

Model/Type Ref.:	M1045W M1045W1, M1045W2, M1045W3, M1045W4, M1045W5, M1045W6, M1045W7, M1045W8, M1045W9
Model differences:	All the model are the same circuit and RF module, except model names.
Hardware Version:	N/A
Software Version:	N/A
IEEE 802.11 WLAN Mode Supported	802.11a/n/ac(20MHz channel bandwidth) 802.11n/ac(40MHz channel bandwidth) 802.11ac(80MHz channel bandwidth)
Operation Frequency:	5180-5240MHz for 802.11a/n(HT20); 5190-5230MHz for 802.11n(HT40); 5210MHz for 802.11 ac80; 5745-5825 MHz for 802.11a/n(HT20); 5755-5795 MHz for 802.11n(HT40); 5775MHz for 802.11 ac80;
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40):MCS0-MCS15; 802.11ac(VHT20): NSS1, MCS0-MCS8 802.11ac(VHT40/VHT80):NSS1, MCS0-MCS
Type of Modulation:	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11a/n/ac;
Number Of Channel	4 channels for 802.11a/n20 in the 5180-5240MHz band ; 2 channels for 802.11 n40 in the 5190-5230MHz band ; 1 channels for 802.11 ac80 in the 5210MHz band ; 5 channels for 802.11a/n20 in the 5745-5825MHz band ; 2 channels for 802.11 n40 in the 5755-5795MHz band ; 1 channels for 802.11 ac80 in the 5775MHz band
Antenna installation:	FPCB antenna
Antenna Gain:	5.1G: Antenna A: 3.82dBi 5.1G: Antenna B: 0.35dBi 5.8G: Antenna A: 3.80dBi 5.8G: Antenna B: 0.38dBi
Ratings:	DC 5V From Adapter, DC 3.8V From Battery
Adapter Information:	Model No.:J121L-0502000EU Input:100-240~ 50/60Hz 0.6A Output: DC 5V 2A
Remark:	The antenna gain of the product is provided by the customer, and the test data is affected by the customer information

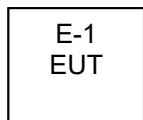
4.2 Test Setup Configuration

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

Conducted Emission:



Radiated Spurious Emission



4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	10.1inch tablet pc	N/A	M1045W	N/A	EUT
E-2	Adapter	N/A	J121L-0502000 EU	N/A	EUT

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

Notes:

- All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.4 Channel List

5.1G

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

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

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

5.8G

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

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

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

4.5 Test Mode

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

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

Conducted Emission	
Final Test Mode	Description
Mode 4	Link Mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	802.11a / n/ ac 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20 CH149/ CH157/ CH 165
Mode 2	802.11n/ ac40 CH38/ CH 46 802.11n/ ac40 CH 151 / CH 159
Mode 3	802.11 ac80 CH 42/CH 155

Note:

- (1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.
- (2) We're testing antenna A data.

4.6 Table Of Parameters Of Text Software Setting

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

Test software Version	CMD		
Parameters	DEF	DEF	DEF

4.7 Antenna

5.1G:

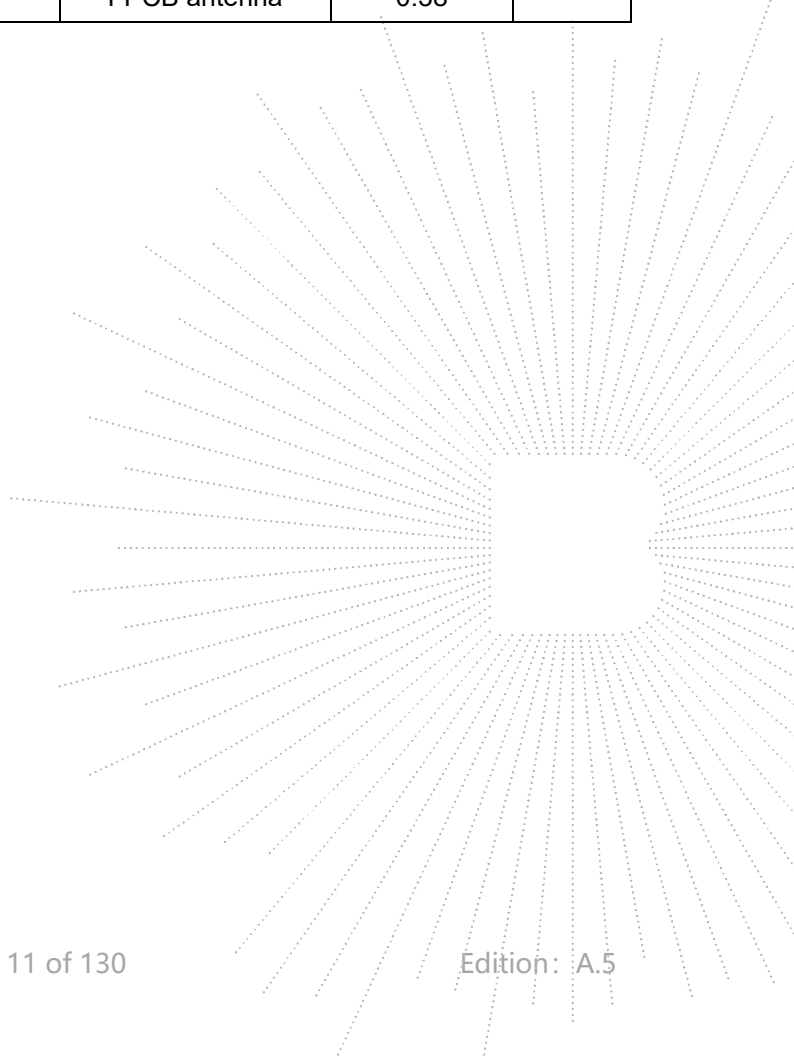
Directional gain= $G_{ANTMAX} + 10\log(N_{ANT}/N_{SS})=3.82+10\log(2/1)=6.83$ dBi

Antenna	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
A	N/A	N/A	FPCB antenna	3.82	
B	N/A	N/A	FPCB antenna	0.35	

5.8G:

Directional gain= $G_{ANTMAX} + 10\log(N_{ANT}/N_{SS})=3.80+10\log(2/1)=6.81$ dBi

Antenna	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
A	N/A	N/A	FPCB antenna	3.80	
B	N/A	N/A	FPCB antenna	0.38	



5. Test Facility And Test Instrument Used

5.1 Test Facility

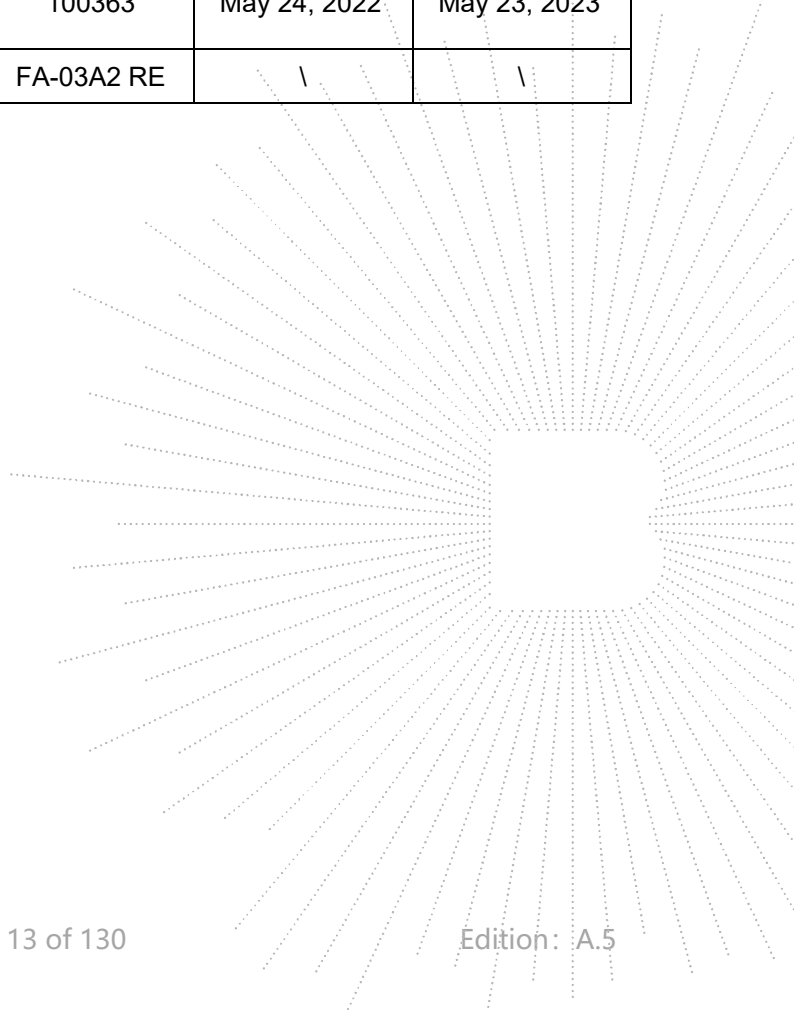
All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed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

5.2 Test Instrument Used

Conducted Emissions Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	May 24, 2022	May 23, 2023
LISN	R&S	ENV216	101375	May 24, 2022	May 23, 2023
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Attenuator	\	10dB DC-6GHz	1650	May 24, 2022	May 23, 2023

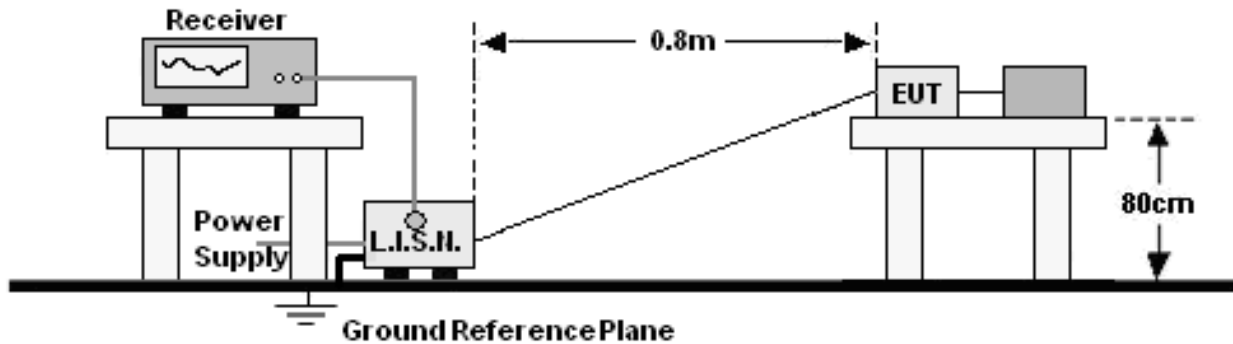
RF Conducted Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Power Metter	Keysight	E4419	\	May 24, 2022	May 23, 2023
Power Sensor (AV)	Keysight	E9300A	\	May 24, 2022	May 23, 2023
Signal Analyzer20kHz-26.5GHz	Keysight	N9020A	MY49100060	May 24, 2022	May 23, 2023
Spectrum Analyzer9kHz-40GHz	R&S	FSP40	100363	May 24, 2022	May 23, 2023
Radio frequency control box	MAIWEI	MW100-RF CB	\	\	\
Software	MAIWEI	MTS 8310	\	\	\

Radiated Emissions Test (966 Chamber01)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	ChengYu	966 Room	966	Jun. 06. 2020	Jun. 05, 2023
Receiver	R&S	ESR3	102075	May 24, 2022	May 23, 2023
Receiver	R&S	ESRP	101154	May 24, 2022	May 23, 2023
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 24, 2022	May 23, 2023
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	942	May 26, 2022	May 25, 2023
Loop Antenna(9KHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 26, 2022	May 25, 2023
Amplifier	SKET	LAPA_01G18 G-45dB	\	May 24, 2022	May 23, 2023
Horn Antenna	Schwarzbeck	BBHA9120D	1541	Jun. 06, 2022	Jun. 05, 2023
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 26, 2022	May 25, 2023
Horn Antenn(18GHz -40GHz)	Schwarzbeck	BBHA9170	00822	Jun. 06, 2022	Jun. 05, 2023
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	100363	May 24, 2022	May 23, 2023
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:

- *Decreasing linearly with logarithm of frequency.
- The lower limit shall apply at the transition frequencies.

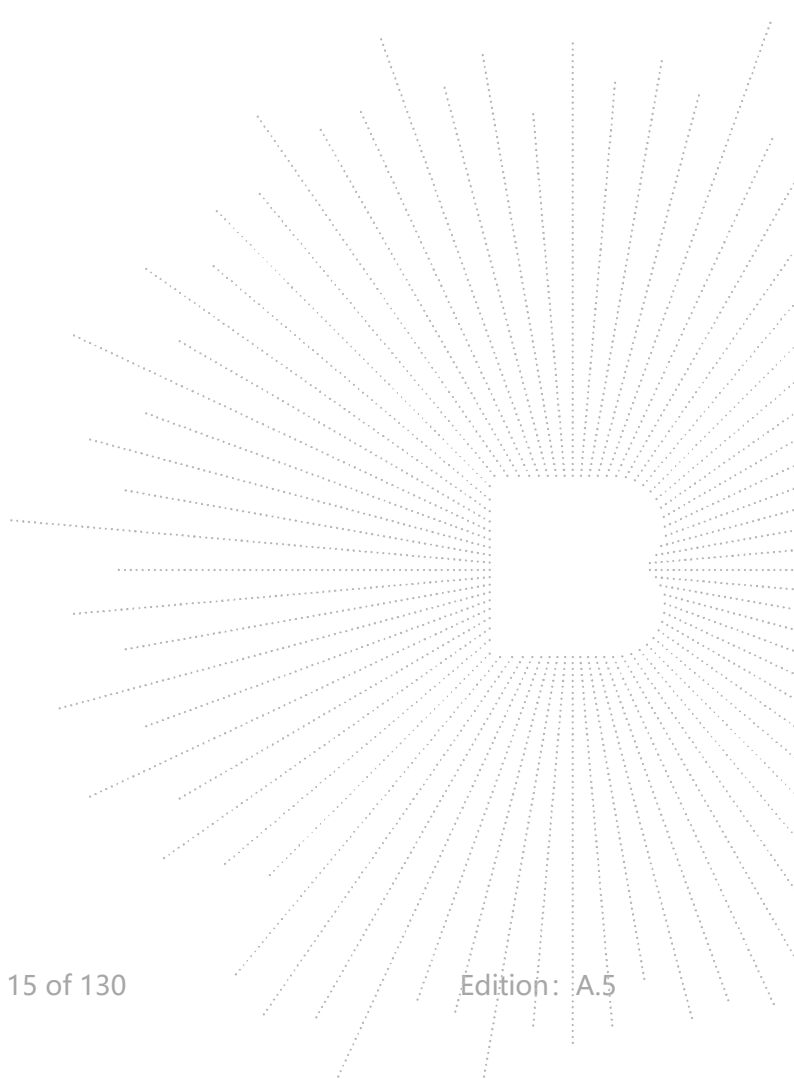
6.3 Test Procedure

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

- 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).
- 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.
- For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

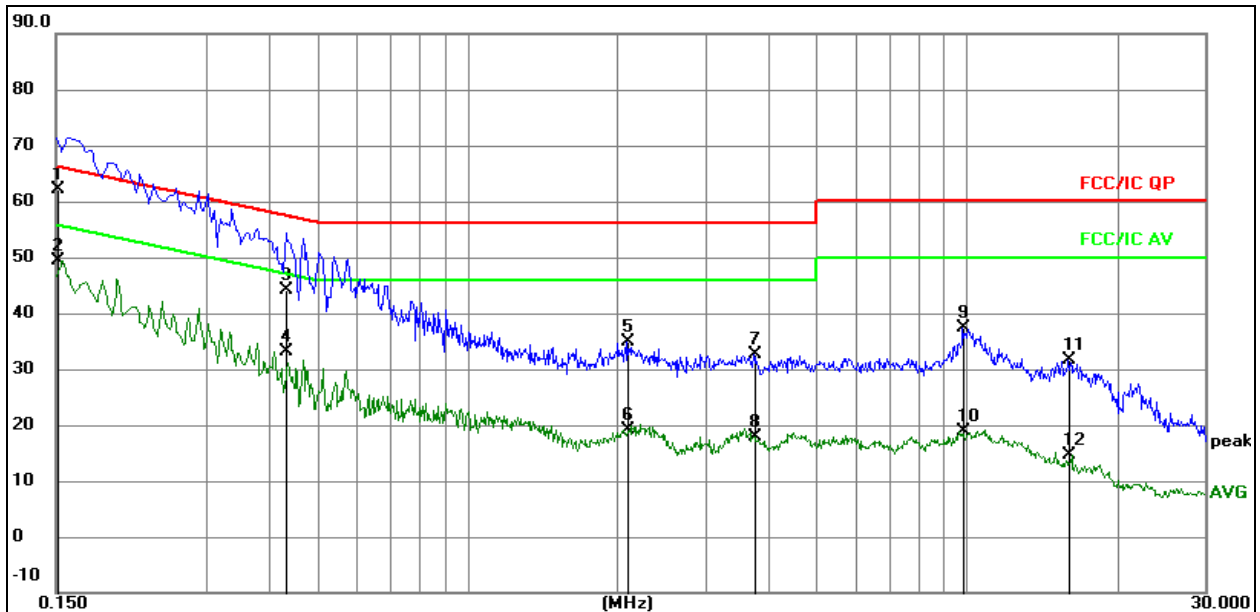
6.4 EUT Operating Conditions

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 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	L
Test Mode:	Mode 4	Test Voltage :	AC120V/60Hz

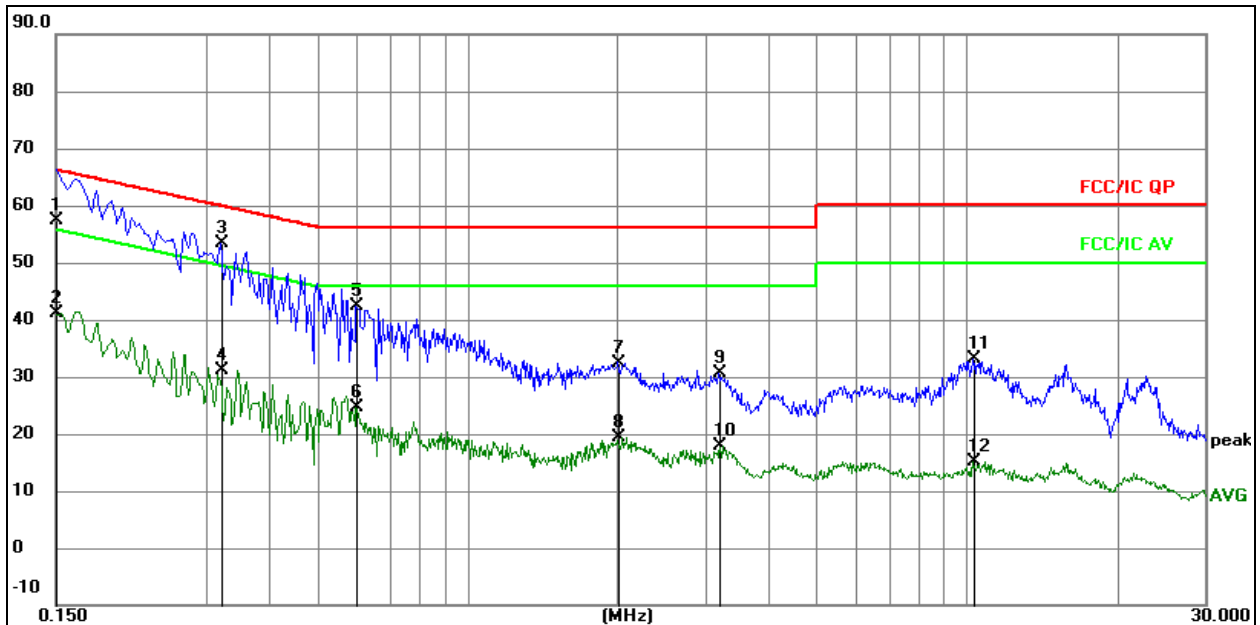


Remark:

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

No.	Mk.	Freq. MHz	Reading Level	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	*	0.1510	42.38	19.67	62.05	65.94	-3.89	QP
2		0.1510	29.80	19.67	49.47	55.94	-6.47	AVG
3		0.4330	24.41	19.74	44.15	57.19	-13.04	QP
4		0.4330	13.45	19.74	33.19	47.19	-14.00	AVG
5		2.0985	14.87	19.89	34.76	56.00	-21.24	QP
6		2.0985	-0.77	19.89	19.12	46.00	-26.88	AVG
7		3.7590	12.48	20.07	32.55	56.00	-23.45	QP
8		3.7590	-2.16	20.07	17.91	46.00	-28.09	AVG
9		9.8475	17.00	20.27	37.27	60.00	-22.73	QP
10		9.8475	-1.41	20.27	18.86	50.00	-31.14	AVG
11		16.0125	11.41	20.33	31.74	60.00	-28.26	QP
12		16.0125	-5.80	20.33	14.53	50.00	-35.47	AVG

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	N
Test Mode:	Mode 4	Test Voltage :	AC120V/60Hz


Remark:

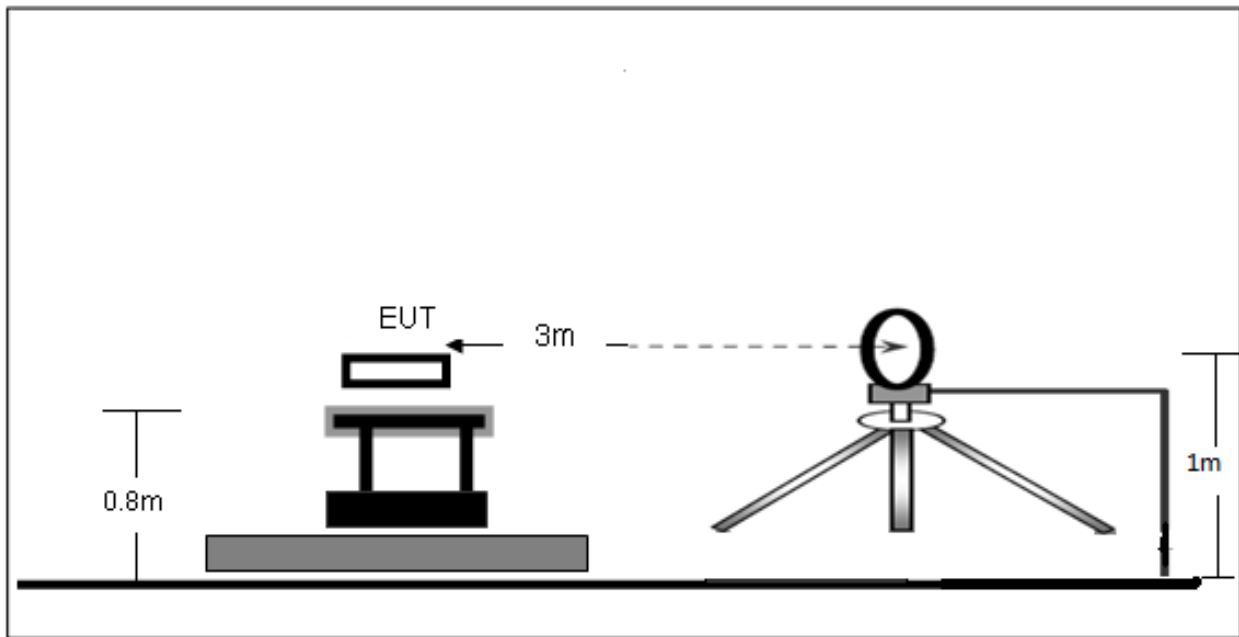
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement=Reading Level+ Correct Factor
4. Over= Measurement-Limit

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz		dB	dBuV	dBuV	dB	
1		0.1500	37.67	19.67	57.34	66.00	-8.66	QP
2		0.1500	21.50	19.67	41.17	56.00	-14.83	AVG
3	*	0.3209	33.65	19.77	53.42	59.68	-6.26	QP
4		0.3209	11.30	19.77	31.07	49.68	-18.61	AVG
5		0.6000	22.59	19.73	42.32	56.00	-13.68	QP
6		0.6000	4.88	19.73	24.61	46.00	-21.39	AVG
7		2.0040	12.62	19.88	32.50	56.00	-23.50	QP
8		2.0040	-0.58	19.88	19.30	46.00	-26.70	AVG
9		3.2010	10.57	20.01	30.58	56.00	-25.42	QP
10		3.2010	-2.23	20.01	17.78	46.00	-28.22	AVG
11		10.2885	12.79	20.28	33.07	60.00	-26.93	QP
12		10.2885	-5.10	20.28	15.18	50.00	-34.82	AVG

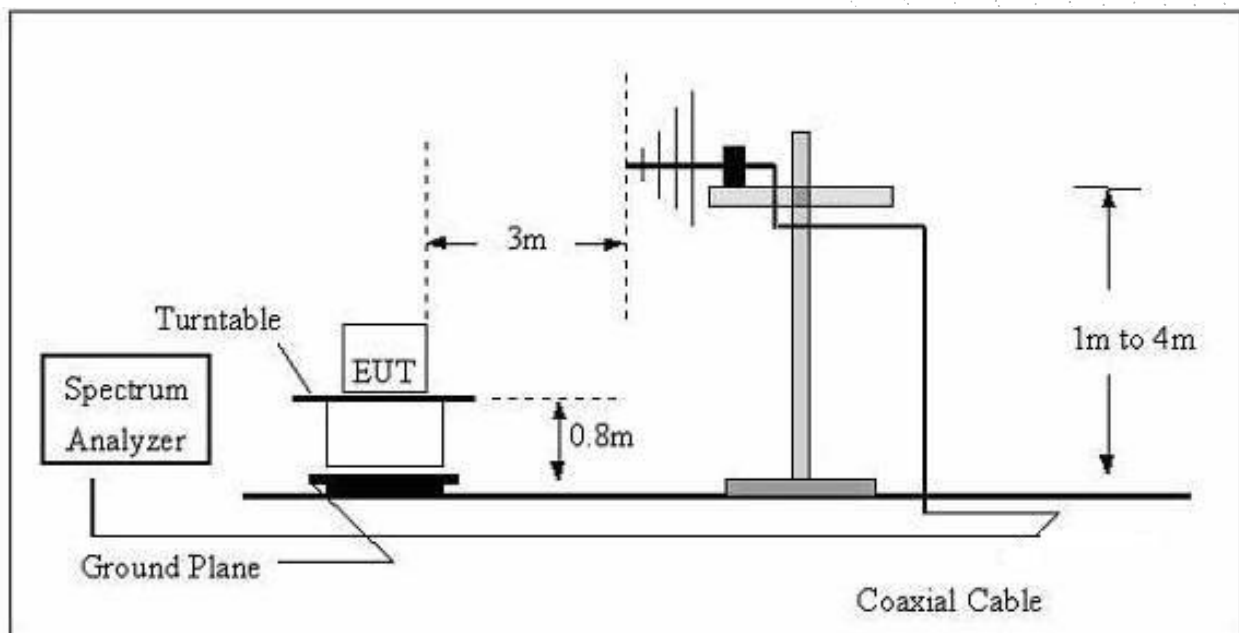
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

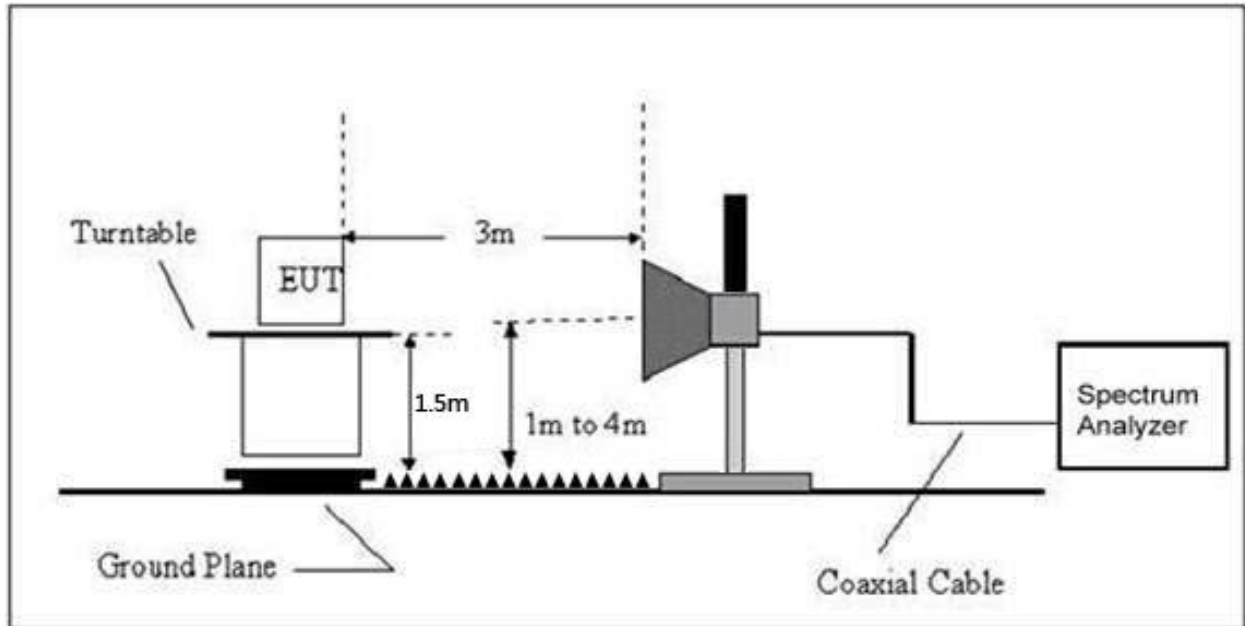
(A) Radiated Emission Test-Up Frequency Below 30MHz



