

TEST REPORT

Report No.: BCTC2210918841-2E

Applicant: REOLINK INNOVATION LIMITED

Product Name: WiFi IP Camera

Model/Type
reference: Reolink Duo Floodlight WiFi

Tested Date: 2022-10-22 to 2022-11-30

Issued Date: 2022-12-01

Shenzhen BCTC Testing Co., Ltd.



FCC ID: 2AYHE-2208B

Product Name: WiFi IP Camera

Trademark: 

Model/Type reference: Reolink Duo Floodlight WiFi

Prepared For: REOLINK INNOVATION LIMITED

Address: FLAT/RM 705 7/F FA YUEN COMMERCIAL BUILDING 75-77 FA YUEN STREET MONG KOK KL HONG KONG

Manufacturer: REOLINK INNOVATION LIMITED

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Sample Received Date: 2022-10-22

Sample tested Date: 2022-10-22 to 2022-11-30

Issue Date: 2022-12-01

Report No.: BCTC2210918841-2E

FCC Part15 15.407

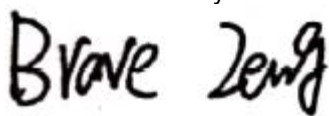
Test Standards: ANSI C63.10-2013

KDB 662911 D01 v02r01

KDB 789033 D02 v02r01

Test Results: PASS

Tested by:



Brave Zeng/ Project Handler

Approved by:



Zero Zhou/Reviewer

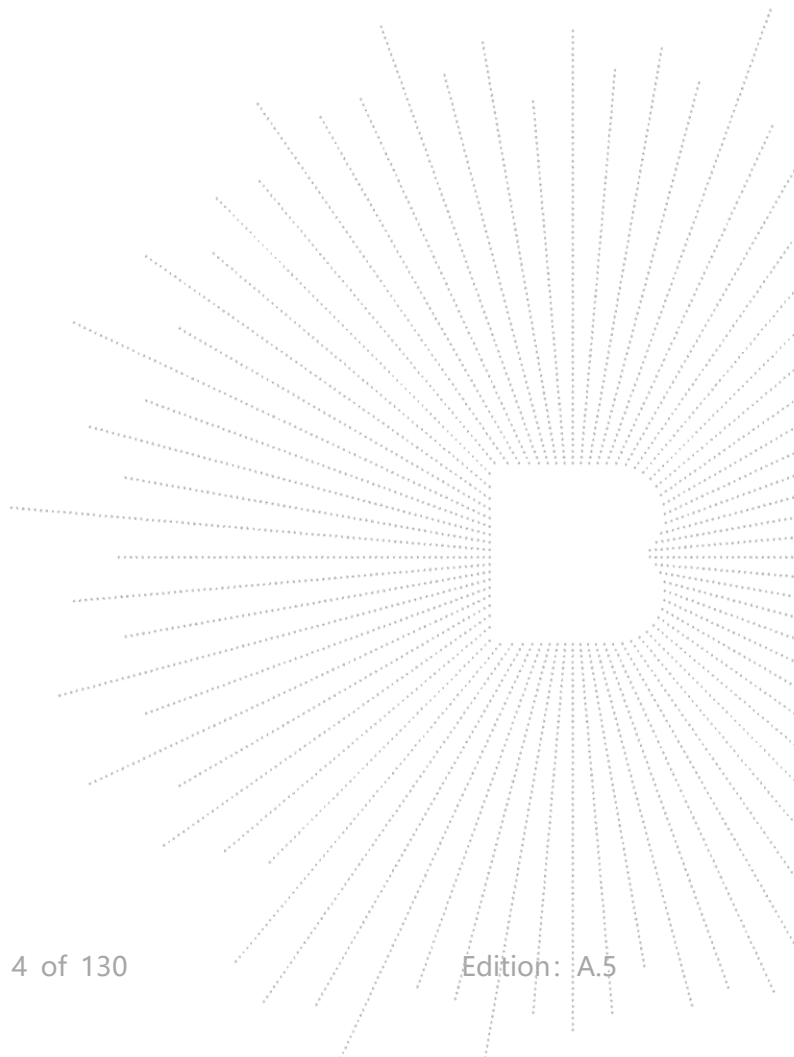
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(Note: N/A Means Not Applicable)



1. Version

Report No.	Issue Date	Description	Approved
BCTC2210918841-2E	2022-12-01	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

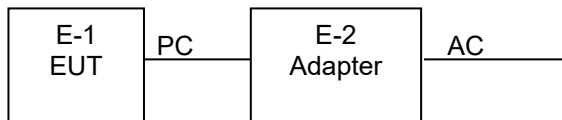
4.1 Product Information

Model/Type Ref.:	Reolink Duo Floodlight WiFi
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) 5180-5240MHz for 802.11a/n(HT20); 5190-5230MHz for 802.11n(HT40); 5210MHz for 802.11 ac80;
Operation Frequency:	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:	External antenna
Antenna Gain:	5.1G: Antenna A: 3.83 dBi Antenna B: 3.83 dBi 5.8G: Antenna A: 3.83 dBi Antenna B: 3.83 dBi
Ratings:	AC 120V/60Hz
Adapter Information:	Model: DCT21W120170US-A0-LED Input: 100-240V~50/60Hz 0.7A max Output: 12V  1.7A

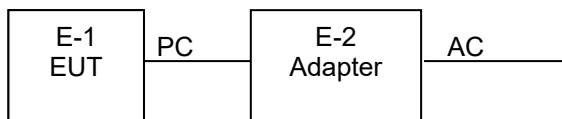
4.2 Test Setup Configuration

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	WiFi IP Camera		Reolink Duo Floodlight WiFi	N/A	EUT
E-2	Adapter	N/A	DCT21W12017 0US-A0-LED	N/A	Auxiliary
E-3	PC	N/A	N/A	N/A	Auxiliary

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

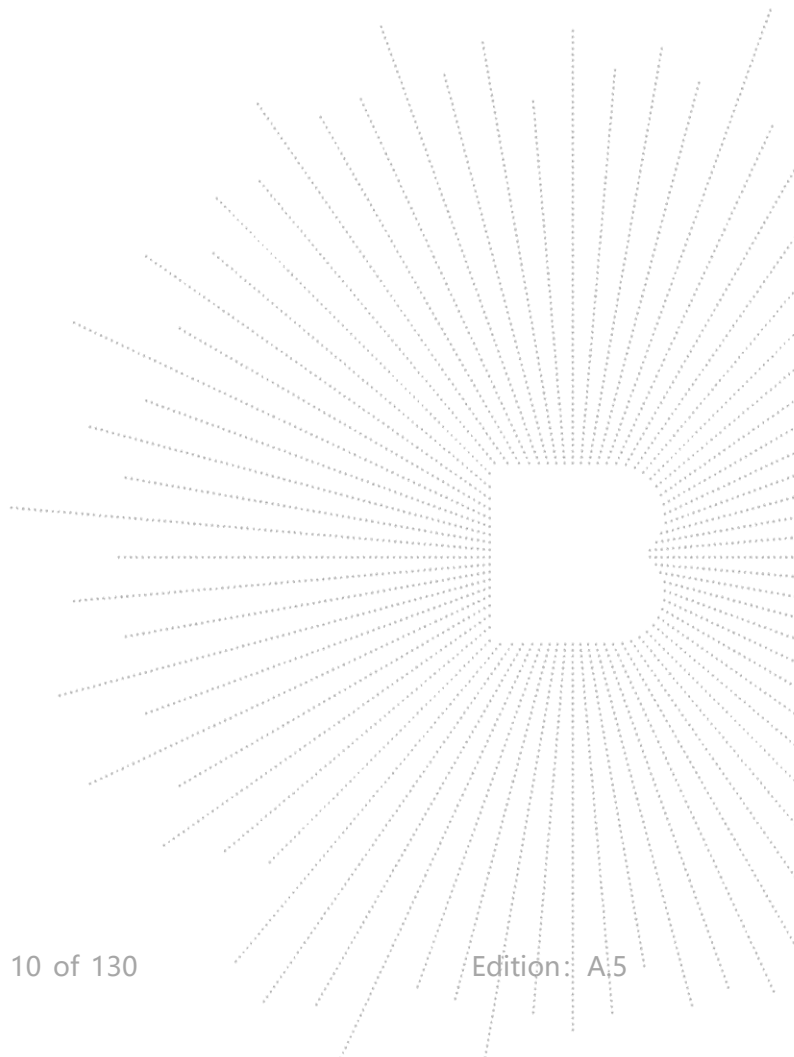
5.1G

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

1)For power spectral density(PSD) measurements,
Array Gain= $10\log(\text{NANT}/\text{NSS})\text{dB}=10\log(2/1)=3.01\text{dB}$,
So the directional gain for PSD is 6.84 dBi

2)For power measurements,
The Array gain=0 dB for $\text{NANT} \leq 4$,
So the directional gain for Power measurements is 3.83 dBi

Antenna	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
A	N/A	N/A	External antenna	3.83	
B	N/A	N/A	External antenna	3.83	

5.8G

For power spectral density(PSD) measurements,
Array Gain= $10\log(\text{NANT}/\text{NSS})\text{dB}=10\log(2/1)=3.01\text{dB}$,
So the directional gain for PSD is 6.84 dBi

2)For power measurements,
The Array gain=0 dB for $\text{NANT} \leq 4$,
So the directional gain for Power measurements is 3.83 dBi

Antenna	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
A	N/A	N/A	External antenna	3.83	
B	N/A	N/A	External antenna	3.83	

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

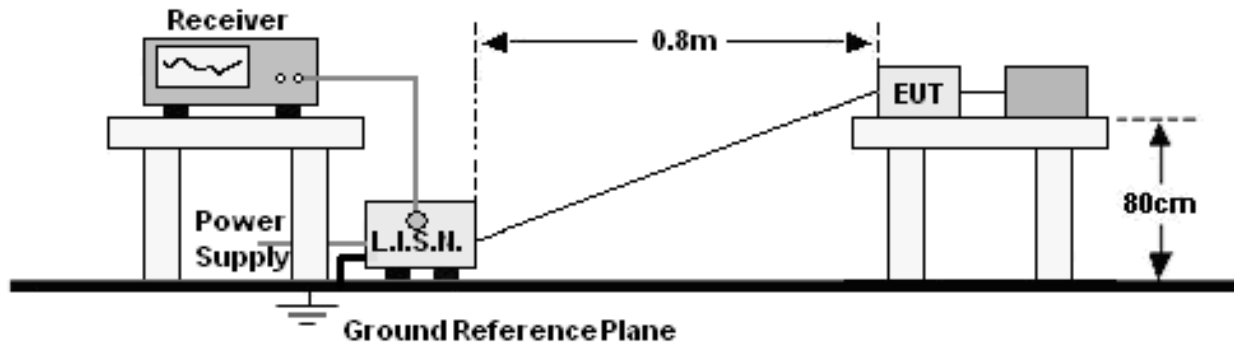
Conducted Emissions Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	May 24, 2022	May 23, 2023
LISN	R&S	ENV216	101375	May 24, 2022	May 23, 2023
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Attenuator	\	10dB DC-6GHz	1650	May 24, 2022	May 23, 2023

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	\	May 24, 2022	May 23, 2023

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	SKET	LAPA_01G18 G-45dB	\	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
Horn Antenna	Schwarzbeck	BBHA9120D	1541	Jun. 06, 2022	Jun. 05, 2023
Horn Antenna(18G Hz-40GHz)	Schwarzbeck	BBHA9170	00822	Jun. 06, 2022	Jun. 05, 2023
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 26, 2022	May 25, 2023
Loop Antenna(9KHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 26, 2022	May 25, 2023
Power Metter	Keysight	E4419	\	May 26, 2022	May 25, 2023
Power Sensor (AV)	Keysight	E9300A	\	May 26, 2022	May 25, 2023
Signal Analyzer20kH z-26.5GHz	Keysight	N9020A	MY49100060	May 26, 2022	May 25, 2023
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	\	May 26, 2022	May 25, 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

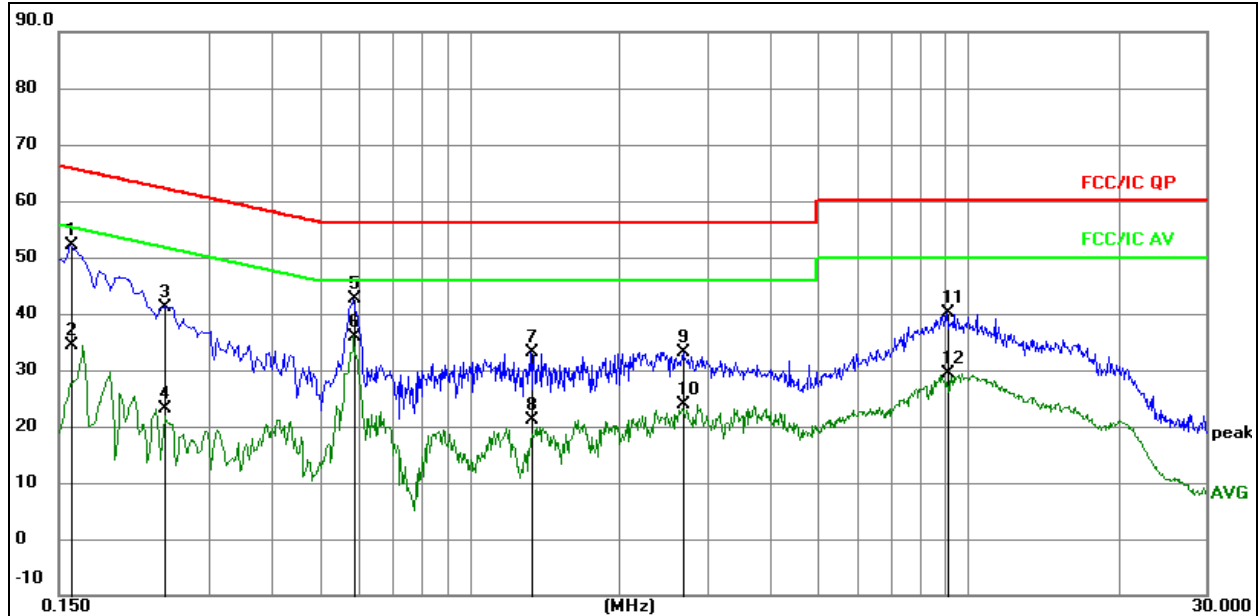
- The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak 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 1	Test Voltage :	AC120V/60Hz

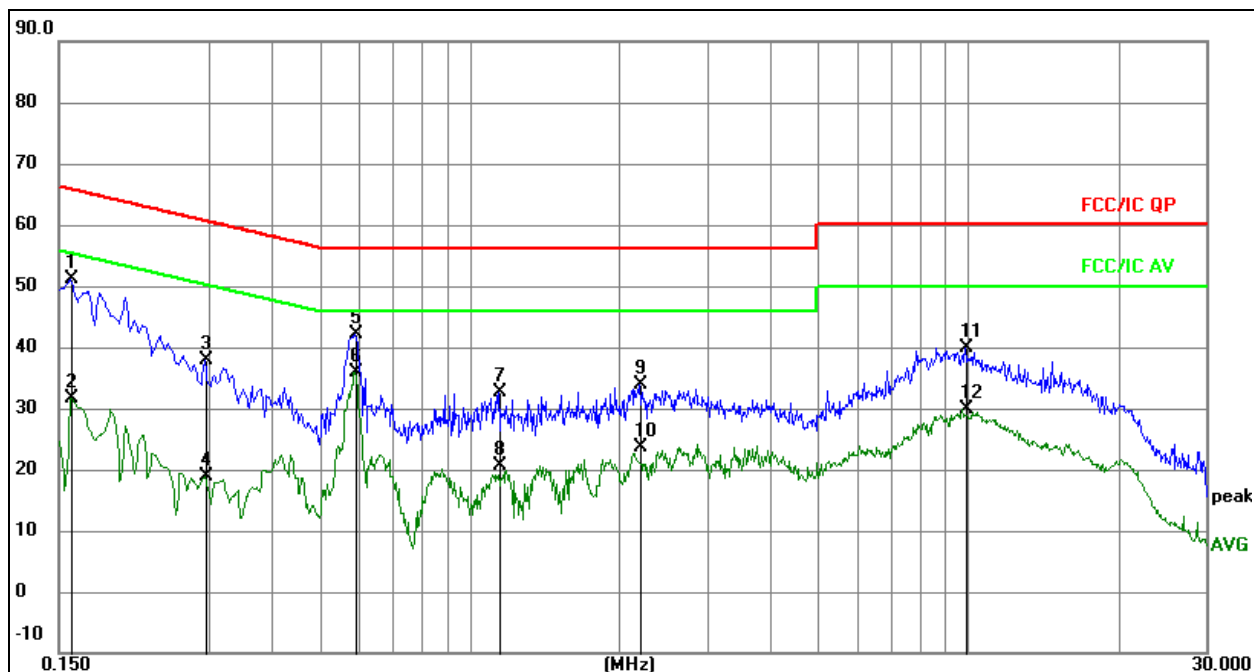


Remark:

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		0.1590	32.41	19.69	52.10	65.52	-13.42	QP
2		0.1590	14.62	19.69	34.31	55.52	-21.21	AVG
3		0.2455	21.45	19.79	41.24	61.91	-20.67	QP
4		0.2455	3.39	19.79	23.18	51.91	-28.73	AVG
5		0.5865	22.80	19.73	42.53	56.00	-13.47	QP
6	*	0.5865	16.27	19.73	36.00	46.00	-10.00	AVG
7		1.3245	13.28	19.80	33.08	56.00	-22.92	QP
8		1.3245	1.29	19.80	21.09	46.00	-24.91	AVG
9		2.6790	13.25	19.95	33.20	56.00	-22.80	QP
10		2.6790	3.87	19.95	23.82	46.00	-22.18	AVG
11		9.1049	19.94	20.25	40.19	60.00	-19.81	QP
12		9.1049	9.01	20.25	29.26	50.00	-20.74	AVG

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	N
Test Mode:	Mode 1	Test Voltage :	AC120V/60Hz



Remark:

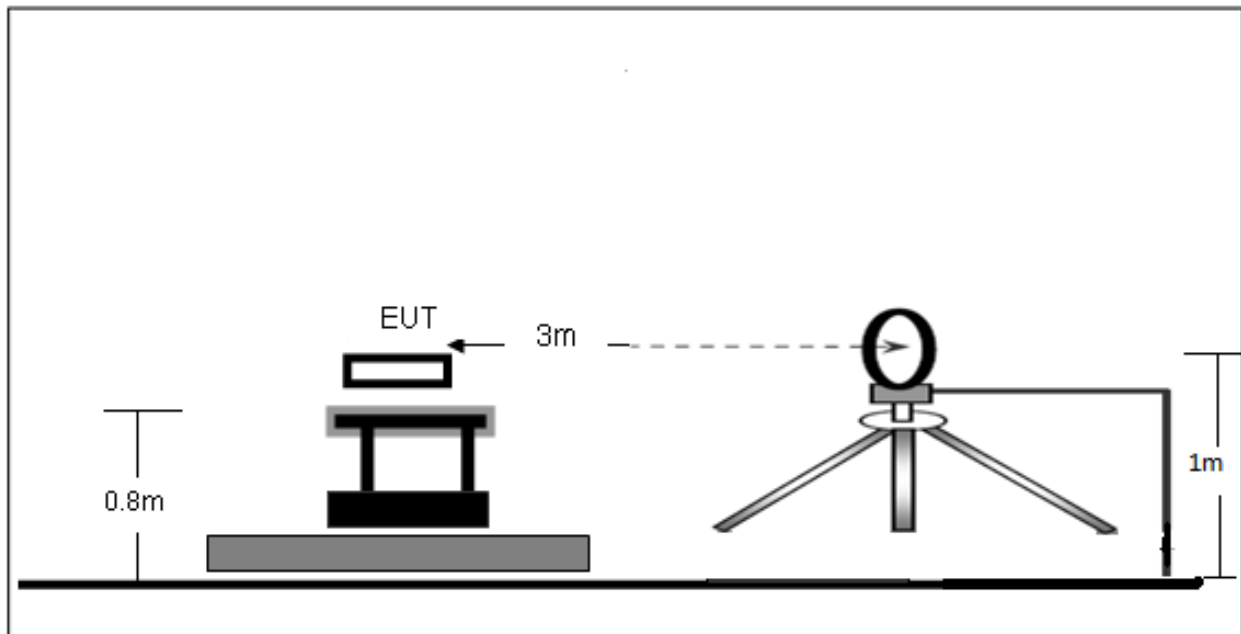
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement=Reading Level+ Correct Factor
4. Over+ Measurement-Limit

No. Mk.	Freq. MHz	Reading Level	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	0.1590	31.50	19.69	51.19	65.52	-14.33	QP
2	0.1590	11.83	19.69	31.52	55.52	-24.00	AVG
3	0.2940	18.13	19.77	37.90	60.41	-22.51	QP
4	0.2940	-0.87	19.77	18.90	50.41	-31.51	AVG
5	0.5910	22.34	19.73	42.07	56.00	-13.93	QP
6 *	0.5910	16.05	19.73	35.78	46.00	-10.22	AVG
7	1.1445	12.89	19.78	32.67	56.00	-23.33	QP
8	1.1445	0.79	19.78	20.57	46.00	-25.43	AVG
9	2.1929	13.99	19.90	33.89	56.00	-22.11	QP
10	2.1929	3.61	19.90	23.51	46.00	-22.49	AVG
11	9.9060	19.70	20.28	39.98	60.00	-20.02	QP
12	9.9060	9.61	20.28	29.89	50.00	-20.11	AVG

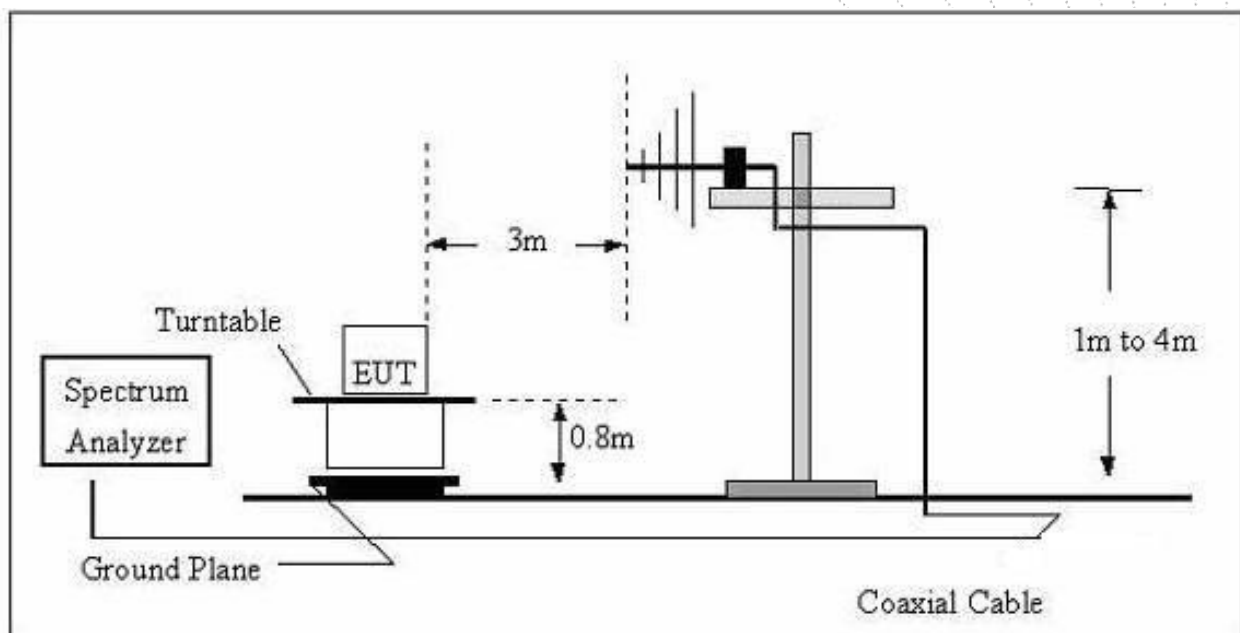
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

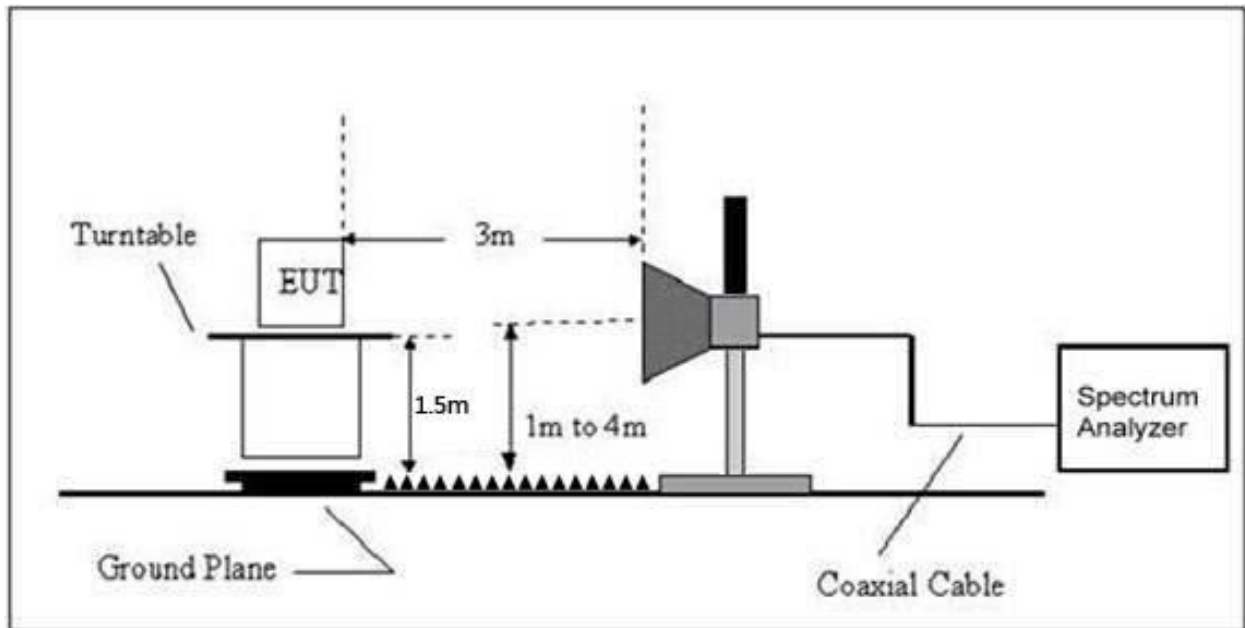
(A) Radiated Emission Test-Up Frequency Below 30MHz



