

TEST REPORT

Report No.: BCTC2203264445-4E

Applicant: Emdoor Information Co.,Ltd.

Product Name: Rugged Tablet

Model/Type
reference: EM-I16H

Tested Date: 2022-03-31 to 2022-04-11

Issued Date: 2022-04-11



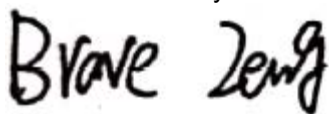
Shenzhen BCTC Testing Co., Ltd.



FCC ID:2A37Q-EM-I16H

Product Name: Rugged Tablet
Trademark: Emdoor
Model/Type reference: EM-I16H
EM-I16HH,W16H,W16HH
Prepared For: Emdoor Information Co.,Ltd.
Address: 3/F, Bldg 5th, Wonderful Life Wisdom Valley TechnoPark, No.83 Dabao Rd, Xin'an Sub-district, Bao'an District, Shenzhen518101, Guangdong Province, China
Manufacturer: Emdoor Information Co.,Ltd.
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Sample Received Date: 2022-03-31
Sample tested Date: 2022-03-31 to 2022-04-11
Issue Date: 2022-04-11
Report No.: BCTC2203264445-4E
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

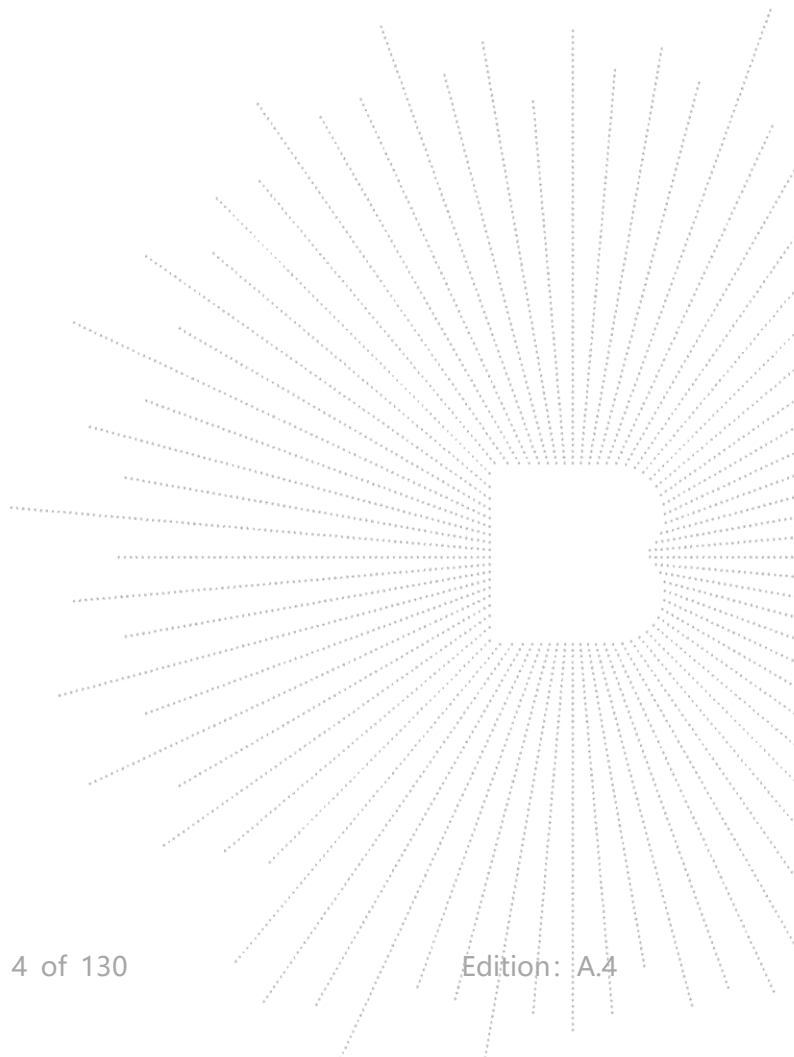
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(Note: N/A Means Not Applicable)



1. Version

Report No.	Issue Date	Description	Approved
BCTC2203264445-4E	2022-04-11	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