(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 (MHz)	Field Strength uV/m	Distance (m)	Field Strength Limit at 3m Distance	
			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)= $20\log$ 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

- 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.
- 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.
- 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.
- 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.
- 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.
- 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 $RBWCF [dB] = 10 \cdot \lg(100 [kHz] / \text{narrower RBW [kHz]})$. , 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°C	Relative Humidity:	24%
Pressure:	101 kPa	Test Voltage:	DC 3.8V
Test Mode:	Mode 4	Polarization:	--

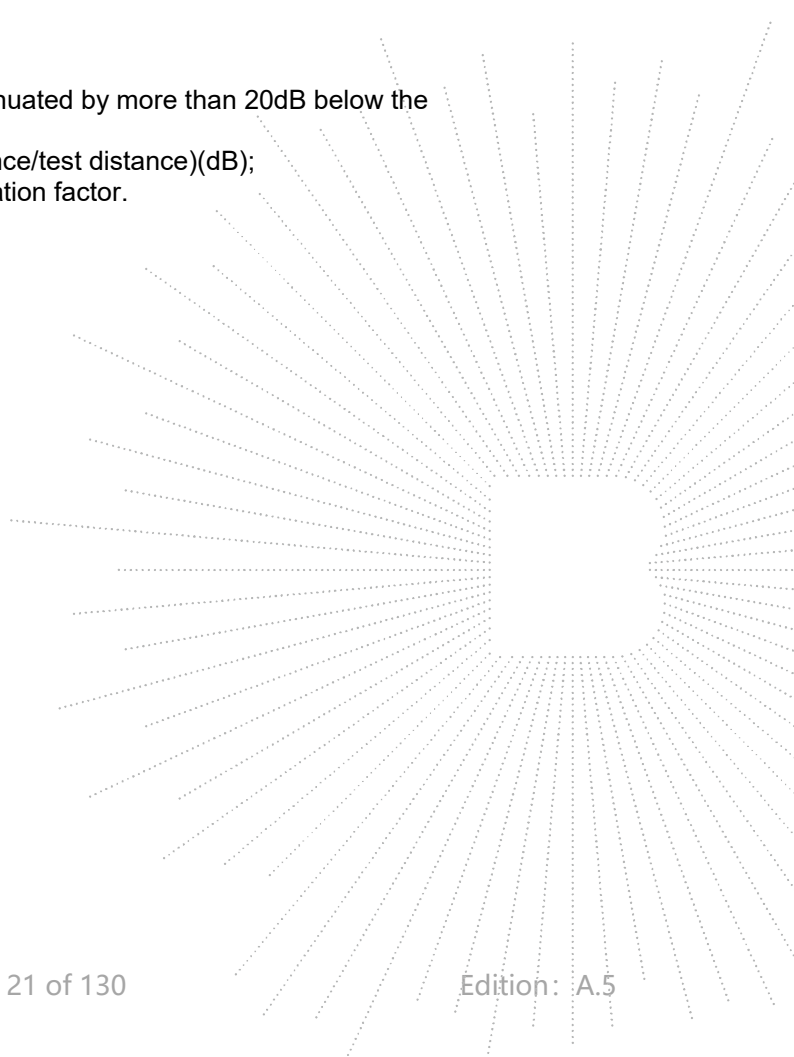
Freq. (MHz)	Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	State P/F
--	--	--	--	PASS
--	--	--	--	PASS

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

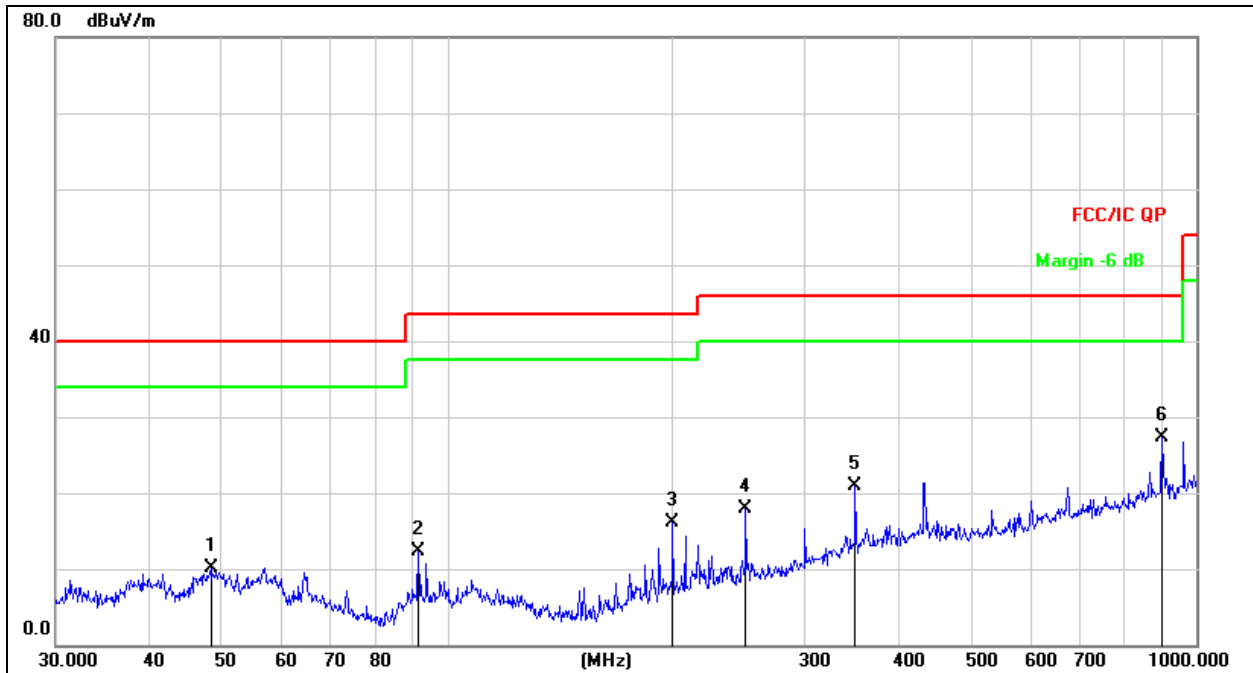
Distance extrapolation factor = $40 \log(\text{specific distance/test distance})$ (dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.



Between 30MHz – 1GHz

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Test Mode:	Mode 4	Test Voltage :	DC 3.8V

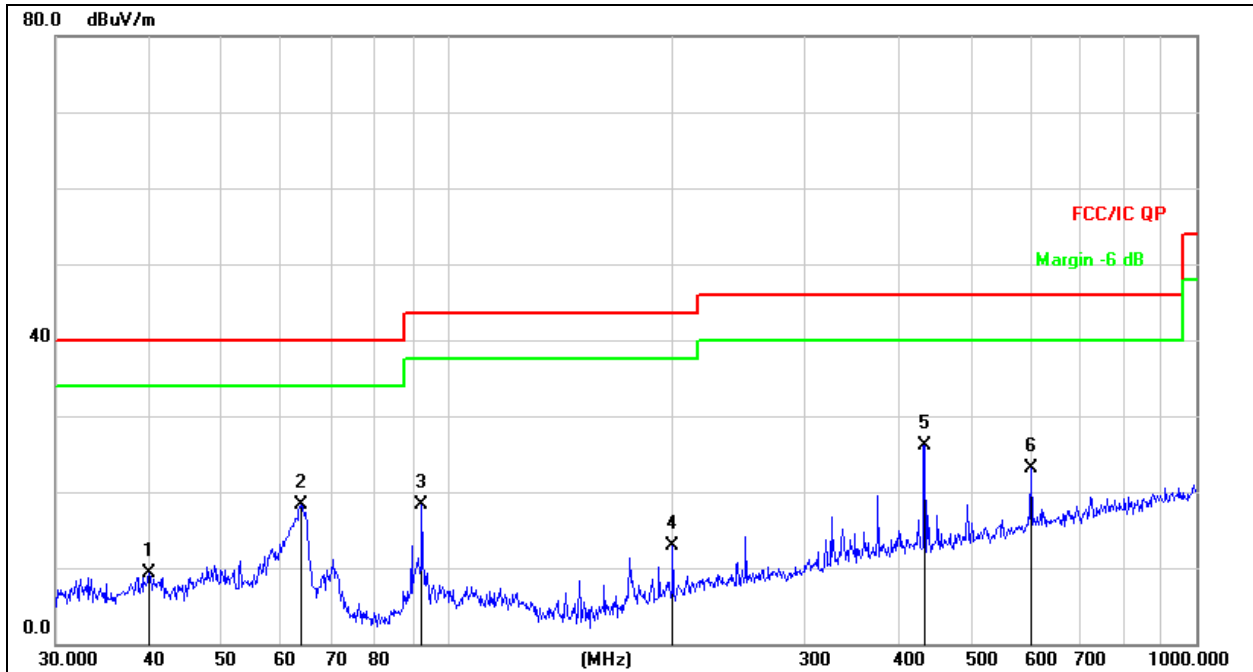


Remark:

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

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		48.3318	25.80	-15.78	10.02	40.00	-29.98	QP
2		91.4949	31.34	-19.01	12.33	43.50	-31.17	QP
3		199.9856	33.48	-17.37	16.11	43.50	-27.39	QP
4		250.3012	33.63	-15.82	17.81	46.00	-28.19	QP
5		350.4768	33.74	-12.78	20.96	46.00	-25.04	QP
6	*	900.1474	31.84	-4.59	27.25	46.00	-18.75	QP

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Test Mode:	Mode 4	Test Voltage :	DC 3.8V



Remark:

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

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		39.9942	26.09	-16.72	9.37	40.00	-30.63	QP
2		63.7588	36.52	-18.16	18.36	40.00	-21.64	QP
3		92.4624	37.13	-18.87	18.26	43.50	-25.24	QP
4		199.9856	30.26	-17.37	12.89	43.50	-30.61	QP
5	*	434.0651	37.81	-11.72	26.09	46.00	-19.91	QP
6		601.4265	31.45	-8.38	23.07	46.00	-22.93	QP

Between 1GHz – 40GHz

Test Mode:	TX(5.1G) - 802.11a
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detector Type
Low Channel (5180 MHz)-Above 1G									
V	4434.153	61.16	5.94	35.40	44.00	58.50	68.2	-9.70	PK
V	4434.153	43.78	5.94	35.40	44.00	41.12	54	-12.88	AV
V	10360.010	61.88	8.46	39.75	44.50	65.59	68.2	-2.61	PK
V	10360.010	43.04	8.46	39.75	44.50	46.75	54	-7.25	AV
V	15540.010	60.00	10.12	38.80	44.10	64.82	74	-9.18	PK
V	15540.010	43.21	10.12	38.80	42.70	49.43	54	-4.57	AV
H	4434.113	60.81	5.94	35.18	44.00	57.93	68.2	-10.27	PK
H	4434.113	43.66	5.94	35.18	44.00	40.78	54	-13.22	AV
H	10360.056	50.28	8.46	38.71	44.50	52.95	68.2	-15.25	PK
H	10360.056	43.77	8.46	38.71	44.50	46.44	54	-7.56	AV
H	15540.116	51.19	10.12	38.38	44.10	55.59	74	-18.41	PK
H	15540.116	42.69	10.12	38.38	44.10	47.09	54	-6.91	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.097	64.48	6.48	36.35	44.05	63.26	74	-10.74	PK
V	4592.097	43.84	6.48	36.35	44.05	42.62	54	-11.38	AV
V	10400.085	61.10	8.47	37.88	44.51	62.94	68.2	-5.26	PK
V	10400.085	43.21	8.47	37.88	44.51	45.05	54	-8.95	AV
V	15600.133	64.50	10.12	38.80	44.10	69.32	74	-4.68	PK
V	15600.133	43.65	10.12	38.80	42.70	49.87	54	-4.13	AV
H	4592.079	60.05	6.48	36.37	44.05	58.85	74	-15.15	PK
H	4592.079	43.61	6.48	36.37	44.05	42.41	54	-11.59	AV
H	10400.114	54.96	8.47	38.64	44.50	57.57	68.2	-10.63	PK
H	10400.114	41.66	8.47	38.64	44.50	44.27	54	-9.73	AV
H	15600.129	54.55	10.12	38.38	44.10	58.95	74	-15.05	PK
H	15600.129	43.65	10.12	38.38	44.10	48.05	54	-5.95	AV
High Channel (5240 MHz)-Above 1G									
V	4739.178	61.78	7.10	37.24	43.50	62.62	74	-11.38	PK
V	4739.178	43.98	7.10	37.24	43.50	44.82	54	-9.18	AV
V	10480.009	64.14	8.46	37.68	44.50	65.78	68.2	-2.42	PK
V	10480.009	43.50	8.46	37.68	44.50	45.14	54	-8.86	AV
V	15720.151	64.48	10.12	38.80	44.10	69.30	74	-4.70	PK
V	15720.151	43.24	10.12	38.80	42.70	49.46	54	-4.54	AV
H	4739.186	62.41	7.10	37.24	43.50	63.25	74	-10.75	PK
H	4739.186	43.58	7.10	37.24	43.50	44.42	54	-9.58	AV
H	10480.095	52.19	8.46	38.57	44.50	54.72	68.2	-13.48	PK
H	10480.095	44.44	8.46	38.57	44.50	46.97	54	-7.03	AV
H	15720.138	52.70	10.12	38.38	44.10	57.10	74	-16.90	PK
H	15720.138	43.59	10.12	38.38	44.10	47.99	54	-6.01	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.

The worst case is Antenna A.

Test Mode:	TX(5.1G) - 802.11n-HT20
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detector Type
Low Channel (5180 MHz)-Above 1G									
V	4434.150	64.41	5.94	35.40	44.00	61.75	68.2	-6.45	PK
V	4434.150	43.02	5.94	35.40	44.00	40.36	54	-13.64	AV
V	10360.016	60.64	8.46	39.75	44.50	64.35	68.2	-3.85	PK
V	10360.016	43.80	8.46	39.75	44.50	47.51	54	-6.49	AV
V	15540.198	62.73	10.12	38.80	44.10	67.55	74	-6.45	PK
V	15540.198	43.00	10.12	38.80	42.70	49.22	54	-4.78	AV
H	4434.052	64.26	5.94	35.18	44.00	61.38	68.2	-6.82	PK
H	4434.052	43.71	5.94	35.18	44.00	40.83	54	-13.17	AV
H	10360.170	54.20	8.46	38.71	44.50	56.87	68.2	-11.33	PK
H	10360.170	42.40	8.46	38.71	44.50	45.07	54	-8.93	AV
H	15540.178	53.17	10.12	38.38	44.10	57.57	74	-16.43	PK
H	15540.178	44.40	10.12	38.38	44.10	48.80	54	-5.20	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.005	63.86	6.48	36.35	44.05	62.64	74	-11.36	PK
V	4592.005	43.81	6.48	36.35	44.05	42.59	54	-11.41	AV
V	10400.082	64.99	8.47	37.88	44.51	66.83	68.2	-1.37	PK
V	10400.082	43.50	8.47	37.88	44.51	45.34	54	-8.66	AV
V	15600.099	63.59	10.12	38.80	44.10	68.41	74	-5.59	PK
V	15600.099	43.70	10.12	38.80	42.70	49.92	54	-4.08	AV
H	4592.057	63.23	6.48	36.37	44.05	62.03	74	-11.97	PK
H	4592.057	43.39	6.48	36.37	44.05	42.19	54	-11.81	AV
H	10400.066	51.28	8.47	38.64	44.50	53.89	68.2	-14.31	PK
H	10400.066	40.75	8.47	38.64	44.50	43.36	54	-10.64	AV
H	15600.157	50.51	10.12	38.38	44.10	54.91	74	-19.09	PK
H	15600.157	41.69	10.12	38.38	44.10	46.09	54	-7.91	AV
High Channel (5240 MHz)-Above 1G									
V	4739.042	60.90	7.10	37.24	43.50	61.74	74	-12.26	PK
V	4739.042	43.03	7.10	37.24	43.50	43.87	54	-10.13	AV
V	10480.077	60.74	8.46	37.68	44.50	62.38	68.2	-5.82	PK
V	10480.077	43.74	8.46	37.68	44.50	45.38	54	-8.62	AV
V	15720.011	64.24	10.12	38.80	44.10	69.06	74	-4.94	PK
V	15720.011	43.92	10.12	38.80	42.70	50.14	54	-3.86	AV
H	4739.056	64.87	7.10	37.24	43.50	65.71	74	-8.29	PK
H	4739.056	43.27	7.10	37.24	43.50	44.11	54	-9.89	AV
H	10480.039	51.24	8.46	38.57	44.50	53.77	68.2	-14.43	PK
H	10480.039	42.67	8.46	38.57	44.50	45.20	54	-8.80	AV
H	15720.065	52.78	10.12	38.38	44.10	57.18	74	-16.82	PK
H	15720.065	41.60	10.12	38.38	44.10	46.00	54	-8.00	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
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detector Type
Low Channel (5190 MHz)-Above 1G									
V	4434.187	65.00	5.94	35.40	44.00	62.34	68.2	-5.86	PK
V	4434.187	43.15	5.94	35.40	44.00	40.49	54	-13.51	AV
V	10380.131	60.24	8.46	39.75	44.50	63.95	68.2	-4.25	PK
V	10380.131	43.12	8.46	39.75	44.50	46.83	54	-7.17	AV
V	15570.173	61.36	10.12	38.80	44.10	66.18	74	-7.82	PK
V	15570.173	43.98	10.12	38.80	42.70	50.20	54	-3.80	AV
H	4434.192	64.43	5.94	35.18	44.00	61.55	74	-12.45	PK
H	4434.192	43.25	5.94	35.18	44.00	40.37	54	-13.63	AV
H	10380.050	51.22	8.46	38.71	44.50	53.89	68.2	-14.31	PK
H	10380.050	40.80	8.46	38.71	44.50	43.47	54	-10.53	AV
H	15570.135	52.78	10.12	38.38	44.10	57.18	74	-16.82	PK
H	15570.135	42.85	10.12	38.38	44.10	47.25	54	-6.75	AV
middle Channel (5230 MHz)-Above 1G									
V	4739.181	60.59	6.48	36.35	44.05	59.37	68.2	-8.83	PK
V	4739.181	43.08	6.48	36.35	44.05	41.86	54	-12.14	AV
V	10460.152	61.47	8.47	37.88	44.51	63.31	68.2	-4.89	PK
V	10460.152	43.87	8.47	37.88	44.51	45.71	54	-8.29	AV
V	15690.049	61.07	10.12	38.80	44.10	65.89	74	-8.11	PK
V	15690.049	43.03	10.12	38.80	42.70	49.25	54	-4.75	AV
H	4739.054	64.29	6.48	36.37	44.05	63.09	68.2	-5.11	PK
H	4739.054	43.36	6.48	36.37	44.05	42.16	54	-11.84	AV
H	10460.035	51.08	8.47	38.64	44.50	53.69	68.2	-14.51	PK
H	10460.035	43.00	8.47	38.64	44.50	45.61	54	-8.39	AV
H	15690.147	53.90	10.12	38.38	44.10	58.30	74	-15.70	PK
H	15690.147	40.85	10.12	38.38	44.10	45.25	54	-8.75	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
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5180 MHz)-Above 1G									
V	4434.021	62.31	5.94	35.40	44.00	59.65	68.2	-8.55	PK
V	4434.021	43.52	5.94	35.40	44.00	40.86	54	-13.14	AV
V	10360.086	63.69	8.46	39.75	44.50	67.40	68.2	-0.80	PK
V	10360.086	43.86	8.46	39.75	44.50	47.57	54	-6.43	AV
V	15540.131	60.92	10.12	38.80	44.10	65.74	74	-8.26	PK
V	15540.131	43.07	10.12	38.80	42.70	49.29	54	-4.71	AV
H	4434.191	61.03	5.94	35.18	44.00	58.15	68.2	-10.05	PK
H	4434.191	43.13	5.94	35.18	44.00	40.25	54	-13.75	AV
H	10360.144	54.34	8.46	38.71	44.50	57.01	68.2	-11.19	PK
H	10360.144	43.88	8.46	38.71	44.50	46.55	54	-7.45	AV
H	15540.085	53.49	10.12	38.38	44.10	57.89	74	-16.11	PK
H	15540.085	44.34	10.12	38.38	44.10	48.74	54	-5.26	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.114	61.30	6.48	36.35	44.05	60.08	74	-13.92	PK
V	4592.114	43.00	6.48	36.35	44.05	41.78	54	-12.22	AV
V	10400.017	61.61	8.47	37.88	44.51	63.45	68.2	-4.75	PK
V	10400.017	43.42	8.47	37.88	44.51	45.26	54	-8.74	AV
V	15600.048	62.60	10.12	38.80	44.10	67.42	74	-6.58	PK
V	15600.048	43.93	10.12	38.80	42.70	50.15	54	-3.85	AV
H	4592.047	60.20	6.48	36.37	44.05	59.00	74	-15.00	PK
H	4592.047	43.86	6.48	36.37	44.05	42.66	54	-11.34	AV
H	10400.186	50.73	8.47	38.64	44.50	53.34	68.2	-14.86	PK
H	10400.186	42.89	8.47	38.64	44.50	45.50	54	-8.50	AV
H	15600.075	54.24	10.12	38.38	44.10	58.64	74	-15.36	PK
H	15600.075	44.63	10.12	38.38	44.10	49.03	54	-4.97	AV
High Channel (5240 MHz)-Above 1G									
V	4739.009	60.28	7.10	37.24	43.50	61.12	74	-12.88	PK
V	4739.009	43.00	7.10	37.24	43.50	43.84	54	-10.16	AV
V	10480.164	62.27	8.46	37.68	44.50	63.91	68.2	-4.29	PK
V	10480.164	43.27	8.46	37.68	44.50	44.91	54	-9.09	AV
V	15720.131	64.18	10.12	38.80	44.10	69.00	74	-5.00	PK
V	15720.131	43.87	10.12	38.80	42.70	50.09	54	-3.91	AV
H	4739.043	61.62	7.10	37.24	43.50	62.46	74	-11.54	PK
H	4739.043	43.11	7.10	37.24	43.50	43.95	54	-10.05	AV
H	10480.131	54.11	8.46	38.57	44.50	56.64	68.2	-11.56	PK
H	10480.131	40.98	8.46	38.57	44.50	43.51	54	-10.49	AV
H	15720.168	53.92	10.12	38.38	44.10	58.32	74	-15.68	PK
H	15720.168	42.74	10.12	38.38	44.10	47.14	54	-6.86	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
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detector Type
Low Channel (5190 MHz)-Above 1G									
V	4434.103	60.01	5.94	35.40	44.00	57.35	68.2	-10.85	PK
V	4434.103	43.20	5.94	35.40	44.00	40.54	54	-13.46	AV
V	10380.104	61.82	8.46	39.75	44.50	65.53	68.2	-2.67	PK
V	10380.104	43.97	8.46	39.75	44.50	47.68	54	-6.32	AV
V	15570.090	61.54	10.12	38.80	44.10	66.36	74	-7.64	PK
V	15570.090	43.26	10.12	38.80	42.70	49.48	54	-4.52	AV
H	4434.084	64.22	5.94	35.18	44.00	61.34	74	-12.66	PK
H	4434.084	43.16	5.94	35.18	44.00	40.28	54	-13.72	AV
H	10380.042	51.79	8.46	38.71	44.50	54.46	68.2	-13.74	PK
H	10380.042	42.08	8.46	38.71	44.50	44.75	54	-9.25	AV
H	15570.141	51.91	10.12	38.38	44.10	56.31	74	-17.69	PK
H	15570.141	43.85	10.12	38.38	44.10	48.25	54	-5.75	AV
middle Channel (5230 MHz)-Above 1G									
V	4739.111	62.56	6.48	36.35	44.05	61.34	68.2	-6.86	PK
V	4739.111	43.20	6.48	36.35	44.05	41.98	54	-12.02	AV
V	10460.178	62.01	8.47	37.88	44.51	63.85	68.2	-4.35	PK
V	10460.178	43.49	8.47	37.88	44.51	45.33	54	-8.67	AV
V	15690.025	63.63	10.12	38.80	44.10	68.45	74	-5.55	PK
V	15690.025	43.62	10.12	38.80	42.70	49.84	54	-4.16	AV
H	4739.170	60.71	6.48	36.37	44.05	59.51	68.2	-8.69	PK
H	4739.170	43.14	6.48	36.37	44.05	41.94	54	-12.06	AV
H	10460.042	51.10	8.47	38.64	44.50	53.71	68.2	-14.49	PK
H	10460.042	42.13	8.47	38.64	44.50	44.74	54	-9.26	AV
H	15690.066	53.76	10.12	38.38	44.10	58.16	74	-15.84	PK
H	15690.066	44.37	10.12	38.38	44.10	48.77	54	-5.23	AV

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

Test Mode:	TX(5.1G) - 802.11ac 80
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detector Type
Low Channel (5210 MHz)-Above 1G									
V	4434.096	60.42	5.94	35.40	44.00	57.76	68.2	-10.44	PK
V	4434.096	43.18	5.94	35.40	44.00	40.52	54	-13.48	AV
V	10420.043	62.23	8.46	39.75	44.50	65.94	68.2	-2.26	PK
V	10420.043	43.87	8.46	39.75	44.50	47.58	54	-6.42	AV
V	15630.033	60.34	10.12	38.80	44.10	65.16	74	-8.84	PK
V	15630.033	43.37	10.12	38.80	42.70	49.59	54	-4.41	AV
H	4434.098	60.92	5.94	35.18	44.00	58.04	68.2	-10.16	PK
H	4434.098	43.59	5.94	35.18	44.00	40.71	54	-13.29	AV
H	10420.196	54.44	8.46	38.71	44.50	57.11	68.2	-11.09	PK
H	10420.196	42.61	8.46	38.71	44.50	45.28	54	-8.72	AV
H	15630.121	52.50	10.12	38.38	44.10	56.90	74	-17.10	PK
H	15630.121	43.01	10.12	38.38	44.10	47.41	54	-6.59	AV

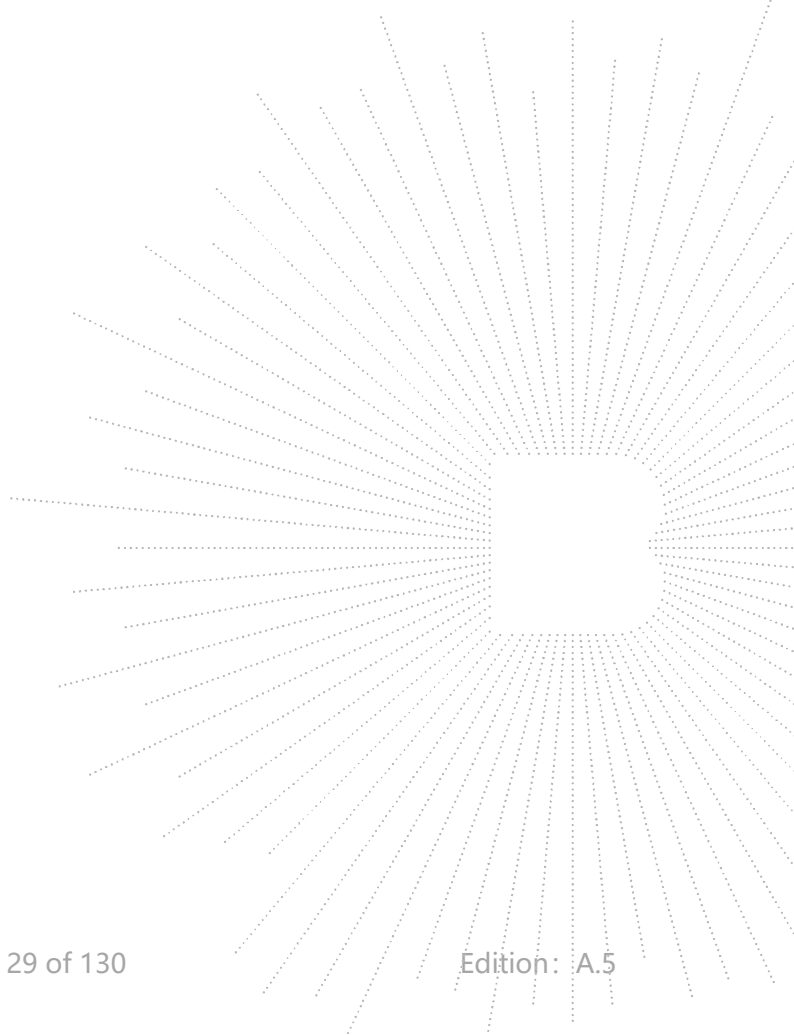
Note: PK value is lower than the Average value limit, So average didn't record.