(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	$2400/F(\text{kHz})$	300	$10000 * 2400/F(\text{kHz})$	$20\log(2400/F(\text{kHz})) + 80$
0.490 ~ 1.705	$24000/F(\text{kHz})$	30	$100 * 24000/F(\text{kHz})$	$20\log(24000/F(\text{kHz})) + 40$
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 $RBWCF [dB] = 10 \cdot \lg(100 [kHz] / \text{narrower RBW} [kHz])$. , 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:	AC120V/60Hz
Test Mode:	Mode 1	Polarization:	--

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

Note:

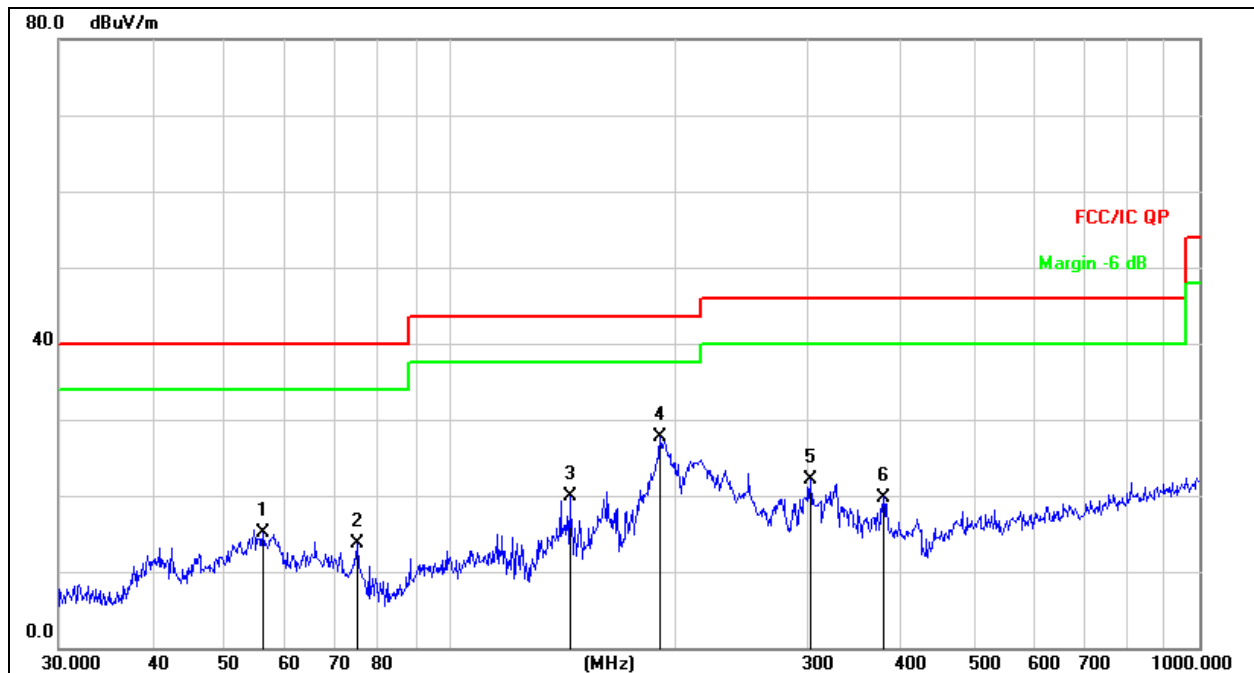
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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

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

Between 30MHz – 1GHz

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Test Mode:	Mode 1	Test Voltage :	AC120V/60Hz

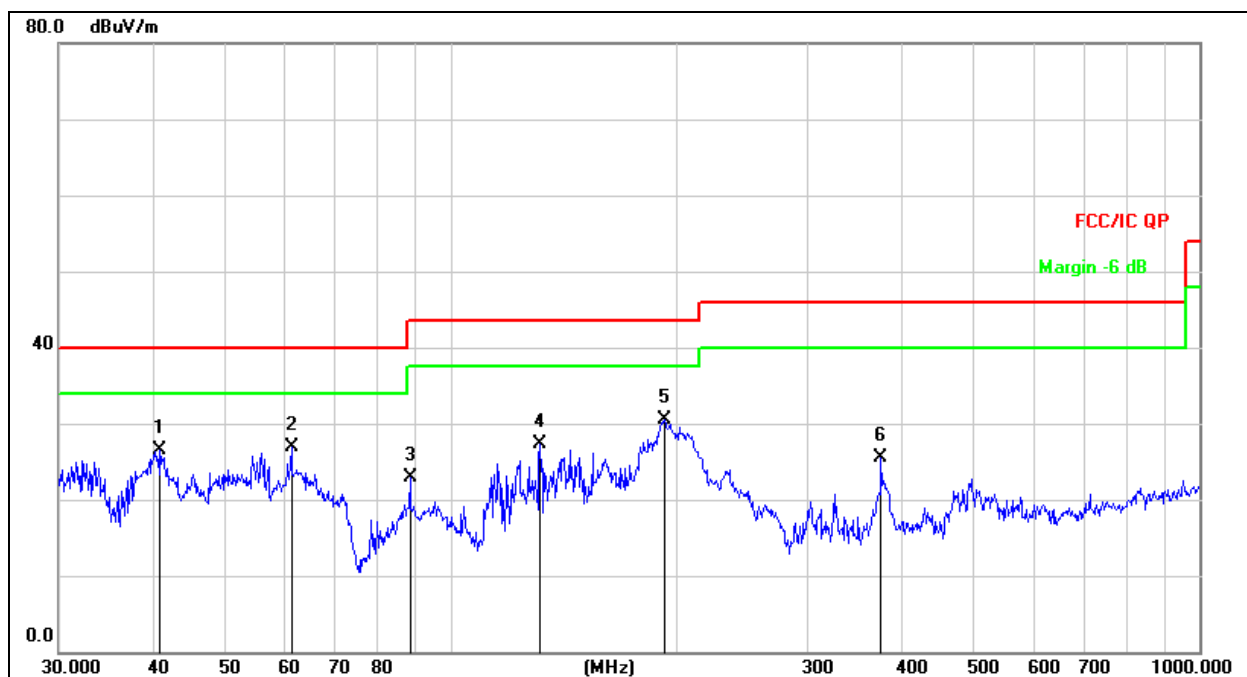


Remark:

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

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		56.1974	31.68	-16.52	15.16	40.00	-24.84	QP
2		75.1822	34.39	-20.78	13.61	40.00	-26.39	QP
3		144.3348	40.66	-20.68	19.98	43.50	-23.52	QP
4	*	190.4050	45.77	-18.08	27.69	43.50	-15.81	QP
5		302.4812	36.51	-14.49	22.02	46.00	-23.98	QP
6		378.5843	32.26	-12.46	19.80	46.00	-26.20	QP

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Test Mode:	Mode 1	Test Voltage :	AC120V/60Hz



Remark:

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

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		40.8446	43.19	-16.62	26.57	40.00	-13.43	QP
2		61.3463	44.42	-17.47	26.95	40.00	-13.05	QP
3		88.3421	42.60	-19.62	22.98	43.50	-20.52	QP
4		131.7577	47.15	-19.85	27.30	43.50	-16.20	QP
5	*	193.0945	48.36	-17.88	30.48	43.50	-13.02	QP
6		375.9385	37.91	-12.49	25.42	46.00	-20.58	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	4434.119	62.04	5.94	35.40	44.00	59.38	68.2	-8.82	PK
V	4434.119	43.99	5.94	35.40	44.00	41.33	54	-12.67	AV
V	10360.082	61.13	8.46	39.75	44.50	64.84	68.2	-3.36	PK
V	10360.082	43.85	8.46	39.75	44.50	47.56	54	-6.44	AV
V	15540.117	64.90	10.12	38.80	44.10	69.72	74	-4.28	PK
V	15540.117	43.51	10.12	38.80	42.70	49.73	54	-4.27	AV
H	4434.070	64.68	5.94	35.18	44.00	61.80	68.2	-6.40	PK
H	4434.070	43.32	5.94	35.18	44.00	40.44	54	-13.56	AV
H	10360.135	50.30	8.46	38.71	44.50	52.97	68.2	-15.23	PK
H	10360.135	42.38	8.46	38.71	44.50	45.05	54	-8.95	AV
H	15540.089	54.14	10.12	38.38	44.10	58.54	74	-15.46	PK
H	15540.089	44.72	10.12	38.38	44.10	49.12	54	-4.88	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.005	60.94	6.48	36.35	44.05	59.72	74	-14.28	PK
V	4592.005	43.04	6.48	36.35	44.05	41.82	54	-12.18	AV
V	10400.147	62.26	8.47	37.88	44.51	64.10	68.2	-4.10	PK
V	10400.147	43.28	8.47	37.88	44.51	45.12	54	-8.88	AV
V	15600.188	64.79	10.12	38.80	44.10	69.61	74	-4.39	PK
V	15600.188	43.17	10.12	38.80	42.70	49.39	54	-4.61	AV
H	4592.122	60.89	6.48	36.37	44.05	59.69	74	-14.31	PK
H	4592.122	43.09	6.48	36.37	44.05	41.89	54	-12.11	AV
H	10400.009	51.31	8.47	38.64	44.50	53.92	68.2	-14.28	PK
H	10400.009	44.03	8.47	38.64	44.50	46.64	54	-7.36	AV
H	15600.155	52.16	10.12	38.38	44.10	56.56	74	-17.44	PK
H	15600.155	40.27	10.12	38.38	44.10	44.67	54	-9.33	AV
High Channel (5240 MHz)-Above 1G									
V	4739.013	63.80	7.10	37.24	43.50	64.64	74	-9.36	PK
V	4739.013	43.83	7.10	37.24	43.50	44.67	54	-9.33	AV
V	10480.116	60.79	8.46	37.68	44.50	62.43	68.2	-5.77	PK
V	10480.116	43.65	8.46	37.68	44.50	45.29	54	-8.71	AV
V	15720.083	64.16	10.12	38.80	44.10	68.98	74	-5.02	PK
V	15720.083	43.03	10.12	38.80	42.70	49.25	54	-4.75	AV
H	4739.013	61.83	7.10	37.24	43.50	62.67	74	-11.33	PK
H	4739.013	43.74	7.10	37.24	43.50	44.58	54	-9.42	AV
H	10480.092	52.08	8.46	38.57	44.50	54.61	68.2	-13.59	PK
H	10480.092	43.77	8.46	38.57	44.50	46.30	54	-7.70	AV
H	15720.080	50.28	10.12	38.38	44.10	54.68	74	-19.32	PK
H	15720.080	41.08	10.12	38.38	44.10	45.48	54	-8.52	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	4434.016	62.05	5.94	35.40	44.00	59.39	68.2	-8.81	PK
V	4434.016	43.65	5.94	35.40	44.00	40.99	54	-13.01	AV
V	10360.032	63.70	8.46	39.75	44.50	67.41	68.2	-0.79	PK
V	10360.032	43.72	8.46	39.75	44.50	47.43	54	-6.57	AV
V	15540.024	63.51	10.12	38.80	44.10	68.33	74	-5.67	PK
V	15540.024	43.42	10.12	38.80	42.70	49.64	54	-4.36	AV
H	4434.053	62.69	5.94	35.18	44.00	59.81	68.2	-8.39	PK
H	4434.053	43.76	5.94	35.18	44.00	40.88	54	-13.12	AV
H	10360.055	54.57	8.46	38.71	44.50	57.24	68.2	-10.96	PK
H	10360.055	42.23	8.46	38.71	44.50	44.90	54	-9.10	AV
H	15540.043	51.94	10.12	38.38	44.10	56.34	74	-17.66	PK
H	15540.043	44.21	10.12	38.38	44.10	48.61	54	-5.39	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.142	63.91	6.48	36.35	44.05	62.69	74	-11.31	PK
V	4592.142	43.31	6.48	36.35	44.05	42.09	54	-11.91	AV
V	10400.114	61.77	8.47	37.88	44.51	63.61	68.2	-4.59	PK
V	10400.114	43.23	8.47	37.88	44.51	45.07	54	-8.93	AV
V	15600.185	62.73	10.12	38.80	44.10	67.55	74	-6.45	PK
V	15600.185	43.57	10.12	38.80	42.70	49.79	54	-4.21	AV
H	4592.035	63.74	6.48	36.37	44.05	62.54	74	-11.46	PK
H	4592.035	43.10	6.48	36.37	44.05	41.90	54	-12.10	AV
H	10400.130	54.24	8.47	38.64	44.50	56.85	68.2	-11.35	PK
H	10400.130	44.17	8.47	38.64	44.50	46.78	54	-7.22	AV
H	15600.165	53.50	10.12	38.38	44.10	57.90	74	-16.10	PK
H	15600.165	44.66	10.12	38.38	44.10	49.06	54	-4.94	AV
High Channel (5240 MHz)-Above 1G									
V	4739.117	64.16	7.10	37.24	43.50	65.00	74	-9.00	PK
V	4739.117	43.50	7.10	37.24	43.50	44.34	54	-9.66	AV
V	10480.069	63.36	8.46	37.68	44.50	65.00	68.2	-3.20	PK
V	10480.069	43.07	8.46	37.68	44.50	44.71	54	-9.29	AV
V	15720.104	63.06	10.12	38.80	44.10	67.88	74	-6.12	PK
V	15720.104	43.14	10.12	38.80	42.70	49.36	54	-4.64	AV
H	4739.087	64.58	7.10	37.24	43.50	65.42	74	-8.58	PK
H	4739.087	43.29	7.10	37.24	43.50	44.13	54	-9.87	AV
H	10480.065	54.25	8.46	38.57	44.50	56.78	68.2	-11.42	PK
H	10480.065	41.49	8.46	38.57	44.50	44.02	54	-9.98	AV
H	15720.048	50.19	10.12	38.38	44.10	54.59	74	-19.41	PK
H	15720.048	43.07	10.12	38.38	44.10	47.47	54	-6.53	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	4434.178	63.64	5.94	35.40	44.00	60.98	68.2	-7.22	PK
V	4434.178	43.83	5.94	35.40	44.00	41.17	54	-12.83	AV
V	10380.151	62.22	8.46	39.75	44.50	65.93	68.2	-2.27	PK
V	10380.151	43.22	8.46	39.75	44.50	46.93	54	-7.07	AV
V	15570.036	62.53	10.12	38.80	44.10	67.35	74	-6.65	PK
V	15570.036	43.12	10.12	38.80	42.70	49.34	54	-4.66	AV
H	4434.015	61.59	5.94	35.18	44.00	58.71	74	-15.29	PK
H	4434.015	43.50	5.94	35.18	44.00	40.62	54	-13.38	AV
H	10380.095	50.09	8.46	38.71	44.50	52.76	68.2	-15.44	PK
H	10380.095	42.56	8.46	38.71	44.50	45.23	54	-8.77	AV
H	15570.079	51.58	10.12	38.38	44.10	55.98	74	-18.02	PK
H	15570.079	40.95	10.12	38.38	44.10	45.35	54	-8.65	AV
middle Channel (5230 MHz)-Above 1G									
V	4739.107	63.18	6.48	36.35	44.05	61.96	68.2	-6.24	PK
V	4739.107	43.13	6.48	36.35	44.05	41.91	54	-12.09	AV
V	10460.106	64.78	8.47	37.88	44.51	66.62	68.2	-1.58	PK
V	10460.106	43.84	8.47	37.88	44.51	45.68	54	-8.32	AV
V	15690.073	64.11	10.12	38.80	44.10	68.93	74	-5.07	PK
V	15690.073	43.68	10.12	38.80	42.70	49.90	54	-4.10	AV
H	4739.099	61.45	6.48	36.37	44.05	60.25	68.2	-7.95	PK
H	4739.099	43.44	6.48	36.37	44.05	42.24	54	-11.76	AV
H	10460.003	51.71	8.47	38.64	44.50	54.32	68.2	-13.88	PK
H	10460.003	44.90	8.47	38.64	44.50	47.51	54	-6.49	AV
H	15690.183	54.79	10.12	38.38	44.10	59.19	74	-14.81	PK
H	15690.183	42.44	10.12	38.38	44.10	46.84	54	-7.16	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(5.1G) - 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	4434.176	64.55	5.94	35.40	44.00	61.89	68.2	-6.31	PK
V	4434.176	43.04	5.94	35.40	44.00	40.38	54	-13.62	AV
V	10360.098	63.49	8.46	39.75	44.50	67.20	68.2	-1.00	PK
V	10360.098	43.43	8.46	39.75	44.50	47.14	54	-6.86	AV
V	15540.117	61.53	10.12	38.80	44.10	66.35	74	-7.65	PK
V	15540.117	43.14	10.12	38.80	42.70	49.36	54	-4.64	AV
H	4434.017	63.89	5.94	35.18	44.00	61.01	68.2	-7.19	PK
H	4434.017	43.31	5.94	35.18	44.00	40.43	54	-13.57	AV
H	10360.194	50.86	8.46	38.71	44.50	53.53	68.2	-14.67	PK
H	10360.194	42.52	8.46	38.71	44.50	45.19	54	-8.81	AV
H	15540.004	51.11	10.12	38.38	44.10	55.51	74	-18.49	PK
H	15540.004	42.39	10.12	38.38	44.10	46.79	54	-7.21	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.052	63.58	6.48	36.35	44.05	62.36	74	-11.64	PK
V	4592.052	43.69	6.48	36.35	44.05	42.47	54	-11.53	AV
V	10400.170	60.16	8.47	37.88	44.51	62.00	68.2	-6.20	PK
V	10400.170	43.87	8.47	37.88	44.51	45.71	54	-8.29	AV
V	15600.114	64.75	10.12	38.80	44.10	69.57	74	-4.43	PK
V	15600.114	43.43	10.12	38.80	42.70	49.65	54	-4.35	AV
H	4592.146	60.59	6.48	36.37	44.05	59.39	74	-14.61	PK
H	4592.146	43.98	6.48	36.37	44.05	42.78	54	-11.22	AV
H	10400.088	51.63	8.47	38.64	44.50	54.24	68.2	-13.96	PK
H	10400.088	42.47	8.47	38.64	44.50	45.08	54	-8.92	AV
H	15600.022	54.48	10.12	38.38	44.10	58.88	74	-15.12	PK
H	15600.022	42.89	10.12	38.38	44.10	47.29	54	-6.71	AV
High Channel (5240 MHz)-Above 1G									
V	4739.109	62.80	7.10	37.24	43.50	63.64	74	-10.36	PK
V	4739.109	43.40	7.10	37.24	43.50	44.24	54	-9.76	AV
V	10480.066	63.28	8.46	37.68	44.50	64.92	68.2	-3.28	PK
V	10480.066	43.36	8.46	37.68	44.50	45.00	54	-9.00	AV
V	15720.108	63.92	10.12	38.80	44.10	68.74	74	-5.26	PK
V	15720.108	43.02	10.12	38.80	42.70	49.24	54	-4.76	AV
H	4739.183	62.92	7.10	37.24	43.50	63.76	74	-10.24	PK
H	4739.183	43.34	7.10	37.24	43.50	44.18	54	-9.82	AV
H	10480.046	52.01	8.46	38.57	44.50	54.54	68.2	-13.66	PK
H	10480.046	42.72	8.46	38.57	44.50	45.25	54	-8.75	AV
H	15720.063	52.98	10.12	38.38	44.10	57.38	74	-16.62	PK
H	15720.063	41.55	10.12	38.38	44.10	45.95	54	-8.05	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	4434.017	62.41	5.94	35.40	44.00	59.75	68.2	-8.45	PK
V	4434.017	43.72	5.94	35.40	44.00	41.06	54	-12.94	AV
V	10380.145	61.53	8.46	39.75	44.50	65.24	68.2	-2.96	PK
V	10380.145	43.02	8.46	39.75	44.50	46.73	54	-7.27	AV
V	15570.143	60.19	10.12	38.80	44.10	65.01	74	-8.99	PK
V	15570.143	43.63	10.12	38.80	42.70	49.85	54	-4.15	AV
H	4434.005	61.61	5.94	35.18	44.00	58.73	74	-15.27	PK
H	4434.005	43.88	5.94	35.18	44.00	41.00	54	-13.00	AV
H	10380.021	50.49	8.46	38.71	44.50	53.16	68.2	-15.04	PK
H	10380.021	42.34	8.46	38.71	44.50	45.01	54	-8.99	AV
H	15570.010	53.91	10.12	38.38	44.10	58.31	74	-15.69	PK
H	15570.010	44.63	10.12	38.38	44.10	49.03	54	-4.97	AV
middle Channel (5230 MHz)-Above 1G									
V	4739.139	61.74	6.48	36.35	44.05	60.52	68.2	-7.68	PK
V	4739.139	43.20	6.48	36.35	44.05	41.98	54	-12.02	AV
V	10460.002	64.50	8.47	37.88	44.51	66.34	68.2	-1.86	PK
V	10460.002	43.23	8.47	37.88	44.51	45.07	54	-8.93	AV
V	15690.062	60.48	10.12	38.80	44.10	65.30	74	-8.70	PK
V	15690.062	43.39	10.12	38.80	42.70	49.61	54	-4.39	AV
H	4739.172	64.08	6.48	36.37	44.05	62.88	68.2	-5.32	PK
H	4739.172	43.09	6.48	36.37	44.05	41.89	54	-12.11	AV
H	10460.172	54.91	8.47	38.64	44.50	57.52	68.2	-10.68	PK
H	10460.172	41.16	8.47	38.64	44.50	43.77	54	-10.23	AV
H	15690.050	52.22	10.12	38.38	44.10	56.62	74	-17.38	PK
H	15690.050	43.73	10.12	38.38	44.10	48.13	54	-5.87	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	4434.196	61.06	5.94	35.40	44.00	58.40	68.2	-9.80	PK
V	4434.196	43.95	5.94	35.40	44.00	41.29	54	-12.71	AV
V	10420.144	60.53	8.46	39.75	44.50	64.24	68.2	-3.96	PK
V	10420.144	43.14	8.46	39.75	44.50	46.85	54	-7.15	AV
V	15630.100	64.26	10.12	38.80	44.10	69.08	74	-4.92	PK
V	15630.100	43.18	10.12	38.80	42.70	49.40	54	-4.60	AV
H	4434.144	65.00	5.94	35.18	44.00	62.12	68.2	-6.08	PK
H	4434.144	43.26	5.94	35.18	44.00	40.38	54	-13.62	AV
H	10420.011	50.97	8.46	38.71	44.50	53.64	68.2	-14.56	PK
H	10420.011	40.02	8.46	38.71	44.50	42.69	54	-11.31	AV
H	15630.156	53.35	10.12	38.38	44.10	57.75	74	-16.25	PK
H	15630.156	41.00	10.12	38.38	44.10	45.40	54	-8.60	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	4679.125	59.97	5.94	35.40	44.00	57.31	74	-16.69	PK
V	4679.125	43.30	5.94	35.40	44.00	40.64	54	-13.36	AV
V	11490.014	54.35	8.46	39.75	44.50	58.06	68.2	-10.14	PK
V	11490.014	43.32	8.46	39.75	44.50	47.03	54	-6.97	AV
V	17235.100	60.80	10.12	38.80	44.10	65.62	68.2	-2.58	PK
V	17235.100	43.52	10.12	38.80	42.70	49.74	54	-4.26	AV
H	4679.086	58.22	5.94	35.18	44.00	55.34	74	-18.66	PK
H	4679.086	43.37	5.94	35.18	44.00	40.49	54	-13.51	AV
H	11490.053	52.38	8.46	38.71	44.50	55.05	68.2	-13.15	PK
H	11490.053	40.25	8.46	38.71	44.50	42.92	54	-11.08	AV
H	17235.040	52.64	10.12	38.38	44.10	57.04	68.2	-11.16	PK
H	17235.040	43.34	10.12	38.38	44.10	47.74	54	-6.26	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.113	58.76	6.48	36.35	44.05	57.54	74	-16.46	PK
V	4592.113	43.24	6.48	36.35	44.05	42.02	54	-11.98	AV
V	11570.039	59.90	8.47	37.88	44.51	61.74	68.2	-6.46	PK
V	11570.039	43.72	8.47	37.88	44.51	45.56	54	-8.44	AV
V	17355.117	60.73	10.12	38.80	44.10	65.55	68.2	-2.65	PK
V	17355.117	39.40	10.12	38.80	42.70	45.62	54	-8.38	AV
H	4592.149	58.61	6.48	36.37	44.05	57.41	74	-16.59	PK
H	4592.149	43.13	6.48	36.37	44.05	41.93	54	-12.07	AV
H	11570.098	51.81	8.47	38.64	44.50	54.42	68.2	-13.78	PK
H	11570.098	44.56	8.47	38.64	44.50	47.17	54	-6.83	AV
H	17355.036	54.18	10.12	38.38	44.10	58.58	68.2	-9.62	PK
H	17355.036	44.99	10.12	38.38	44.10	49.39	54	-4.61	AV
High Channel (5825 MHz)-Above 1G									
V	6039.063	58.45	7.10	37.24	43.50	59.29	68.2	-8.91	PK
V	6039.063	43.12	7.10	37.24	43.50	43.96	54	-10.04	AV
V	11650.055	62.55	8.46	37.68	44.50	64.19	74	-9.81	PK
V	11650.055	43.97	8.46	37.68	44.50	45.61	54	-8.39	AV
V	17475.064	56.43	10.12	38.80	44.10	61.25	68.2	-6.95	PK
V	17475.064	43.20	10.12	38.80	42.70	49.42	54	-4.58	AV
H	6039.123	55.22	7.10	37.24	43.50	56.06	68.2	-12.14	PK
H	6039.123	43.24	7.10	37.24	43.50	44.08	54	-9.92	AV
H	11650.187	50.26	8.46	38.57	44.50	52.79	74	-21.21	PK
H	11650.187	44.37	8.46	38.57	44.50	46.90	54	-7.10	AV
H	17475.109	54.44	10.12	38.38	44.10	58.84	68.2	-9.36	PK
H	17475.109	44.03	10.12	38.38	44.10	48.43	54	-5.57	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	4679.068	60.61	5.94	35.40	44.00	57.95	74	-16.05	PK
V	4679.068	43.61	5.94	35.40	44.00	40.95	54	-13.05	AV
V	11490.078	55.30	8.46	39.75	44.50	59.01	68.2	-9.19	PK
V	11490.078	43.96	8.46	39.75	44.50	47.67	54	-6.33	AV
V	17235.049	57.42	10.12	38.80	44.10	62.24	68.2	-5.96	PK
V	17235.049	43.42	10.12	38.80	42.70	49.64	54	-4.36	AV
H	4679.050	58.98	5.94	35.18	44.00	56.10	74	-17.90	PK
H	4679.050	43.85	5.94	35.18	44.00	40.97	54	-13.03	AV
H	11490.190	49.29	8.46	38.71	44.50	51.96	68.2	-16.24	PK
H	11490.190	41.25	8.46	38.71	44.50	43.92	54	-10.08	AV
H	17235.163	53.96	10.12	38.38	44.10	58.36	68.2	-9.84	PK
H	17235.163	43.22	10.12	38.38	44.10	47.62	54	-6.38	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.146	61.19	6.48	36.35	44.05	59.97	74	-14.03	PK
V	4592.146	43.55	6.48	36.35	44.05	42.33	54	-11.67	AV
V	11570.148	58.77	8.47	37.88	44.51	60.61	68.2	-7.59	PK
V	11570.148	43.87	8.47	37.88	44.51	45.71	54	-8.29	AV
V	17355.011	61.49	10.12	38.80	44.10	66.31	68.2	-1.89	PK
V	17355.011	43.83	10.12	38.80	42.70	50.05	54	-3.95	AV
H	4592.057	57.41	6.48	36.37	44.05	56.21	74	-17.79	PK
H	4592.057	43.71	6.48	36.37	44.05	42.51	54	-11.49	AV
H	11570.183	51.15	8.47	38.64	44.50	53.76	68.2	-14.44	PK
H	11570.183	42.64	8.47	38.64	44.50	45.25	54	-8.75	AV
H	17355.057	50.42	10.12	38.38	44.10	54.82	68.2	-13.38	PK
H	17355.057	42.04	10.12	38.38	44.10	46.44	54	-7.56	AV
High Channel (5825 MHz)-Above 1G									
V	6039.175	57.86	7.10	37.24	43.50	58.70	68.2	-9.50	PK
V	6039.175	43.69	7.10	37.24	43.50	44.53	54	-9.47	AV
V	11650.081	60.59	8.46	37.68	44.50	62.23	74	-11.77	PK
V	11650.081	43.80	8.46	37.68	44.50	45.44	54	-8.56	AV
V	17475.174	57.00	10.12	38.80	44.10	61.82	68.2	-6.38	PK
V	17475.174	43.46	10.12	38.80	42.70	49.68	54	-4.32	AV
H	6039.007	57.74	7.10	37.24	43.50	58.58	68.2	-9.62	PK
H	6039.007	43.23	7.10	37.24	43.50	44.07	54	-9.93	AV
H	11650.123	51.87	8.46	38.57	44.50	54.40	74	-19.60	PK
H	11650.123	40.01	8.46	38.57	44.50	42.54	54	-11.46	AV
H	17475.110	52.78	10.12	38.38	44.10	57.18	68.2	-11.02	PK
H	17475.110	40.64	10.12	38.38	44.10	45.04	54	-8.96	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	4679.169	58.23	5.94	35.40	44.00	55.57	74	-18.43	PK
V	4679.169	43.48	5.94	35.40	44.00	40.82	54	-13.18	AV
V	11510.033	55.44	8.46	39.75	44.50	59.15	74	-14.85	PK
V	11510.033	43.63	8.46	39.75	44.50	47.34	54	-6.66	AV
V	17265.123	59.20	10.12	38.80	44.10	64.02	68.2	-4.18	PK
V	17265.123	2.00	10.12	38.80	42.70	8.22	54	-45.78	AV
H	4679.023	56.65	5.94	35.18	44.00	53.77	74	-20.23	PK
H	4679.023	43.04	5.94	35.18	44.00	40.16	54	-13.84	AV
H	11510.053	51.41	8.46	38.71	44.50	54.08	74	-19.92	PK
H	11510.053	40.60	8.46	38.71	44.50	43.27	54	-10.73	AV
H	17265.181	50.76	10.12	38.38	44.10	55.16	68.2	-13.04	PK
H	17265.181	43.16	10.12	38.38	44.10	47.56	54	-6.44	AV
middle Channel (5795 MHz)-Above 1G									
V	6039.072	56.22	6.48	36.35	44.05	55.00	68.2	-13.20	PK
V	6039.072	43.14	6.48	36.35	44.05	41.92	54	-12.08	AV
V	11590.067	55.02	8.47	37.88	44.51	56.86	74	-17.14	PK
V	11590.067	43.72	8.47	37.88	44.51	45.56	54	-8.44	AV
V	17385.074	55.01	10.12	38.80	44.10	59.83	68.2	-8.37	PK
V	17385.074	41.46	10.12	38.80	42.70	47.68	54	-6.32	AV
H	6039.194	59.82	6.48	36.37	44.05	58.62	68.2	-9.58	PK
H	6039.194	43.88	6.48	36.37	44.05	42.68	54	-11.32	AV
H	11590.059	52.67	8.47	38.64	44.50	55.28	74	-18.72	PK
H	11590.059	41.32	8.47	38.64	44.50	43.93	54	-10.07	AV
H	17385.061	53.20	10.12	38.38	44.10	57.60	68.2	-10.60	PK
H	17385.061	44.24	10.12	38.38	44.10	48.64	54	-5.36	AV