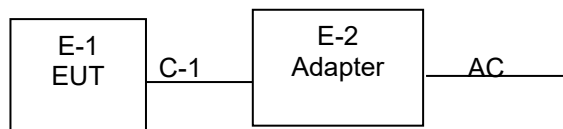
4.1 Product Information

Model/Type Ref.:	EM-I16H EM-I16HH,W16H,W16HH
Model differences:	All the model are the same circuit and RF module, except model names.
Hardware Version:	N/A
Software Version:	N/A
IEEE 802.11 WLAN Mode Supported	802.11a/n/ac(20MHz channel bandwidth) 802.11n/ac(40MHz channel bandwidth) 802.11ac(80MHz channel bandwidth)
Operation Frequency:	5180-5240MHz for 802.11a/n(HT20); 5190-5230MHz for 802.11n(HT40); 5210MHz for 802.11 ac80; 5745-5825 MHz for 802.11a/n(HT20); 5755-5795 MHz for 802.11n(HT40); 5775MHz for 802.11 ac80;
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40):MCS0-MCS15; 802.11ac(VHT20): NSS1, MCS0-MCS8 802.11ac(VHT40/VHT80):NSS1, MCS0-MCS
Type of Modulation:	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11a/n/ac;
Number Of Channel	4 channels for 802.11a/n20 in the 5180-5240MHz band ; 2 channels for 802.11 n40 in the 5190-5230MHz band ; 1 channels for 802.11 ac80 in the 5210MHz band ; 5 channels for 802.11a/n20 in the 5745-5825MHz band ; 2 channels for 802.11 n40 in the 5755-5795MHz band ; 1 channels for 802.11 ac80 in the 5775MHz band
Antenna installation:	Internal antenna
Antenna Gain:	5.1G: Antenna A: 2dBi Antenna B: 2dBi 5.8G: Antenna A: 2dBi Antenna B: 2dBi
Ratings:	AC 120V/60Hz/DC 3.7V Model:AW018WR-0500300UH
Adapter:	Inout:100-240V~50/60 0.5A Output:DC 5V 3A

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	Rugged Tablet	Emdoor	EM-I16H	EM-I16HH	EUT
E-2	Adapter	N/A	AW018WR-0500300UH	N/A	Auxiliary

Item	Shielded Type	Ferrite Core	Length	Note
C-1	N/A	N/A	0.3M	DC cable unshielded

Notes:

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

4.4 Channel List

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 5.01dBi

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

Antenna	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
A	N/A	N/A	Internal antenna	2	
B	N/A	N/A	Internal antenna	2	

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 5.01dB

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

Antenna	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
A	N/A	N/A	Internal antenna	2	
B	N/A	N/A	Internal antenna	2	

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, Tangwei, 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

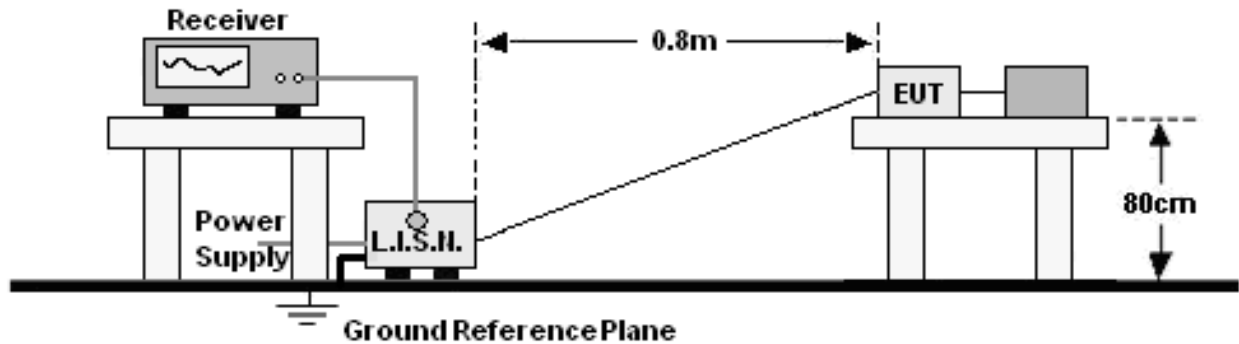
Conducted emissions Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	May 28, 2021	May 27, 2022
LISN	R&S	ENV216	101375	May 28, 2021	May 27, 2022
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Attenuator	\	10dB DC-6GHz	1650	May 28, 2021	May 27, 2022

RF Conducted Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Power Metter	Keysight	E4419	\	May 28, 2021	May 27, 2022
Power Sensor (AV)	Keysight	E9300A	\	May 28, 2021	May 27, 2022
Signal Analyzer20kHz-26.5GHz	Keysight	N9020A	MY49100060	May 28, 2021	May 27, 2022
Spectrum Analyzer9kHz-40GHz	R&S	FSP40	\	May 28, 2021	May 27, 2022