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
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G									
V	4679.168	59.41	5.94	35.40	44.00	56.75	74	-17.25	PK
V	4679.168	43.12	5.94	35.40	44.00	40.46	54	-13.54	AV
V	11490.134	57.58	8.46	39.75	44.50	61.29	68.2	-6.91	PK
V	11490.134	43.32	8.46	39.75	44.50	47.03	54	-6.97	AV
V	17235.190	57.58	10.12	38.80	44.10	62.40	68.2	-5.80	PK
V	17235.190	43.99	10.12	38.80	42.70	50.21	54	-3.79	AV
H	4679.161	57.21	5.94	35.18	44.00	54.33	74	-19.67	PK
H	4679.161	43.31	5.94	35.18	44.00	40.43	54	-13.57	AV
H	11490.181	52.07	8.46	38.71	44.50	54.74	68.2	-13.46	PK
H	11490.181	43.54	8.46	38.71	44.50	46.21	54	-7.79	AV
H	17235.188	52.03	10.12	38.38	44.10	56.43	68.2	-11.77	PK
H	17235.188	40.03	10.12	38.38	44.10	44.43	54	-9.57	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.177	56.12	6.48	36.35	44.05	54.90	74	-19.10	PK
V	4592.177	43.53	6.48	36.35	44.05	42.31	54	-11.69	AV
V	11570.135	58.67	8.47	37.88	44.51	60.51	68.2	-7.69	PK
V	11570.135	43.05	8.47	37.88	44.51	44.89	54	-9.11	AV
V	17355.134	56.34	10.12	38.80	44.10	61.16	68.2	-7.04	PK
V	17355.134	39.26	10.12	38.80	42.70	45.48	54	-8.52	AV
H	4592.091	57.24	6.48	36.37	44.05	56.04	74	-17.96	PK
H	4592.091	43.78	6.48	36.37	44.05	42.58	54	-11.42	AV
H	11570.077	50.76	8.47	38.64	44.50	53.37	68.2	-14.83	PK
H	11570.077	42.59	8.47	38.64	44.50	45.20	54	-8.80	AV
H	17355.034	50.97	10.12	38.38	44.10	55.37	68.2	-12.83	PK
H	17355.034	41.70	10.12	38.38	44.10	46.10	54	-7.90	AV
High Channel (5825 MHz)-Above 1G									
V	6039.129	59.71	7.10	37.24	43.50	60.55	68.2	-7.65	PK
V	6039.129	43.86	7.10	37.24	43.50	44.70	54	-9.30	AV
V	11650.186	59.85	8.46	37.68	44.50	61.49	74	-12.51	PK
V	11650.186	43.67	8.46	37.68	44.50	45.31	54	-8.69	AV
V	17475.054	56.48	10.12	38.80	44.10	61.30	68.2	-6.90	PK
V	17475.054	43.31	10.12	38.80	42.70	49.53	54	-4.47	AV
H	6039.005	55.46	7.10	37.24	43.50	56.30	68.2	-11.90	PK
H	6039.005	43.26	7.10	37.24	43.50	44.10	54	-9.90	AV
H	11650.106	52.16	8.46	38.57	44.50	54.69	74	-19.31	PK
H	11650.106	41.11	8.46	38.57	44.50	43.64	54	-10.36	AV
H	17475.158	51.21	10.12	38.38	44.10	55.61	68.2	-12.59	PK
H	17475.158	42.21	10.12	38.38	44.10	46.61	54	-7.39	AV

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

Test Mode:	TX (5.8G) --802.11n-HT20
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G									
V	4679.169	56.90	5.94	35.40	44.00	54.24	74	-19.76	PK
V	4679.169	43.75	5.94	35.40	44.00	41.09	54	-12.91	AV
V	11490.156	55.83	8.46	39.75	44.50	59.54	68.2	-8.66	PK
V	11490.156	43.81	8.46	39.75	44.50	47.52	54	-6.48	AV
V	17235.008	61.35	10.12	38.80	44.10	66.17	68.2	-2.03	PK
V	17235.008	43.48	10.12	38.80	42.70	49.70	54	-4.30	AV
H	4679.059	56.26	5.94	35.18	44.00	53.38	74	-20.62	PK
H	4679.059	43.73	5.94	35.18	44.00	40.85	54	-13.15	AV
H	11490.174	48.61	8.46	38.71	44.50	51.28	68.2	-16.92	PK
H	11490.174	41.69	8.46	38.71	44.50	44.36	54	-9.64	AV
H	17235.182	53.89	10.12	38.38	44.10	58.29	68.2	-9.91	PK
H	17235.182	44.83	10.12	38.38	44.10	49.23	54	-4.77	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.125	59.12	6.48	36.35	44.05	57.90	74	-16.10	PK
V	4592.125	43.08	6.48	36.35	44.05	41.86	54	-12.14	AV
V	11570.012	58.30	8.47	37.88	44.51	60.14	68.2	-8.06	PK
V	11570.012	43.42	8.47	37.88	44.51	45.26	54	-8.74	AV
V	17355.161	58.44	10.12	38.80	44.10	63.26	68.2	-4.94	PK
V	17355.161	43.68	10.12	38.80	42.70	49.90	54	-4.10	AV
H	4592.057	57.52	6.48	36.37	44.05	56.32	74	-17.68	PK
H	4592.057	43.28	6.48	36.37	44.05	42.08	54	-11.92	AV
H	11570.137	54.46	8.47	38.64	44.50	57.07	68.2	-11.13	PK
H	11570.137	43.19	8.47	38.64	44.50	45.80	54	-8.20	AV
H	17355.154	53.32	10.12	38.38	44.10	57.72	68.2	-10.48	PK
H	17355.154	44.55	10.12	38.38	44.10	48.95	54	-5.05	AV
High Channel (5825 MHz)-Above 1G									
V	6039.121	57.45	7.10	37.24	43.50	58.29	68.2	-9.91	PK
V	6039.121	43.70	7.10	37.24	43.50	44.54	54	-9.46	AV
V	11650.050	57.19	8.46	37.68	44.50	58.83	74	-15.17	PK
V	11650.050	43.57	8.46	37.68	44.50	45.21	54	-8.79	AV
V	17475.067	55.68	10.12	38.80	44.10	60.50	68.2	-7.70	PK
V	17475.067	43.50	10.12	38.80	42.70	49.72	54	-4.28	AV
H	6039.121	56.23	7.10	37.24	43.50	57.07	68.2	-11.13	PK
H	6039.121	43.80	7.10	37.24	43.50	44.64	54	-9.36	AV
H	11650.131	54.42	8.46	38.57	44.50	56.95	74	-17.05	PK
H	11650.131	41.23	8.46	38.57	44.50	43.76	54	-10.24	AV
H	17475.092	54.32	10.12	38.38	44.10	58.72	68.2	-9.48	PK
H	17475.092	40.94	10.12	38.38	44.10	45.34	54	-8.66	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
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detector Type
Low Channel (5755 MHz)-Above 1G									
V	4679.005	57.94	5.94	35.40	44.00	55.28	74	-18.72	PK
V	4679.005	43.71	5.94	35.40	44.00	41.05	54	-12.95	AV
V	11510.113	55.80	8.46	39.75	44.50	59.51	74	-14.49	PK
V	11510.113	43.99	8.46	39.75	44.50	47.70	54	-6.30	AV
V	17265.055	55.96	10.12	38.80	44.10	60.78	68.2	-7.42	PK
V	17265.055	2.00	10.12	38.80	42.70	8.22	54	-45.78	AV
H	4679.029	60.53	5.94	35.18	44.00	57.65	74	-16.35	PK
H	4679.029	43.73	5.94	35.18	44.00	40.85	54	-13.15	AV
H	11510.155	50.48	8.46	38.71	44.50	53.15	74	-20.85	PK
H	11510.155	43.26	8.46	38.71	44.50	45.93	54	-8.07	AV
H	17265.197	52.39	10.12	38.38	44.10	56.79	68.2	-11.41	PK
H	17265.197	40.23	10.12	38.38	44.10	44.63	54	-9.37	AV
middle Channel (5795 MHz)-Above 1G									
V	6039.193	56.68	6.48	36.35	44.05	55.46	68.2	-12.74	PK
V	6039.193	43.70	6.48	36.35	44.05	42.48	54	-11.52	AV
V	11590.102	58.75	8.47	37.88	44.51	60.59	74	-13.41	PK
V	11590.102	43.67	8.47	37.88	44.51	45.51	54	-8.49	AV
V	17385.068	55.54	10.12	38.80	44.10	60.36	68.2	-7.84	PK
V	17385.068	41.75	10.12	38.80	42.70	47.97	54	-6.03	AV
H	6039.031	56.51	6.48	36.37	44.05	55.31	68.2	-12.89	PK
H	6039.031	43.98	6.48	36.37	44.05	42.78	54	-11.22	AV
H	11590.132	52.07	8.47	38.64	44.50	54.68	74	-19.32	PK
H	11590.132	44.69	8.47	38.64	44.50	47.30	54	-6.70	AV
H	17385.018	54.14	10.12	38.38	44.10	58.54	68.2	-9.66	PK
H	17385.018	40.99	10.12	38.38	44.10	45.39	54	-8.61	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
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G									
V	4679.182	57.33	5.94	35.40	44.00	54.67	74	-19.33	PK
V	4679.182	43.28	5.94	35.40	44.00	40.62	54	-13.38	AV
V	11490.184	55.67	8.46	39.75	44.50	59.38	68.2	-8.82	PK
V	11490.184	43.58	8.46	39.75	44.50	47.29	54	-6.71	AV
V	17235.107	60.85	10.12	38.80	44.10	65.67	68.2	-2.53	PK
V	17235.107	43.72	10.12	38.80	42.70	49.94	54	-4.06	AV
H	4679.193	58.23	5.94	35.18	44.00	55.35	74	-18.65	PK
H	4679.193	43.85	5.94	35.18	44.00	40.97	54	-13.03	AV
H	11490.001	47.87	8.46	38.71	44.50	50.54	68.2	-17.66	PK
H	11490.001	41.70	8.46	38.71	44.50	44.37	54	-9.63	AV
H	17235.153	52.05	10.12	38.38	44.10	56.45	68.2	-11.75	PK
H	17235.153	43.90	10.12	38.38	44.10	48.30	54	-5.70	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.022	60.24	6.48	36.35	44.05	59.02	74	-14.98	PK
V	4592.022	43.21	6.48	36.35	44.05	41.99	54	-12.01	AV
V	11570.113	58.42	8.47	37.88	44.51	60.26	68.2	-7.94	PK
V	11570.113	43.02	8.47	37.88	44.51	44.86	54	-9.14	AV
V	17355.018	59.94	10.12	38.80	44.10	64.76	68.2	-3.44	PK
V	17355.018	43.90	10.12	38.80	42.70	50.12	54	-3.88	AV
H	4592.020	56.79	6.48	36.37	44.05	55.59	74	-18.41	PK
H	4592.020	43.21	6.48	36.37	44.05	42.01	54	-11.99	AV
H	11570.015	54.42	8.47	38.64	44.50	57.03	68.2	-11.17	PK
H	11570.015	42.30	8.47	38.64	44.50	44.91	54	-9.09	AV
H	17355.180	52.22	10.12	38.38	44.10	56.62	68.2	-11.58	PK
H	17355.180	43.10	10.12	38.38	44.10	47.50	54	-6.50	AV
High Channel (5825 MHz)-Above 1G									
V	6039.063	57.56	7.10	37.24	43.50	58.40	68.2	-9.80	PK
V	6039.063	43.45	7.10	37.24	43.50	44.29	54	-9.71	AV
V	11650.013	57.75	8.46	37.68	44.50	59.39	74	-14.61	PK
V	11650.013	43.97	8.46	37.68	44.50	45.61	54	-8.39	AV
V	17475.076	57.38	10.12	38.80	44.10	62.20	68.2	-6.00	PK
V	17475.076	43.43	10.12	38.80	42.70	49.65	54	-4.35	AV
H	6039.124	59.43	7.10	37.24	43.50	60.27	68.2	-7.93	PK
H	6039.124	43.53	7.10	37.24	43.50	44.37	54	-9.63	AV
H	11650.139	52.56	8.46	38.57	44.50	55.09	74	-18.91	PK
H	11650.139	42.61	8.46	38.57	44.50	45.14	54	-8.86	AV
H	17475.050	52.13	10.12	38.38	44.10	56.53	68.2	-11.67	PK
H	17475.050	44.76	10.12	38.38	44.10	49.16	54	-4.84	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
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detector Type
Low Channel (5755 MHz)-Above 1G									
V	4679.023	60.13	5.94	35.40	44.00	57.47	74	-16.53	PK
V	4679.023	43.80	5.94	35.40	44.00	41.14	54	-12.86	AV
V	11510.070	55.30	8.46	39.75	44.50	59.01	74	-14.99	PK
V	11510.070	43.40	8.46	39.75	44.50	47.11	54	-6.89	AV
V	17265.053	58.27	10.12	38.80	44.10	63.09	68.2	-5.11	PK
V	17265.053	2.00	10.12	38.80	42.70	8.22	54	-45.78	AV
H	4679.063	58.79	5.94	35.18	44.00	55.91	74	-18.09	PK
H	4679.063	43.77	5.94	35.18	44.00	40.89	54	-13.11	AV
H	11510.041	51.14	8.46	38.71	44.50	53.81	74	-20.19	PK
H	11510.041	42.96	8.46	38.71	44.50	45.63	54	-8.37	AV
H	17265.114	50.49	10.12	38.38	44.10	54.89	68.2	-13.31	PK
H	17265.114	42.72	10.12	38.38	44.10	47.12	54	-6.88	AV
middle Channel (5795 MHz)-Above 1G									
V	6039.042	60.13	6.48	36.35	44.05	58.91	68.2	-9.29	PK
V	6039.042	43.11	6.48	36.35	44.05	41.89	54	-12.11	AV
V	11590.027	57.98	8.47	37.88	44.51	59.82	74	-14.18	PK
V	11590.027	43.99	8.47	37.88	44.51	45.83	54	-8.17	AV
V	17385.124	55.10	10.12	38.80	44.10	59.92	68.2	-8.28	PK
V	17385.124	41.72	10.12	38.80	42.70	47.94	54	-6.06	AV
H	6039.133	59.96	6.48	36.37	44.05	58.76	68.2	-9.44	PK
H	6039.133	43.71	6.48	36.37	44.05	42.51	54	-11.49	AV
H	11590.175	50.23	8.47	38.64	44.50	52.84	74	-21.16	PK
H	11590.175	42.65	8.47	38.64	44.50	45.26	54	-8.74	AV
H	17385.129	54.46	10.12	38.38	44.10	58.86	68.2	-9.34	PK
H	17385.129	41.06	10.12	38.38	44.10	45.46	54	-8.54	AV

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

Test Mode :	TX (5.8G) -- 802.11ac 80
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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/ m)	Margin (dB)	Detector Type
Low Channel (5775 MHz)-Above 1G									
V	4679.009	57.67	5.94	35.40	44.00	55.01	74	-18.99	PK
V	4679.009	43.54	5.94	35.40	44.00	40.88	54	-13.12	AV
V	11550.042	58.68	8.46	39.75	44.50	62.39	74	-11.61	PK
V	11550.042	42.17	8.46	39.75	44.50	45.88	54	-8.12	AV
V	17325.039	56.88	10.12	38.80	44.10	61.70	68.2	-6.50	PK
V	17325.039	41.54	10.12	38.80	42.70	47.76	54	-6.24	AV
H	4679.064	58.21	5.94	35.18	44.00	55.33	74	-18.67	PK
H	4679.064	43.77	5.94	35.18	44.00	40.89	54	-13.11	AV
H	11550.020	52.04	8.46	38.71	44.50	54.71	74	-19.29	PK
H	11550.020	41.46	8.46	38.71	44.50	44.13	54	-9.87	AV
H	17325.124	50.87	10.12	38.38	44.10	55.27	68.2	-12.93	PK
H	17325.124	44.23	10.12	38.38	44.10	48.63	54	-5.37	AV

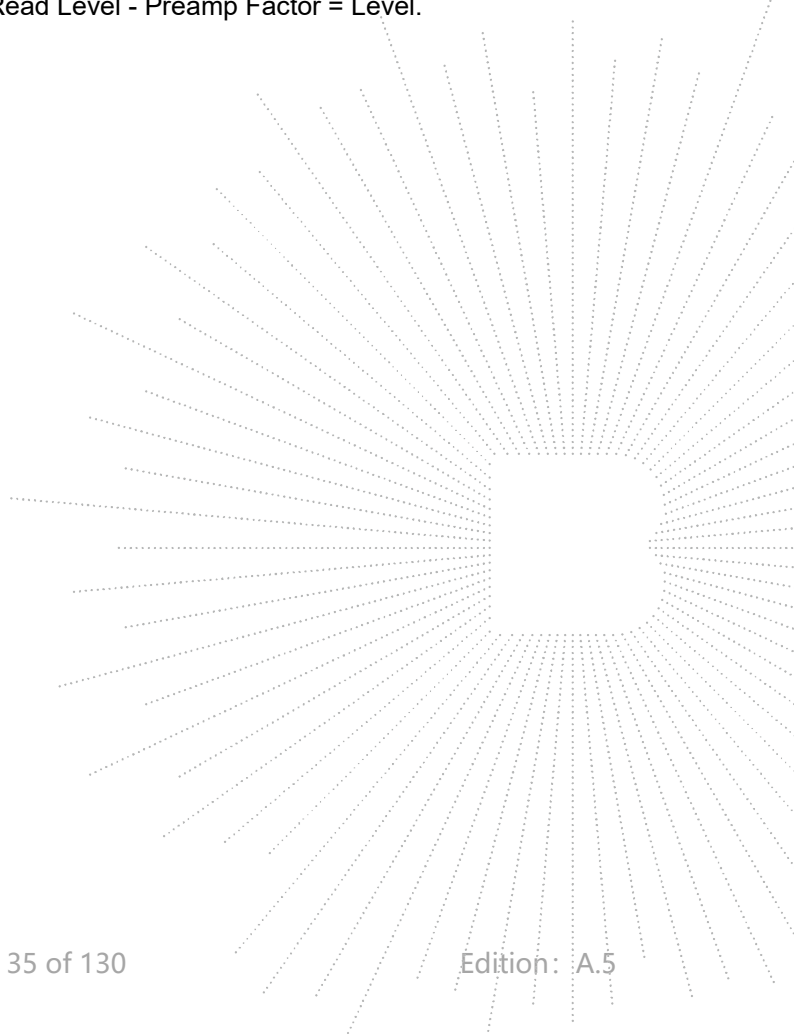
Note: PK value is lower than the Average value limit, So average didn't record.

The 26.5-40G amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

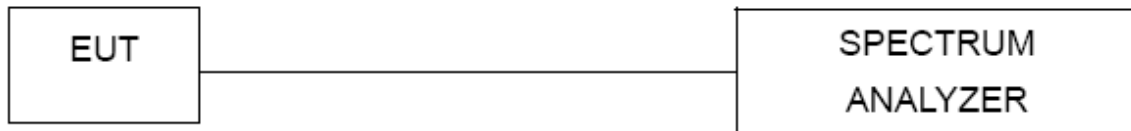
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Test Mode is MIMO Mode.



8. Power Spectral Density Test

8.1 Block Diagram Of Test Setup



8.2 Limit

For the band 5.15-5.25 GHz,

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

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

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

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

For the band 5.725-5.85 GHz

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

8.3 Test Procedure

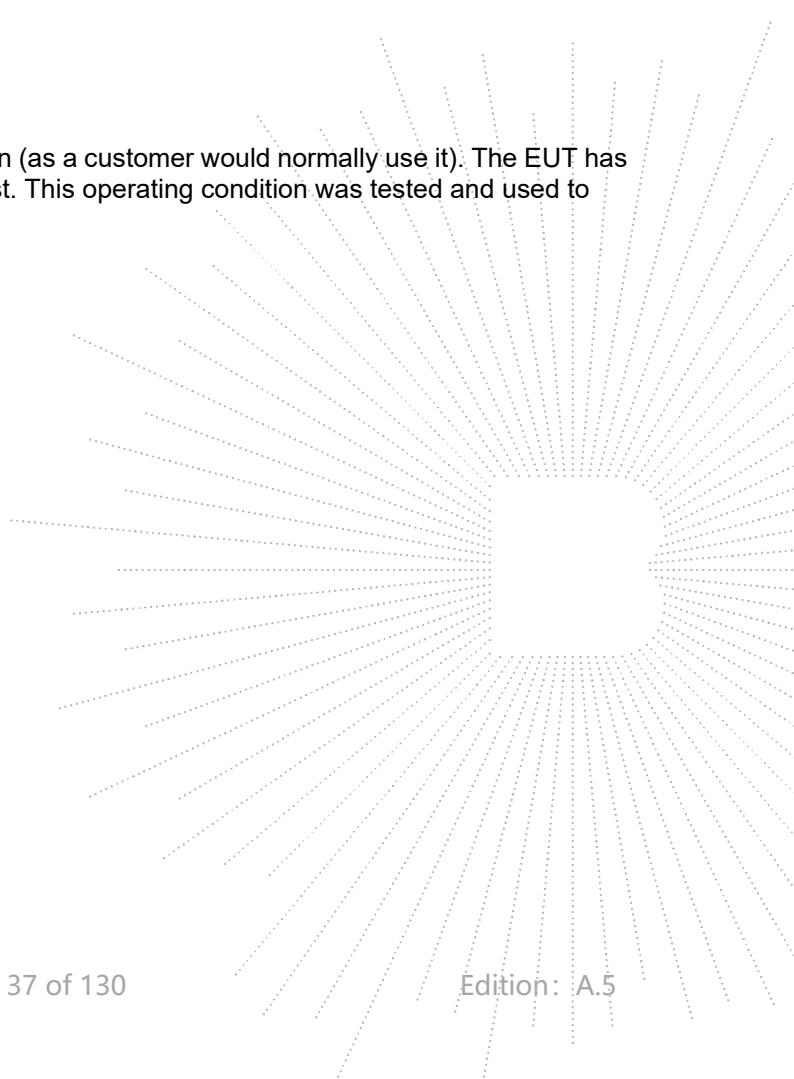
For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of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

- a) Set $RBW \geq 1/T$, where T is defined in section II.B.I.a).
- b) Set $VBW \geq 3 RBW$.
- c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/RBW)$ 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 $10\log(1\text{MHz}/RBW)$ 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 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.8V
Test Mode :	TX Frequency U-NII-1 (5180-5240MHz)		

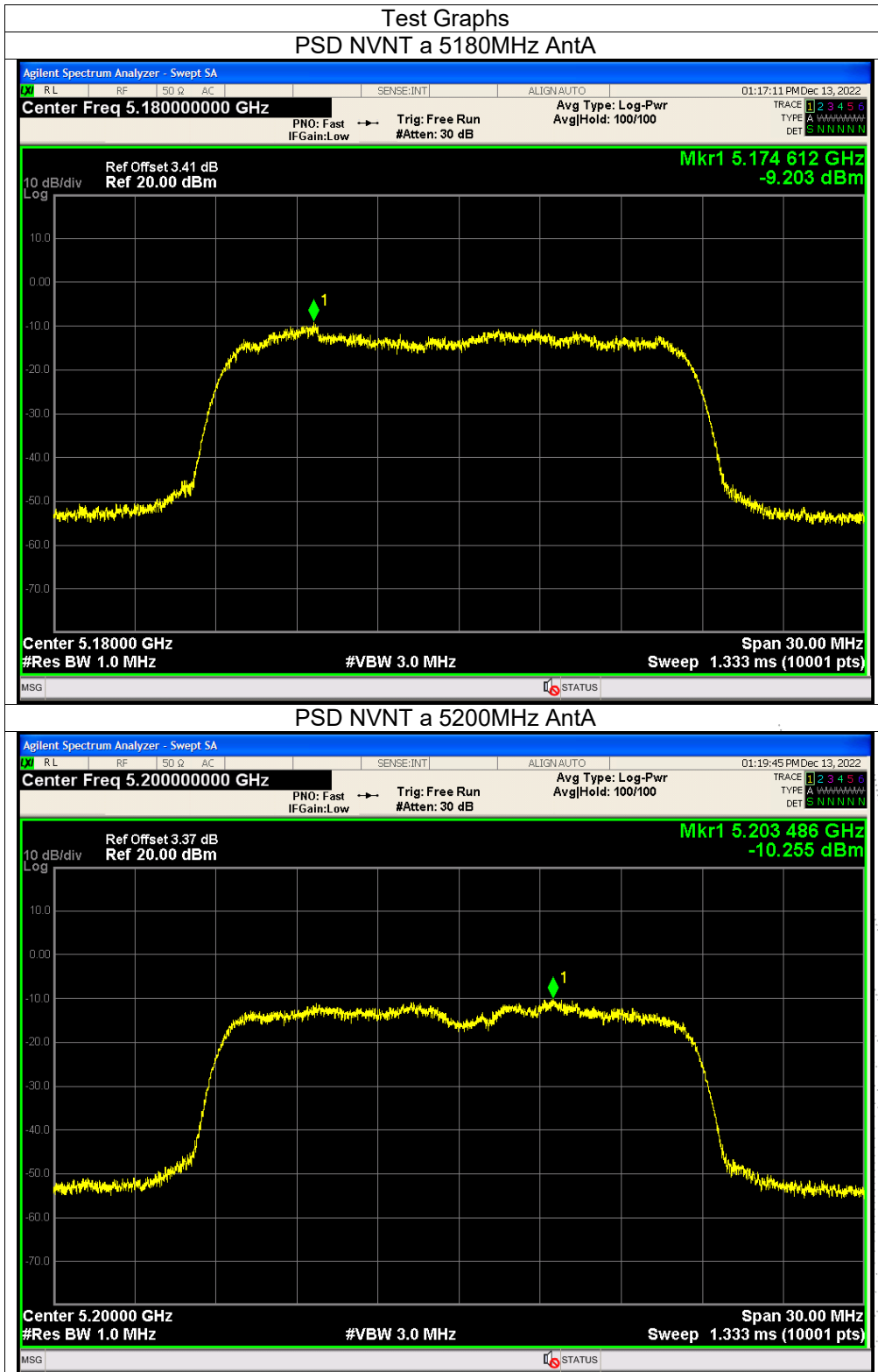
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