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

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

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

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

Test Mode is MIMO Mode.

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	4679.036	56.58	5.94	35.40	44.00	53.92	74	-20.08	PK
V	4679.036	43.82	5.94	35.40	44.00	41.16	54	-12.84	AV
V	11490.067	54.71	8.46	39.75	44.50	58.42	68.2	-9.78	PK
V	11490.067	43.77	8.46	39.75	44.50	47.48	54	-6.52	AV
V	17235.065	59.44	10.12	38.80	44.10	64.26	68.2	-3.94	PK
V	17235.065	43.07	10.12	38.80	42.70	49.29	54	-4.71	AV
H	4679.109	59.90	5.94	35.18	44.00	57.02	74	-16.98	PK
H	4679.109	43.23	5.94	35.18	44.00	40.35	54	-13.65	AV
H	11490.182	49.63	8.46	38.71	44.50	52.30	68.2	-15.90	PK
H	11490.182	44.03	8.46	38.71	44.50	46.70	54	-7.30	AV
H	17235.196	50.61	10.12	38.38	44.10	55.01	68.2	-13.19	PK
H	17235.196	40.01	10.12	38.38	44.10	44.41	54	-9.59	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.184	61.54	6.48	36.35	44.05	60.32	74	-13.68	PK
V	4592.184	43.95	6.48	36.35	44.05	42.73	54	-11.27	AV
V	11570.000	56.80	8.47	37.88	44.51	58.64	68.2	-9.56	PK
V	11570.000	43.39	8.47	37.88	44.51	45.23	54	-8.77	AV
V	17355.178	58.61	10.12	38.80	44.10	63.43	68.2	-4.77	PK
V	17355.178	43.75	10.12	38.80	42.70	49.97	54	-4.03	AV
H	4592.145	56.94	6.48	36.37	44.05	55.74	74	-18.26	PK
H	4592.145	43.28	6.48	36.37	44.05	42.08	54	-11.92	AV
H	11570.082	51.92	8.47	38.64	44.50	54.53	68.2	-13.67	PK
H	11570.082	41.66	8.47	38.64	44.50	44.27	54	-9.73	AV
H	17355.009	53.15	10.12	38.38	44.10	57.55	68.2	-10.65	PK
H	17355.009	40.15	10.12	38.38	44.10	44.55	54	-9.45	AV
High Channel (5825 MHz)-Above 1G									
V	6039.059	55.41	7.10	37.24	43.50	56.25	68.2	-11.95	PK
V	6039.059	43.49	7.10	37.24	43.50	44.33	54	-9.67	AV
V	11650.147	59.75	8.46	37.68	44.50	61.39	74	-12.61	PK
V	11650.147	43.72	8.46	37.68	44.50	45.36	54	-8.64	AV
V	17475.139	58.16	10.12	38.80	44.10	62.98	68.2	-5.22	PK
V	17475.139	43.64	10.12	38.80	42.70	49.86	54	-4.14	AV
H	6039.124	57.26	7.10	37.24	43.50	58.10	68.2	-10.10	PK
H	6039.124	43.82	7.10	37.24	43.50	44.66	54	-9.34	AV
H	11650.118	50.96	8.46	38.57	44.50	53.49	74	-20.51	PK
H	11650.118	40.02	8.46	38.57	44.50	42.55	54	-11.45	AV
H	17475.053	50.30	10.12	38.38	44.10	54.70	68.2	-13.50	PK
H	17475.053	42.44	10.12	38.38	44.10	46.84	54	-7.16	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
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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	4679.155	56.71	5.94	35.40	44.00	54.05	74	-19.95	PK
V	4679.155	43.89	5.94	35.40	44.00	41.23	54	-12.77	AV
V	11510.133	55.93	8.46	39.75	44.50	59.64	74	-14.36	PK
V	11510.133	43.30	8.46	39.75	44.50	47.01	54	-6.99	AV
V	17265.130	55.07	10.12	38.80	44.10	59.89	68.2	-8.31	PK
V	17265.130	2.00	10.12	38.80	42.70	8.22	54	-45.78	AV
H	4679.111	57.39	5.94	35.18	44.00	54.51	74	-19.49	PK
H	4679.111	43.01	5.94	35.18	44.00	40.13	54	-13.87	AV
H	11510.157	50.56	8.46	38.71	44.50	53.23	74	-20.77	PK
H	11510.157	42.40	8.46	38.71	44.50	45.07	54	-8.93	AV
H	17265.171	53.56	10.12	38.38	44.10	57.96	68.2	-10.24	PK
H	17265.171	42.44	10.12	38.38	44.10	46.84	54	-7.16	AV
middle Channel (5795 MHz)-Above 1G									
V	6039.168	57.50	6.48	36.35	44.05	56.28	68.2	-11.92	PK
V	6039.168	43.07	6.48	36.35	44.05	41.85	54	-12.15	AV
V	11590.063	58.42	8.47	37.88	44.51	60.26	74	-13.74	PK
V	11590.063	43.84	8.47	37.88	44.51	45.68	54	-8.32	AV
V	17385.001	55.96	10.12	38.80	44.10	60.78	68.2	-7.42	PK
V	17385.001	41.00	10.12	38.80	42.70	47.22	54	-6.78	AV
H	6039.053	58.53	6.48	36.37	44.05	57.33	68.2	-10.87	PK
H	6039.053	43.40	6.48	36.37	44.05	42.20	54	-11.80	AV
H	11590.175	52.96	8.47	38.64	44.50	55.57	74	-18.43	PK
H	11590.175	42.08	8.47	38.64	44.50	44.69	54	-9.31	AV
H	17385.020	52.76	10.12	38.38	44.10	57.16	68.2	-11.04	PK
H	17385.020	40.87	10.12	38.38	44.10	45.27	54	-8.73	AV

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

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

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

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

Test Mode is MIMO Mode.

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

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Cable loss (dB)	Antenna Factor dB/m	Preamp Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5775 MHz)-Above 1G									
V	4679.198	57.16	5.94	35.40	44.00	54.50	74	-19.50	PK
V	4679.198	43.71	5.94	35.40	44.00	41.05	54	-12.95	AV
V	11550.089	55.69	8.46	39.75	44.50	59.40	74	-14.60	PK
V	11550.089	42.68	8.46	39.75	44.50	46.39	54	-7.61	AV
V	17325.073	57.50	10.12	38.80	44.10	62.32	68.2	-5.88	PK
V	17325.073	41.75	10.12	38.80	42.70	47.97	54	-6.03	AV
H	4679.026	55.79	5.94	35.18	44.00	52.91	74	-21.09	PK
H	4679.026	43.22	5.94	35.18	44.00	40.34	54	-13.66	AV
H	11550.006	50.48	8.46	38.71	44.50	53.15	74	-20.85	PK
H	11550.006	44.18	8.46	38.71	44.50	46.85	54	-7.15	AV
H	17325.024	51.62	10.12	38.38	44.10	56.02	68.2	-12.18	PK
H	17325.024	41.40	10.12	38.38	44.10	45.80	54	-8.20	AV

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

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

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

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

Test Mode is MIMO Mode.

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

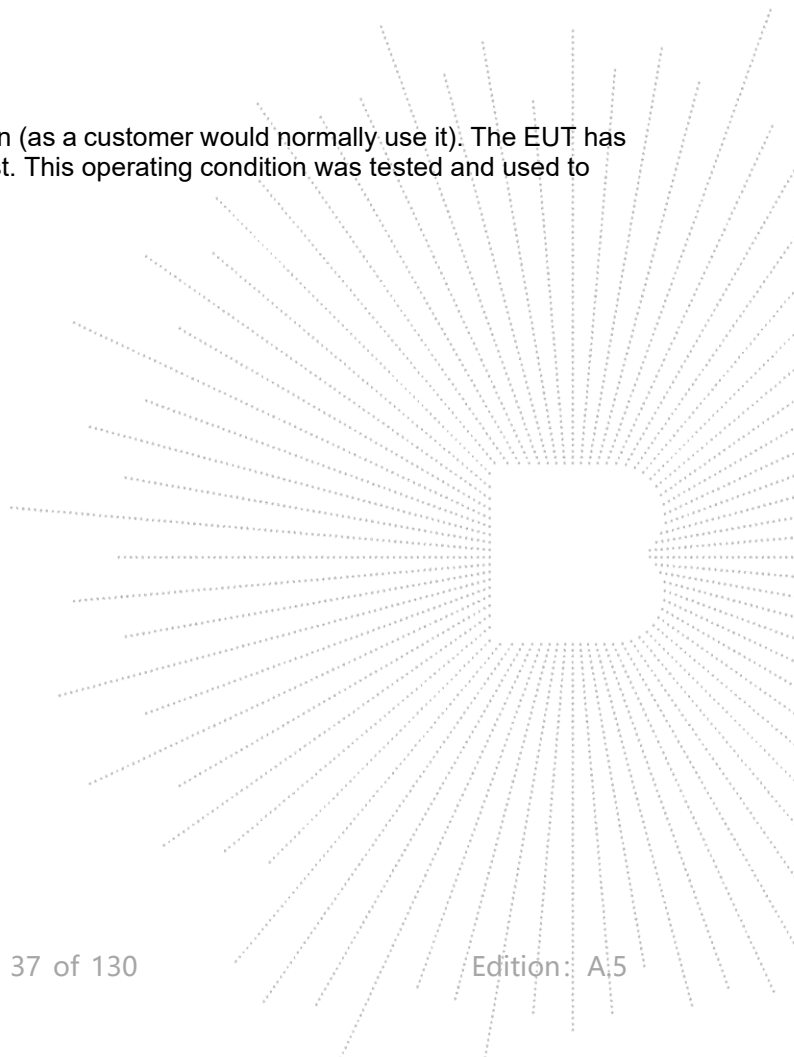
For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 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

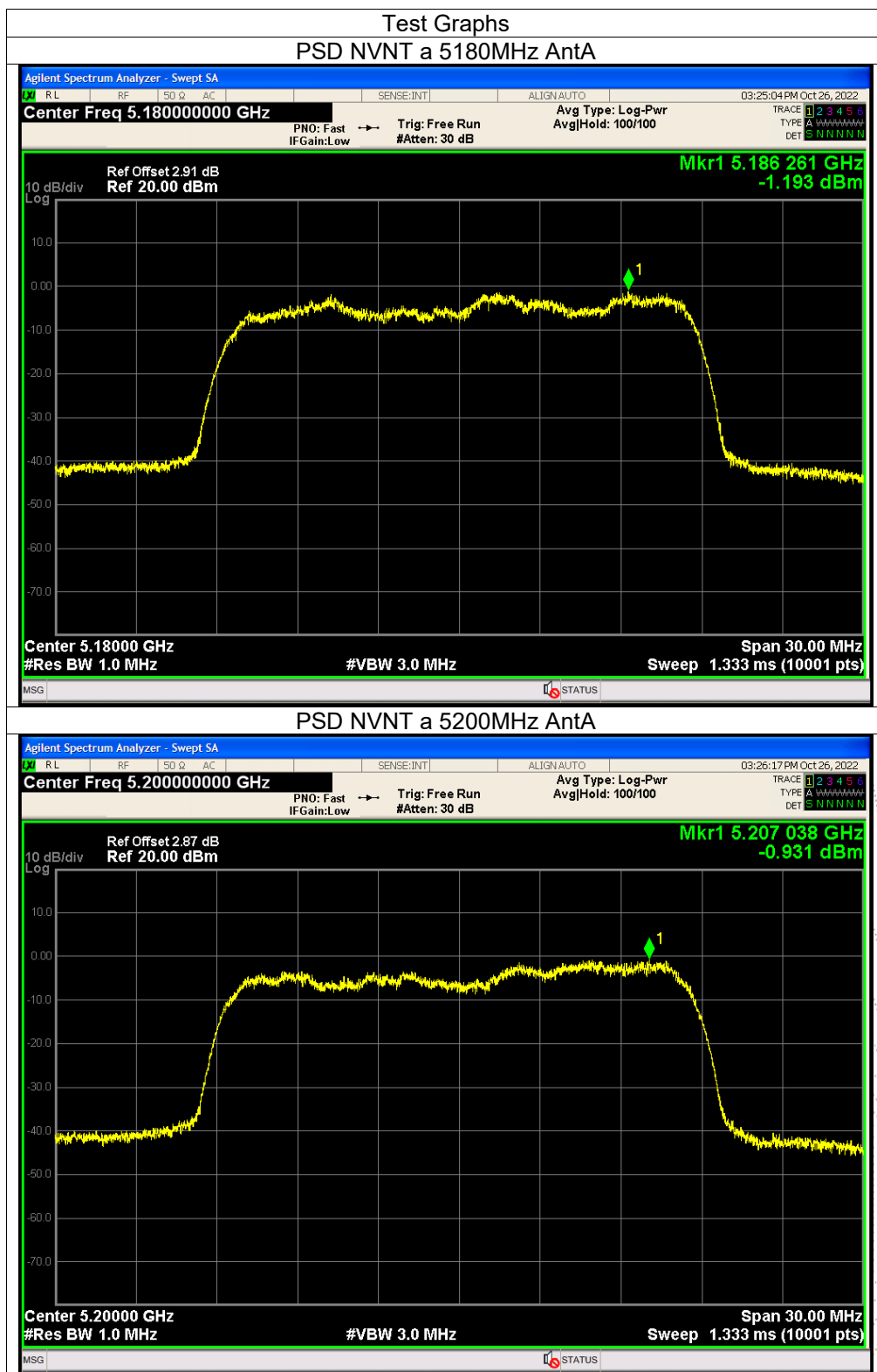
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX Frequency U-NII-1 (5180-5240MHz)		

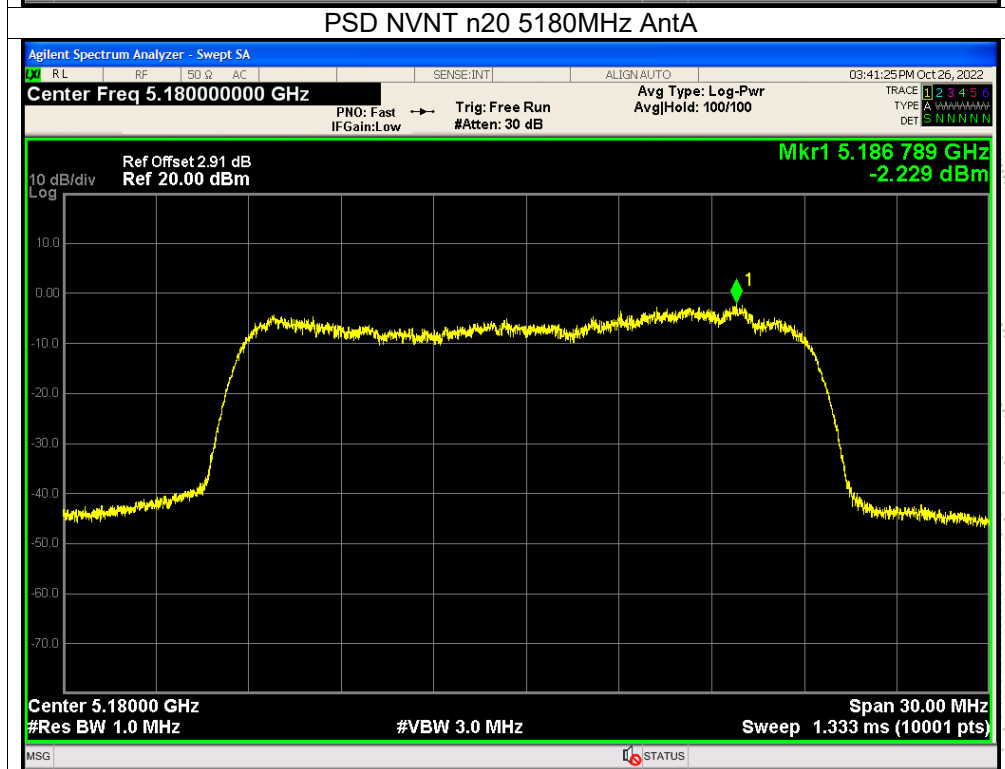
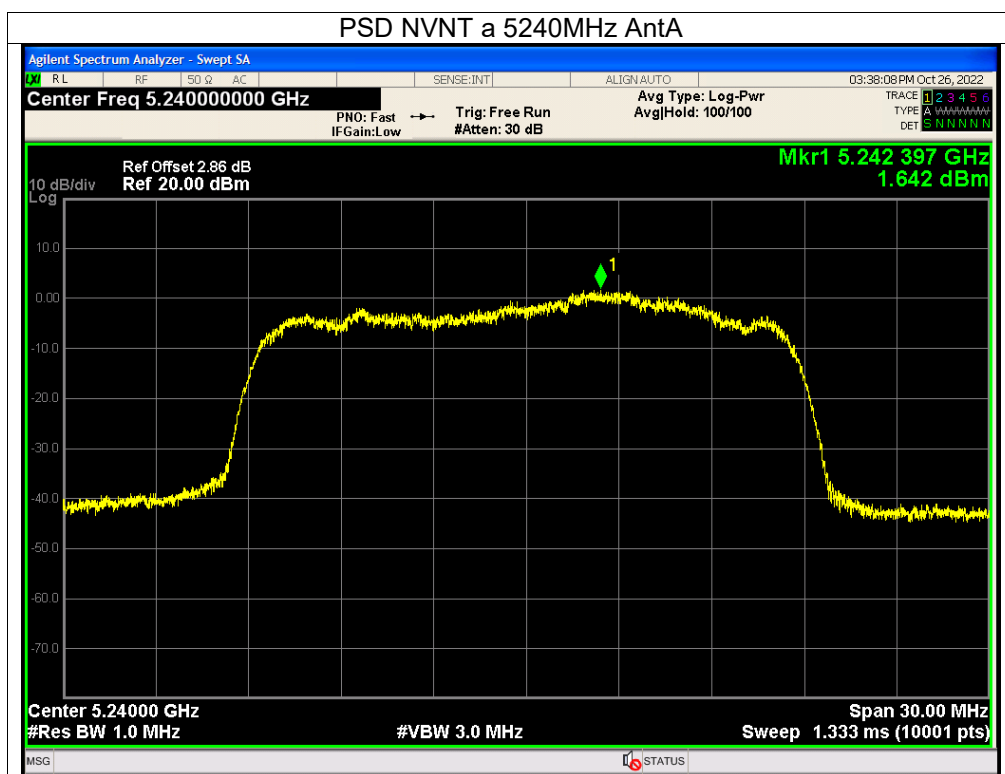
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

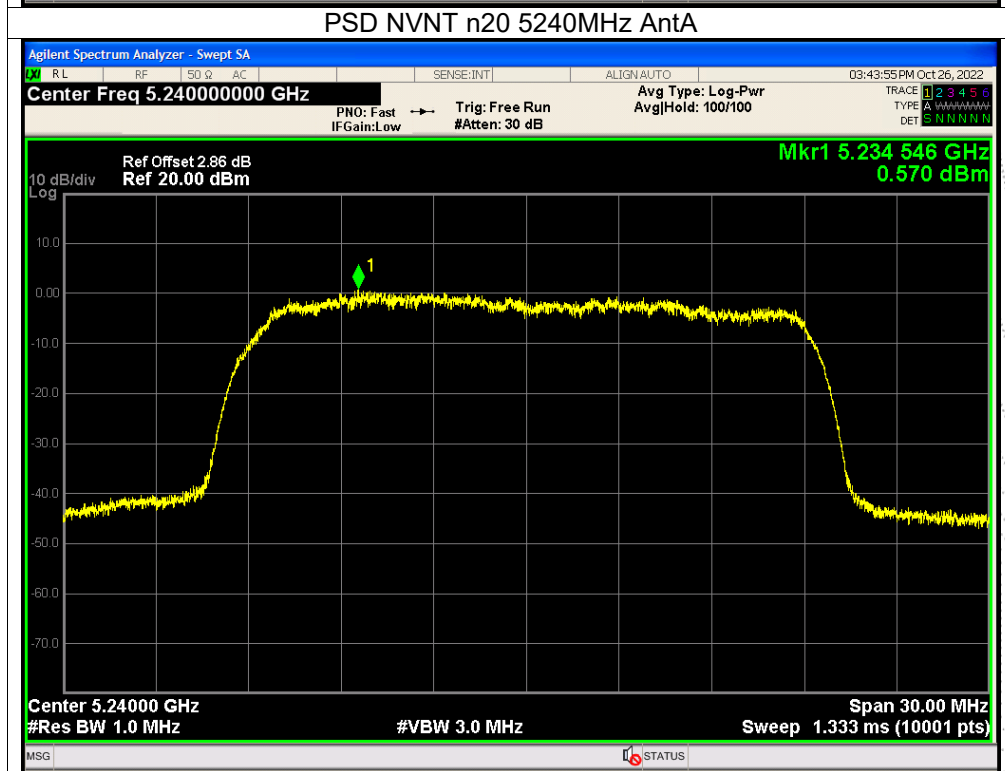
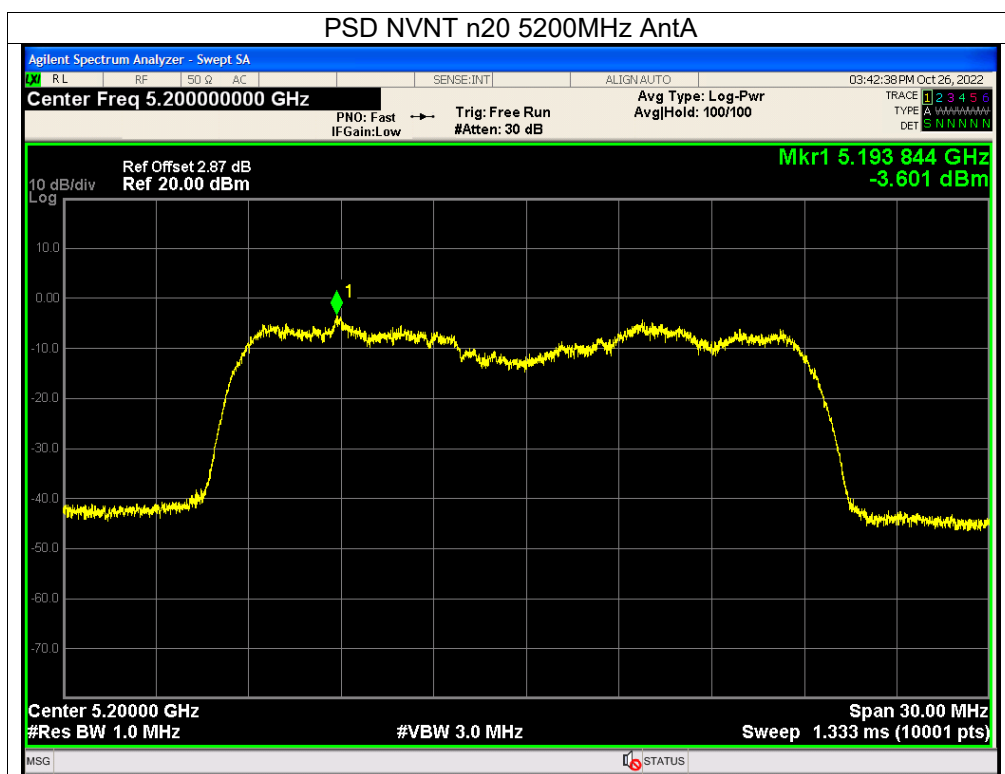
Mode	Frequency	Measured Power Density (dBm/MHz)			Limit (dBm/MHz)	Result
		ANT A	ANT B	Total		
802.11 a	5180 MHz	-1.19	-0.6	/	11	PASS
	5200 MHz	-0.93	0.96	/	11	PASS
	5240 MHz	1.64	1.34	/	11	PASS
802.11 n20	5180 MHz	-2.23	-1.26	1.29	10.16	PASS
	5200 MHz	-3.6	1.46	2.64	10.16	PASS
	5240 MHz	0.57	-2.54	2.30	10.16	PASS
802.11 n40	5190 MHz	-7.13	-6.06	-3.55	10.16	PASS
	5230 MHz	-8.96	-8.62	-5.78	10.16	PASS
802.11 ac20	5180 MHz	-4.18	-0.56	1.01	10.16	PASS
	5200 MHz	-1.34	-0.58	2.07	10.16	PASS
	5240 MHz	-2.12	-1.18	1.39	10.16	PASS
802.11 ac40	5190 MHz	-9.4	-9.16	-6.27	10.16	PASS
	5230 MHz	-11.43	-9.97	-7.63	10.16	PASS
802.11 AC80	5210 MHz	-18.78	-17.49	-15.08	10.16	PASS