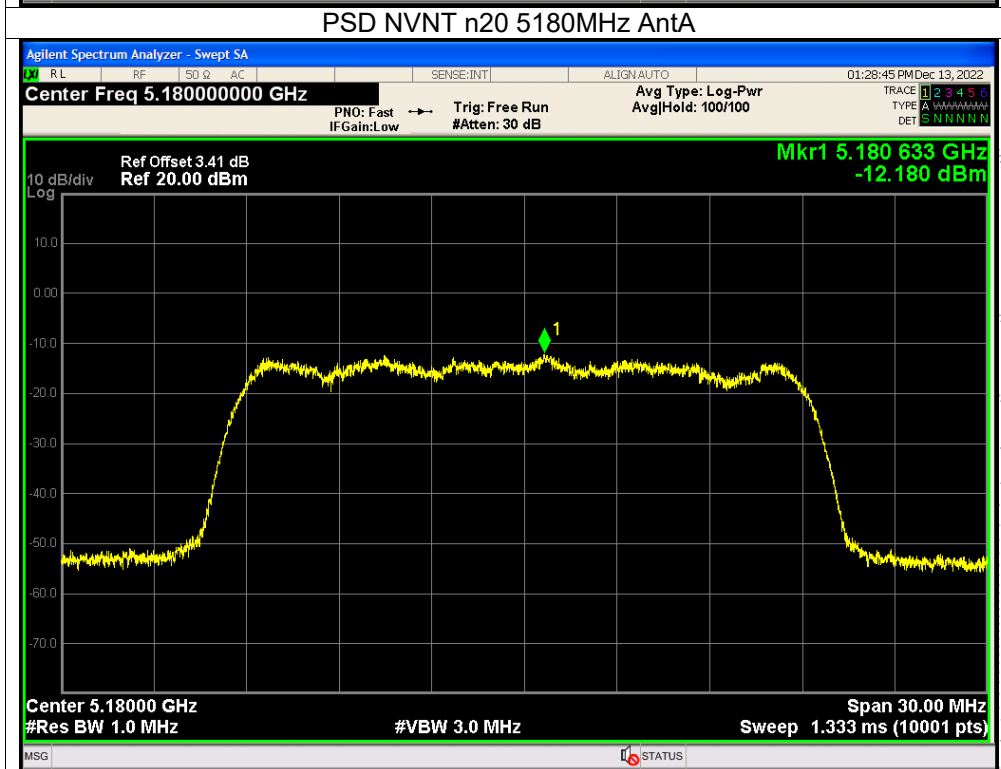
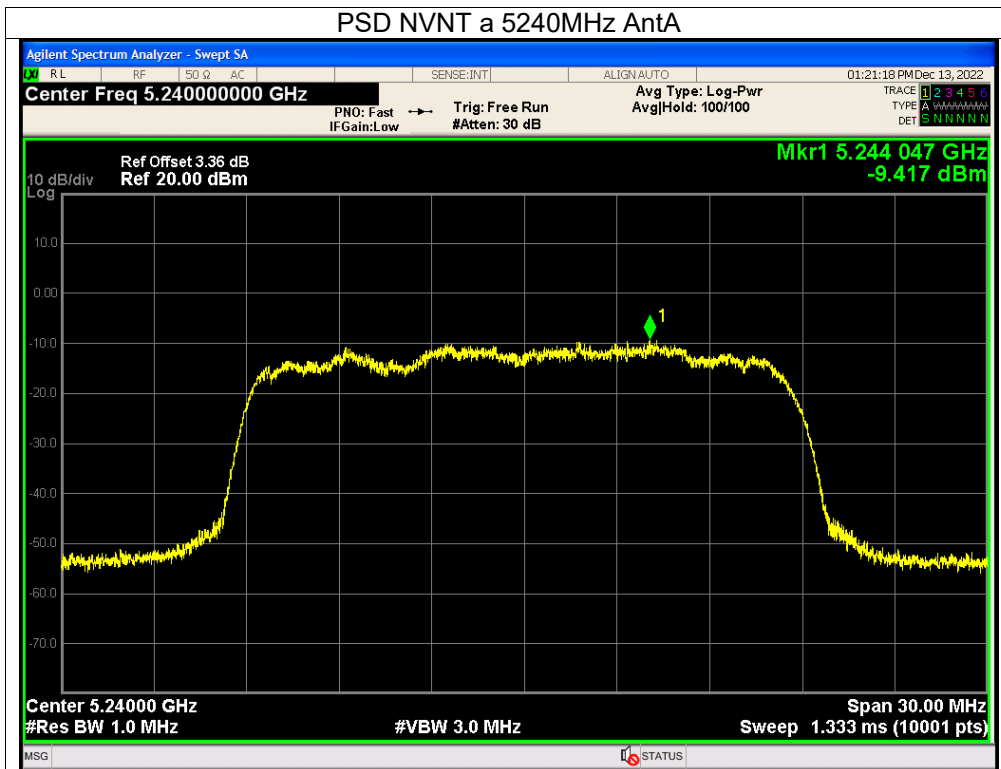
Mode	Frequency	Measured Power Density (dBm/MHz)			Limit (dBm/MHz)	Result
		ANT A	ANT B	Total		
802.11 a	5180 MHz	-9.2	-9.84	/	11	PASS
	5200 MHz	-10.26	-10.28	/	11	PASS
	5240 MHz	-9.42	-11.21	/	11	PASS
802.11 n20	5180 MHz	-12.18	-11.4	-8.76	10.17	PASS
	5200 MHz	-12.5	-12.37	-9.42	10.17	PASS
	5240 MHz	-12.5	-13.36	-9.90	10.17	PASS
802.11 n40	5190 MHz	-17.35	-17.99	-14.65	10.17	PASS
	5230 MHz	-16.45	-16.34	-13.38	10.17	PASS
802.11 ac20	5180 MHz	-12.98	-11.97	-9.44	10.17	PASS
	5200 MHz	-12.02	-13.5	-9.69	10.17	PASS
	5240 MHz	-11.49	-12.83	-9.10	10.17	PASS
802.11 ac40	5190 MHz	-17.09	-17.54	-14.30	10.17	PASS
	5230 MHz	-16.69	-17.59	-14.11	10.17	PASS
802.11 AC80	5210 MHz	-23.63	-22.99	-20.29	10.17	PASS

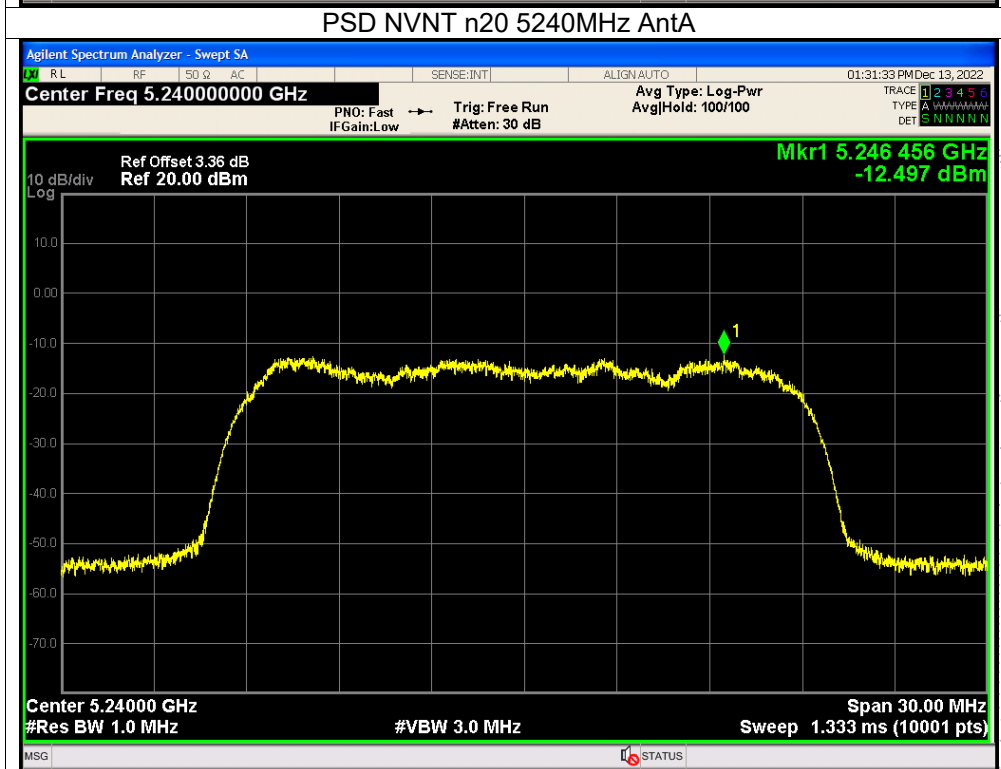
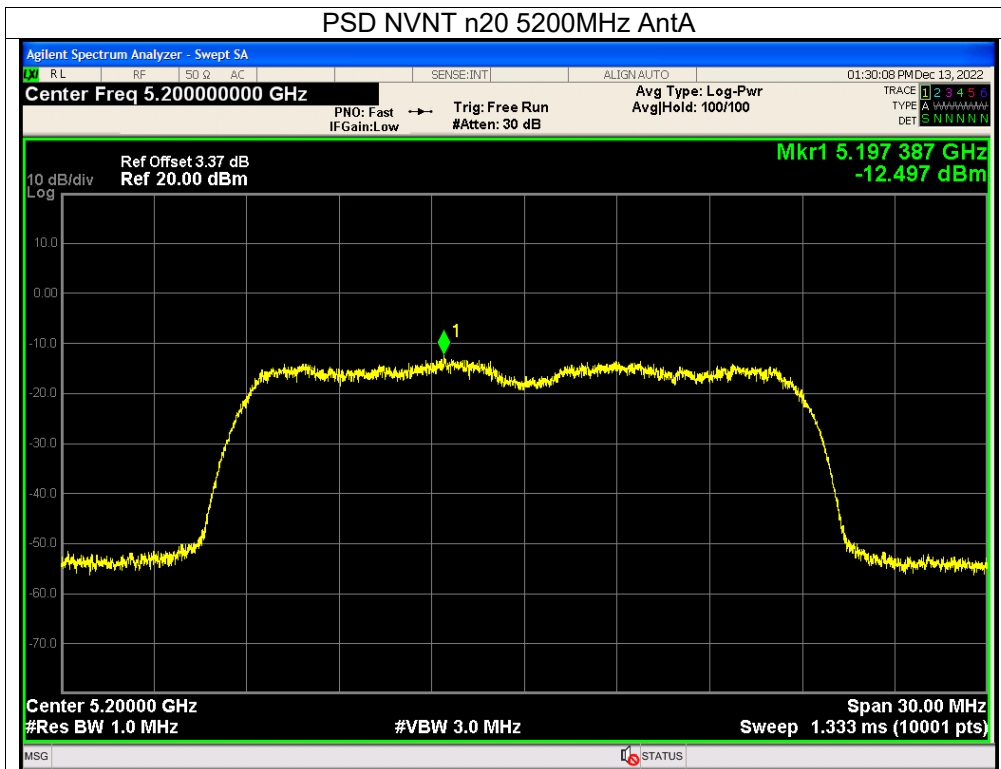
Note:

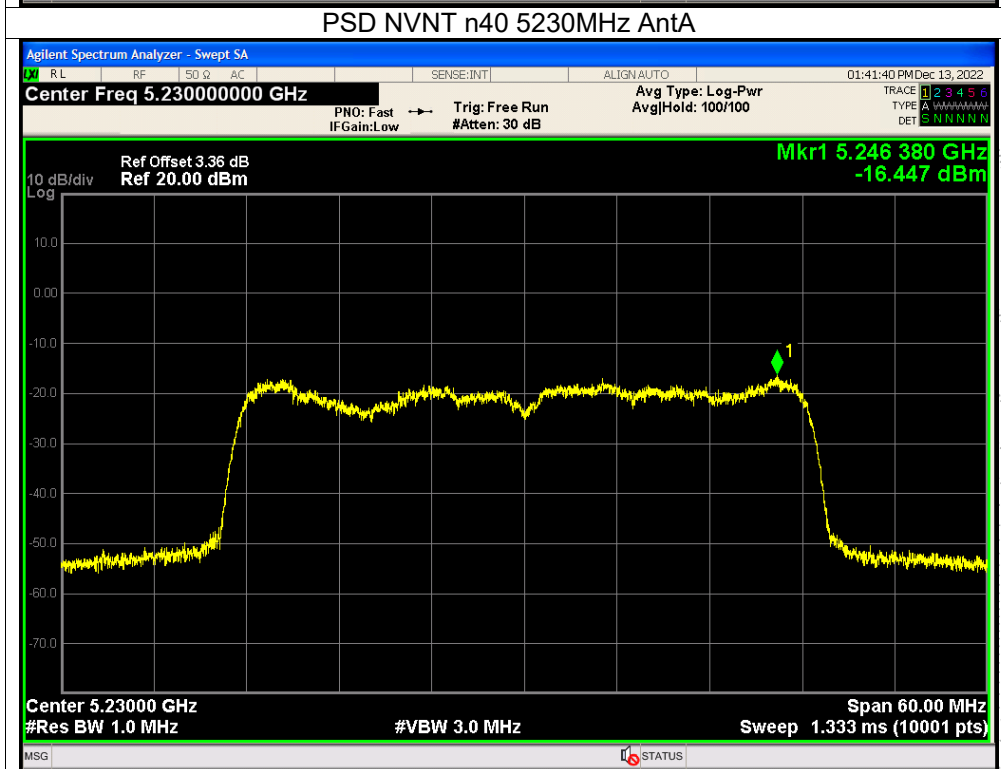
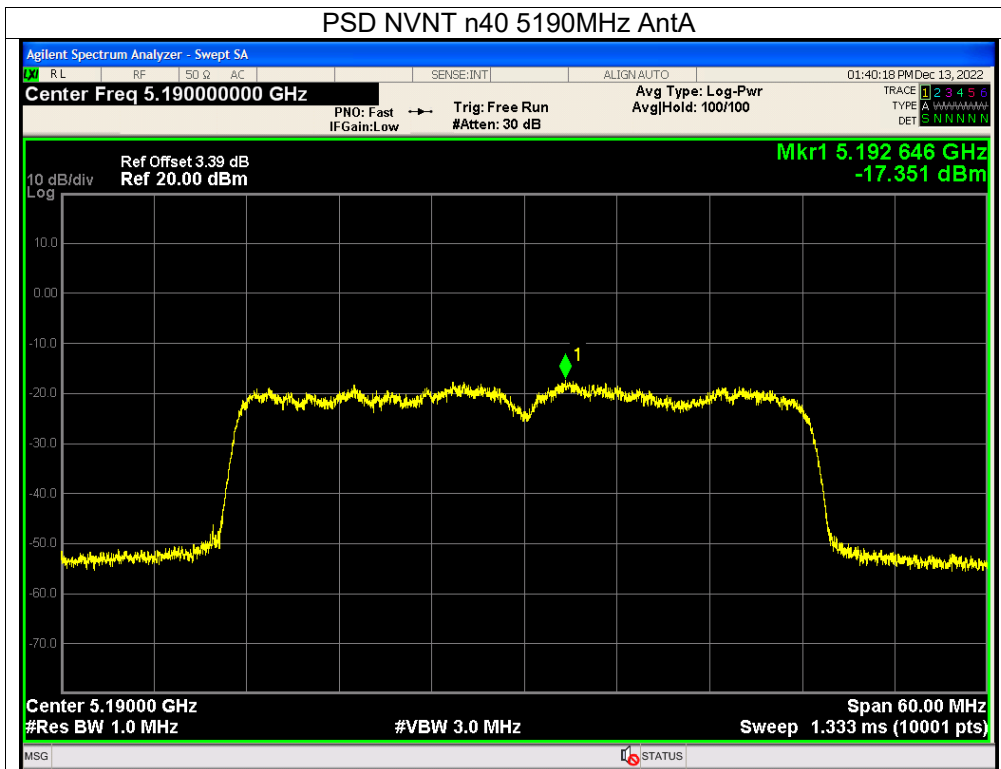
Directional gain= $G_{ANTMAX} + 10\log(N_{ANT}/N_{SS}) = 3.82 + 10\log(2/1) = 6.83 \text{ dBi} > 6\text{dBi}$

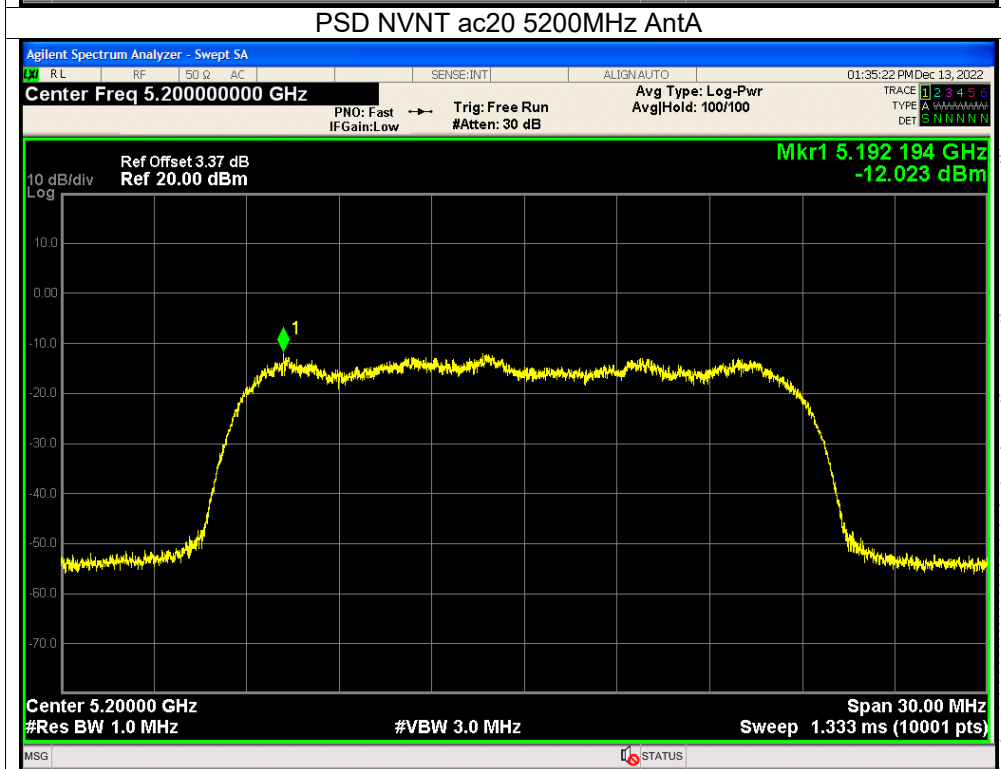
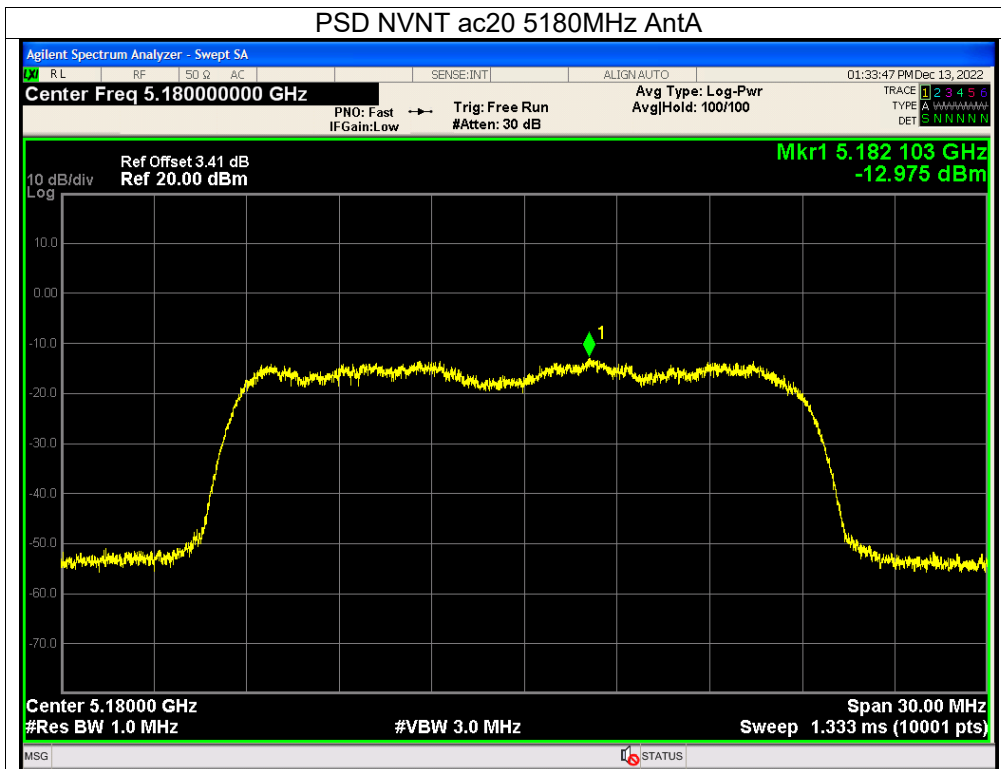
Limit= $11 - (6.83 - 6) = 10.17 \text{ dbi}$

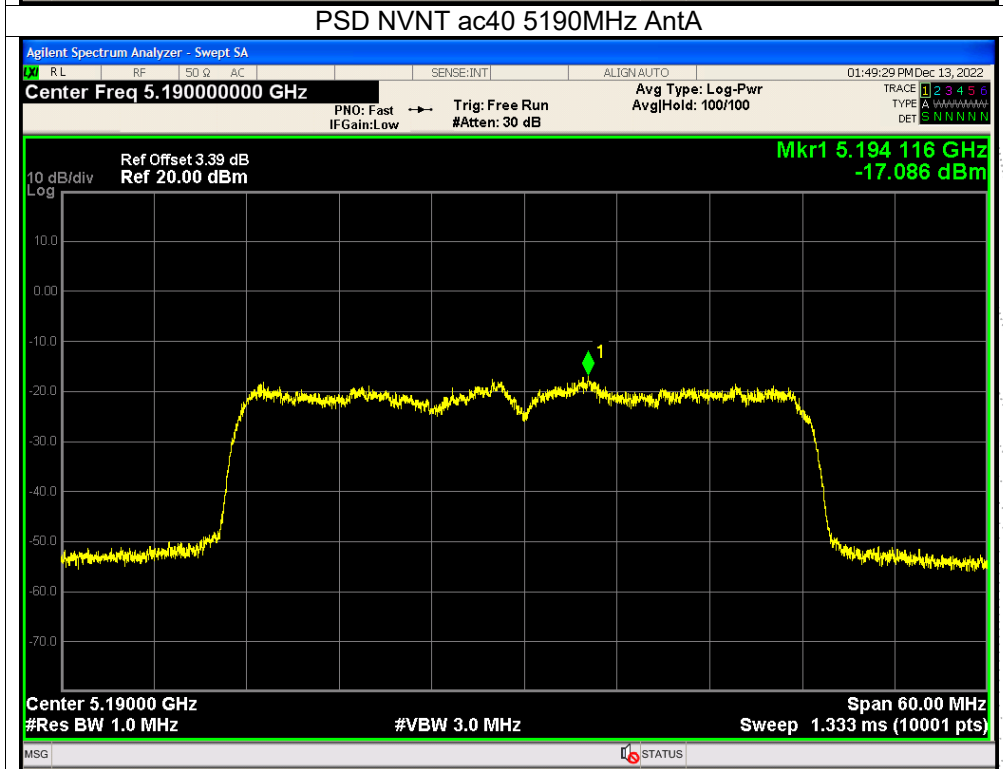
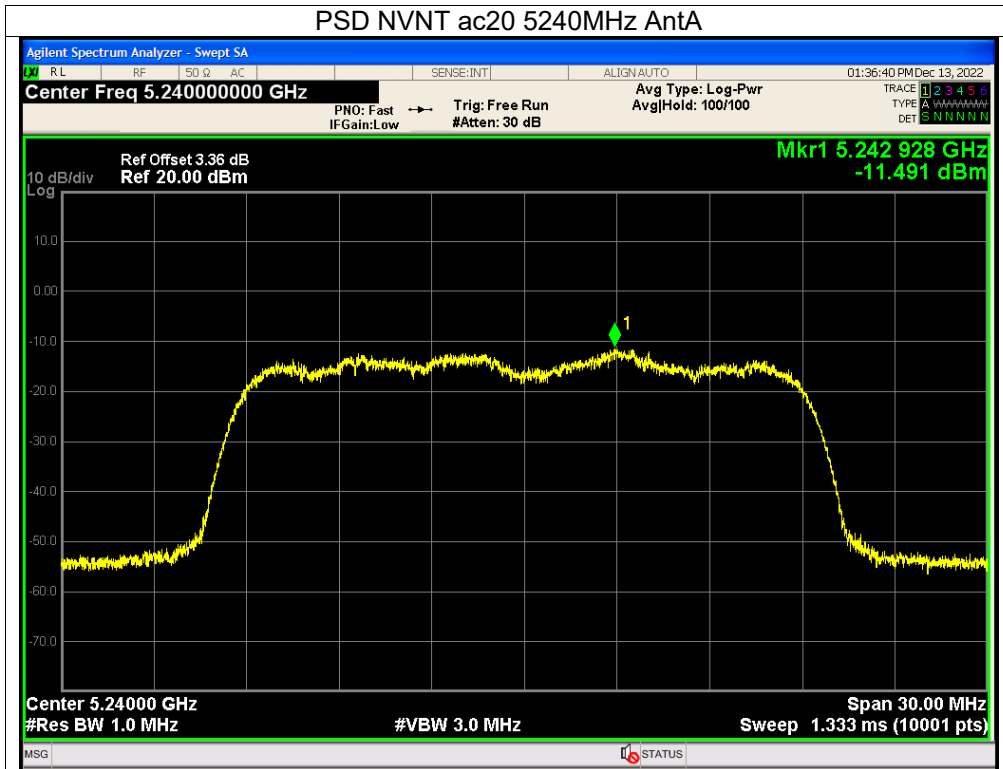


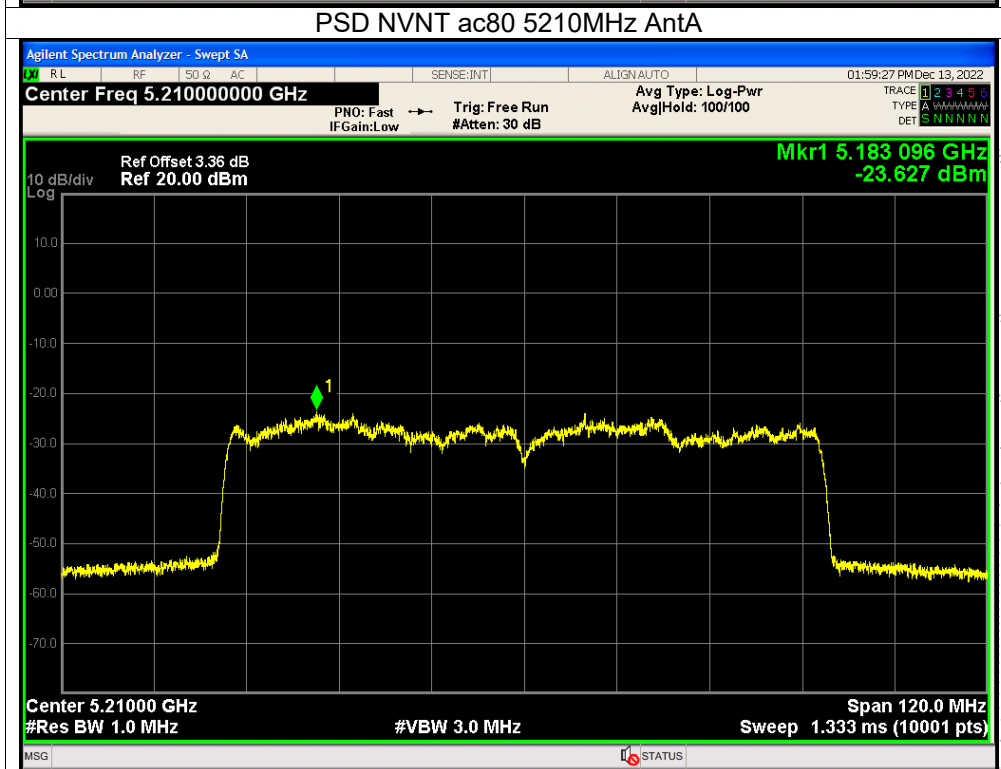
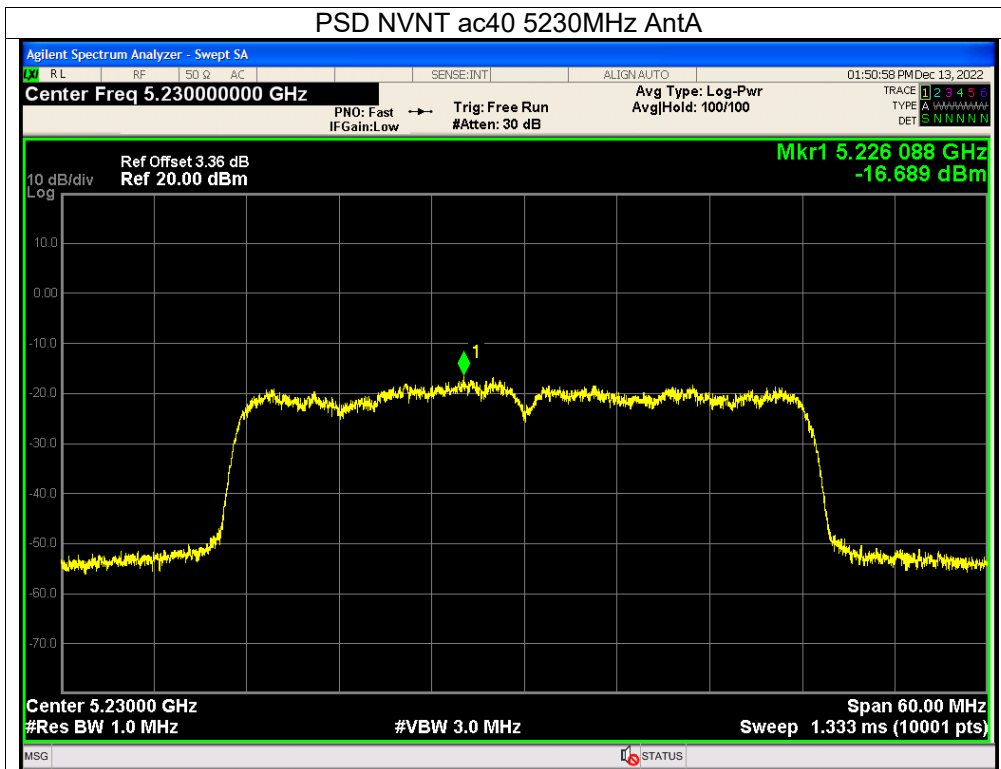