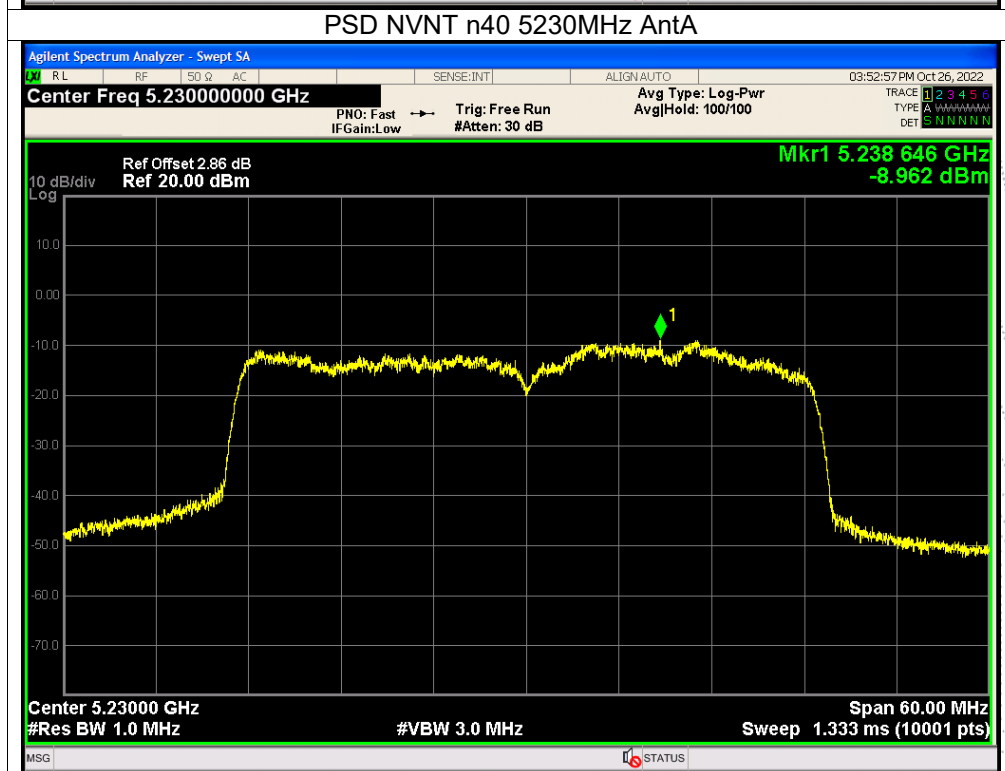
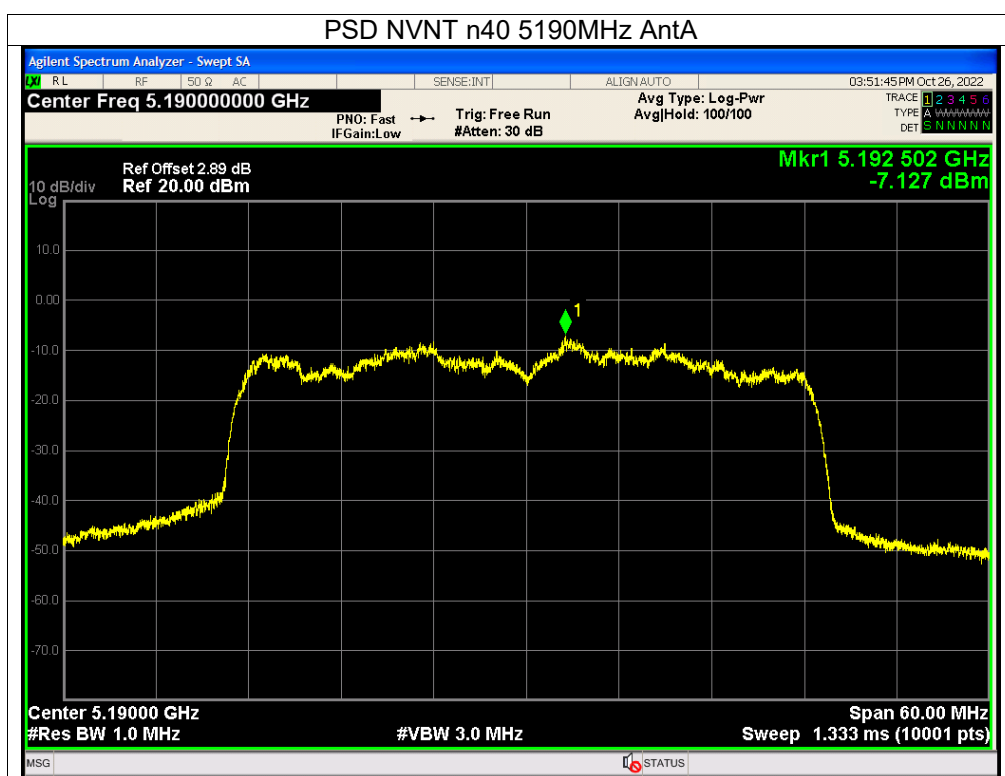
Note:

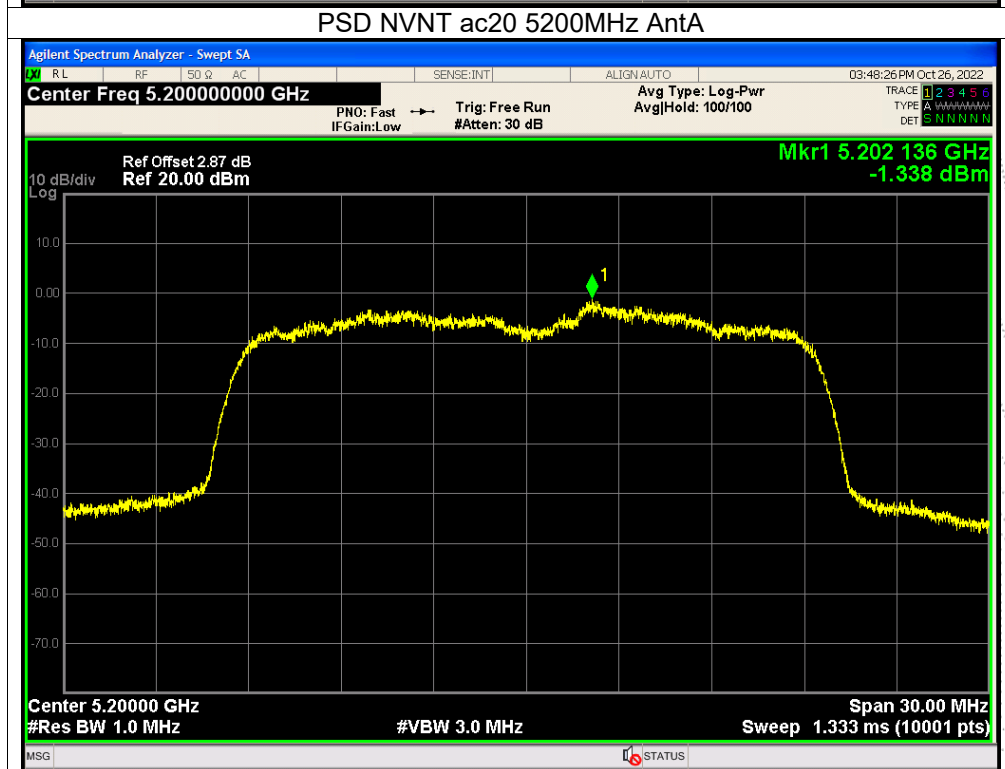
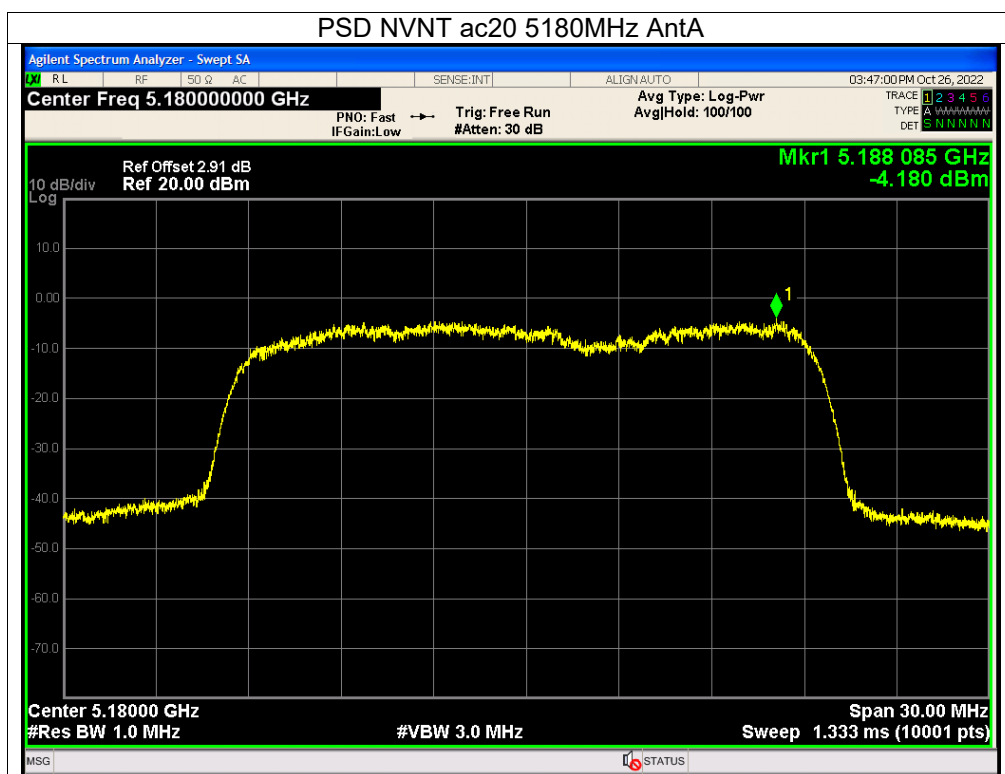
For power spectral density(PSD) measurements,
Array Gain=10log(NANT/NSS)dB=10log(2/1)=3.01dB,
So the directional gain for PSD is 6.84 dBi
Limit:11-(6.84-6)=10.16

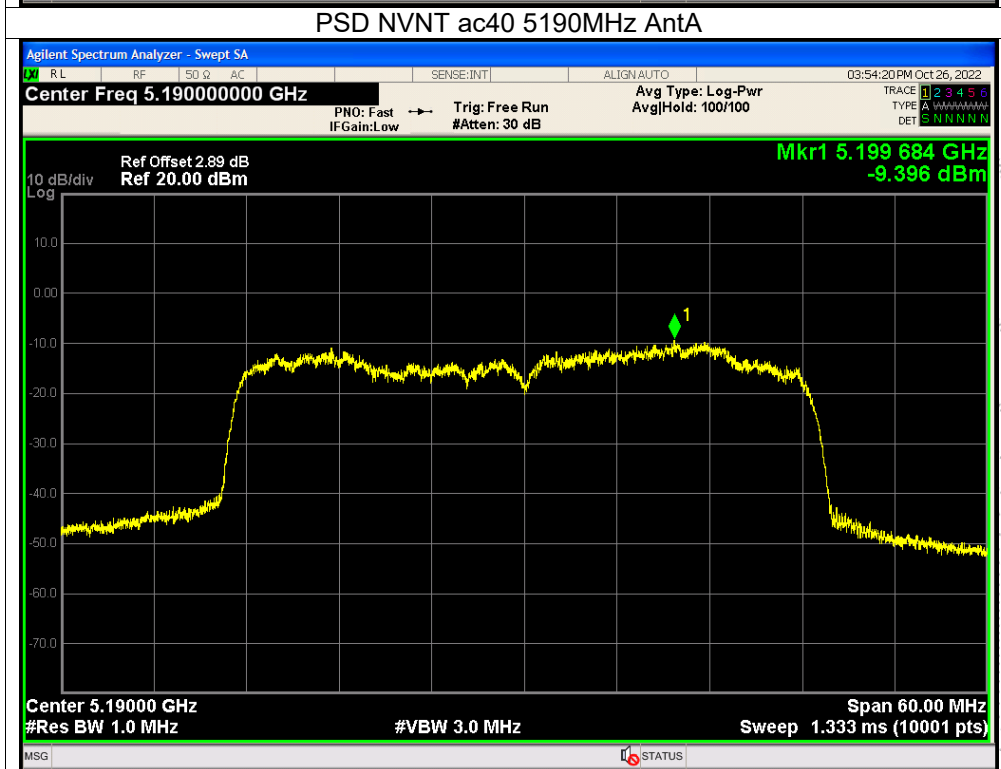
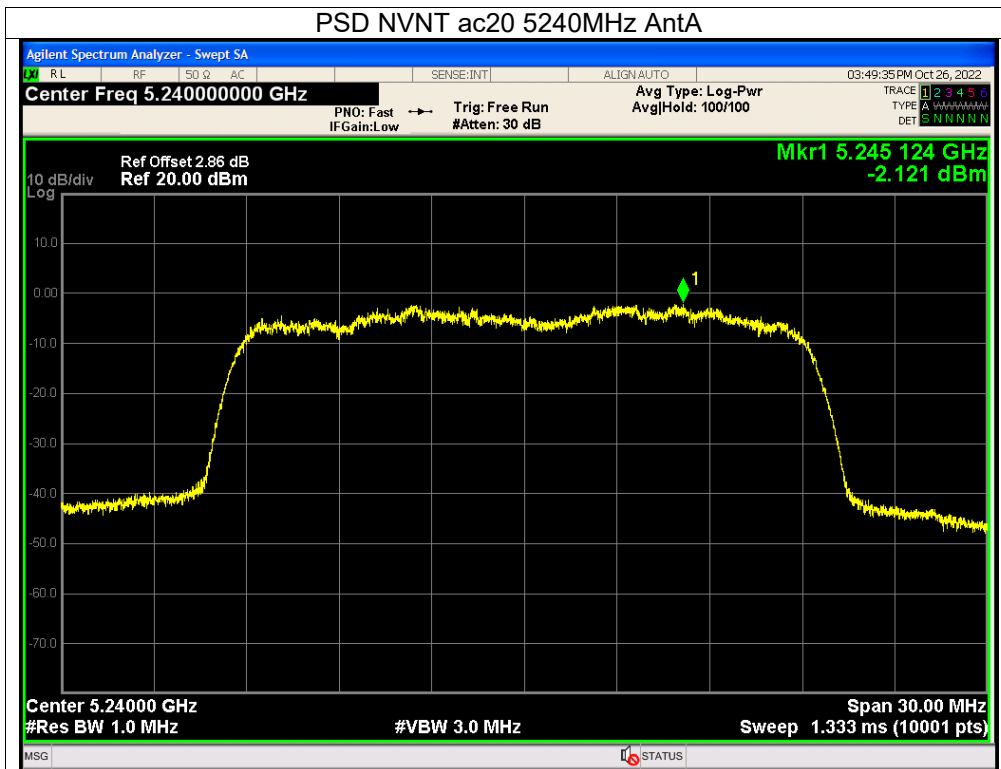


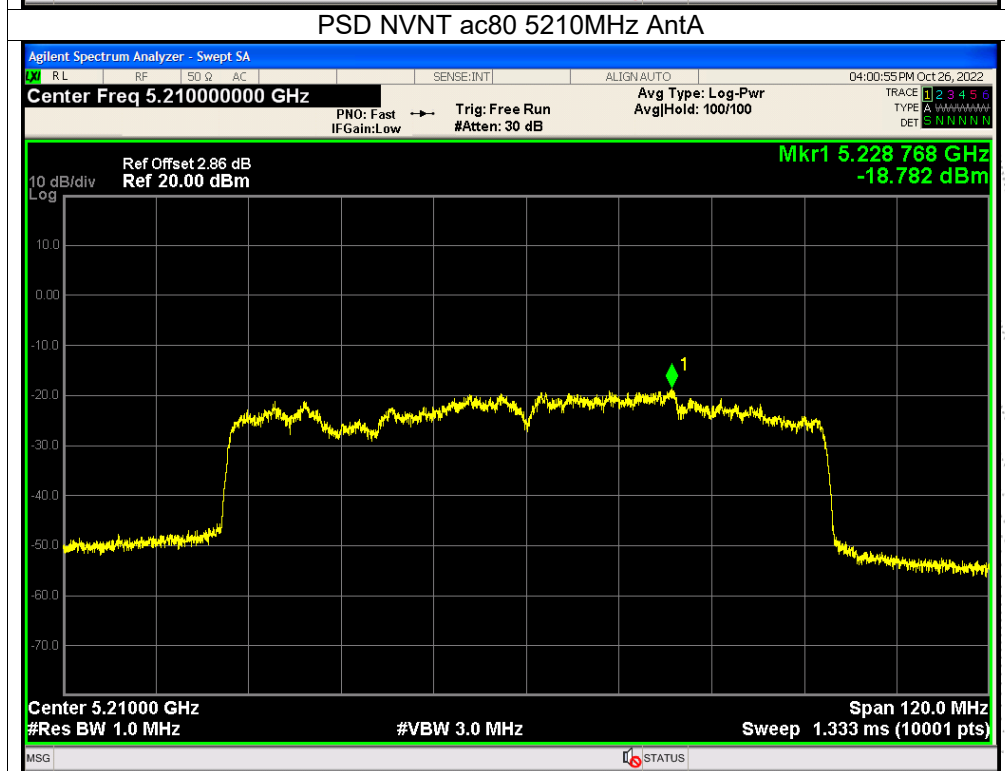
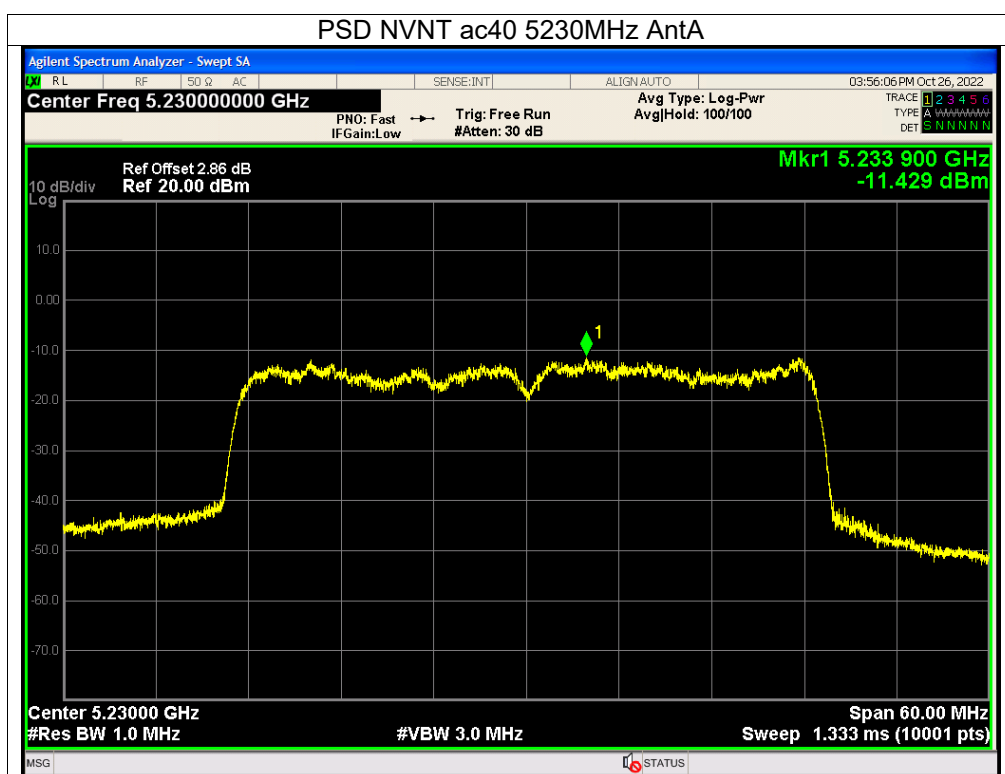












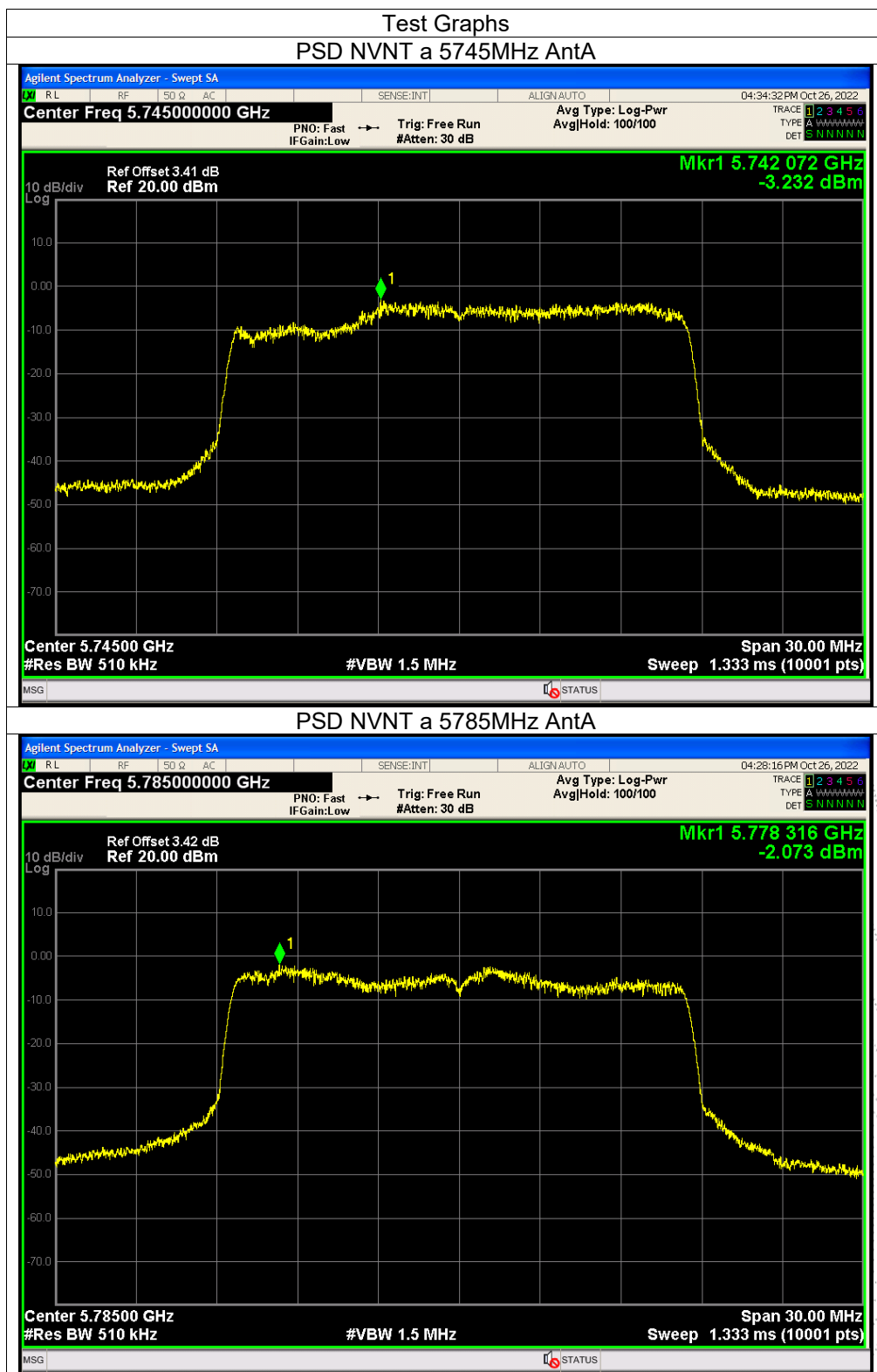
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX Frequency U-NII-3 (5745-5825MHz)		

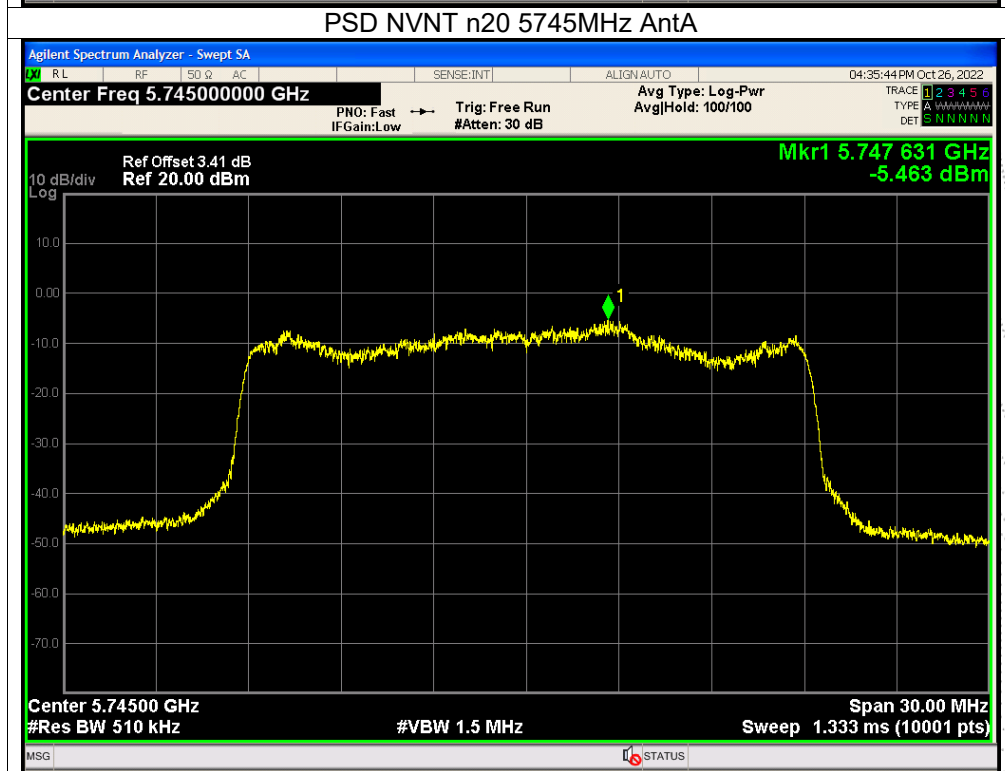
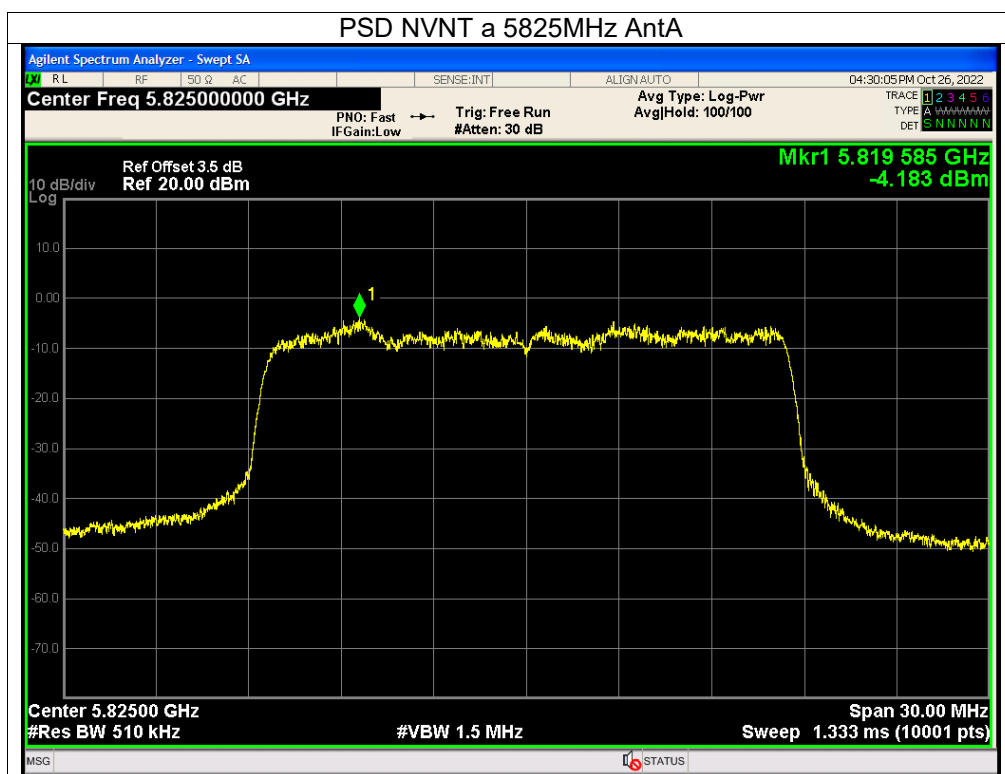
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

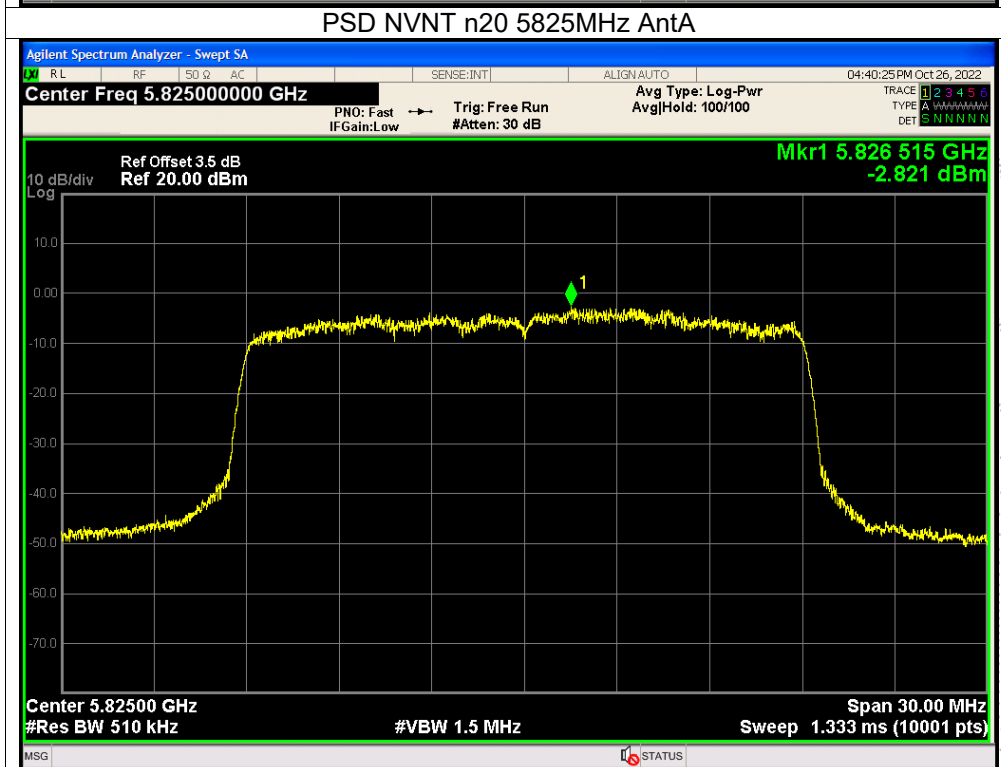
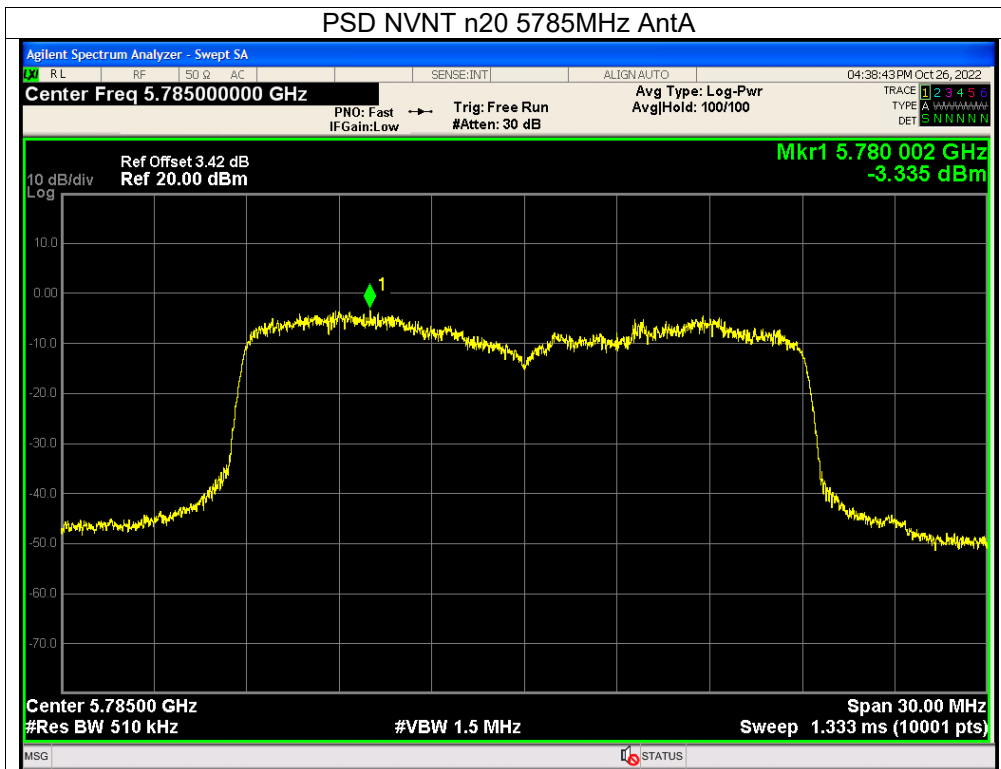
Mode	Frequency	Measured Power Density (dBm/500KHz)			Limit (dBm/500kHz)	Result
		ANT A	ANT B	Total		
802.11 a	5745 MHz	-3.23	-2.72	/	30	PASS
	5785 MHz	-2.07	-3.63	/	30	PASS
	5825 MHz	-4.18	-4.9	/	30	PASS
802.11 n20	5745 MHz	-5.46	-4.63	-2.01	29.16	PASS
	5785 MHz	-3.34	-2.38	0.18	29.16	PASS
	5825 MHz	-2.82	-4.52	-0.58	29.16	PASS
802.11 n40	5755 MHz	-13.46	-11.05	-9.08	29.16	PASS
	5795 MHz	-11.49	-12.46	-8.94	29.16	PASS
802.11 ac20	5745 MHz	-6.02	-5.6	-2.79	29.16	PASS
	5785 MHz	-4.12	-3.83	-0.96	29.16	PASS
	5825 MHz	-4.86	-2.53	-0.53	29.16	PASS
802.11 ac40	5755 MHz	-13.2	-12.72	-9.94	29.16	PASS
	5795 MHz	-11.28	-13.31	-9.17	29.16	PASS
802.11 AC80	5775 MHz	-21.73	-18.35	-16.71	29.16	PASS

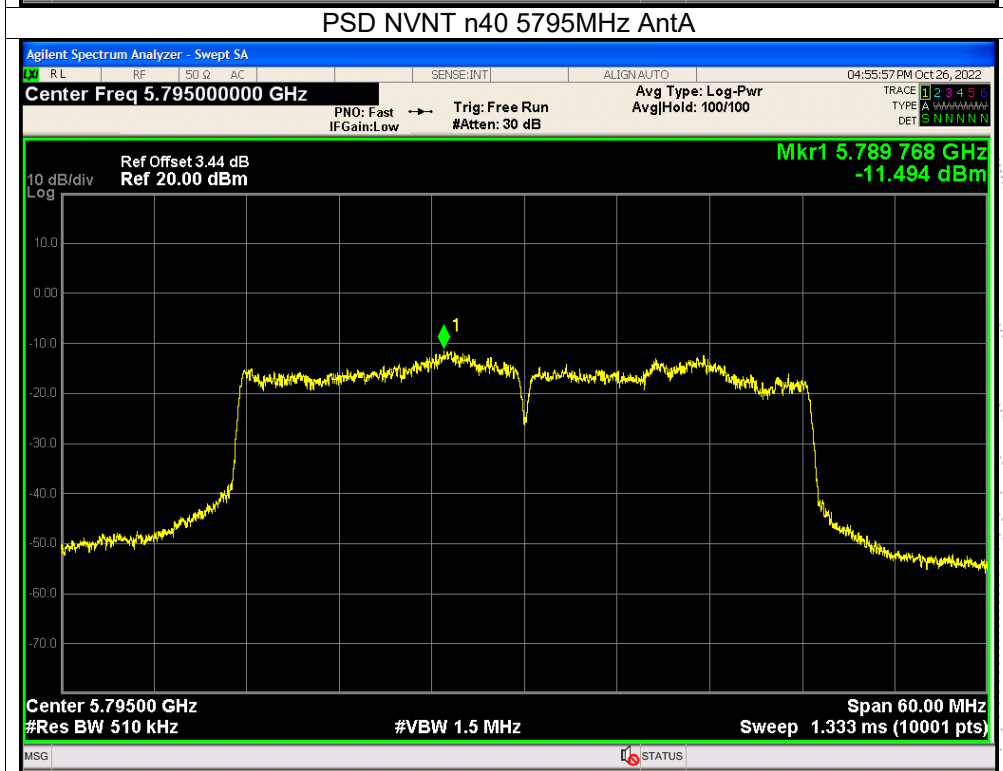
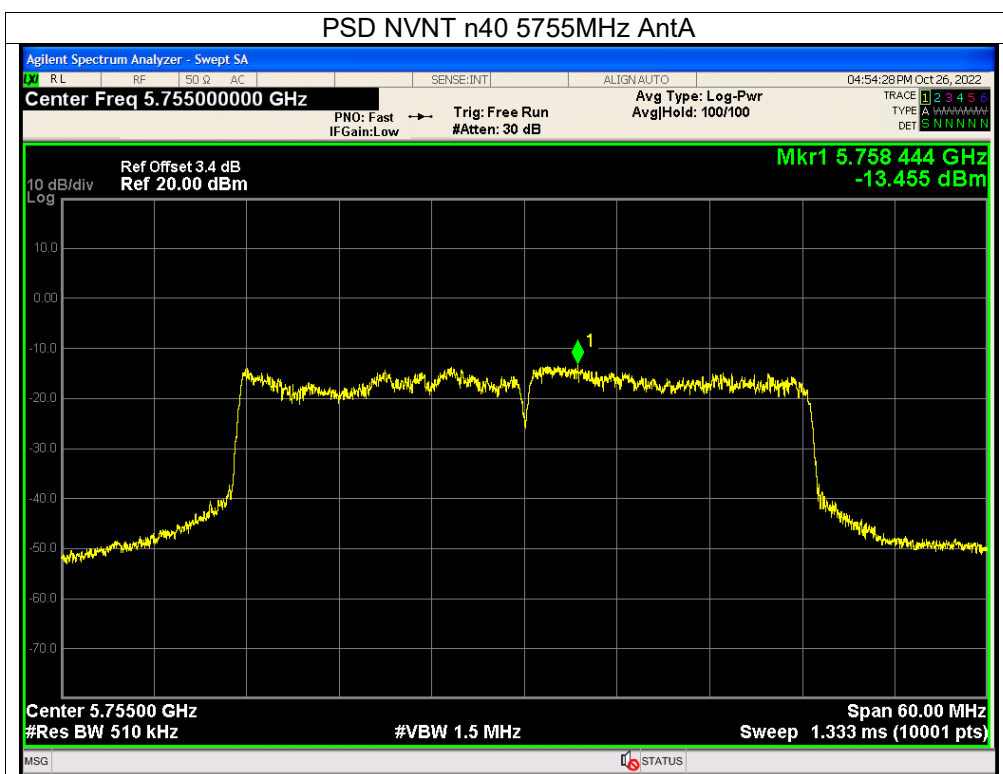
Note:

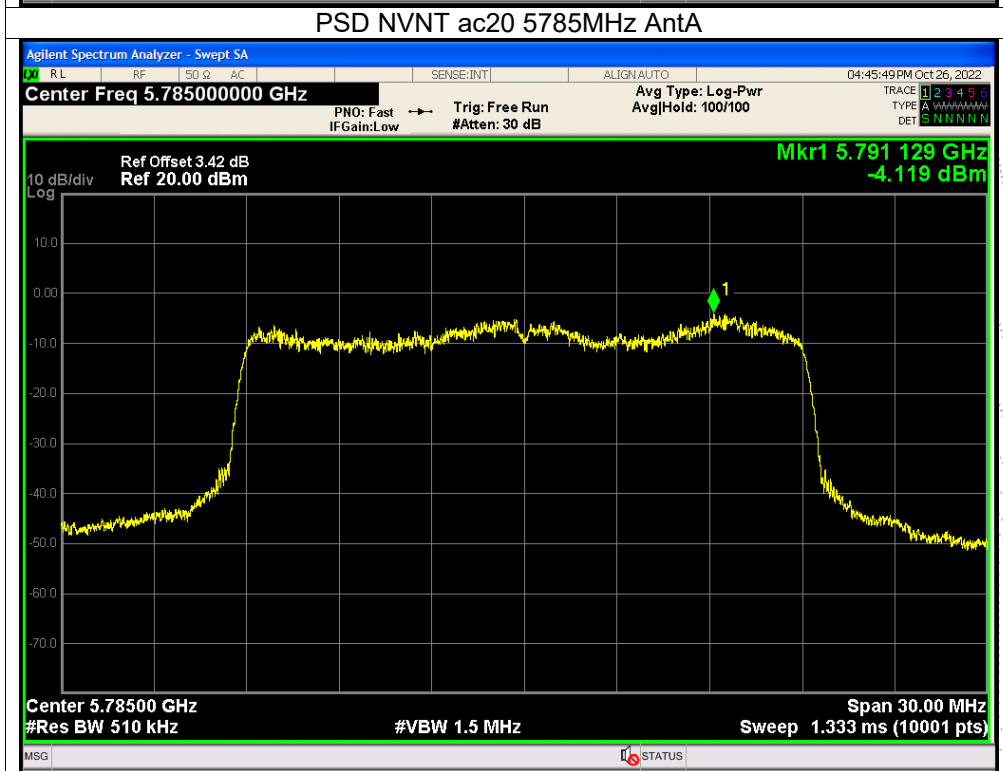
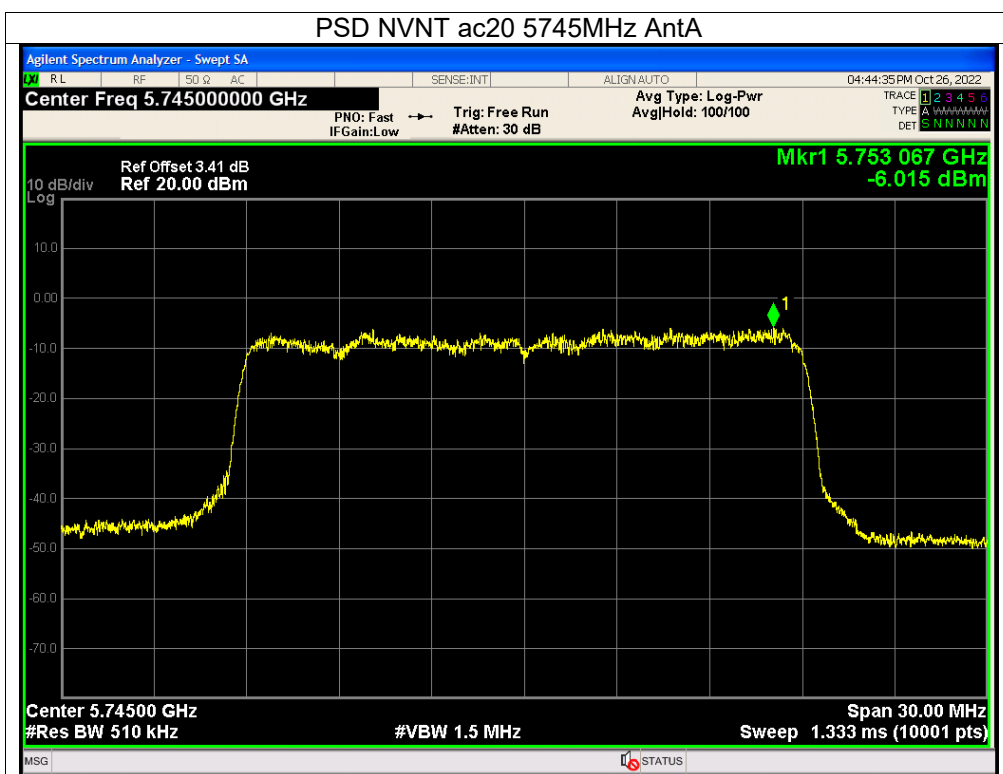
For power spectral density(PSD) measurements,
Array Gain=10log(NANT/NSS)dB=10log(2/1)=3.01dB,
So the directional gain for PSD is 6.84 dBi
Limit:30-(6.84-6)=29.16

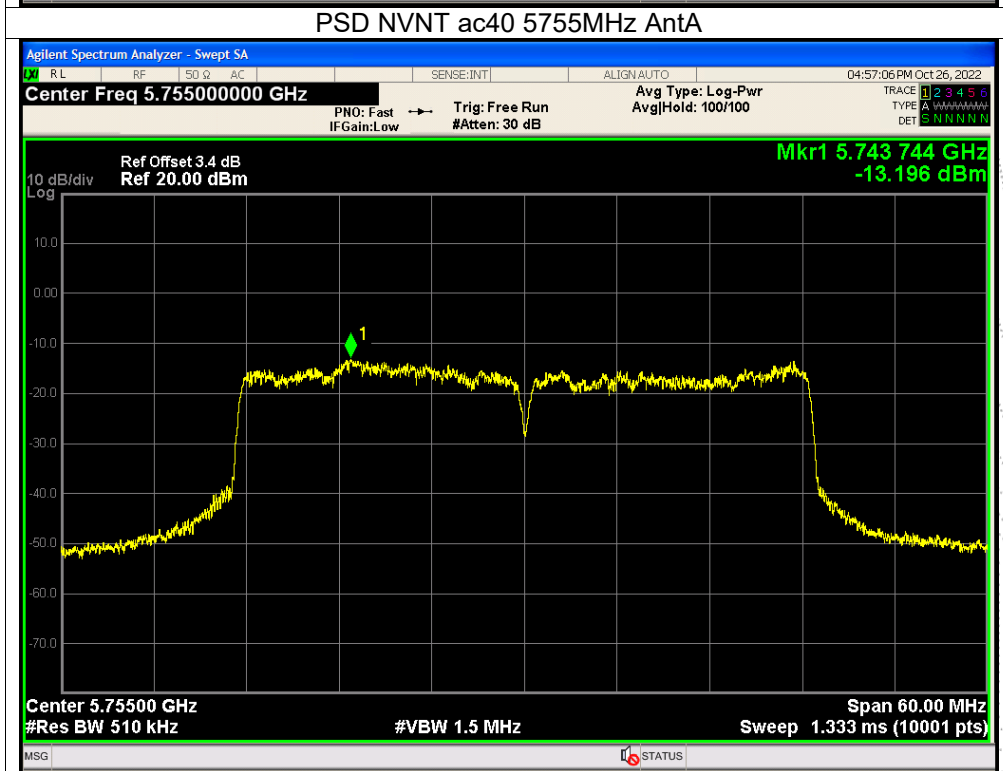
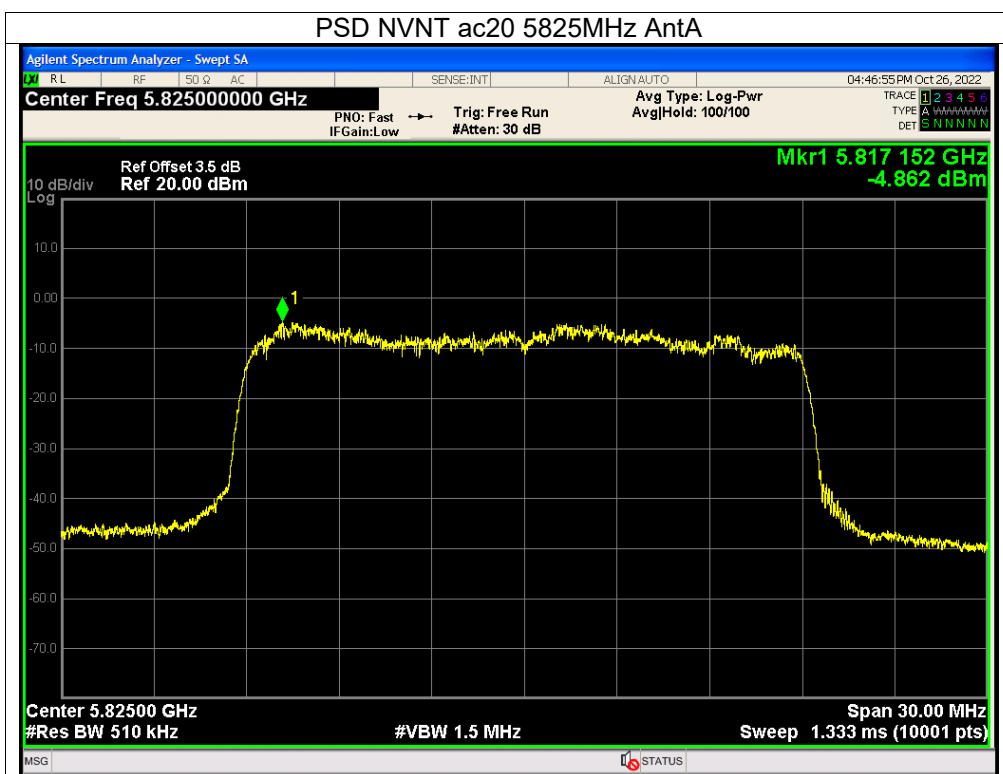