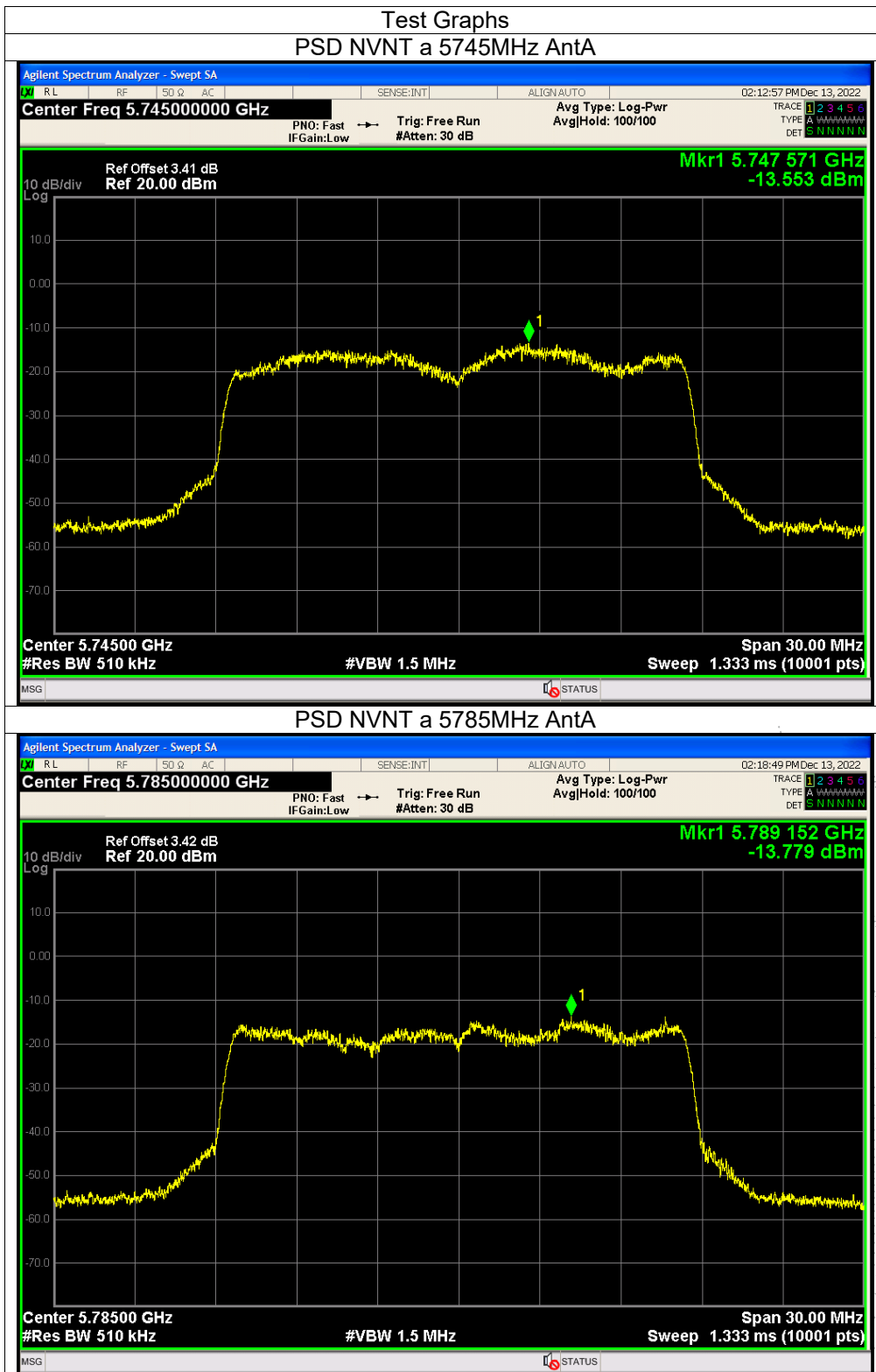


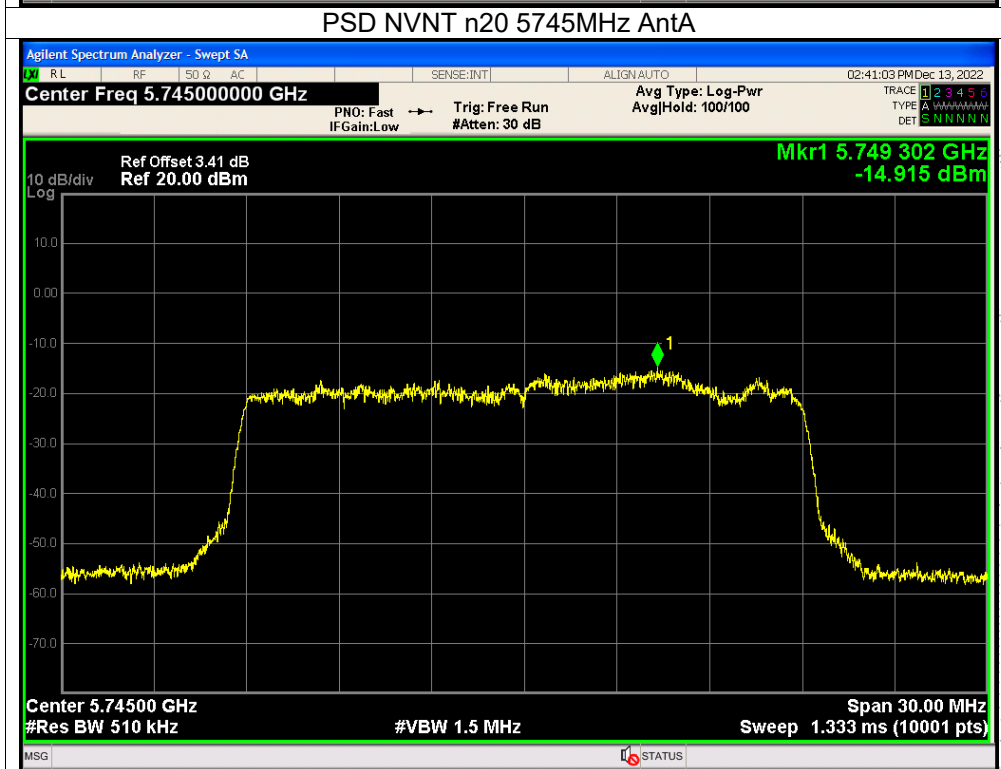
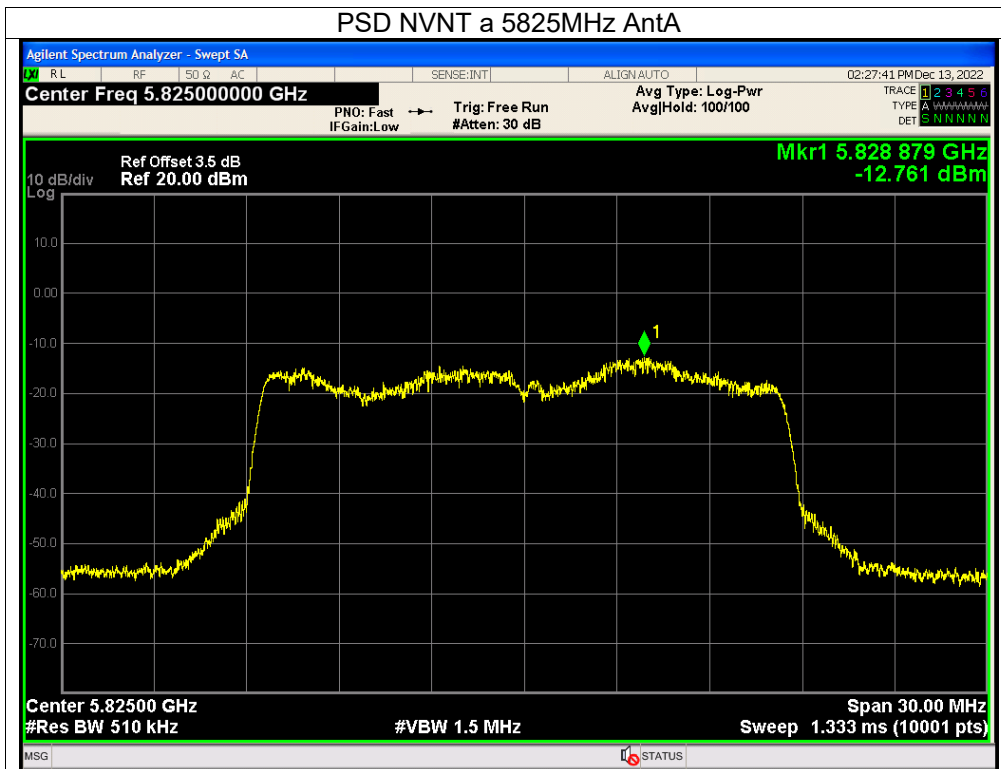


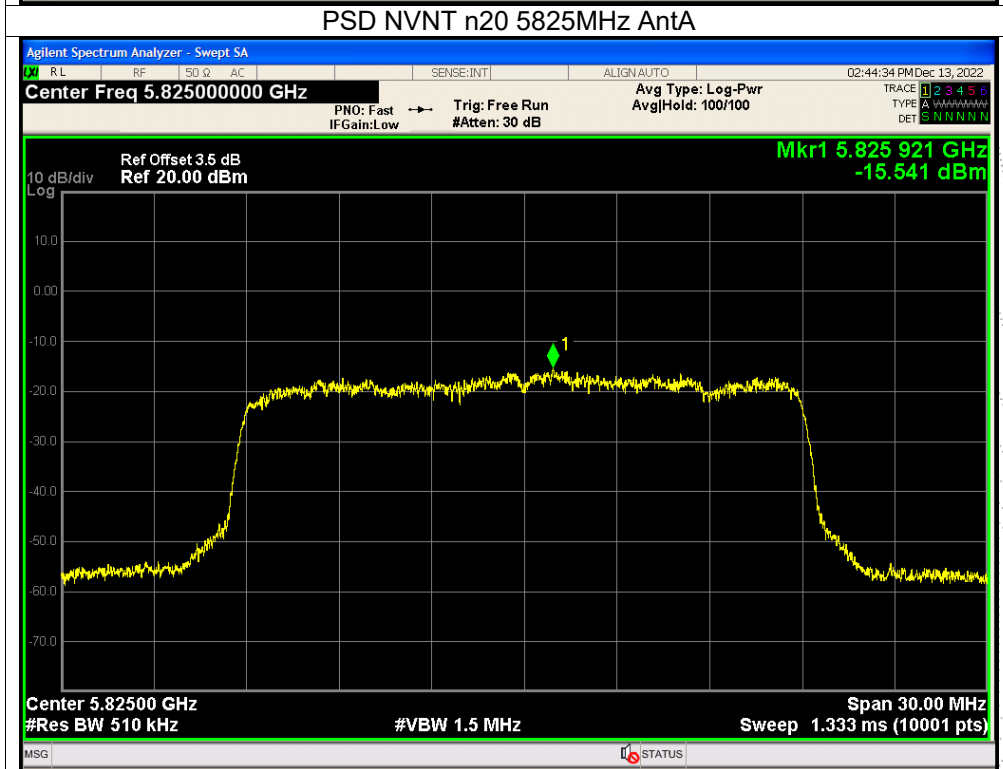
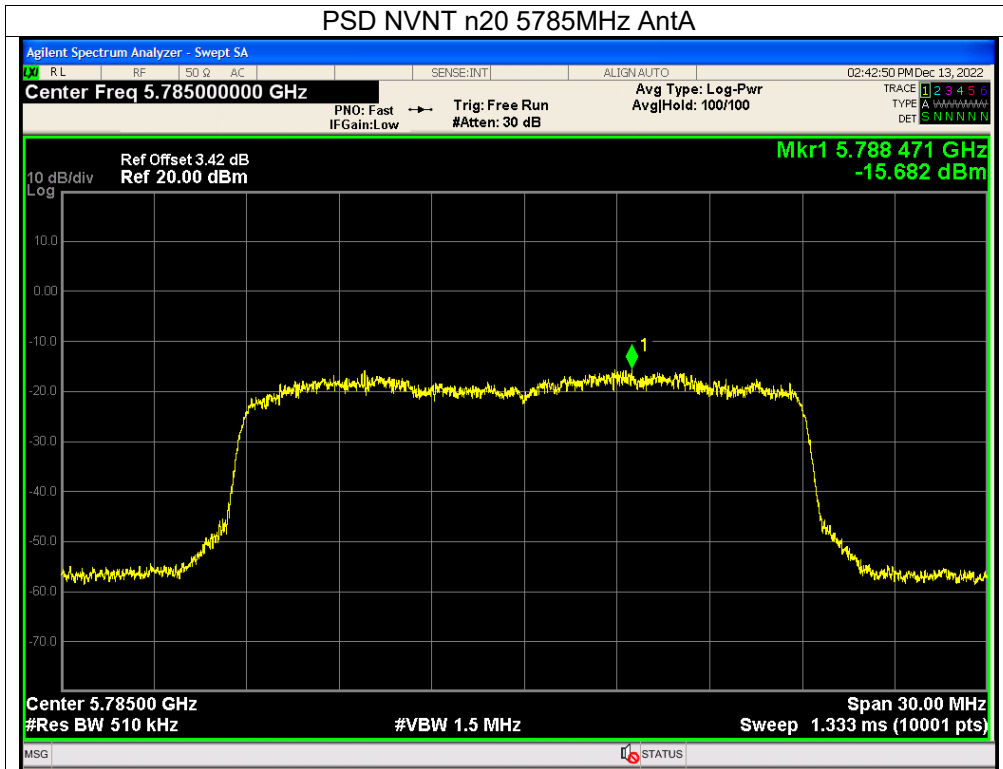
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.8V
Test Mode :	TX Frequency U-NII-3 (5745-5825MHz)		

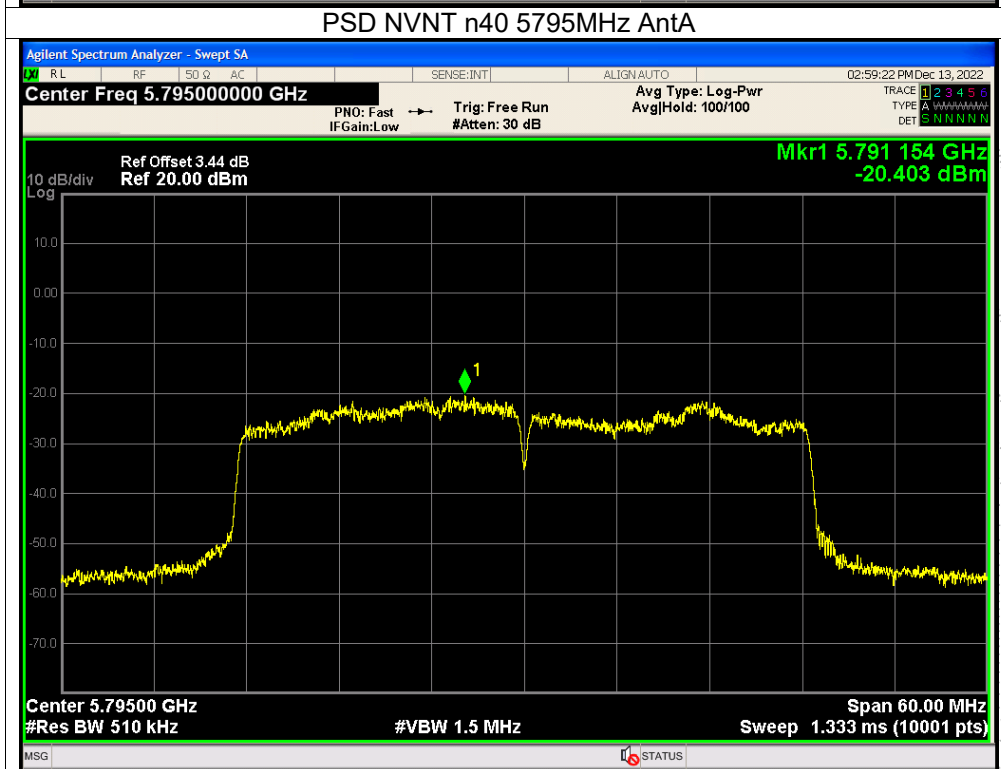
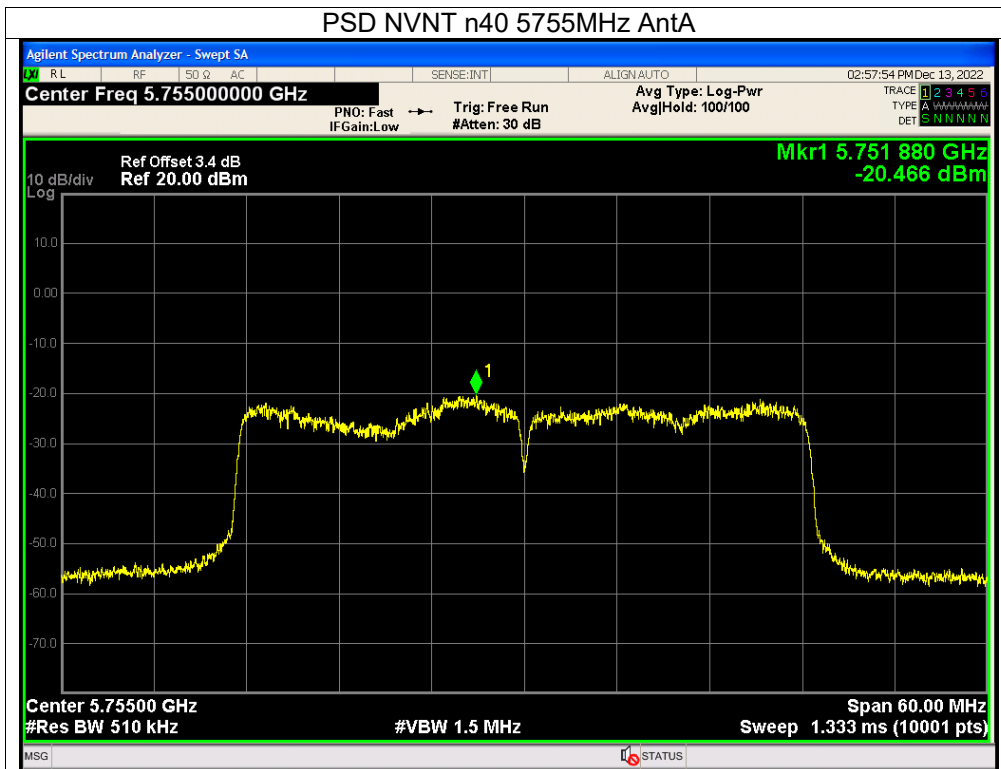
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

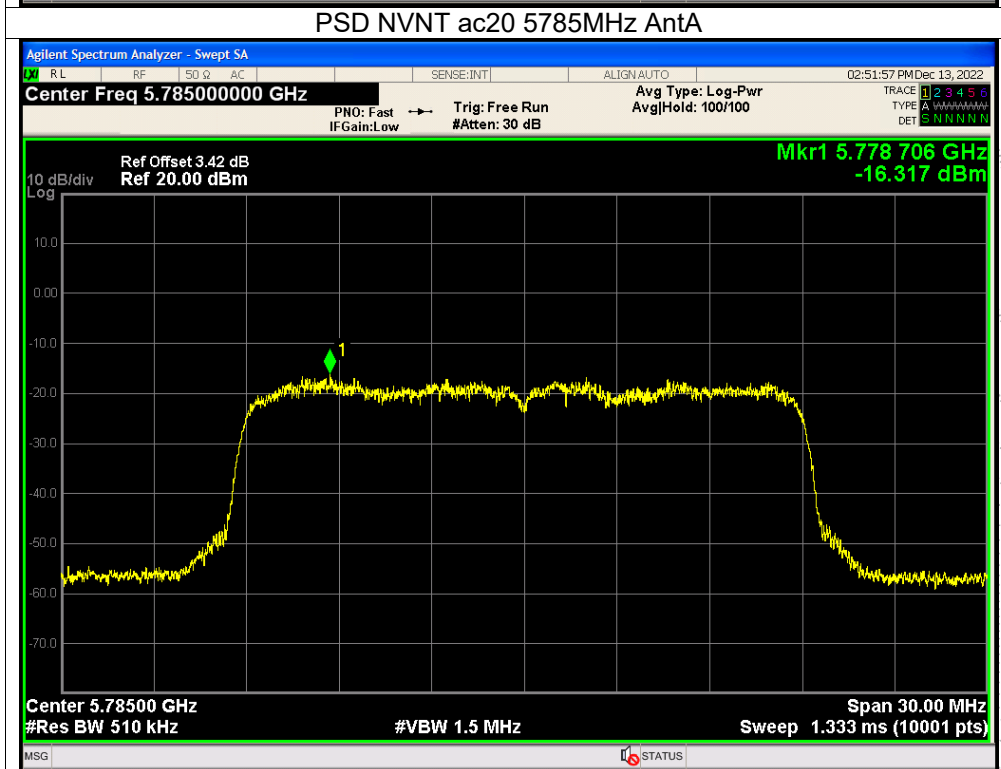
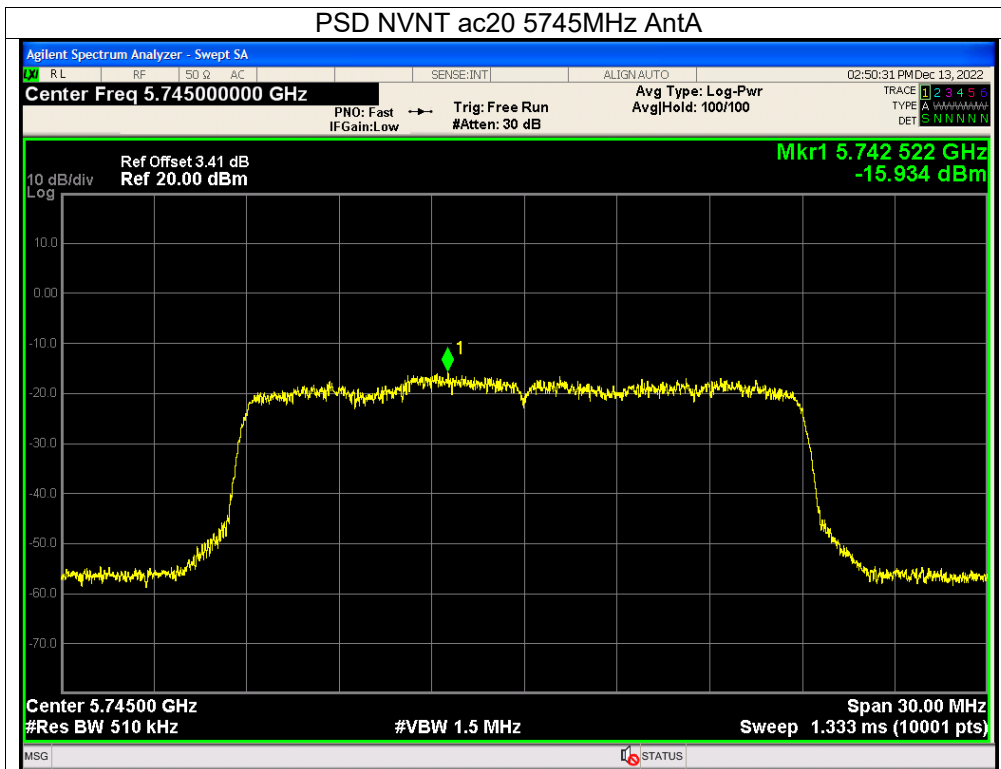
Mode	Frequency	Measured Power Density (dBm/500KHz)			Limit (dBm/500kHz)	Result
		ANT A	ANT B	Total		
802.11 a	5745 MHz	-13.55	-14.7	/	30	PASS
	5785 MHz	-13.78	-13.88	/	30	PASS
	5825 MHz	-12.76	-13.49	/	30	PASS
802.11 n20	5745 MHz	-14.92	-15.63	-12.25	29.19	PASS
	5785 MHz	-15.68	-16.11	-12.88	29.19	PASS
	5825 MHz	-15.54	-16	-12.75	29.19	PASS
802.11 n40	5755 MHz	-20.47	-20.42	-17.43	29.19	PASS
	5795 MHz	-20.4	-19.59	-16.97	29.19	PASS
802.11 ac20	5745 MHz	-15.93	-17.15	-13.49	29.19	PASS
	5785 MHz	-16.32	-15.59	-12.93	29.19	PASS
	5825 MHz	-15.87	-16.23	-13.04	29.19	PASS
802.11 ac40	5755 MHz	-20.96	-19.96	-17.42	29.19	PASS
	5795 MHz	-20.07	-20.85	-17.43	29.19	PASS
802.11 AC80	5775 MHz	-26.9	-27.92	-24.37	29.19	PASS
Note: Directional gain= $G_{ANTMAX} + 10\log(N_{ANT}/N_{SS})=3.80+10\log(2/1)=6.81 \text{ dBi}>6\text{dBi}$ Limit= $30-(6.81-6)=29.19 \text{ dbi}$						

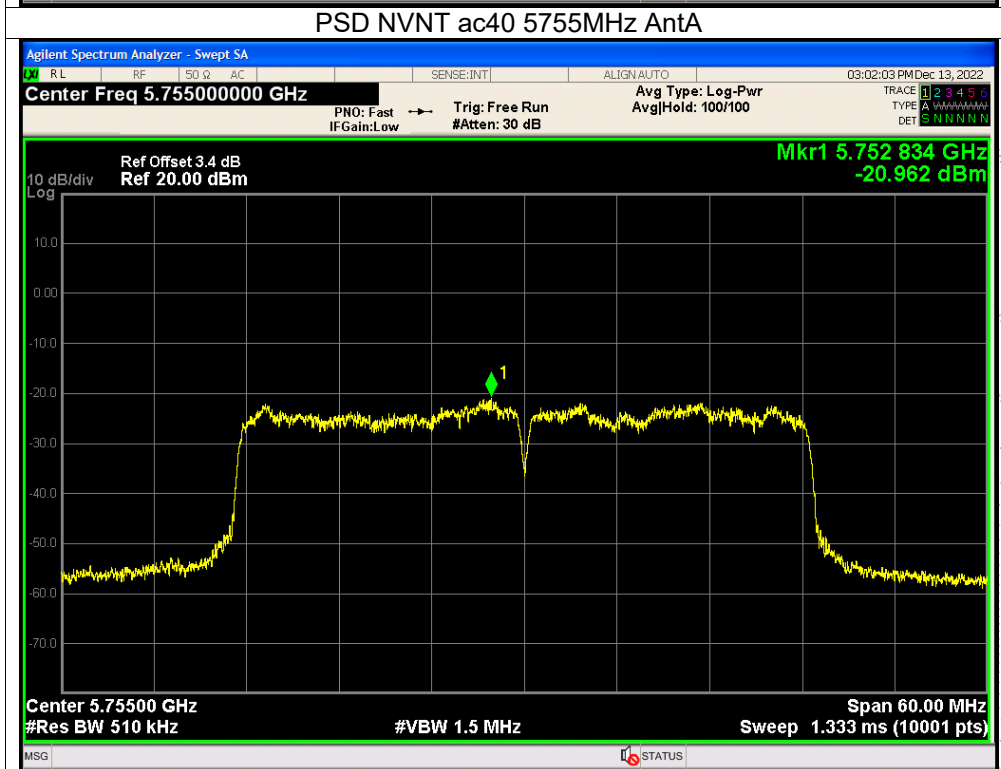
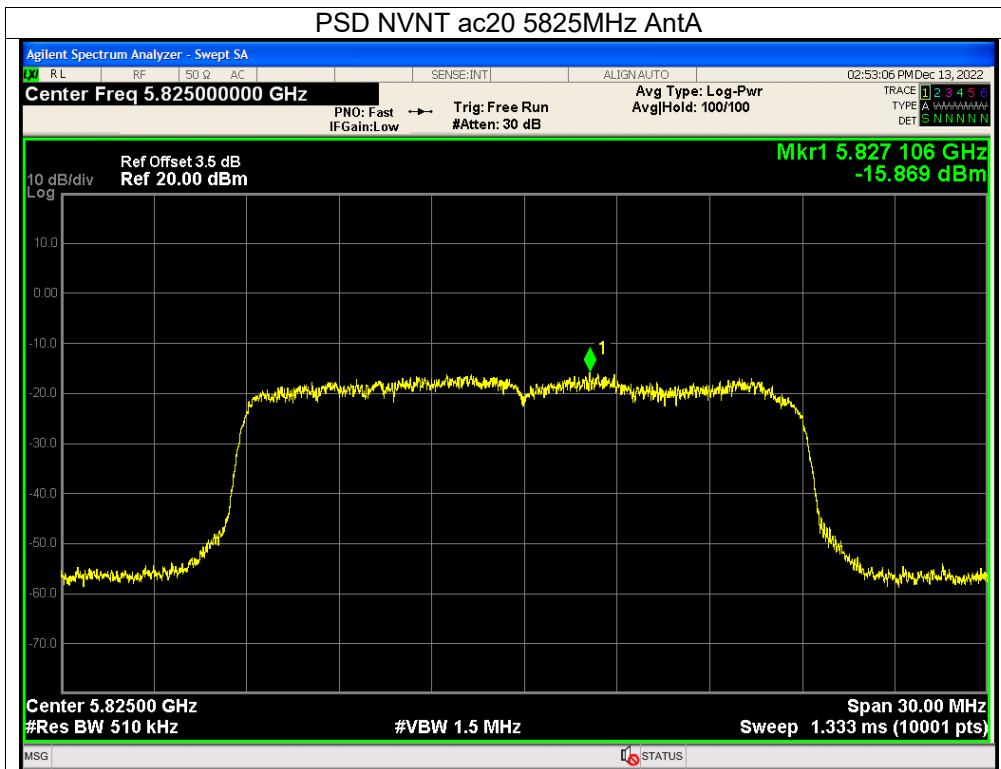