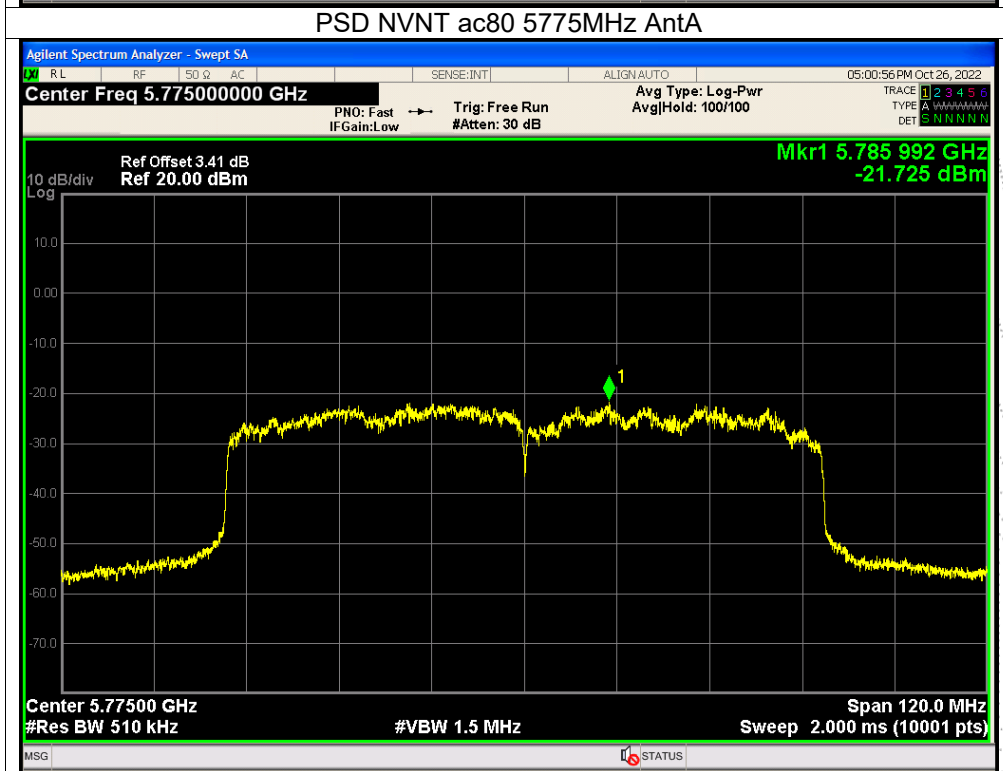
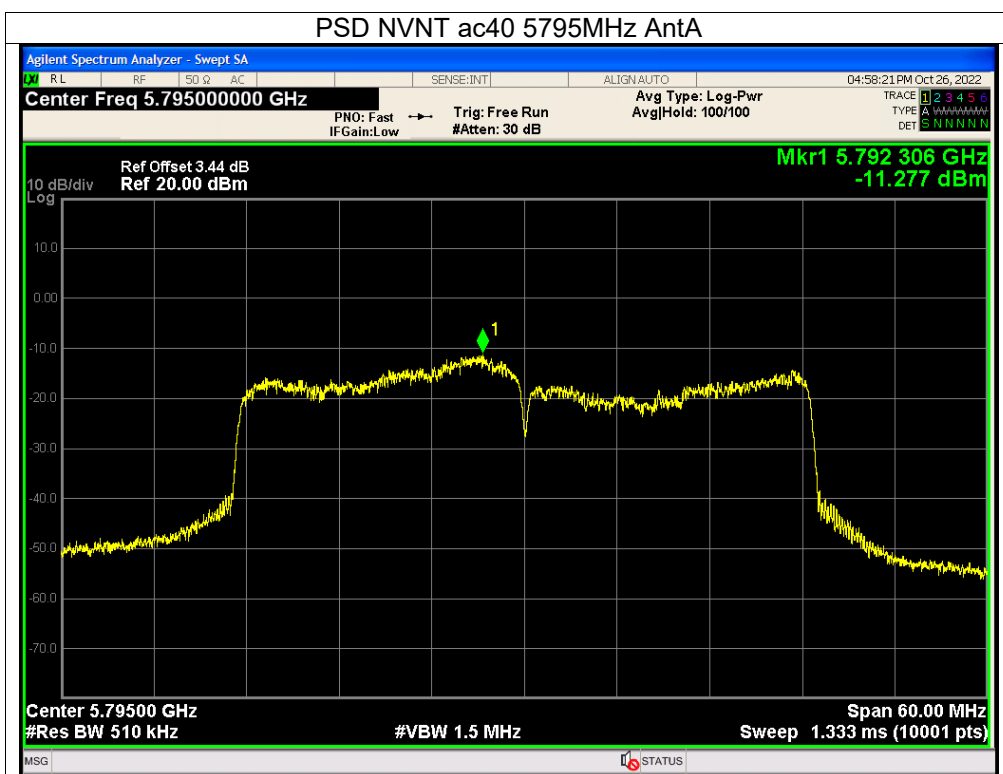






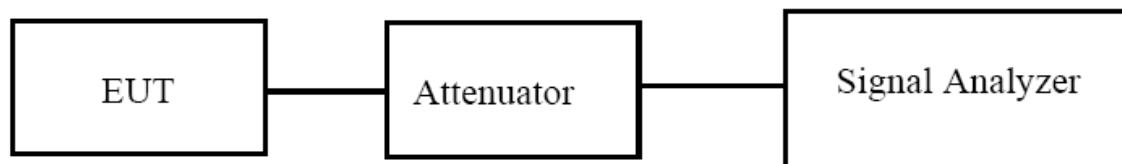






9. 26dB & 6dB & 99% Emission Bandwidth

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

- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- 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:

- Set center frequency to the nominal EUT channel center frequency.
- Set span = 1.5 times to 5.0 times the OBW.
- Set RBW = 1 % to 5 % of the OBW
- Set VBW $\geq 3 \cdot$ RBW
- 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.
- Use the 99 % power bandwidth function of the instrument (if available).
- 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.

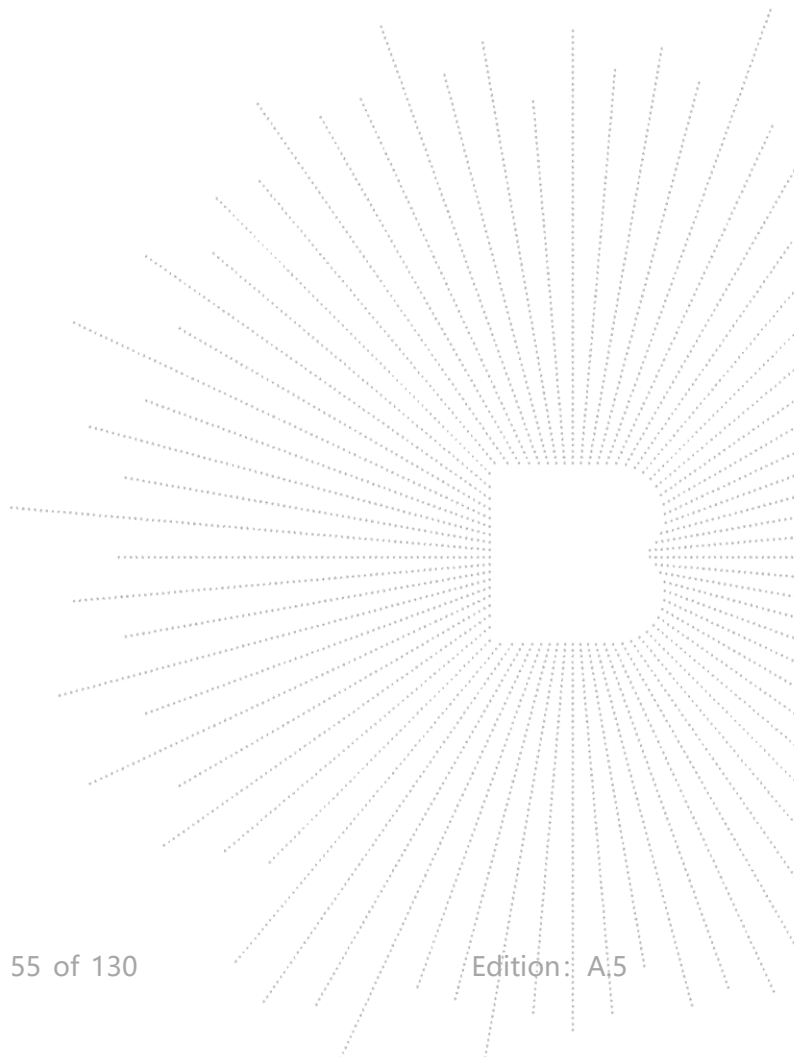
6dB

- Set RBW = 100 kHz.
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
- Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- 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.



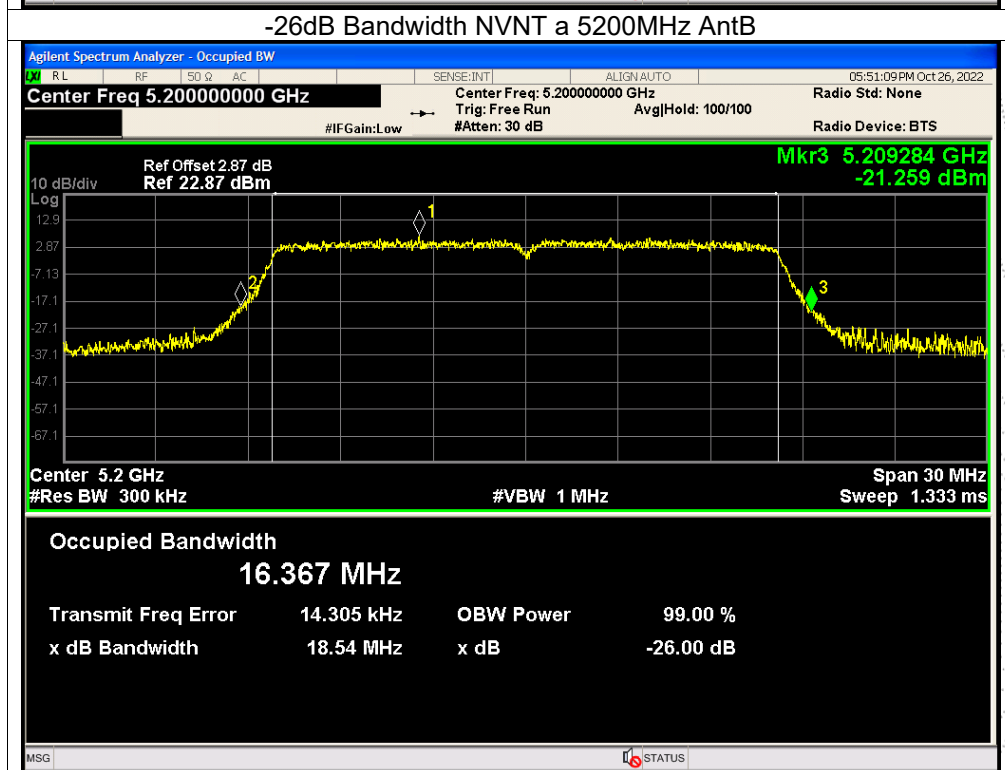
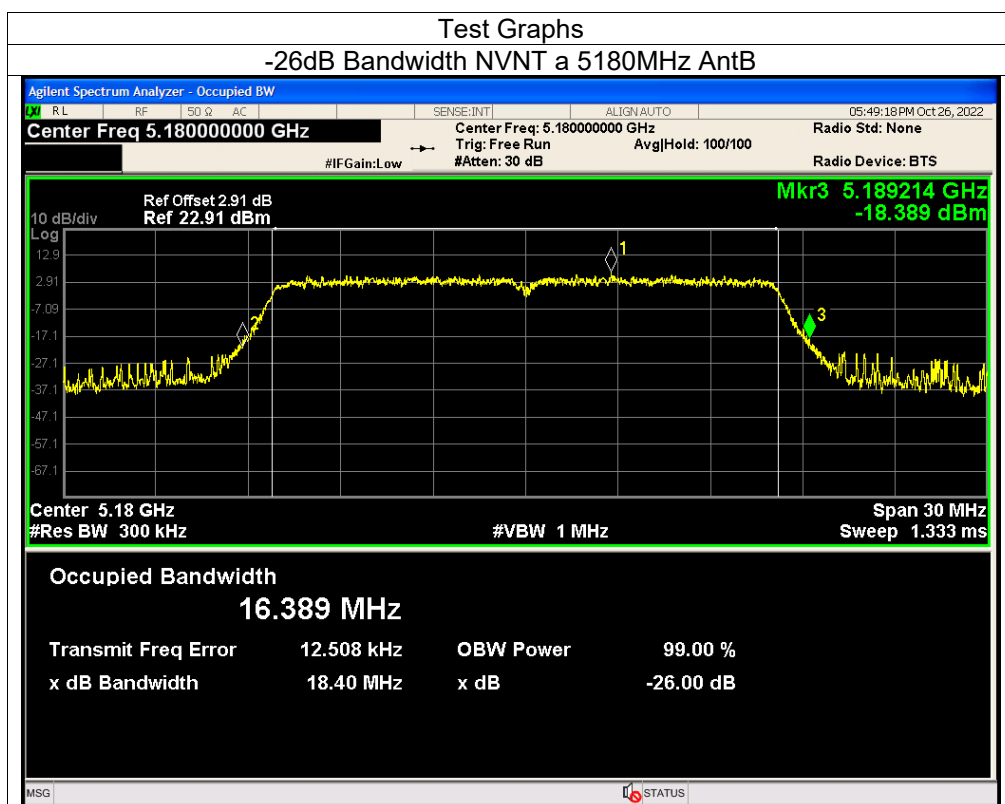
9.5 Test Result

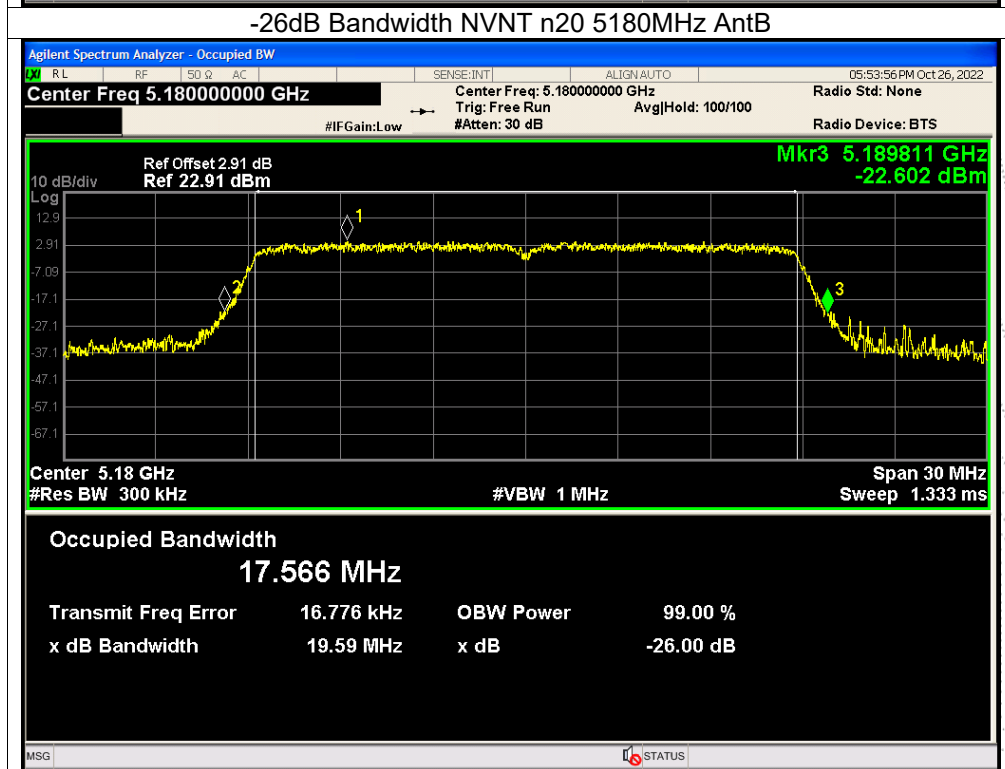
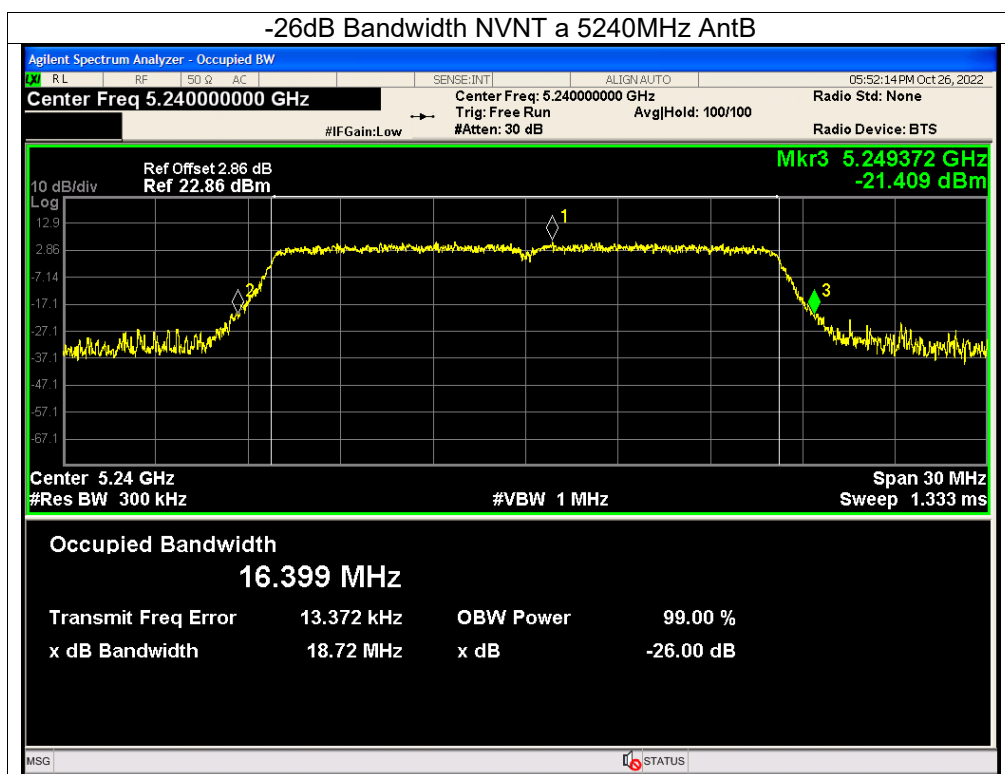
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX Frequency U-NII-1 (5180-5240MHz)		

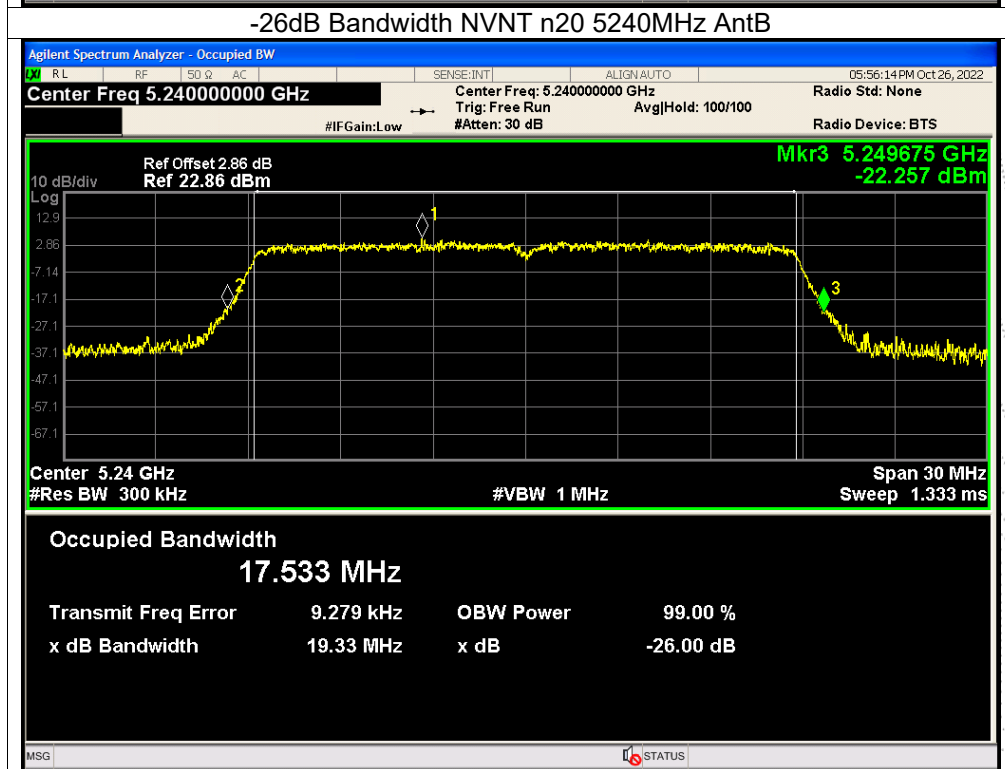
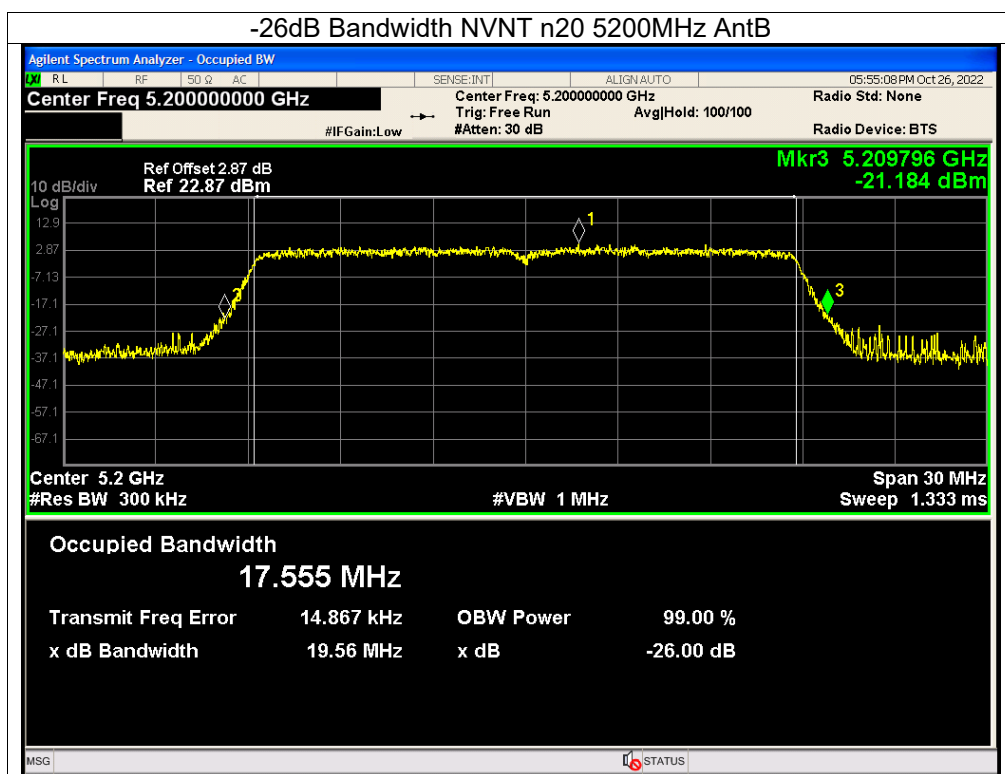
Note: A(B) Represent the value of antenna A and B. The worst data is Antenna B, only shown Antenna B Plot.