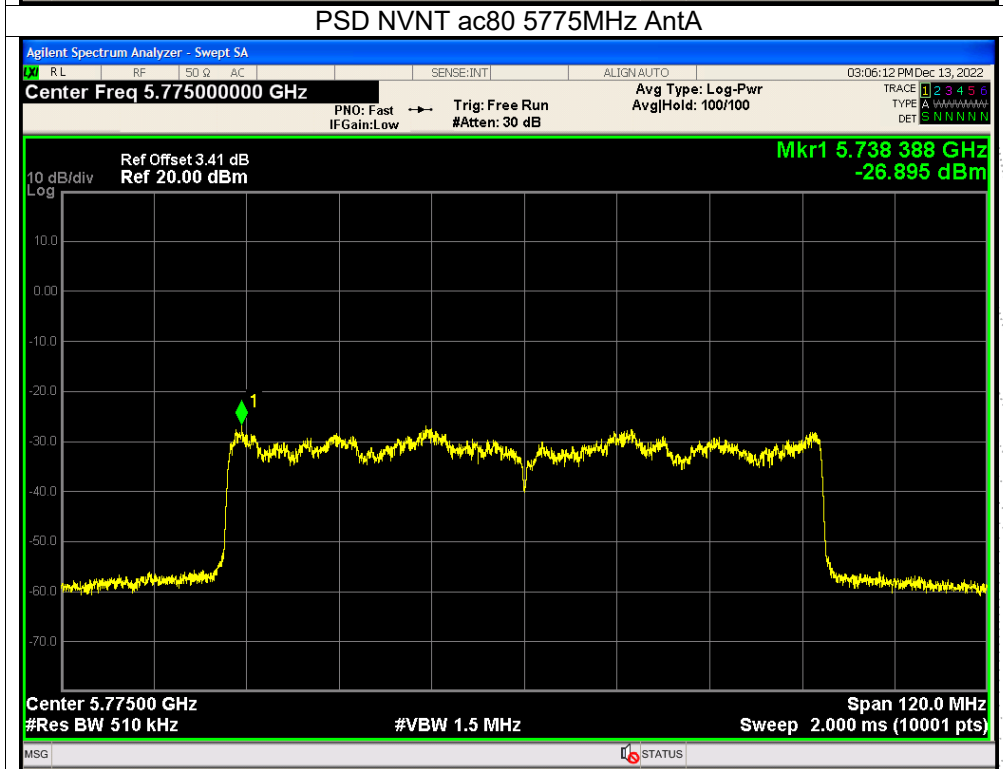
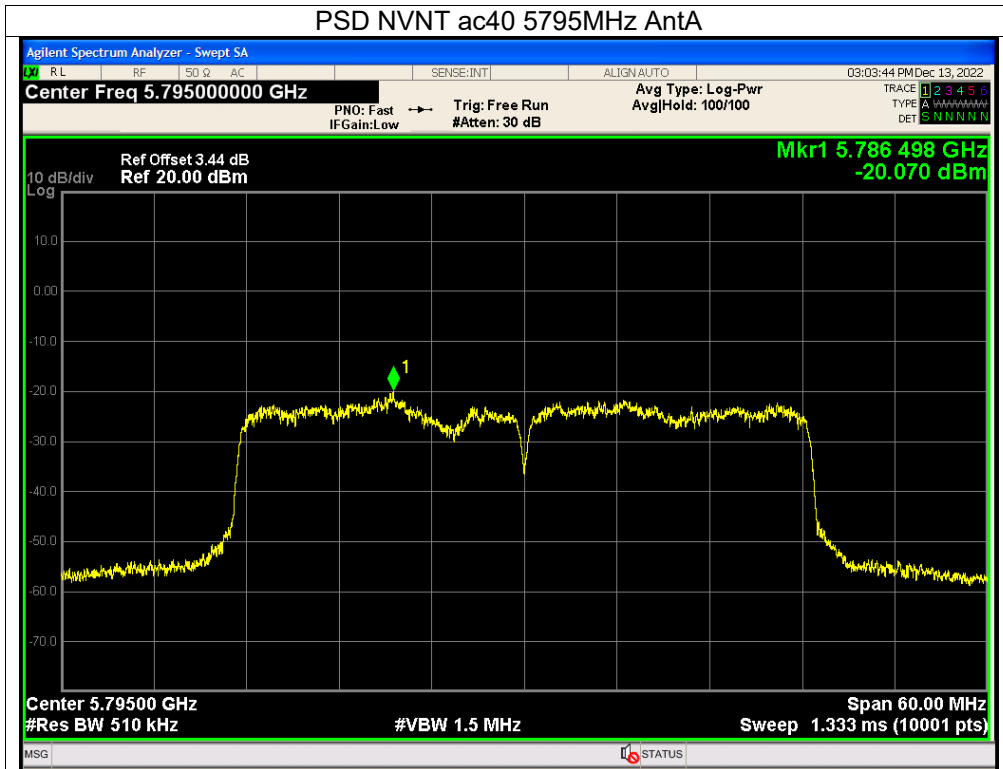






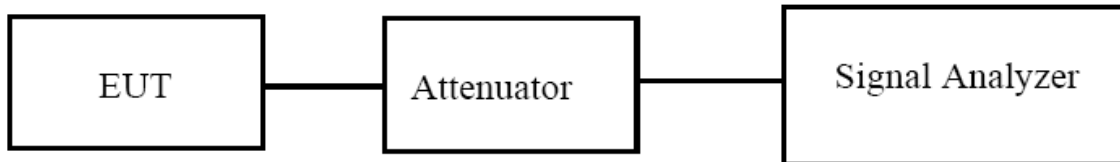






9. 26dB & 6dB & 99% Emission Bandwidth

9.1 Block Diagram Of Test Setup



9.2 Limit

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

9.3 Test Procedure

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

The following procedure shall be used for measuring (99 %) power bandwidth:

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

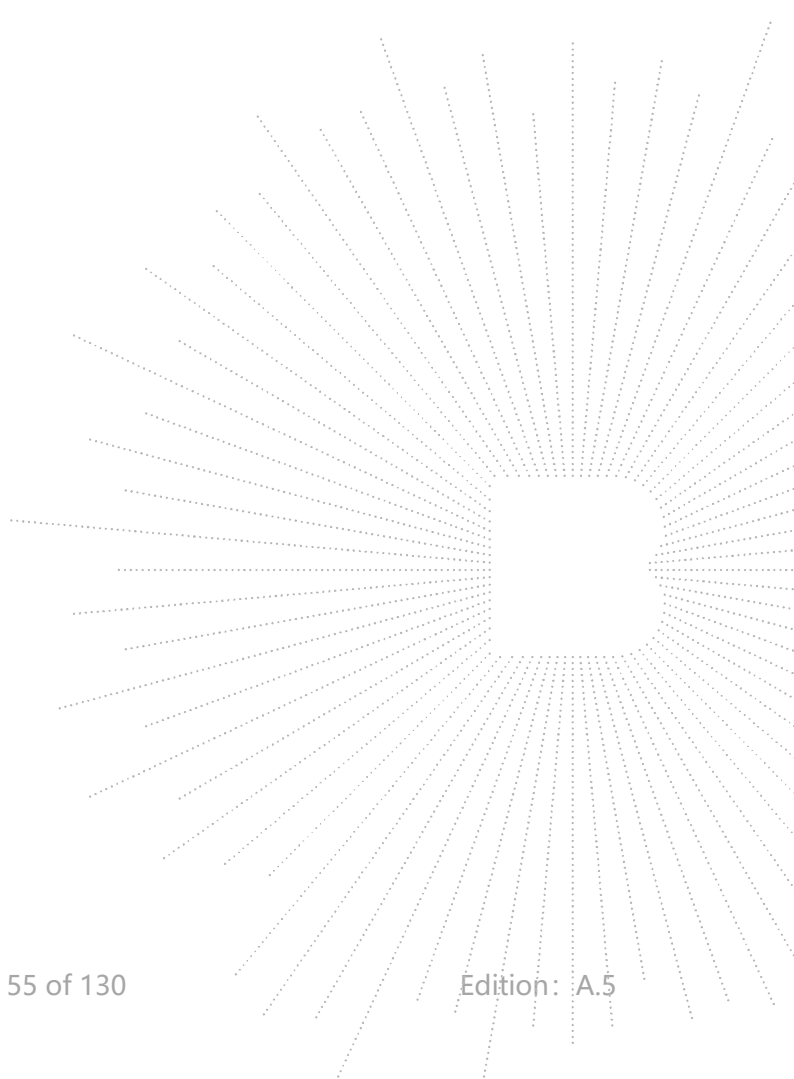
6dB

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) $\geq 3 \times RBW$.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.

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

9.4 EUT Operating Conditions

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



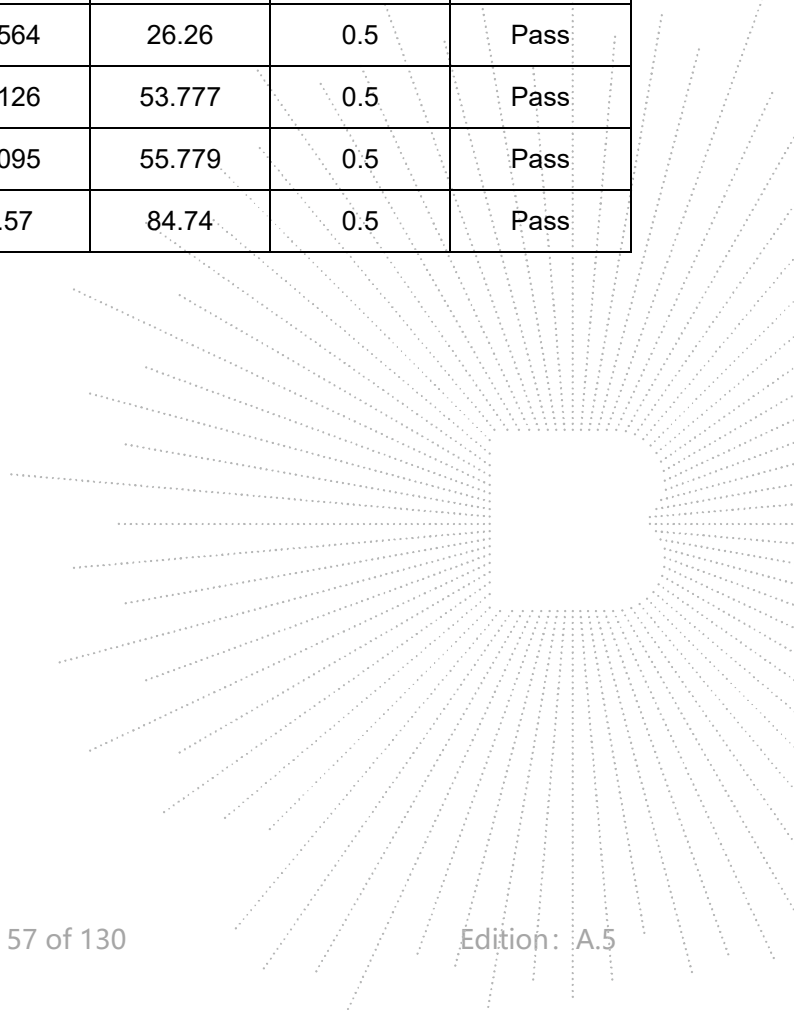
9.5 Test Result

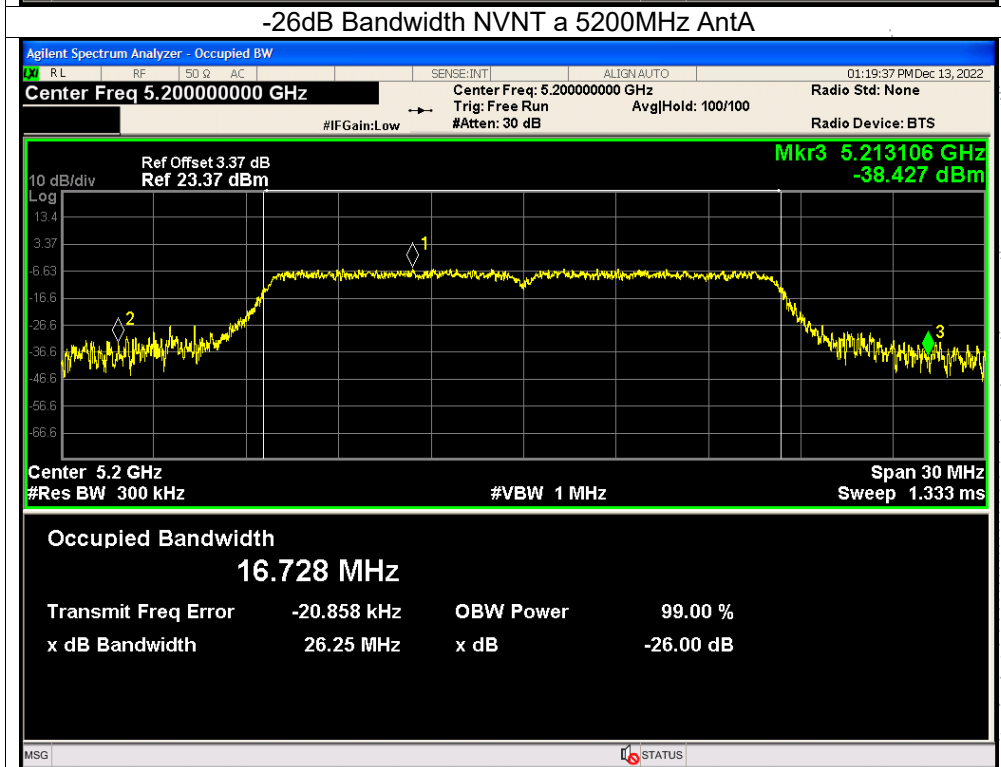
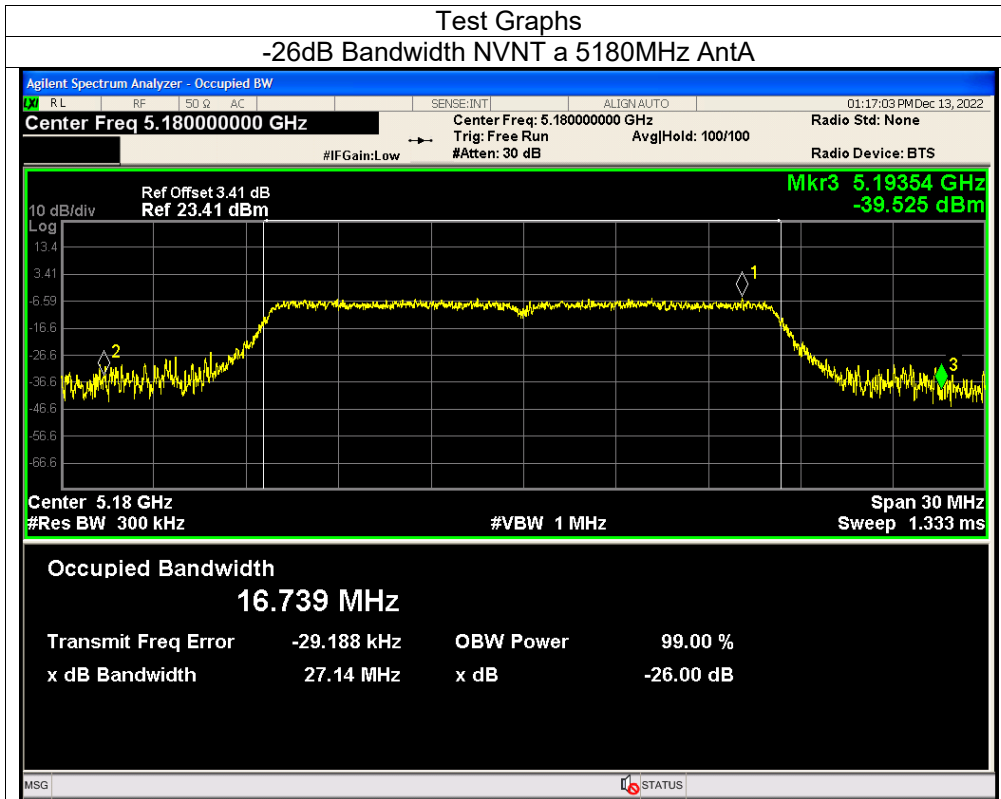
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.8V
Test Mode :	TX Frequency U-NII-1 (5180-5240MHz)		

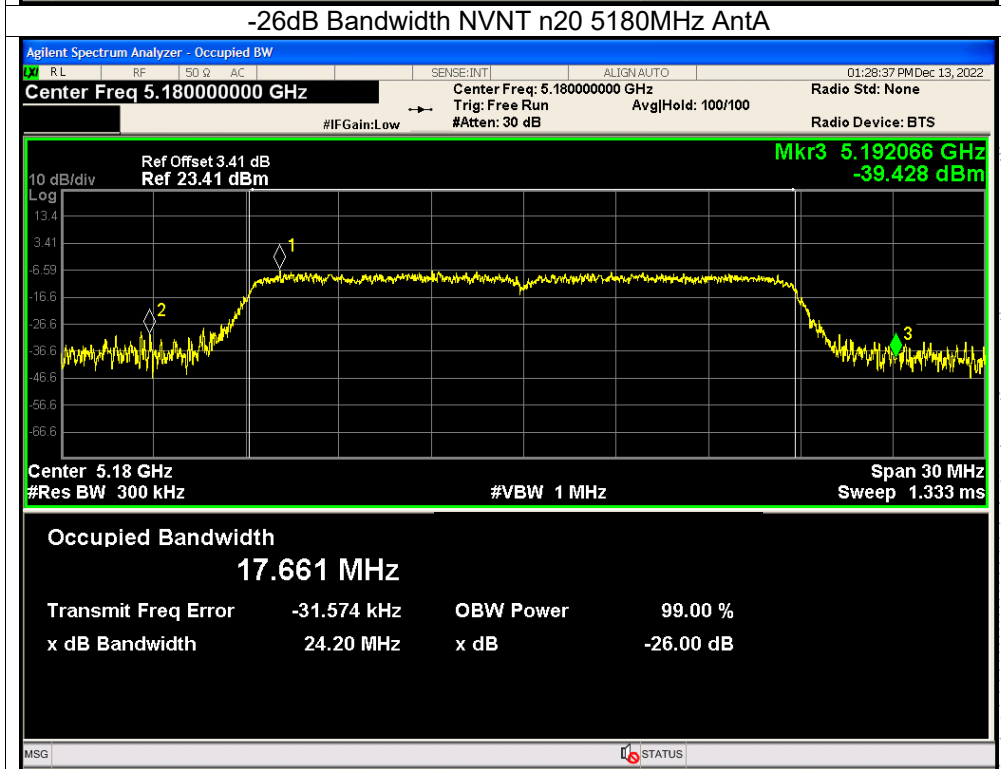
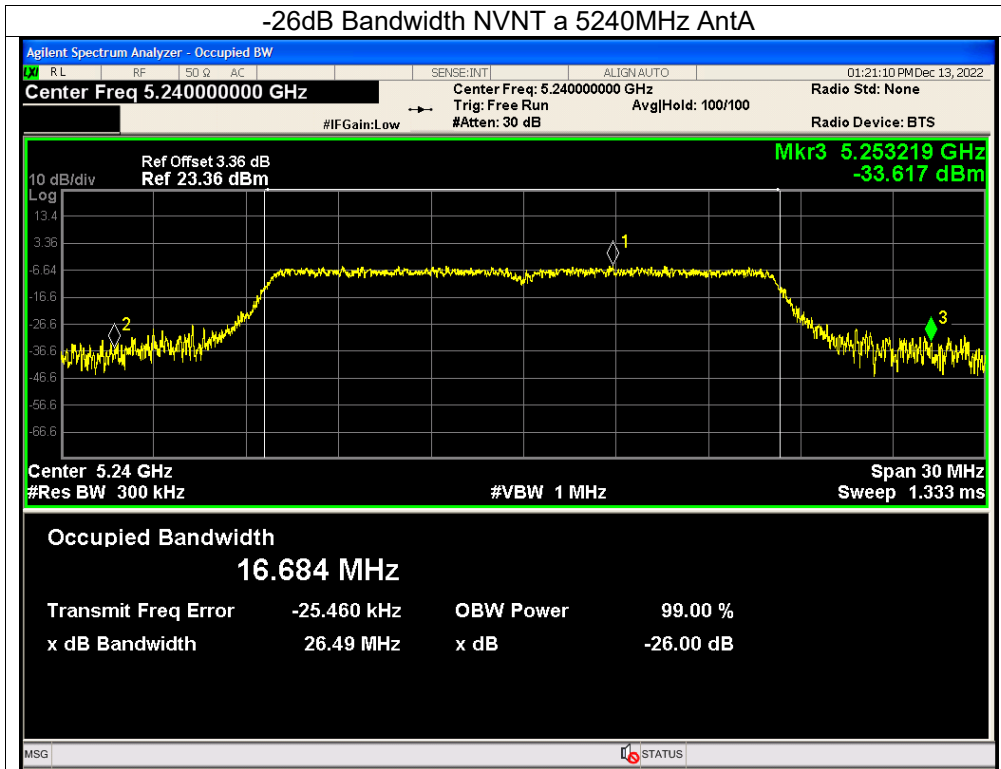
Note: A(B) Represent the value of antenna A and B. The worst data is Antenna A, only shown Antenna A Plot.

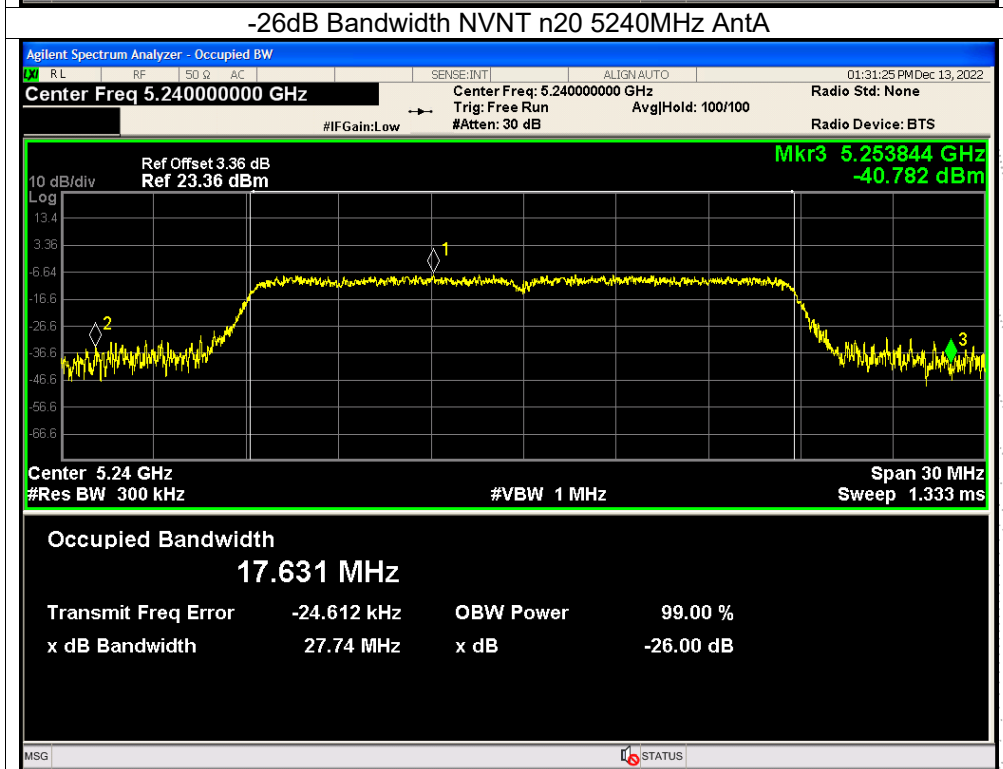
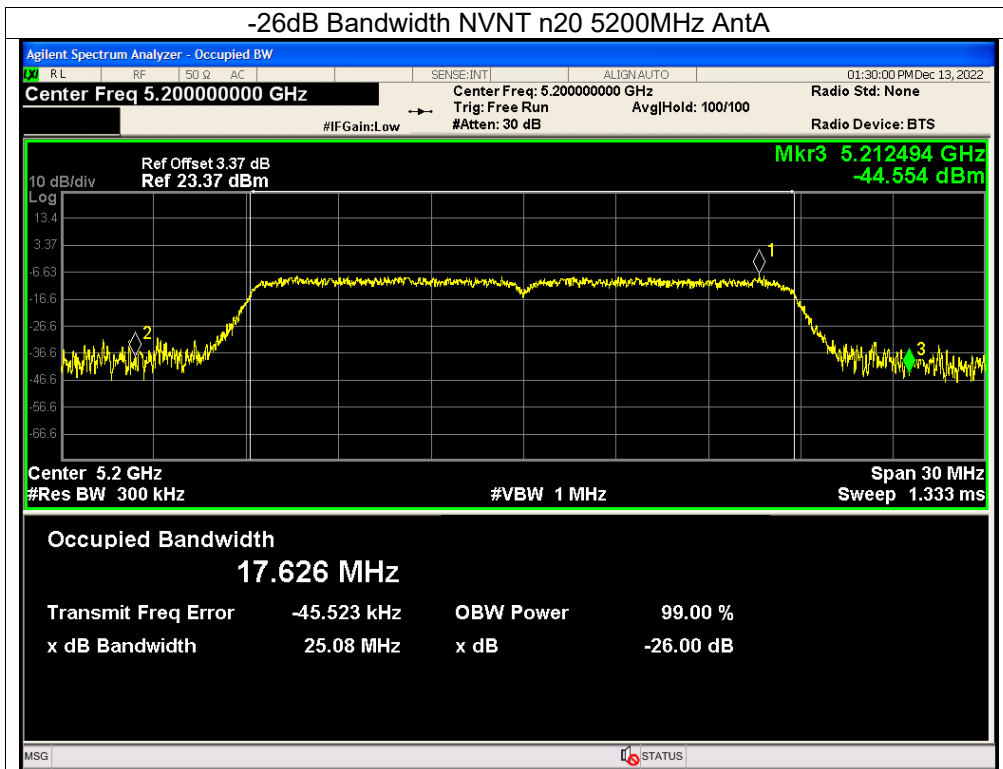
Mode	Channel	Frequency (MHz)	99% bandwidth (MHz)	-26dB bandwidth (MHz)	Limit -26 dB Bandwidth	Result
			ANT A	ANT A		
802.11a	CH36	5180	16.544	27.138	0.5	Pass
	CH40	5200	16.565	26.254	0.5	Pass
	CH48	5240	16.519	26.49	0.5	Pass
802.11 n20	CH36	5180	17.575	24.195	0.5	Pass
	CH40	5200	17.579	25.079	0.5	Pass
	CH48	5240	17.583	27.737	0.5	Pass
802.11 n40	CH 38	5190	36.069	54.767	0.5	Pass
	CH 46	5230	36.09	54.424	0.5	Pass
802.11 ac20	CH36	5180	17.602	25.616	0.5	Pass
	CH40	5200	17.569	27.086	0.5	Pass
	CH48	5240	17.581	24.09	0.5	Pass
802.11 ac40	CH 38	5190	36.048	50.716	0.5	Pass
	CH 46	5230	36.069	50.546	0.5	Pass
802.11 AC80	CH 42	5210	75.601	93.564	0.5	Pass

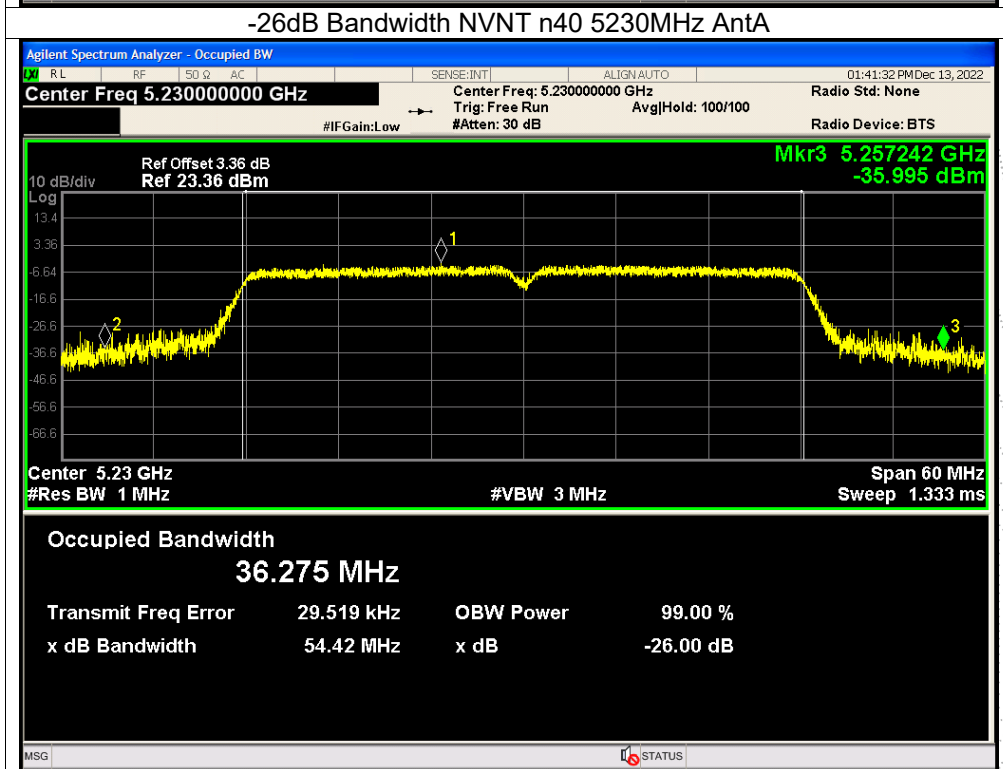
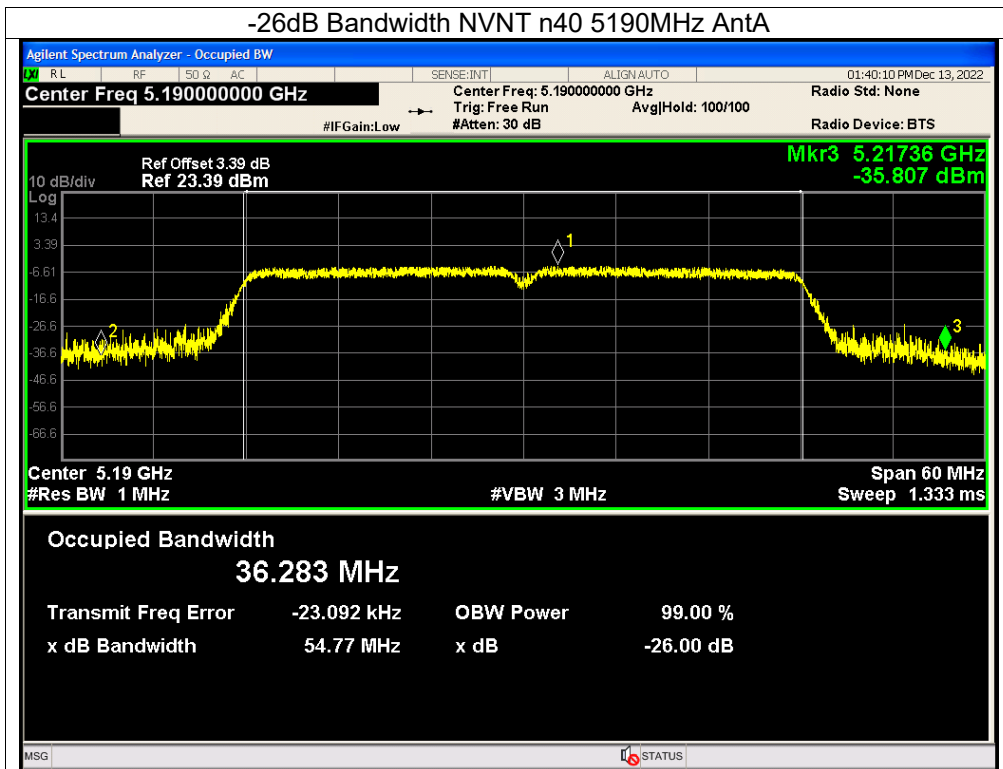
Mode	Channel	Frequency (MHz)	99% bandwidth (MHz)	-26dB bandwidth (MHz)	Limit -26 dB Bandwidth	Result
			ANT B	ANT B		
802.11a	CH36	5180	16.564	26.007	0.5	Pass
	CH40	5200	16.569	26.02	0.5	Pass
	CH48	5240	16.549	27.192	0.5	Pass
802.11 n20	CH36	5180	17.602	24.974	0.5	Pass
	CH40	5200	17.582	29.432	0.5	Pass
	CH48	5240	17.562	25.774	0.5	Pass
802.11 n40	CH 38	5190	36.062	52.613	0.5	Pass
	CH 46	5230	36.035	53.846	0.5	Pass
802.11 ac20	CH36	5180	17.595	27.313	0.5	Pass
	CH40	5200	17.591	28.103	0.5	Pass
	CH48	5240	17.564	26.26	0.5	Pass
802.11 ac40	CH 38	5190	36.126	53.777	0.5	Pass
	CH 46	5230	36.095	55.779	0.5	Pass
802.11 AC80	CH 42	5210	75.57	84.74	0.5	Pass

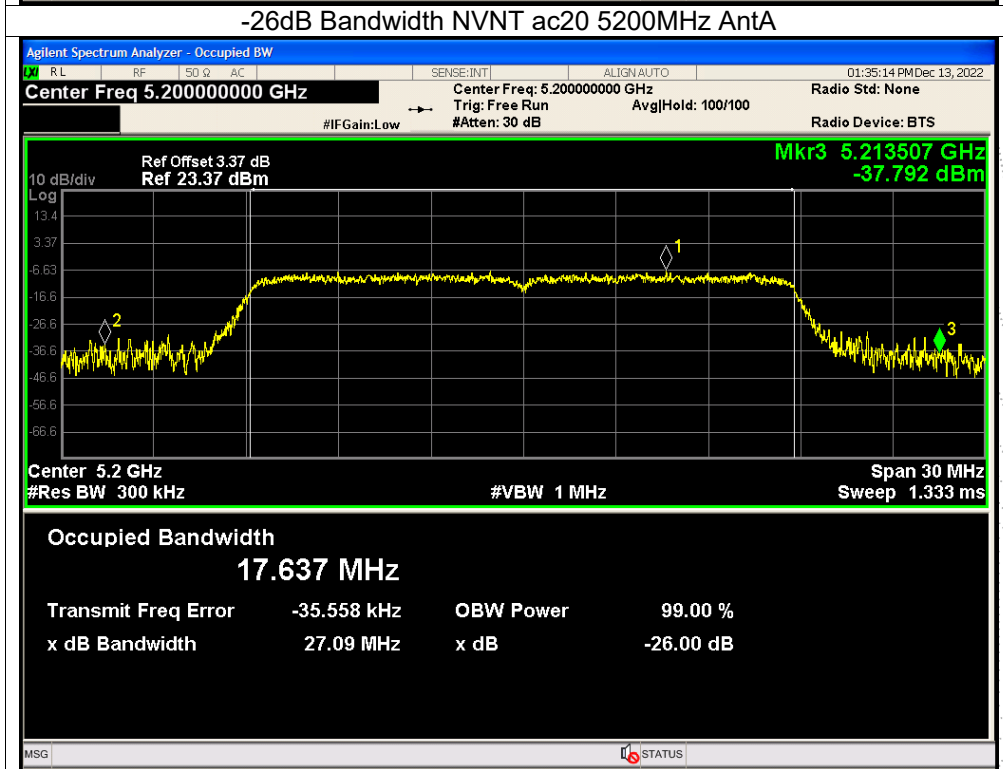
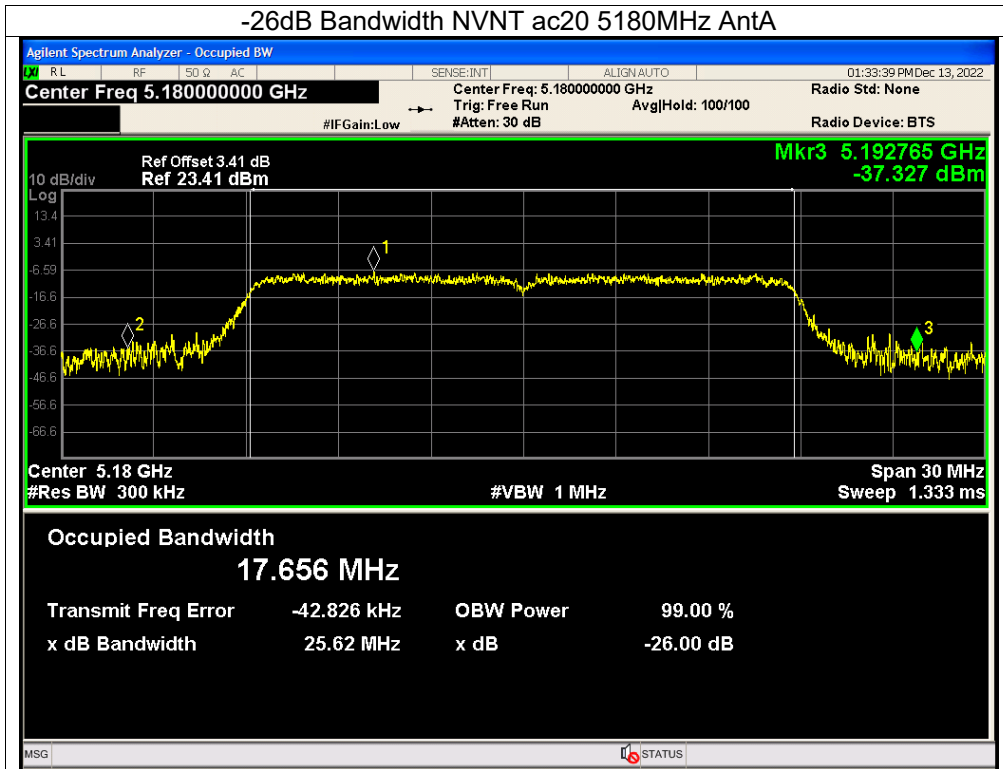


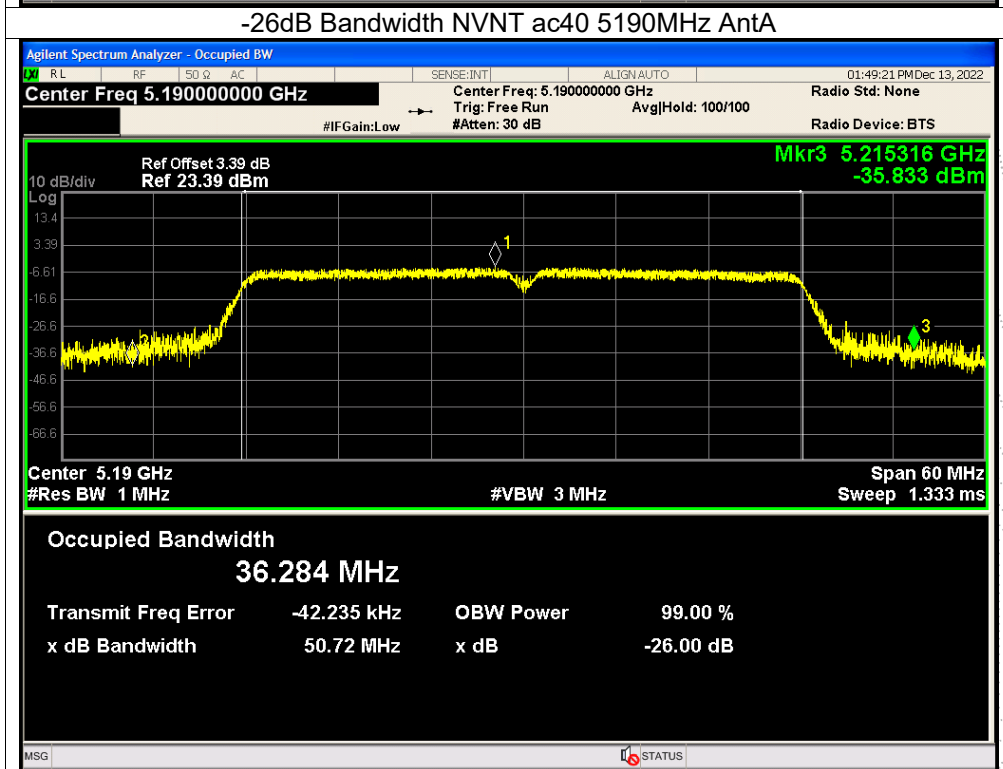
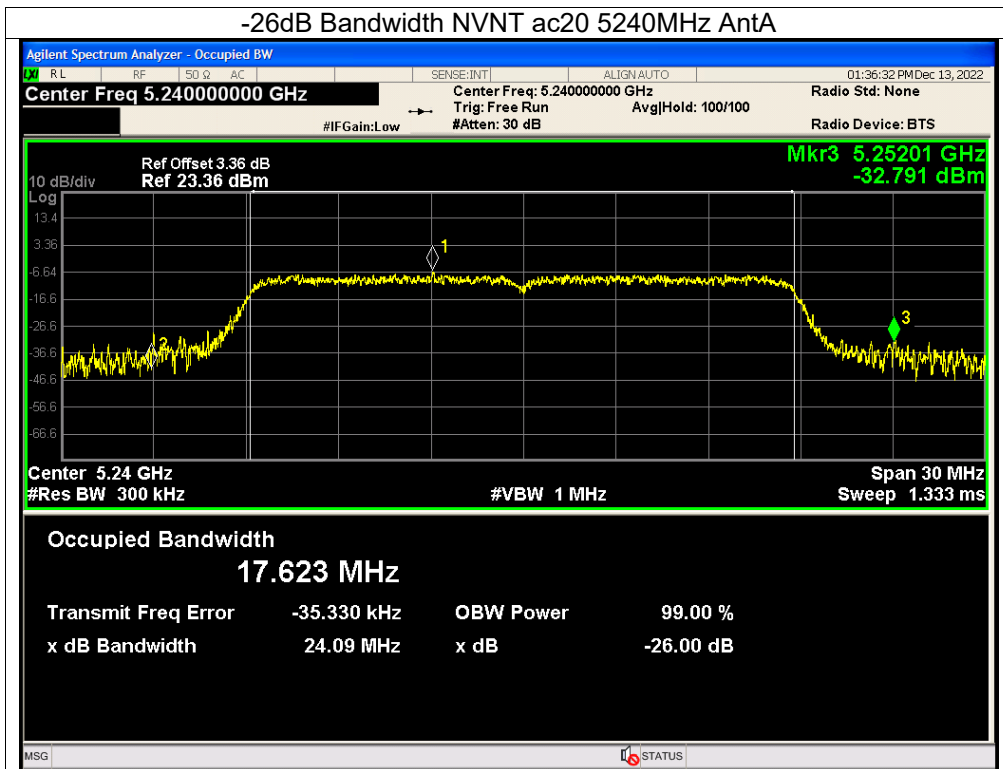


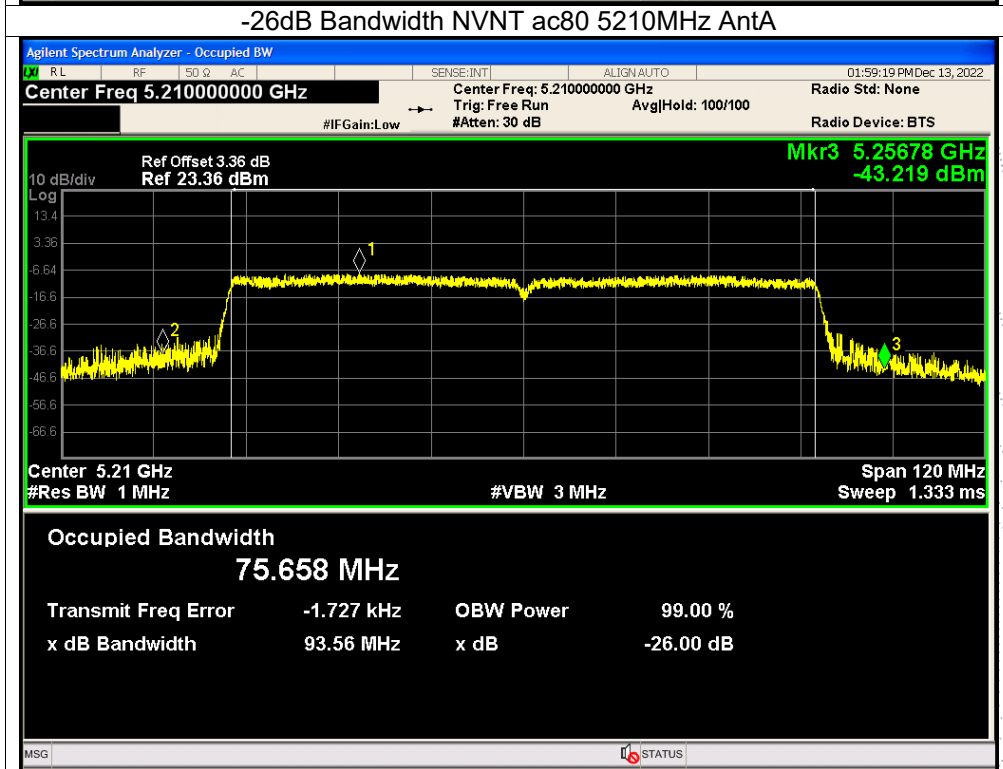
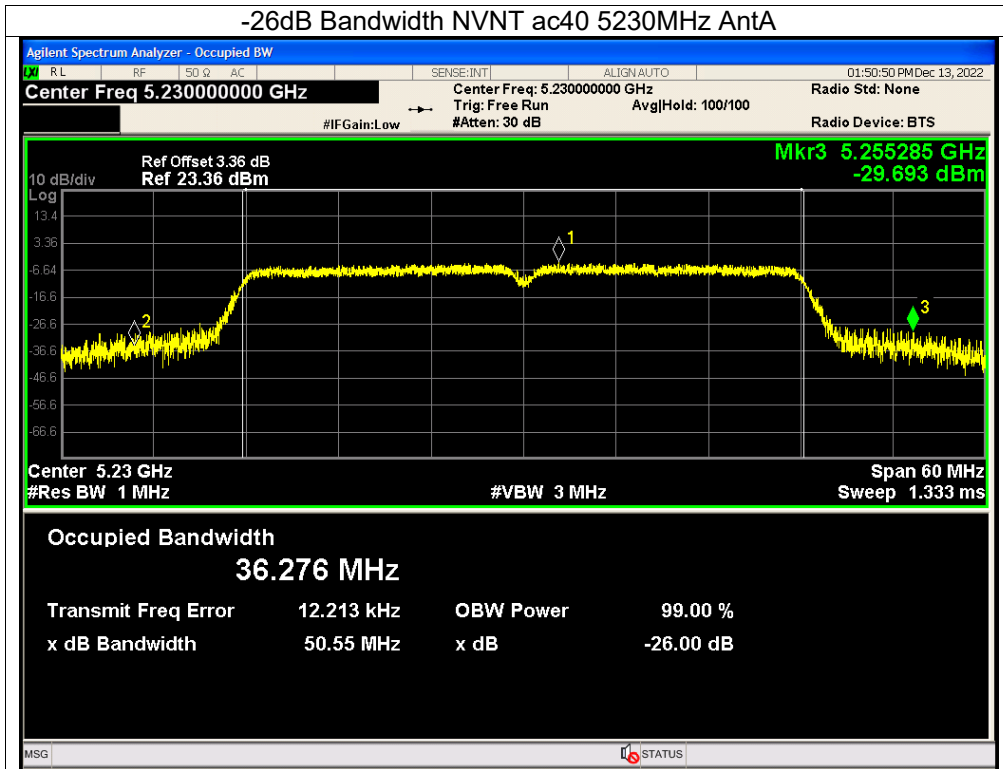


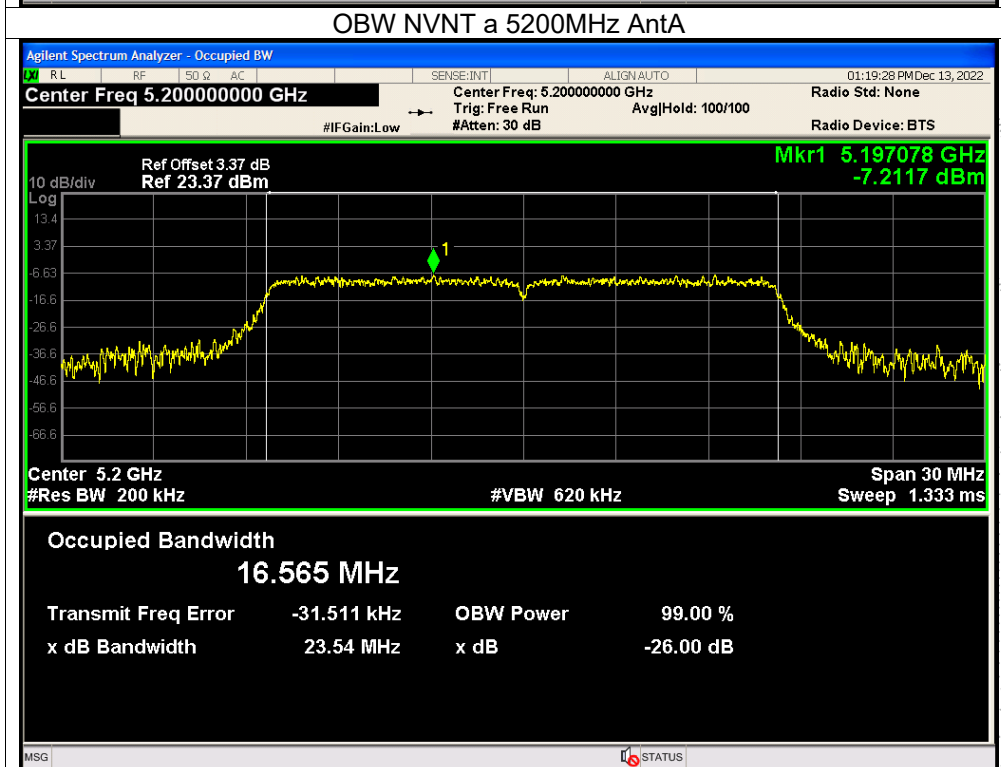
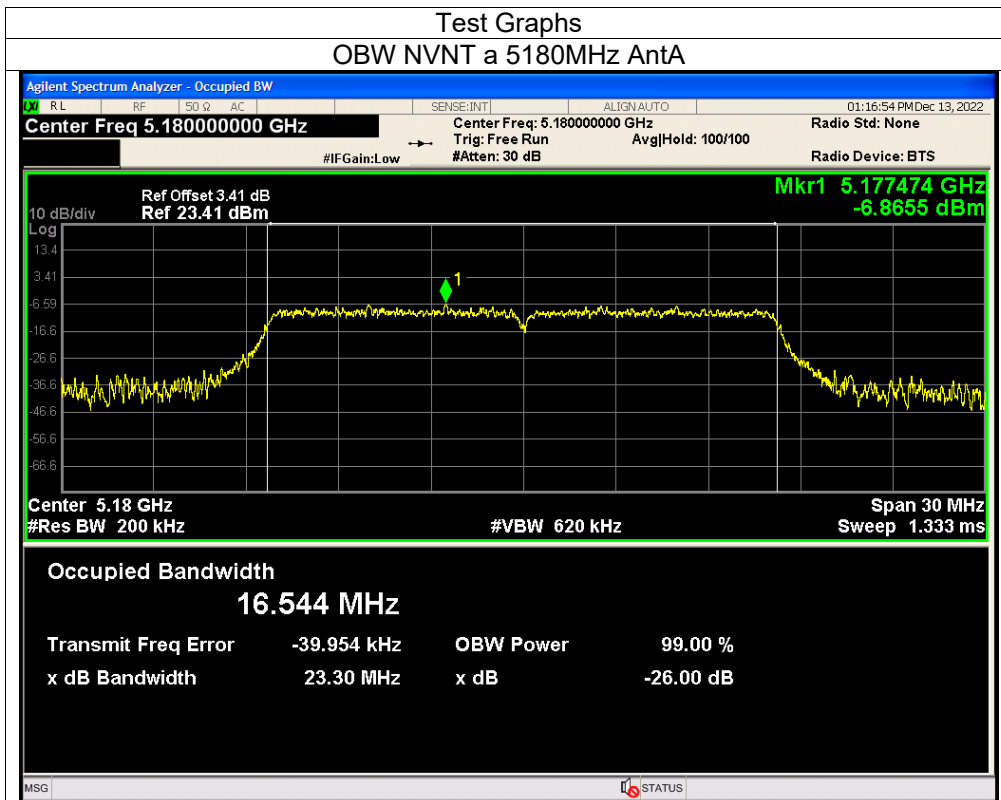


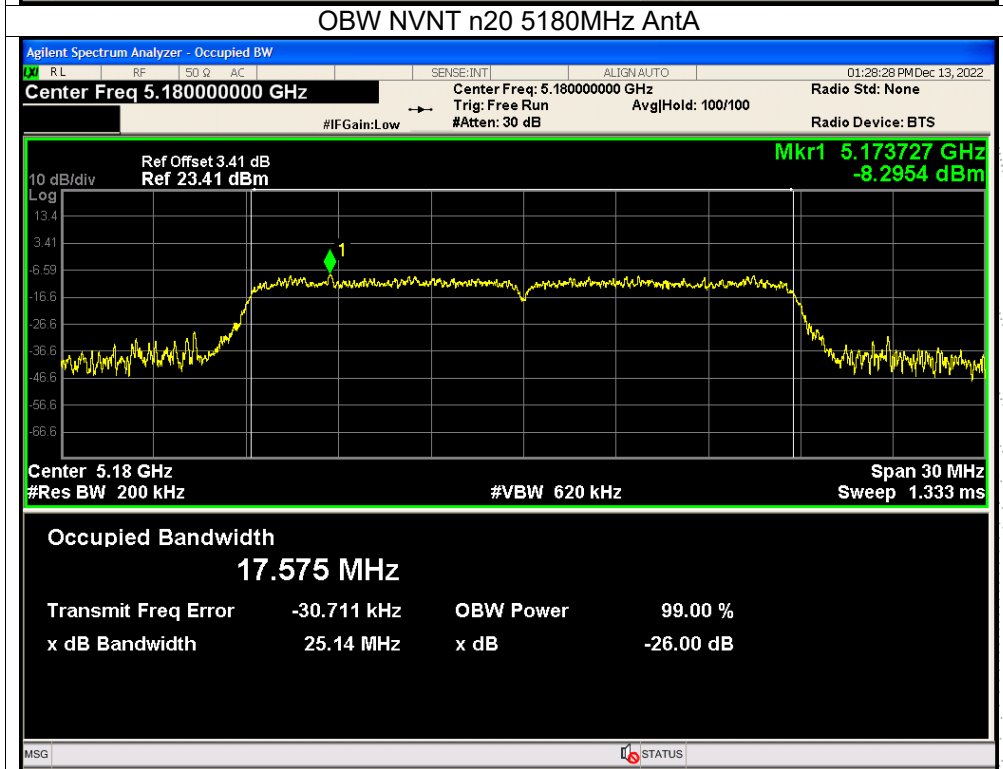
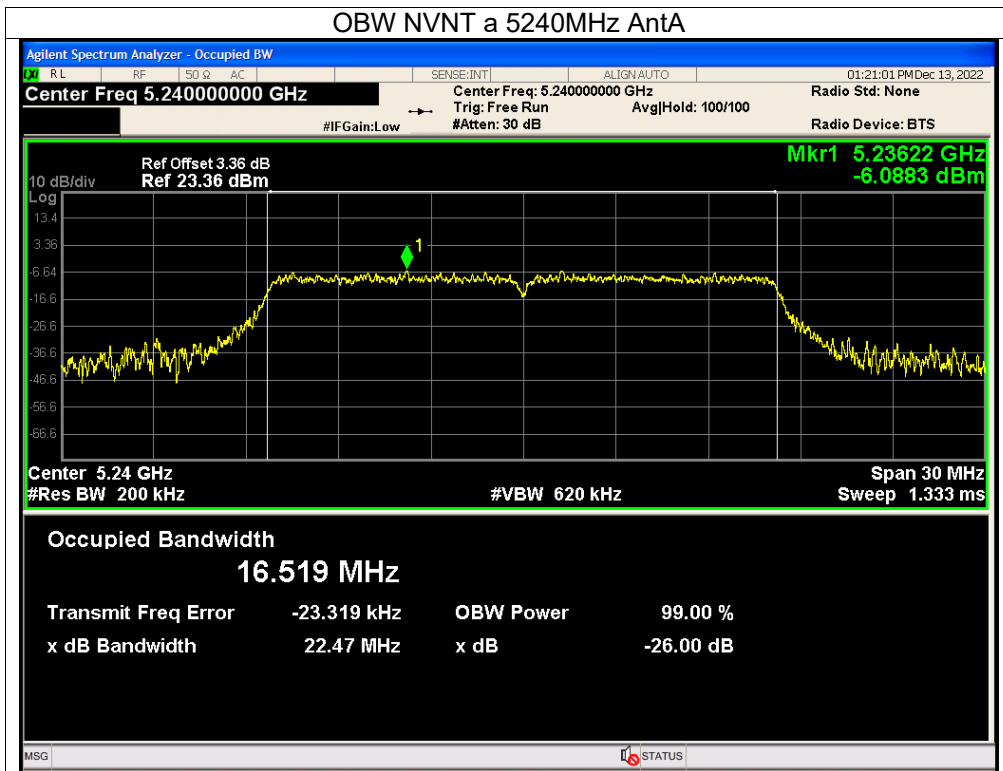