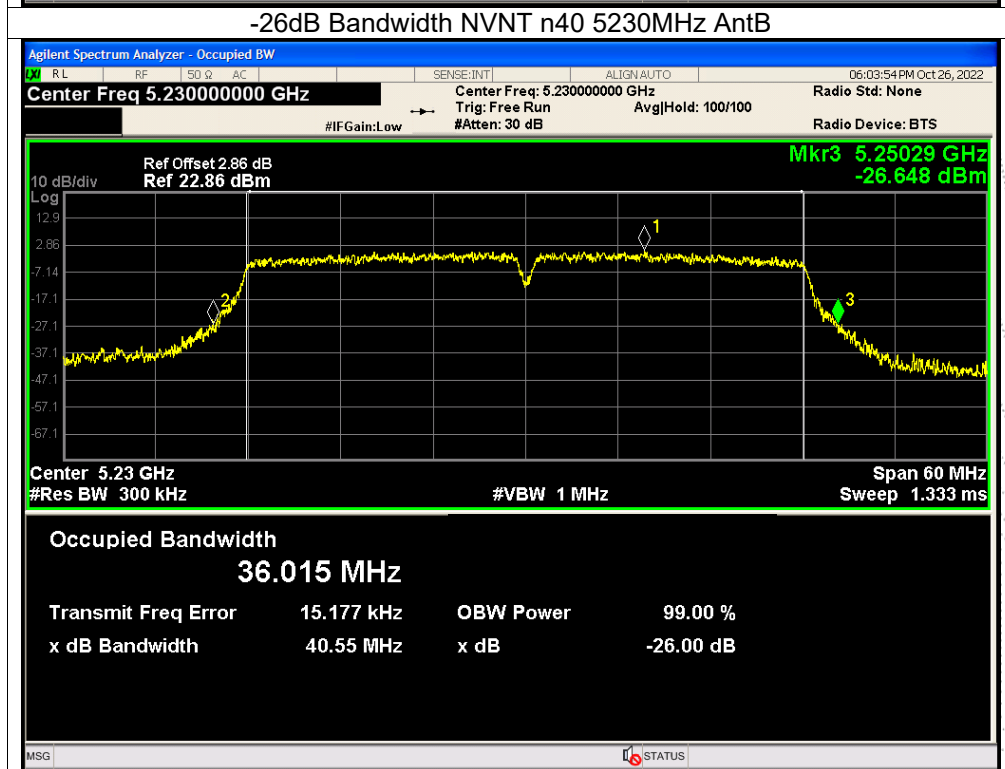
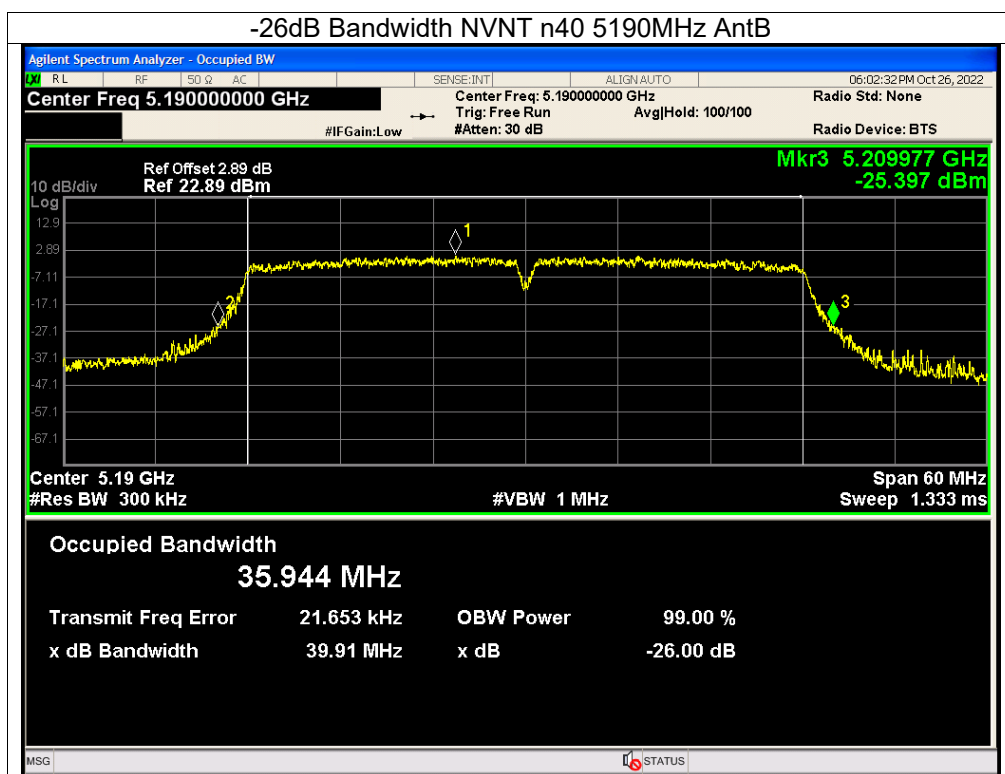
Mode	Channel	Frequency (MHz)	99% bandwidth (MHz)	26dB bandwidth (MHz)	Result
			ANT A	ANT A	
802.11a	CH36	5180	16.334	18.452	Pass
	CH40	5200	16.336	18.577	Pass
	CH48	5240	16.35	18.496	Pass
802.11 n20	CH36	5180	17.521	19.515	Pass
	CH40	5200	17.522	19.6	Pass
	CH48	5240	17.535	19.633	Pass
802.11 n40	CH 38	5190	36.064	40.572	Pass
	CH 46	5230	36.059	40.419	Pass
802.11 ac20	CH36	5180	17.527	19.53	Pass
	CH40	5200	17.527	19.66	Pass
	CH48	5240	17.536	19.529	Pass
802.11 ac40	CH 38	5190	36.079	41.127	Pass
	CH 46	5230	36.039	40.019	Pass
802.11 AC80	CH 42	5210	74.681	79.747	Pass

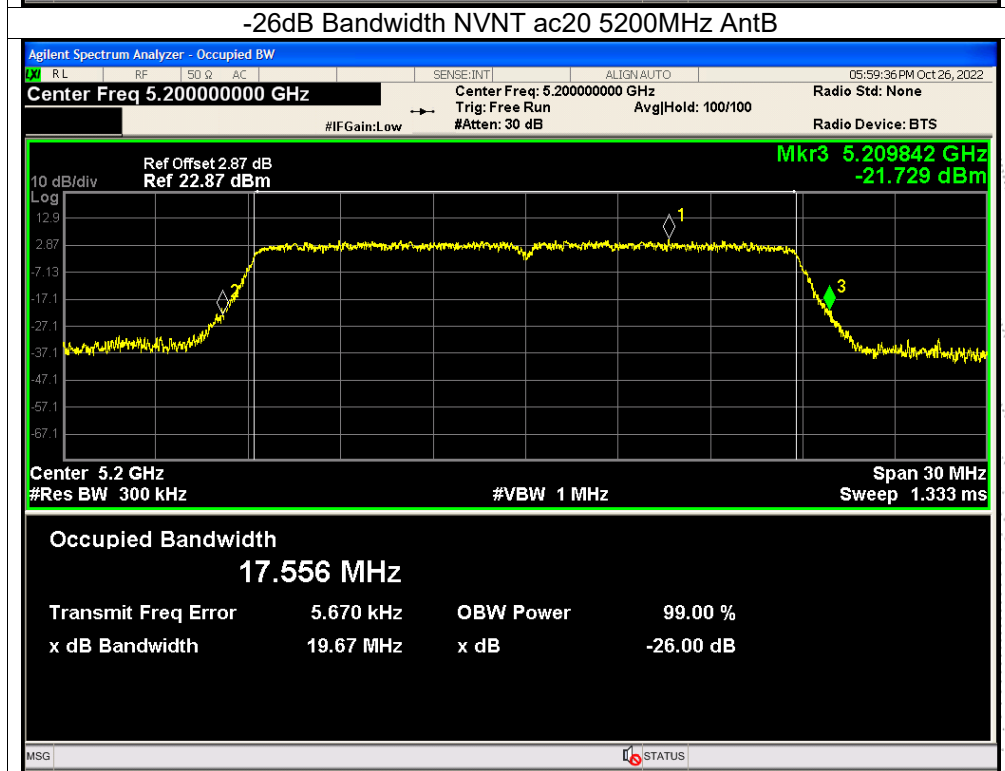
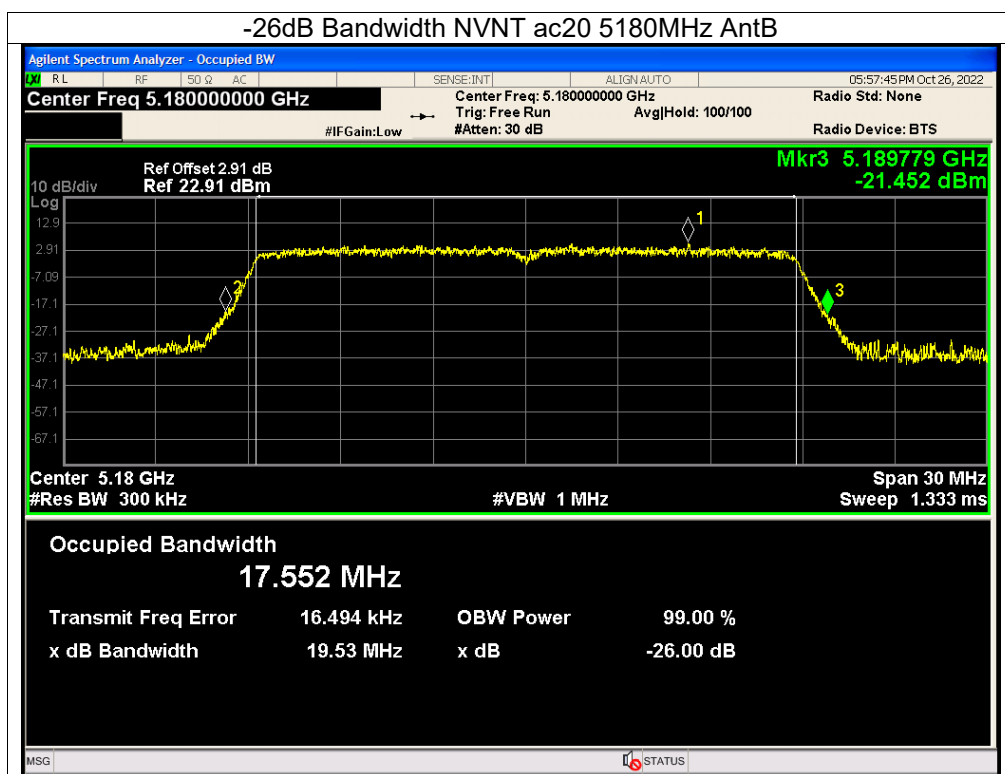
Mode	Channel	Frequency (MHz)	99% bandwidth (MHz)	26dB bandwidth (MHz)	Result
			ANT B	ANT B	
802.11a	CH36	5180	16.336	18.403	Pass
	CH40	5200	16.326	18.539	Pass
	CH48	5240	16.345	18.717	Pass
802.11 n20	CH36	5180	17.535	19.588	Pass
	CH40	5200	17.521	19.563	Pass
	CH48	5240	17.516	19.332	Pass
802.11 n40	CH 38	5190	36.043	39.911	Pass
	CH 46	5230	36.085	40.549	Pass
802.11 ac20	CH36	5180	17.523	19.526	Pass
	CH40	5200	17.518	19.673	Pass
	CH48	5240	17.521	19.413	Pass
802.11 ac40	CH 38	5190	36.038	40.21	Pass
	CH 46	5230	36.036	40.195	Pass
802.11 AC80	CH 42	5210	74.607	79.886	Pass

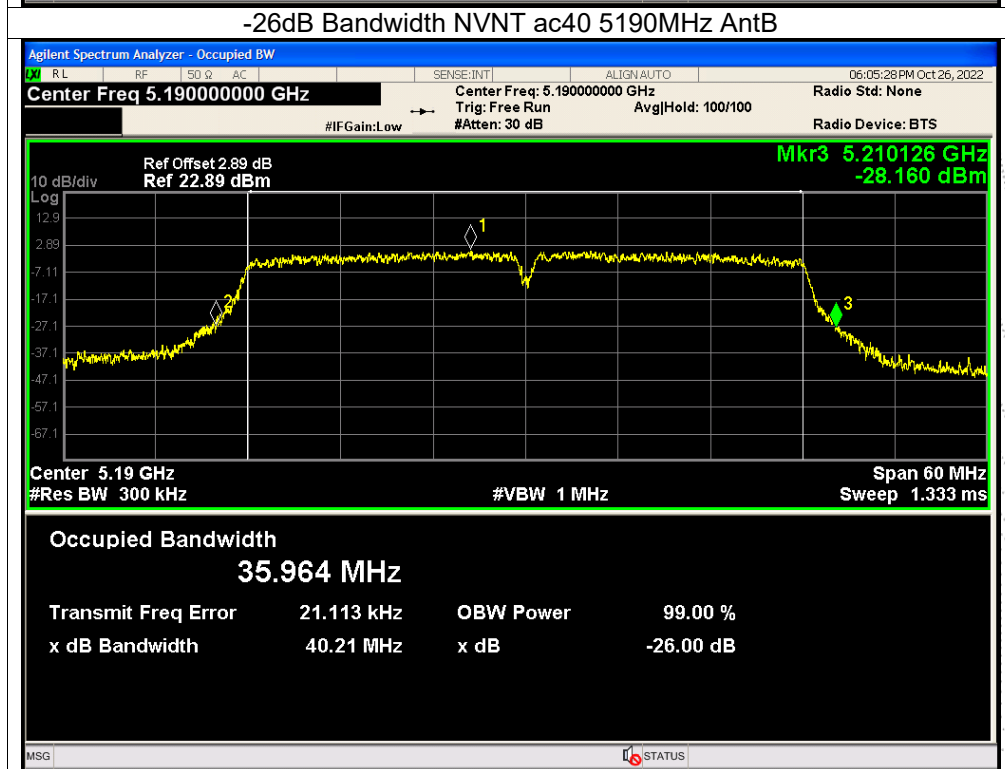
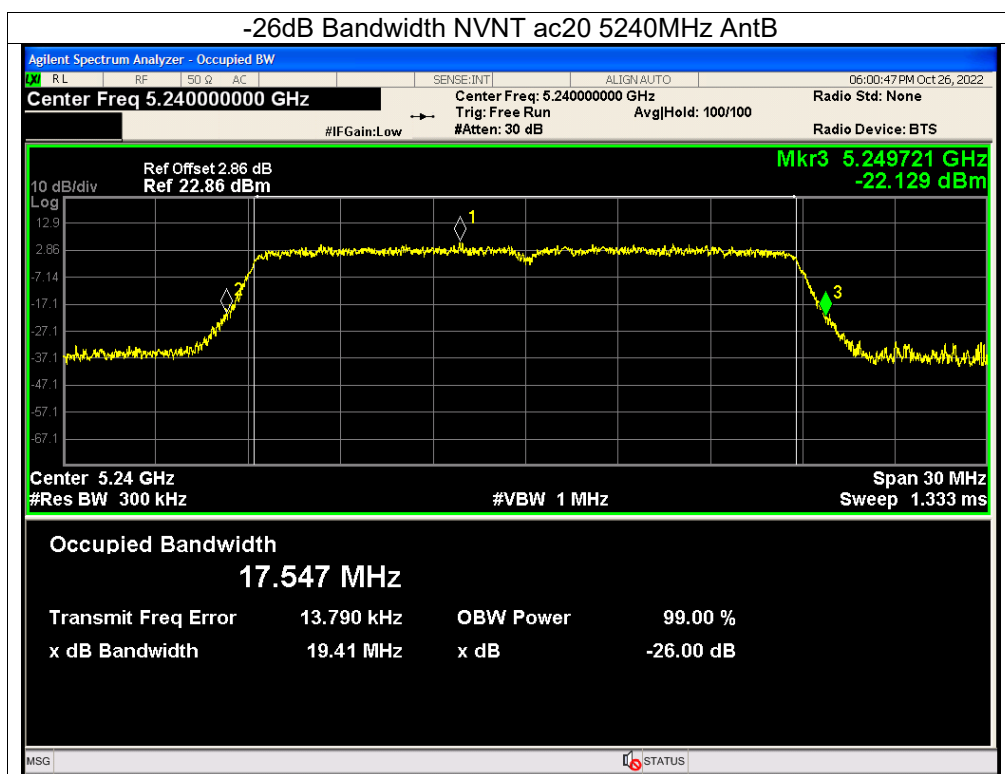


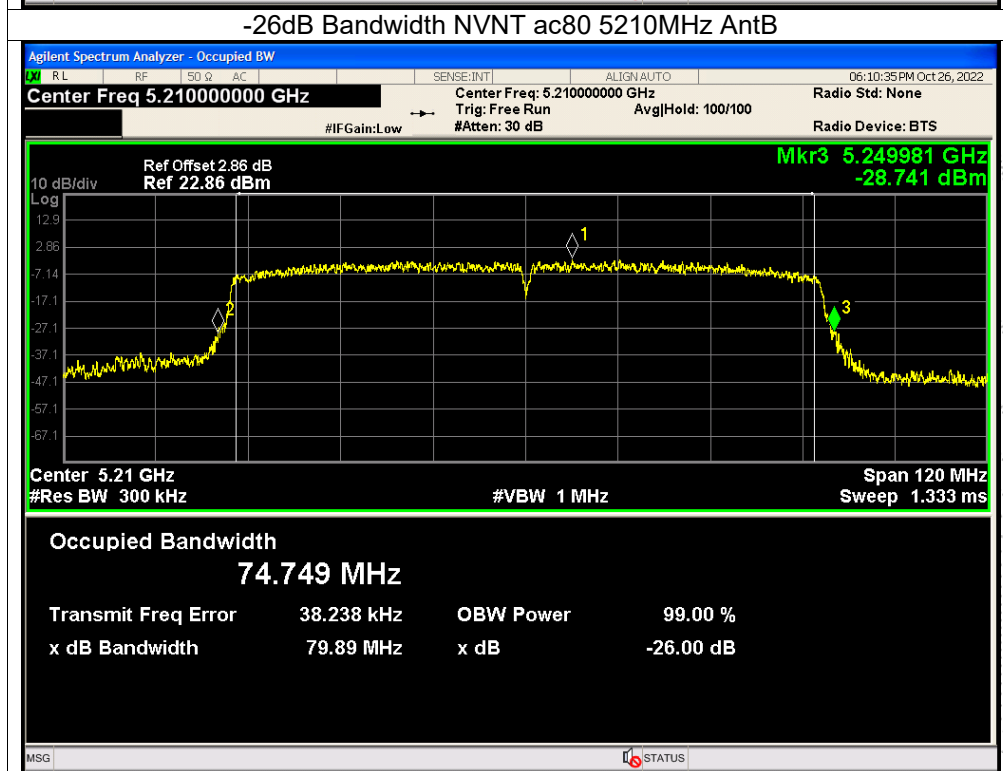
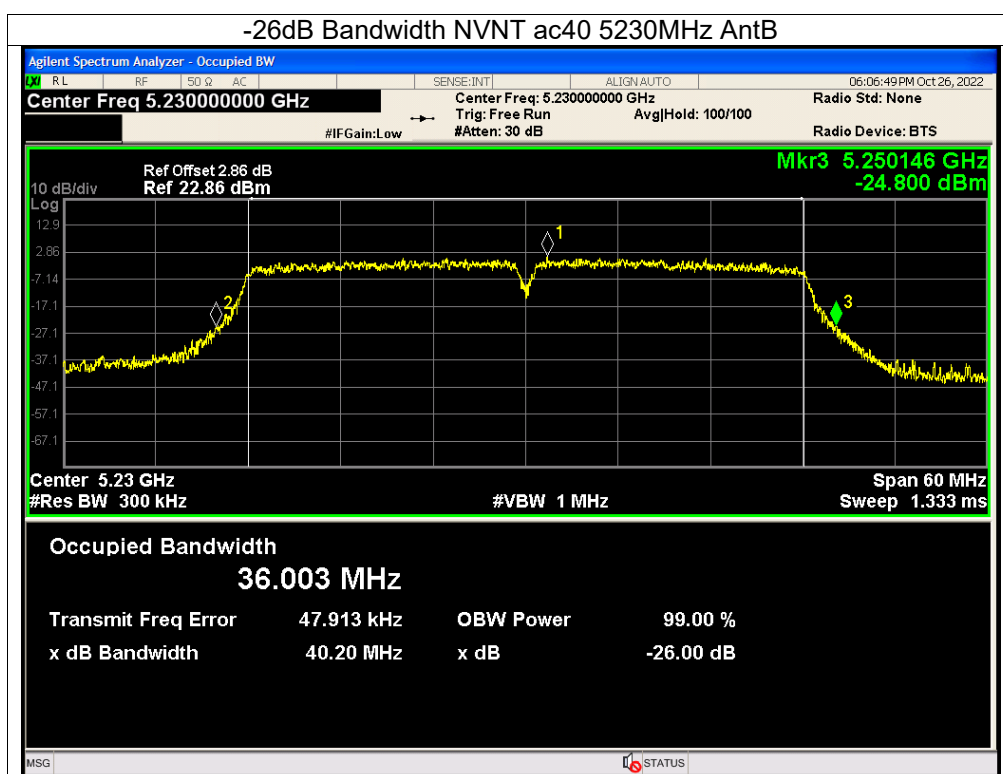


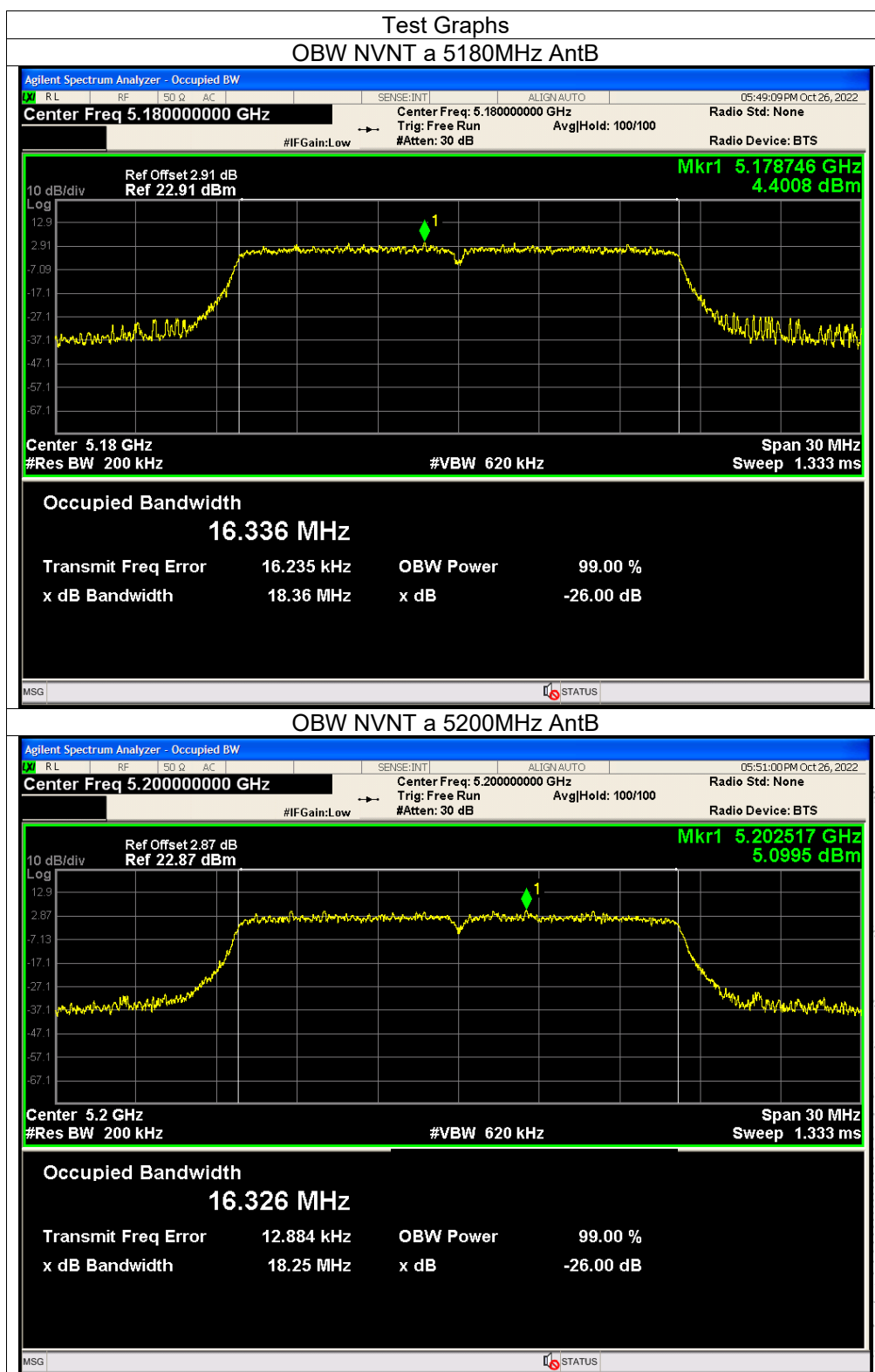


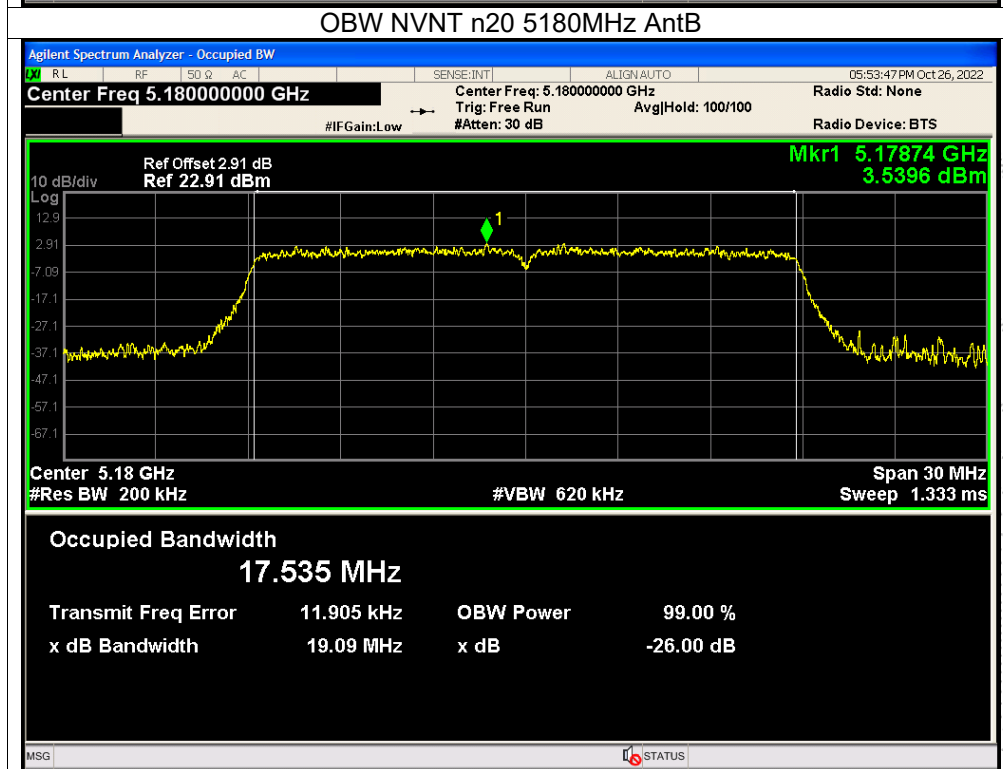
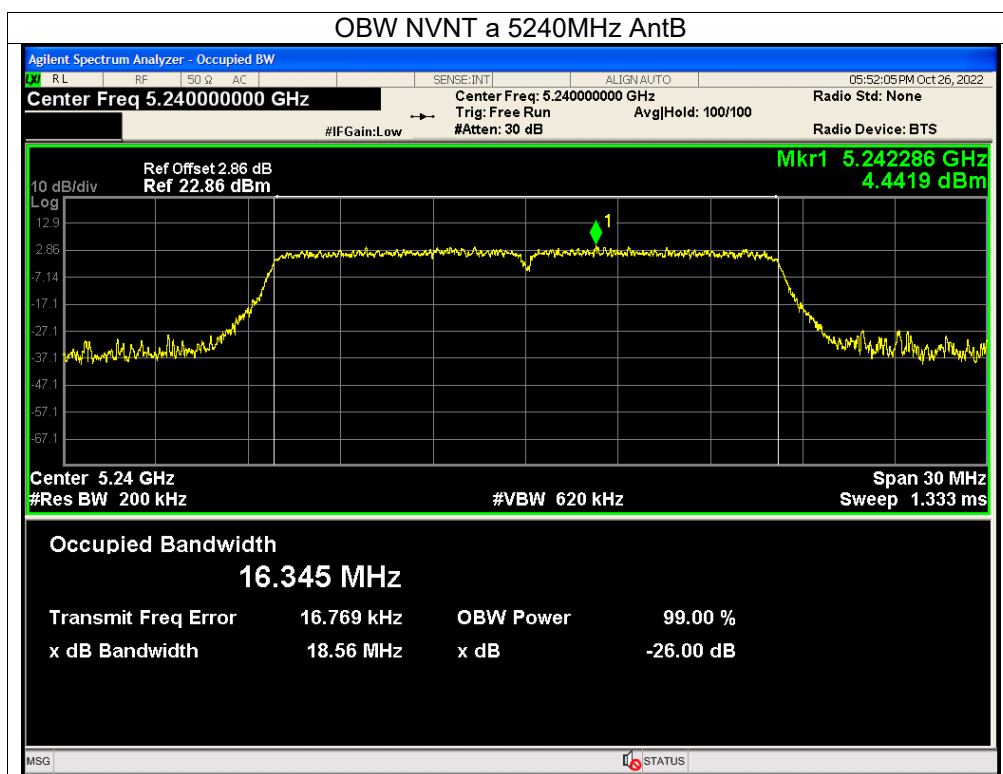


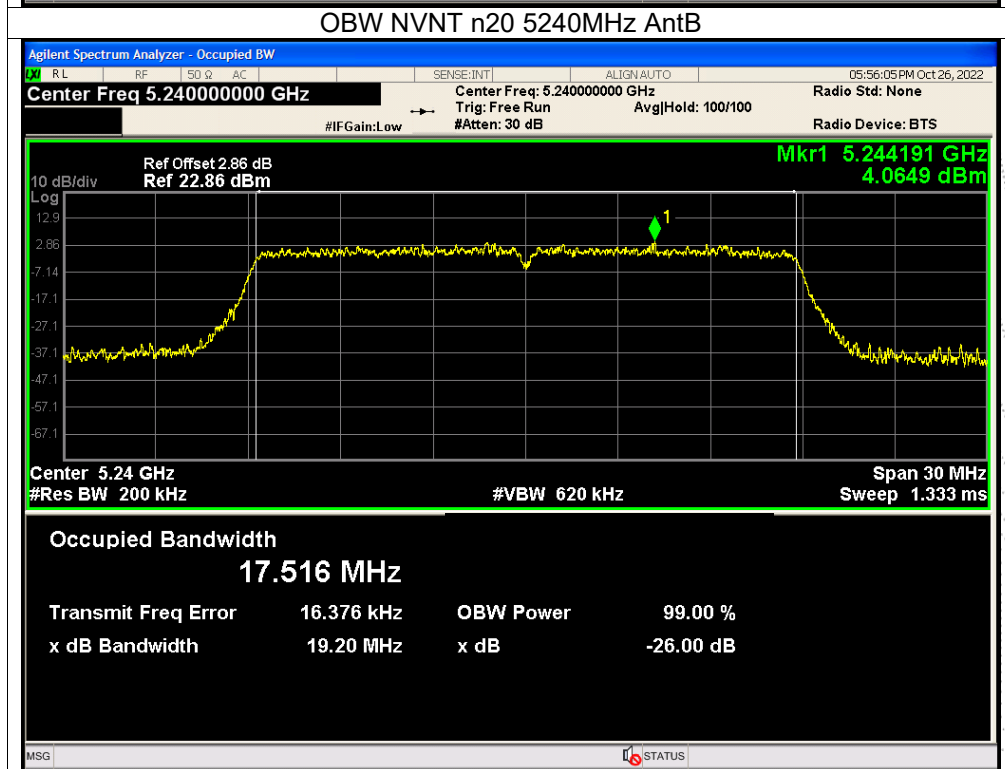
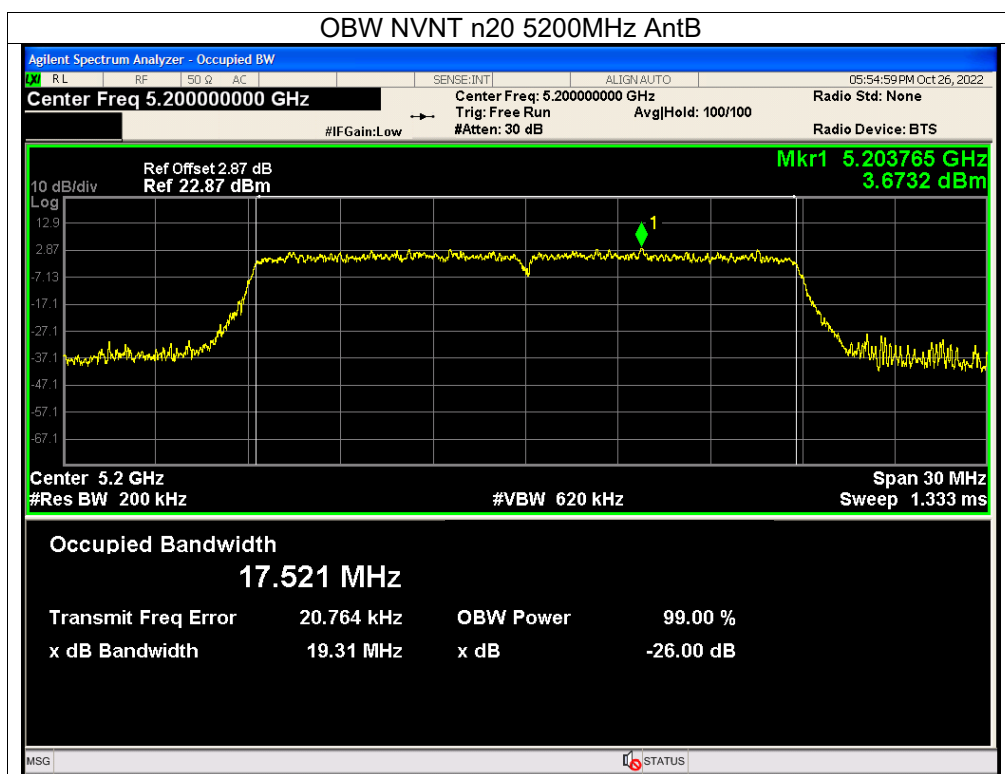


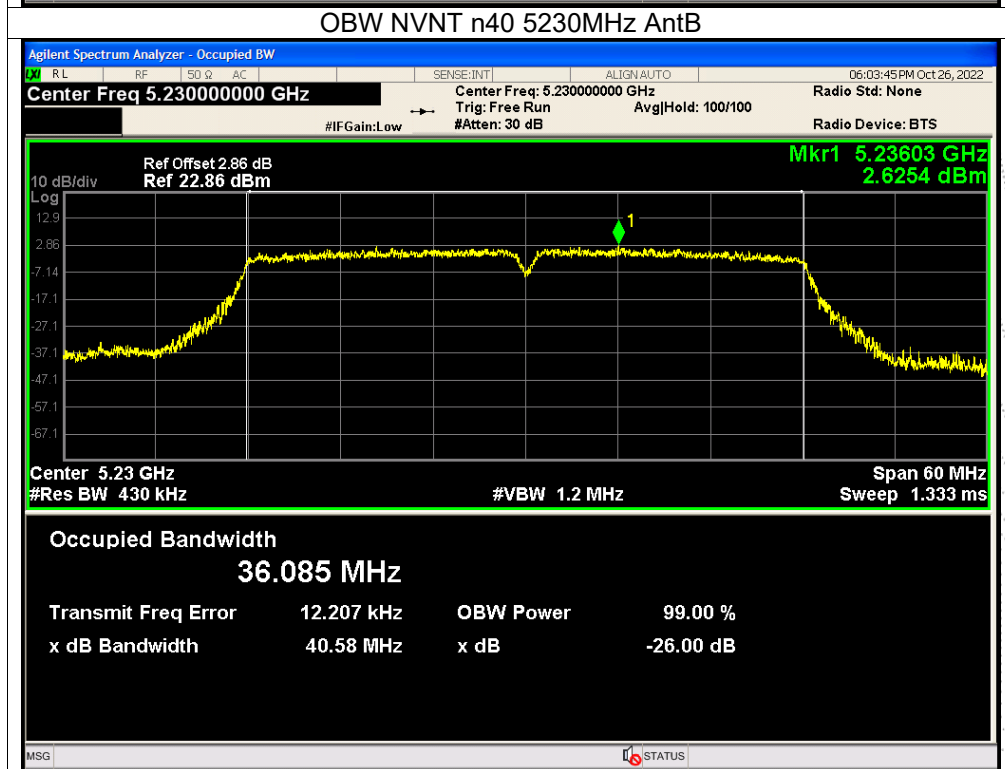
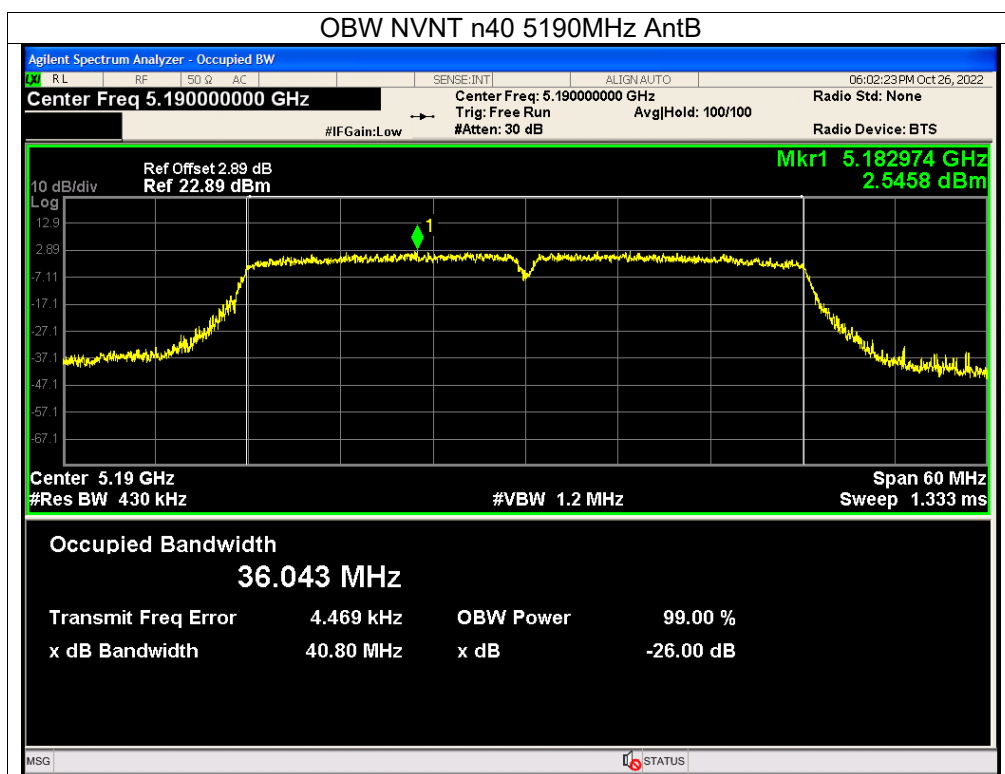


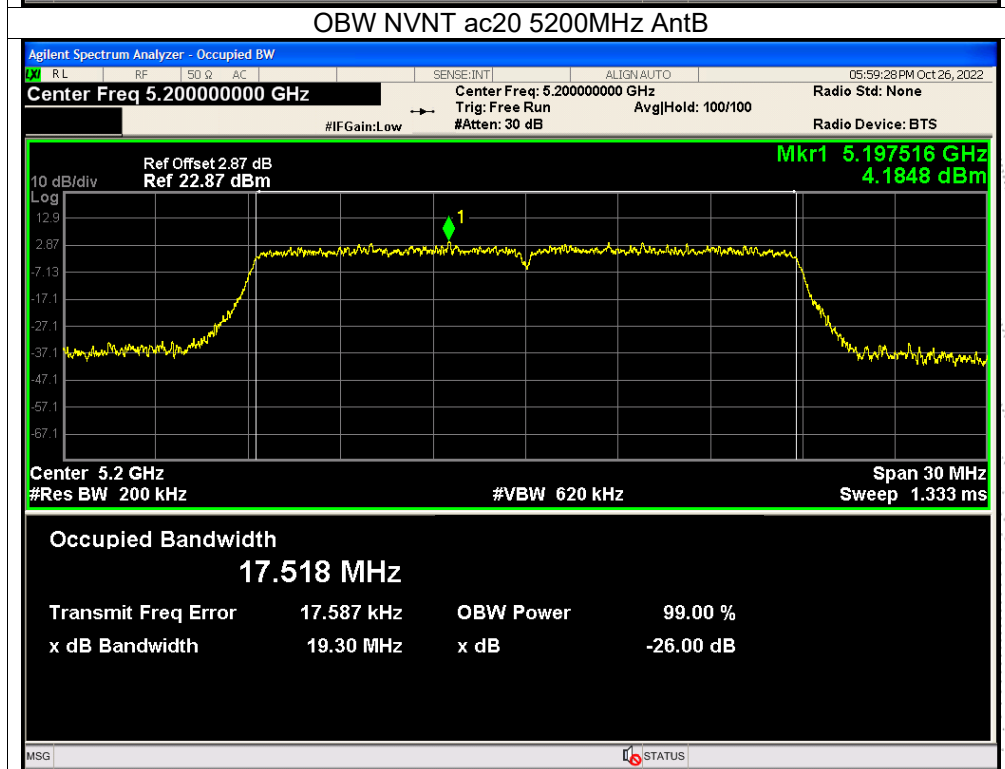
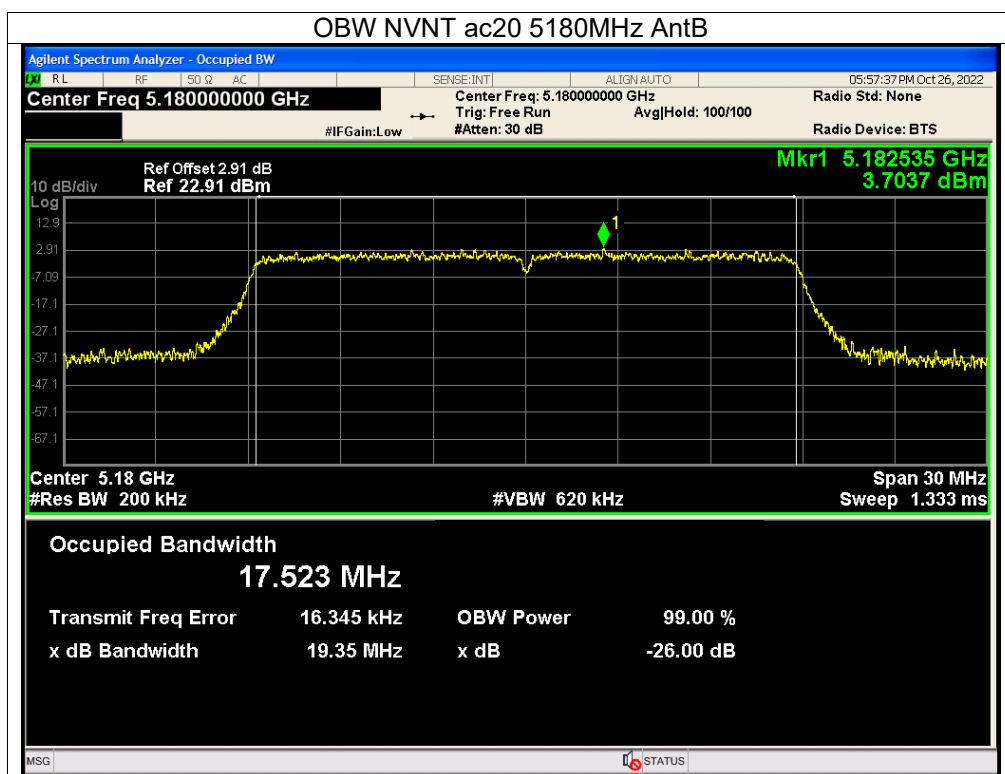


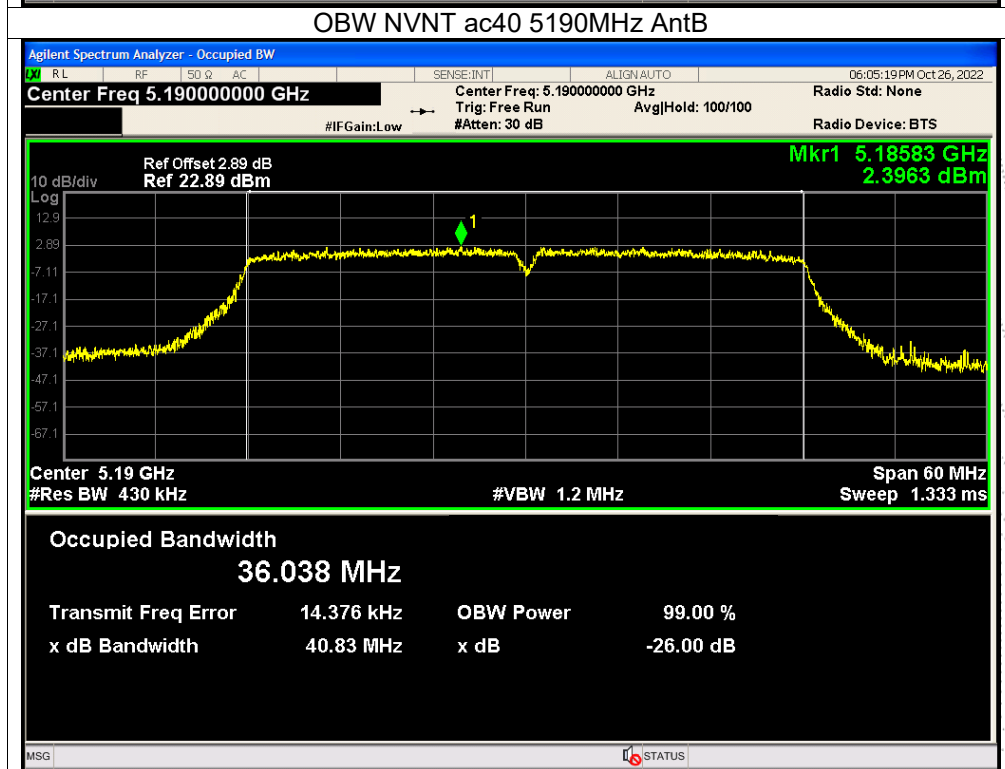
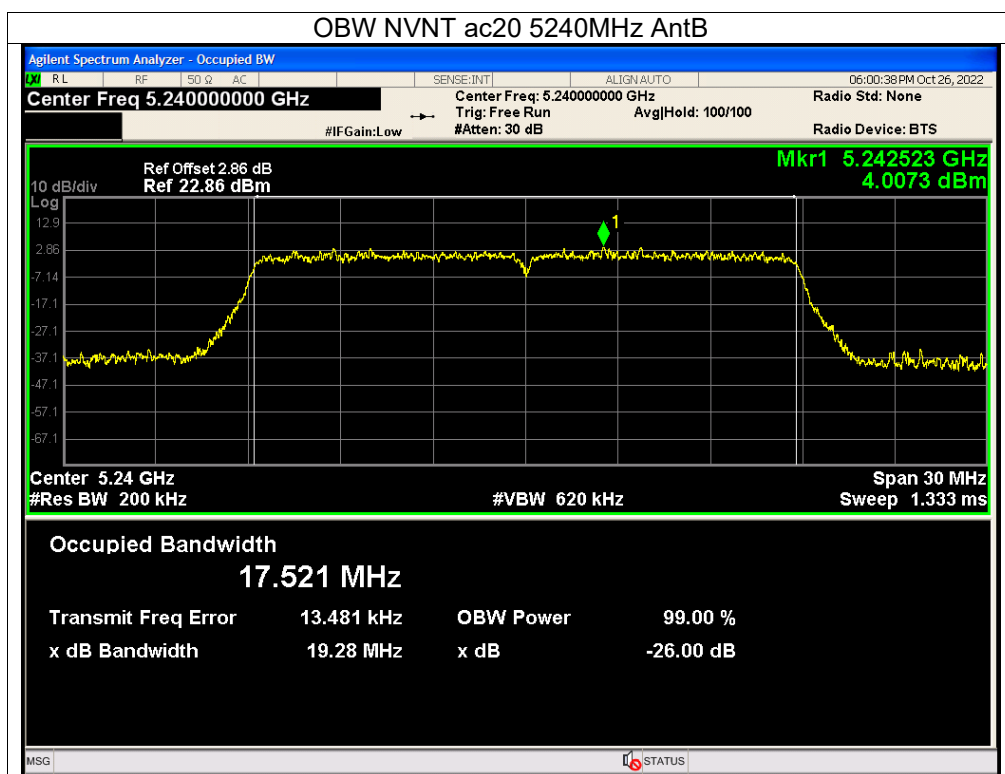


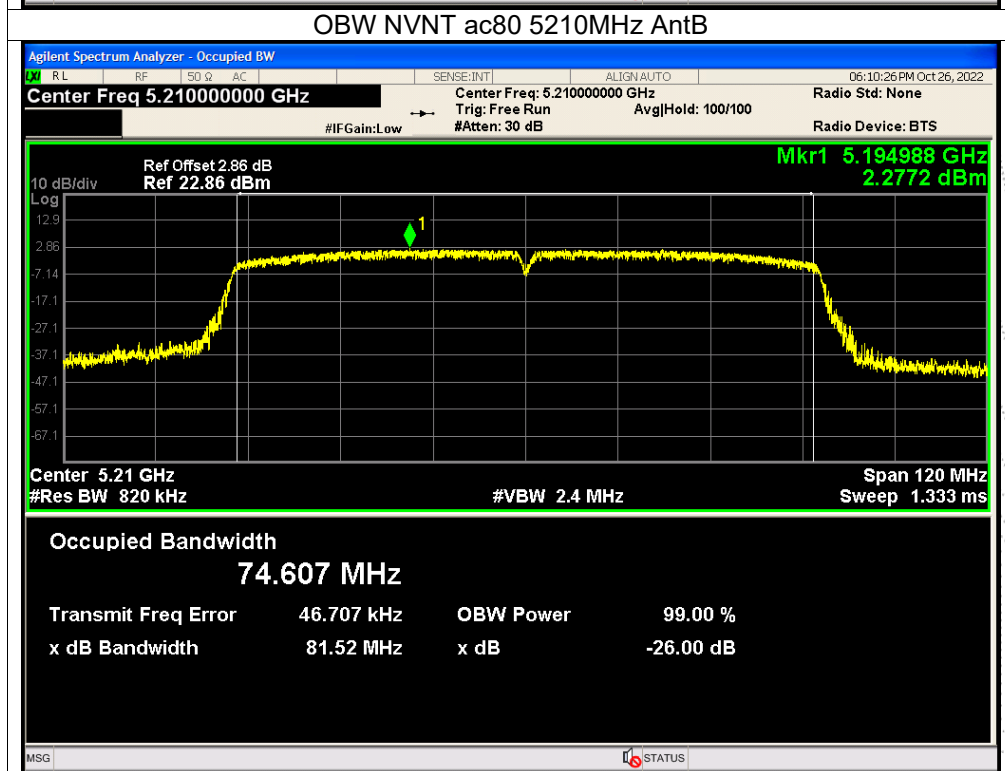
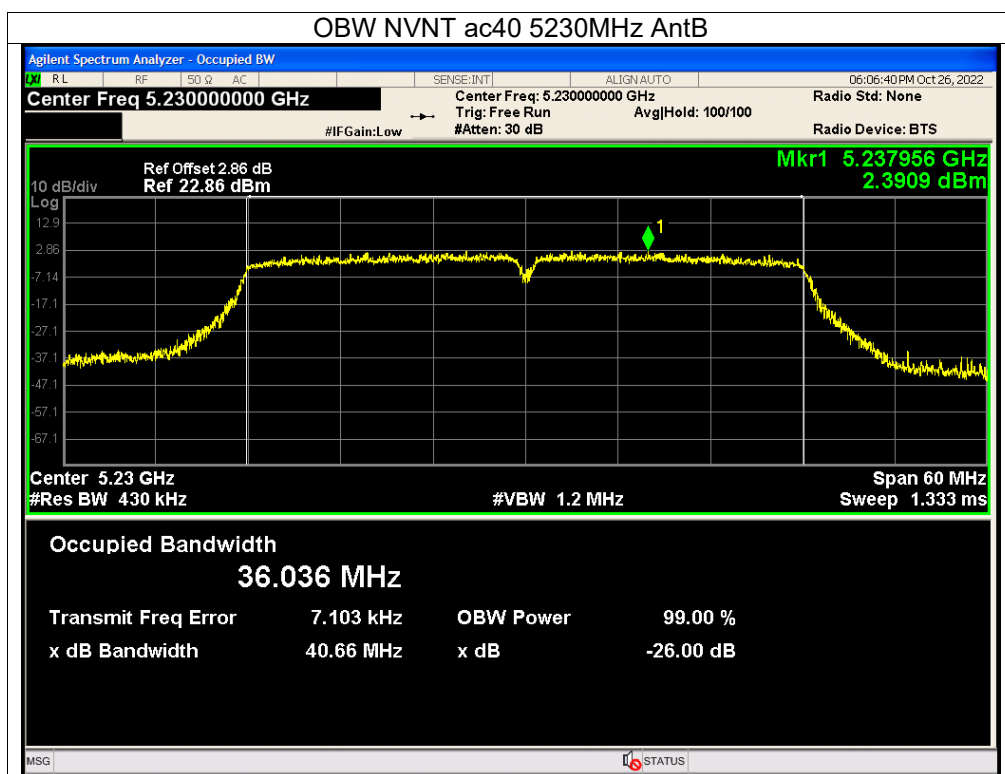












Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX Frequency U-NII-3(5745-5825MHz)		

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	16.342	16.321	≥500	Pass
	CH157	5785	16.353	16.326	≥500	Pass
	CH165	5825	16.337	16.343	≥500	Pass
802.11 n20	CH149	5745	17.532	17.569	≥500	Pass
	CH157	5785	17.532	17.559	≥500	Pass
	CH165	5825	17.521	17.207	≥500	Pass
802.11 n40	CH151	5755	36.119	34.696	≥500	Pass
	CH159	5795	36.054	35.075	≥500	Pass
802.11 ac20	CH149	5745	17.542	17.552	≥500	Pass
	CH157	5785	17.537	17.548	≥500	Pass
	CH165	5825	17.526	17.521	≥500	Pass
802.11 ac40	CH151	5755	36.142	34.082	≥500	Pass
	CH159	5795	36.043	35.046	≥500	Pass
802.11 AC80	CH155	5775	74.574	75.072	≥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	16.336	16.298	≥500	Pass
	CH157	5785	16.351	16.325	≥500	Pass
	CH165	5825	16.34	16.336	≥500	Pass
802.11 n20	CH149	5745	17.531	17.533	≥500	Pass
	CH157	5785	17.534	17.536	≥500	Pass
	CH165	5825	17.516	17.091	≥500	Pass
802.11 n40	CH151	5755	36.129	35.46	≥500	Pass
	CH159	5795	36.041	35.047	≥500	Pass
802.11 ac20	CH149	5745	17.531	17.585	≥500	Pass
	CH157	5785	17.531	17.551	≥500	Pass
	CH165	5825	17.522	17.544	≥500	Pass
802.11 ac40	CH151	5755	36.057	35.141	≥500	Pass
	CH159	5795	36.028	31.905	≥500	Pass
802.11 AC80	CH155	5775	74.617	75.077	≥500	Pass