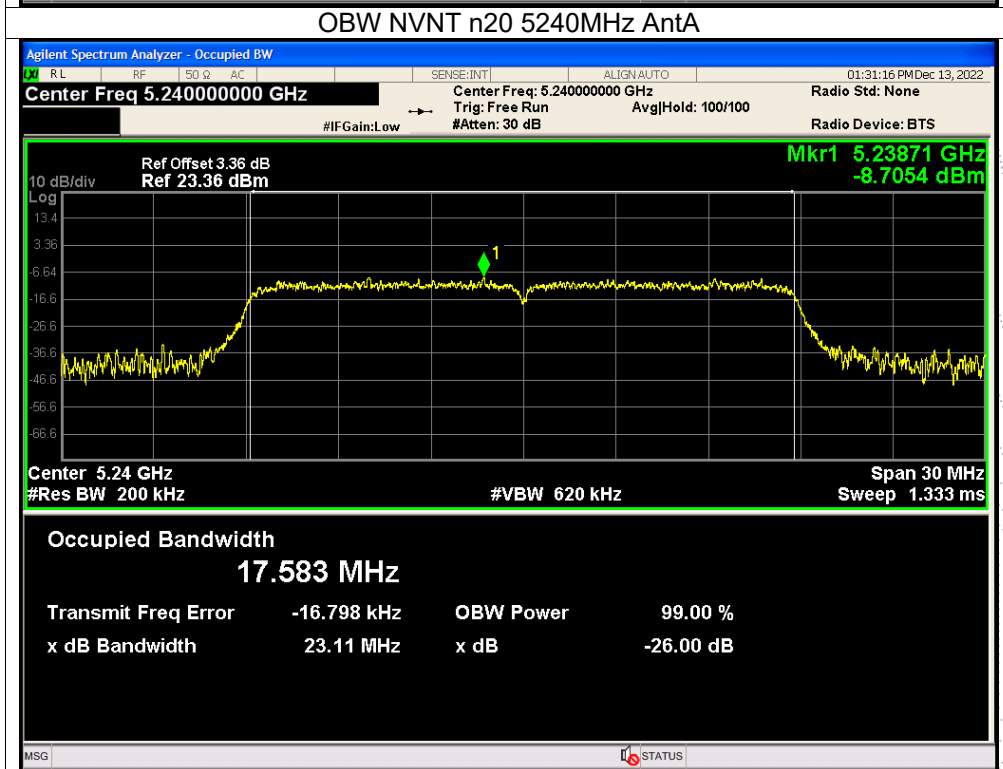
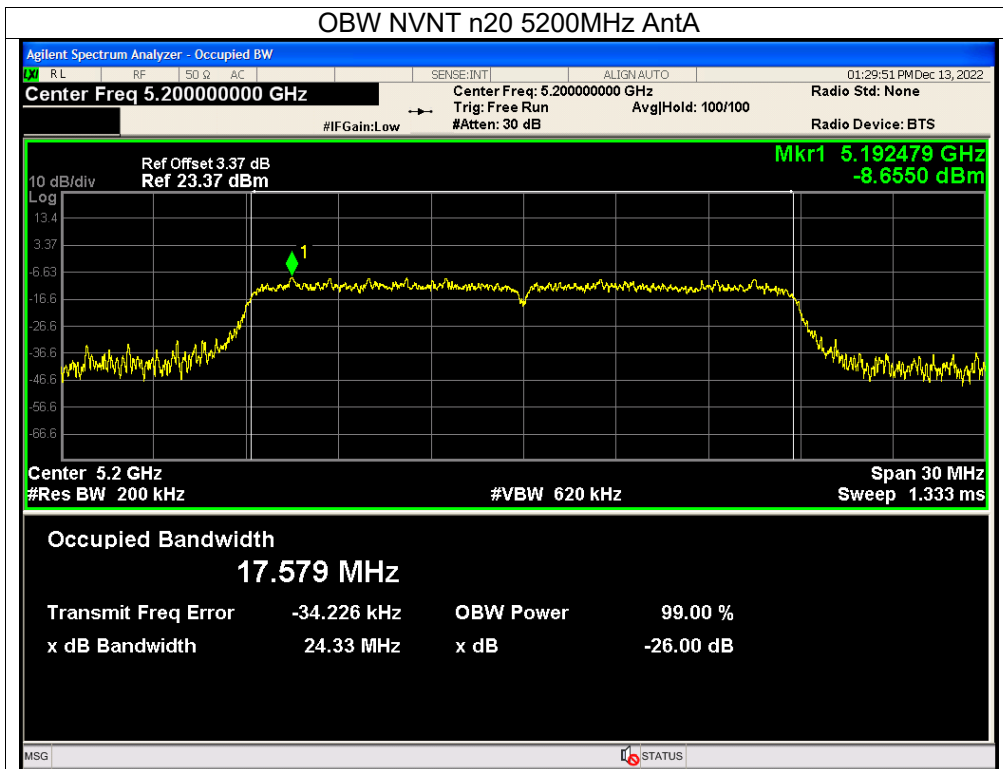


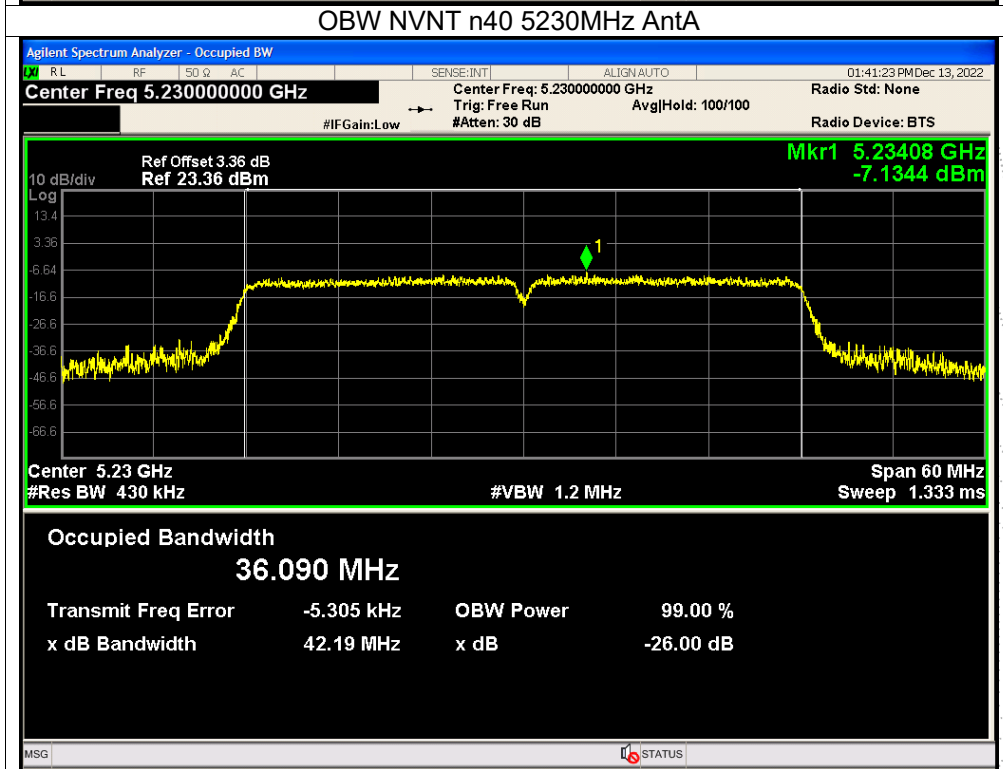
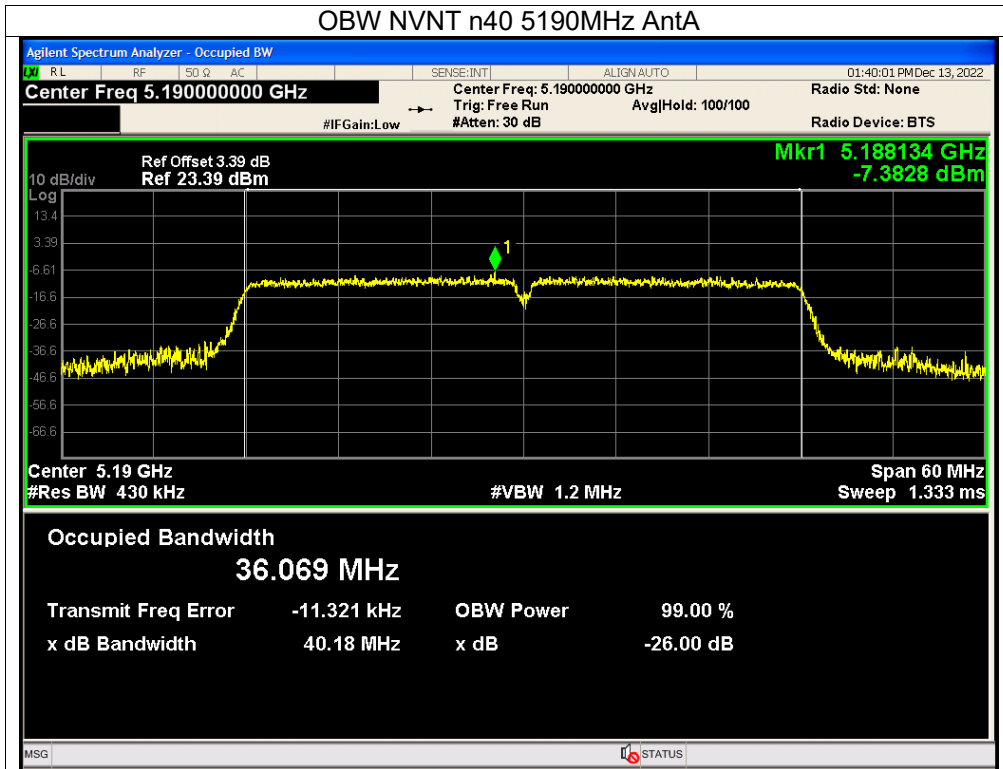


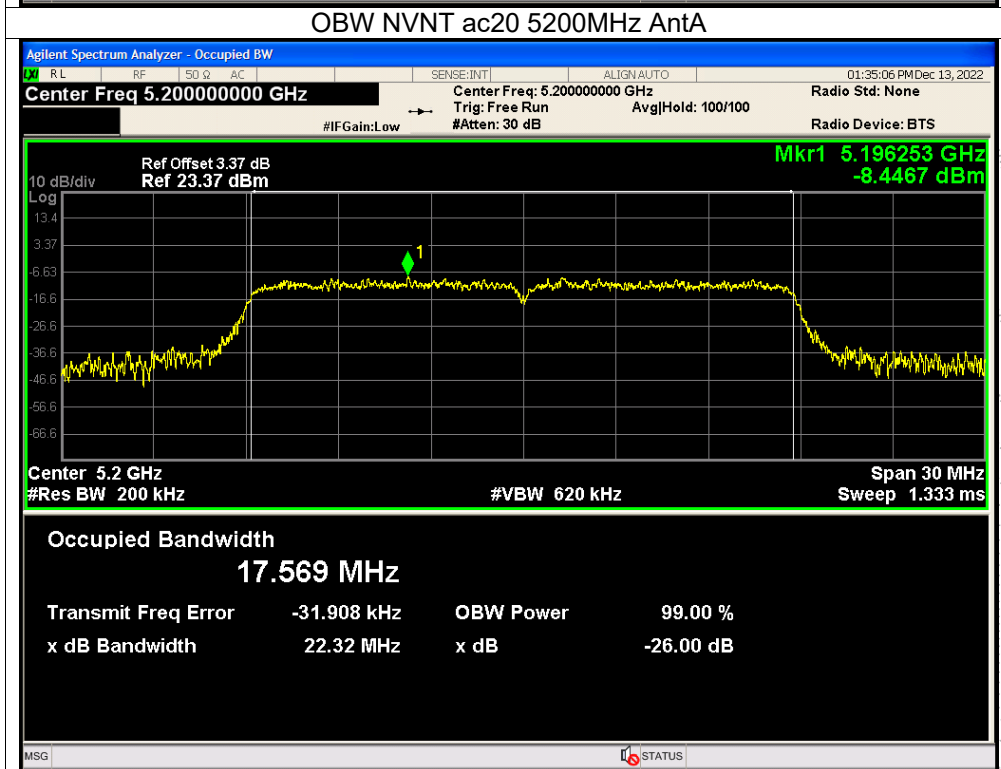
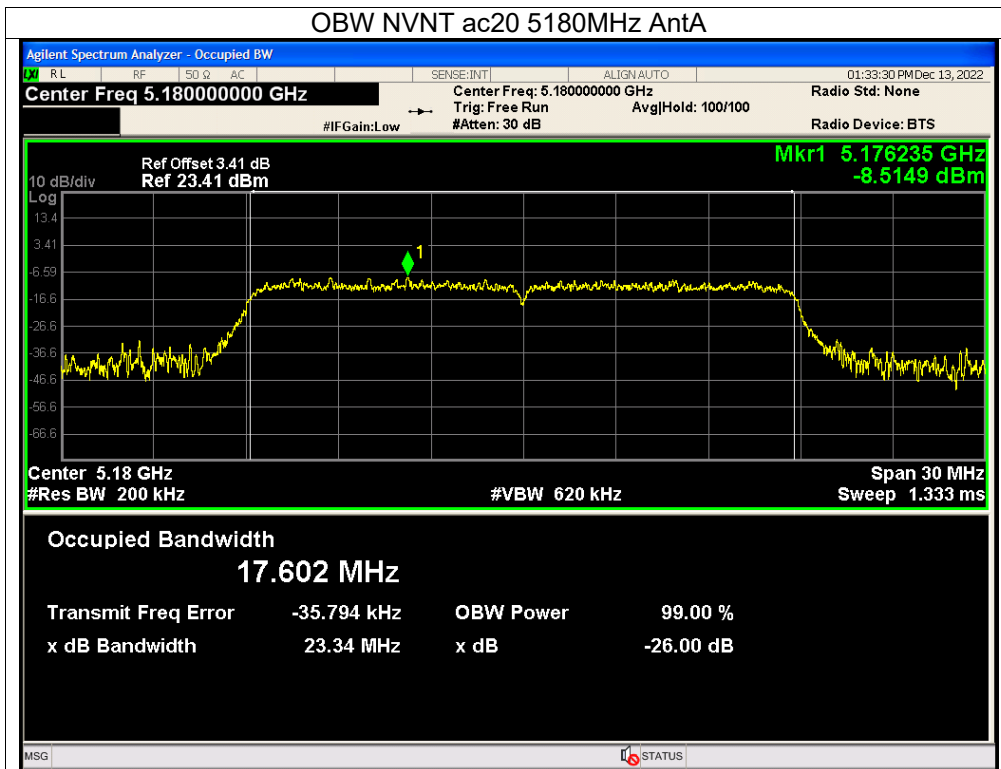


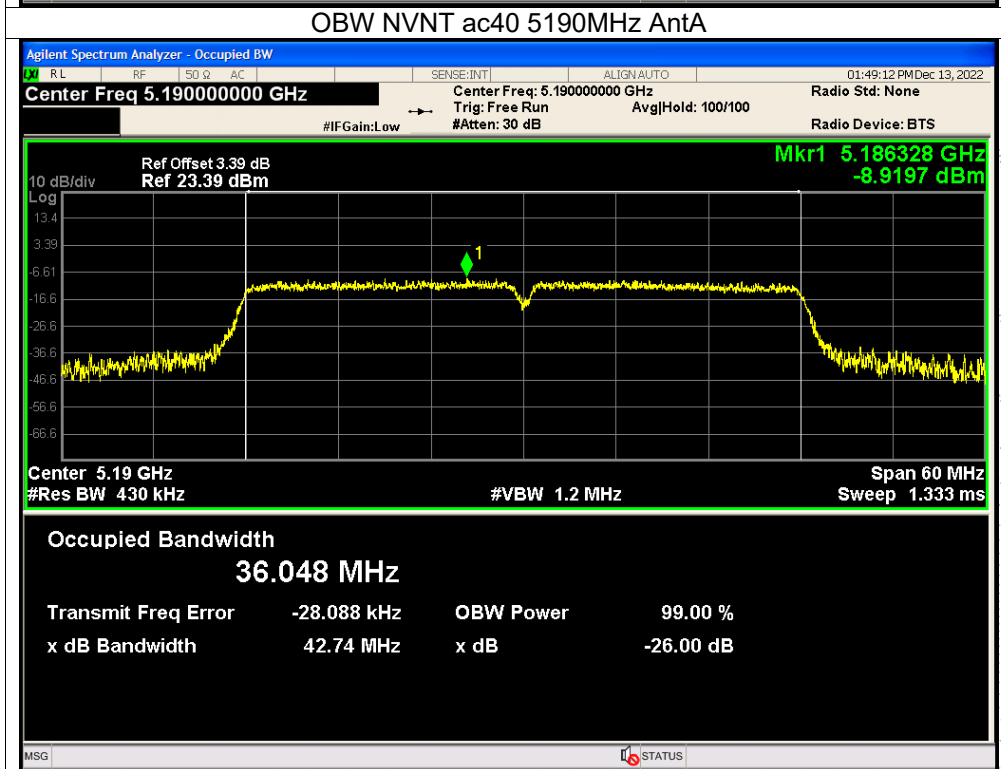
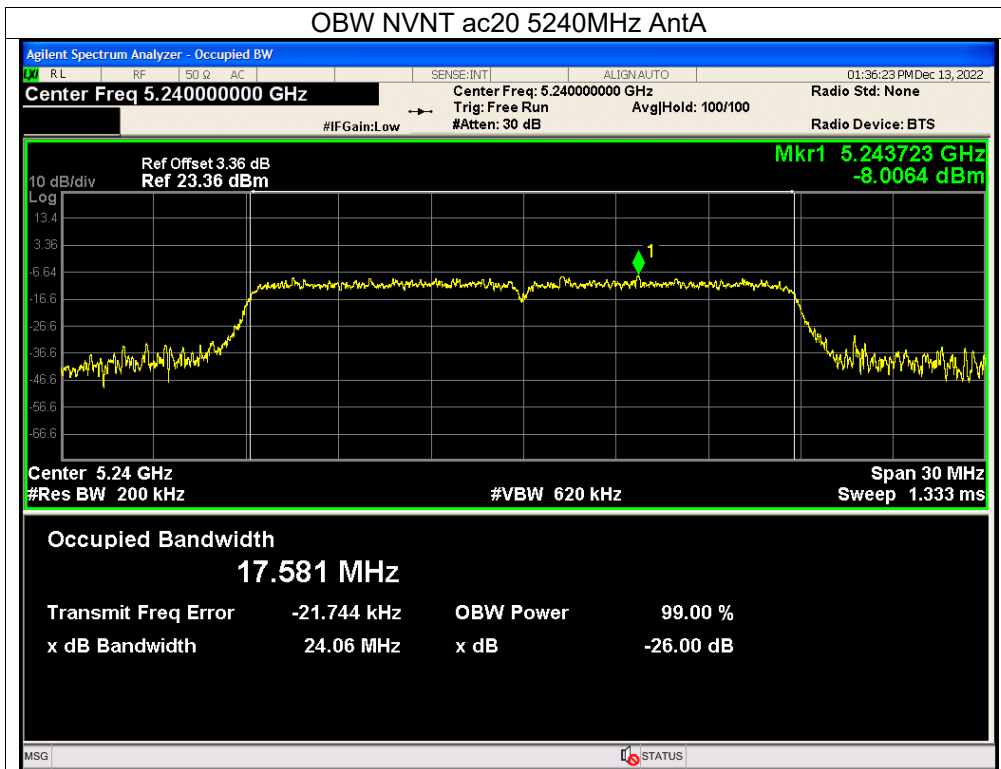


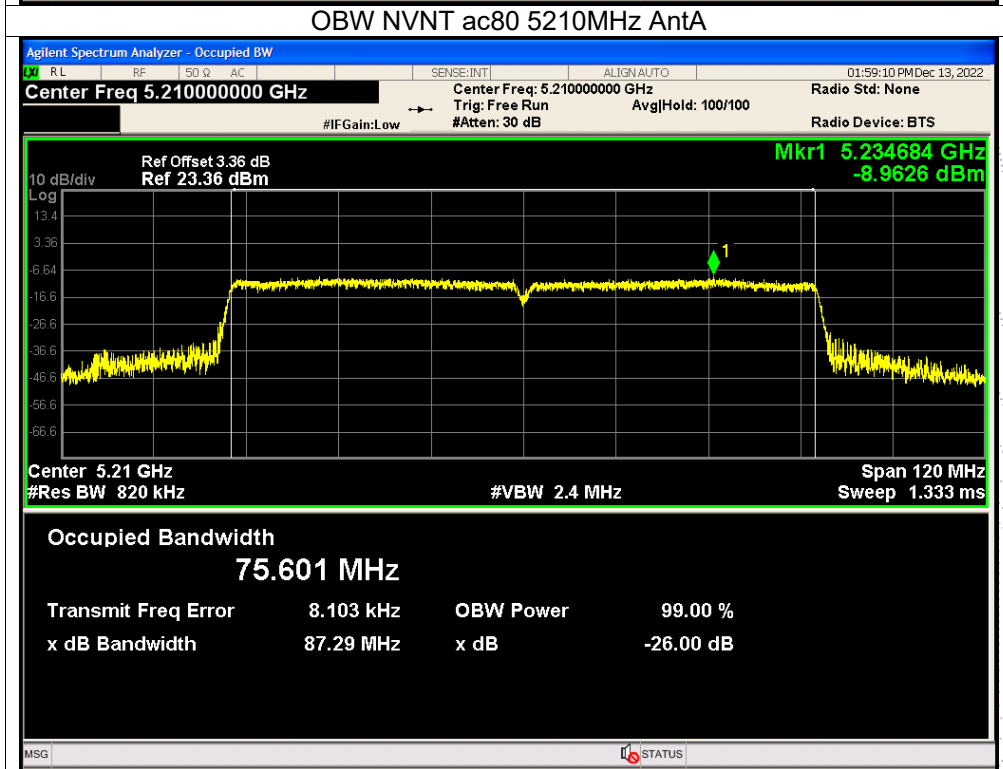
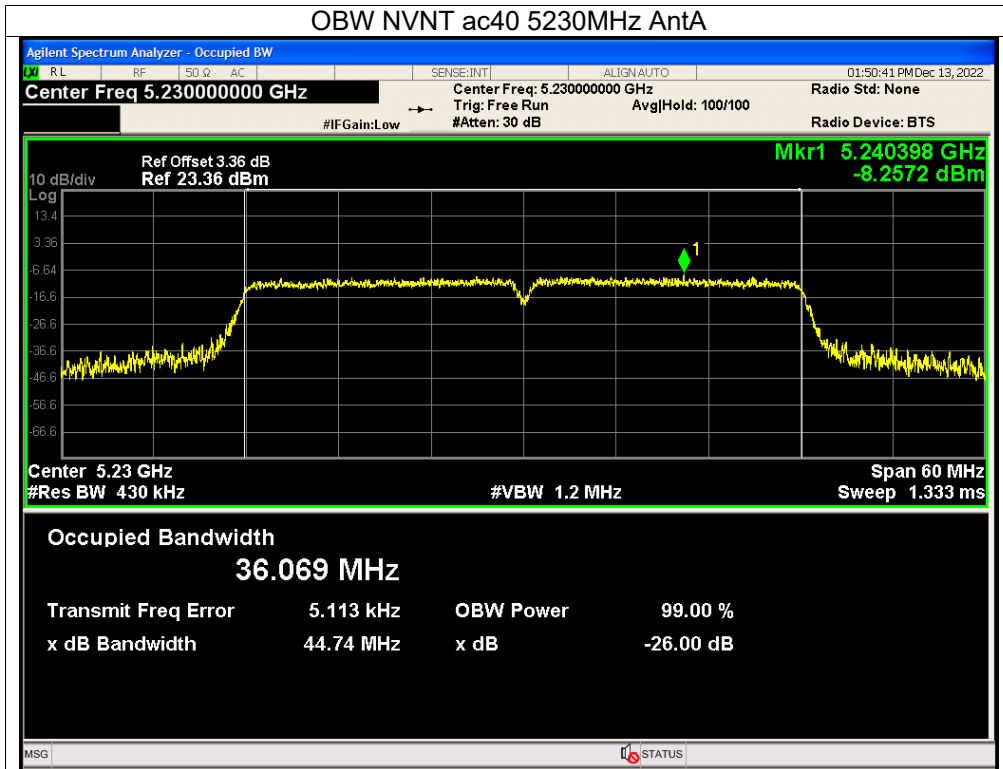












Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.8V
Test Mode :	TX Frequency U-NII-3(5745-5825MHz)		

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

Mode	Channel	Frequency (MHz)	99% bandwidth (MHz)	-6dB bandwidth (MHz)	Limit -6dB bandwidth MHz	Result
			ANT A	ANT A		
802.11a	CH149	5745	16.556	16.325	≥500	Pass
	CH157	5785	16.523	16.311	≥500	Pass
	CH165	5825	16.514	16.329	≥500	Pass
802.11 n20	CH149	5745	17.604	17.543	≥500	Pass
	CH157	5785	17.572	17.079	≥500	Pass
	CH165	5825	17.551	17.068	≥500	Pass
802.11 n40	CH151	5755	36.047	35.043	≥500	Pass
	CH159	5795	36.074	35.366	≥500	Pass
802.11 ac20	CH149	5745	17.614	17.301	≥500	Pass
	CH157	5785	17.579	16.803	≥500	Pass
	CH165	5825	17.557	17.018	≥500	Pass
802.11 ac40	CH151	5755	36.04	35.073	≥500	Pass
	CH159	5795	36.11	35.317	≥500	Pass
802.11 AC80	CH155	5775	75.527	75.165	≥500	Pass

Mode	Channel	Frequency (MHz)	99% bandwidth (MHz)	-6dB bandwidth (MHz)	Limit -6dB bandwidth MHz	Result
			ANT B	ANT B		
802.11a	CH149	5745	16.58	16.335	≥500	Pass
	CH157	5785	16.538	16.315	≥500	Pass
	CH165	5825	16.51	16.341	≥500	Pass
802.11 n20	CH149	5745	17.593	17.035	≥500	Pass
	CH157	5785	17.553	17.29	≥500	Pass
	CH165	5825	17.561	17.305	≥500	Pass
802.11 n40	CH151	5755	36.032	35.29	≥500	Pass
	CH159	5795	36.087	35.29	≥500	Pass
802.11 ac20	CH149	5745	17.604	17.096	≥500	Pass
	CH157	5785	17.571	17.247	≥500	Pass
	CH165	5825	17.564	17.023	≥500	Pass
802.11 ac40	CH151	5755	36.056	35.143	≥500	Pass
	CH159	5795	36.084	35.431	≥500	Pass
802.11 AC80	CH155	5775	75.545	75.449	≥500	Pass