Radiated emissions Test (966 chamber)					
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 28, 2021	May 27, 2022
Receiver	R&S	ESRP	101154	May 28, 2021	May 27, 2022
Amplifier	SKET	LAPA_01G18 G-45dB	\	May 28, 2021	May 27, 2022
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 28, 2021	May 27, 2022
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	942	Jun. 01, 2021	May 31, 2022
Horn Antenna	Schwarzbeck	BBHA9120D	1541	Jun. 02, 2021	Jun. 01, 2022
Horn Antenn(18GHz -40GHz)	Schwarzbeck	BBHA9170	00822	Jun. 15, 2021	Jun. 14, 2022
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 28, 2021	May 27, 2022
Loop Antenna(9kHz -30MHz)	Schwarzbeck	FMZB1519B	00014	Jun. 02, 2021	Jun. 01, 2022
RF cables1(9kHz- 30MHz)	Huber+Suhnar	9kHz-30MHz	B1702988-00 08	May 28, 2021	May 27, 2022
RF cables2(30MH z-1GHz)	Huber+Suhnar	30MHz-1GH z	1486150	May 28, 2021	May 27, 2022
RF cables3(1GHz- 40GHz)	Huber+Suhnar	1GHz-40GHz	1607106	May 28, 2021	May 27, 2022
Power Metter	Keysight	E4419	\	May 28, 2021	May 27, 2022
Power Sensor (AV)	Keysight	E9300A	\	May 28, 2021	May 27, 2022
Signal Analyzer20kHz -26.5GHz	Keysight	N9020A	MY49100060	May 28, 2021	May 27, 2022
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	\	May 28, 2021	May 27, 2022
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

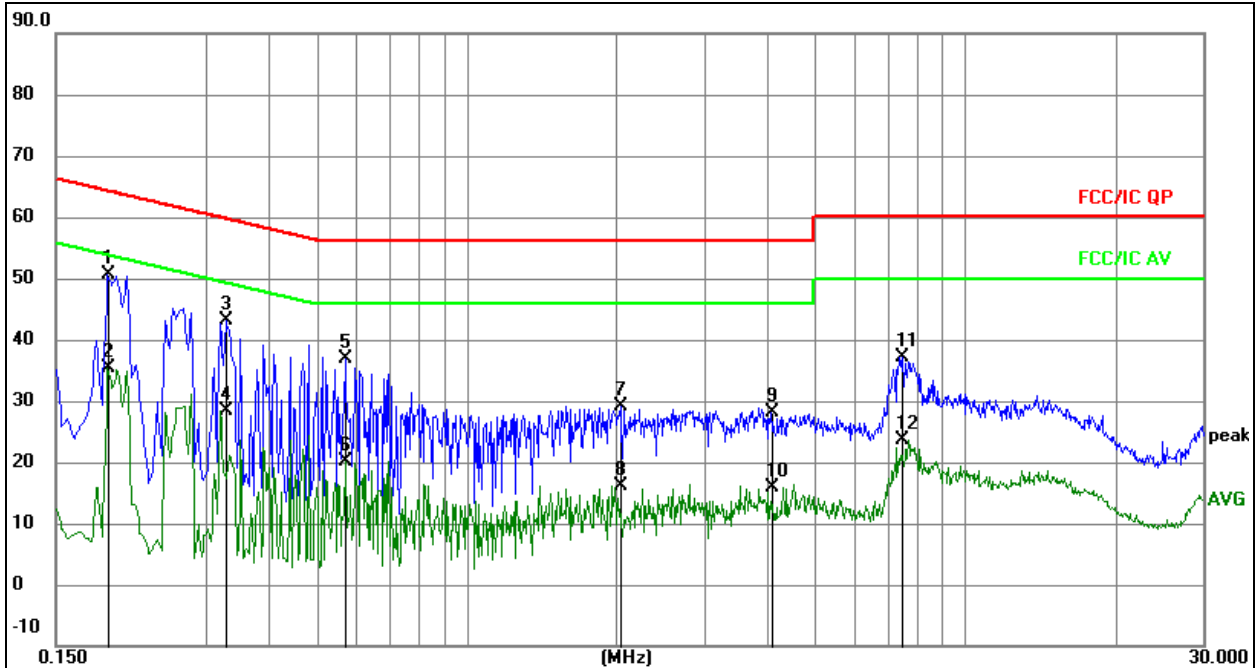
- The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak 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 Voltage:	AC 120V/60Hz	Test Mode:	Mode 4

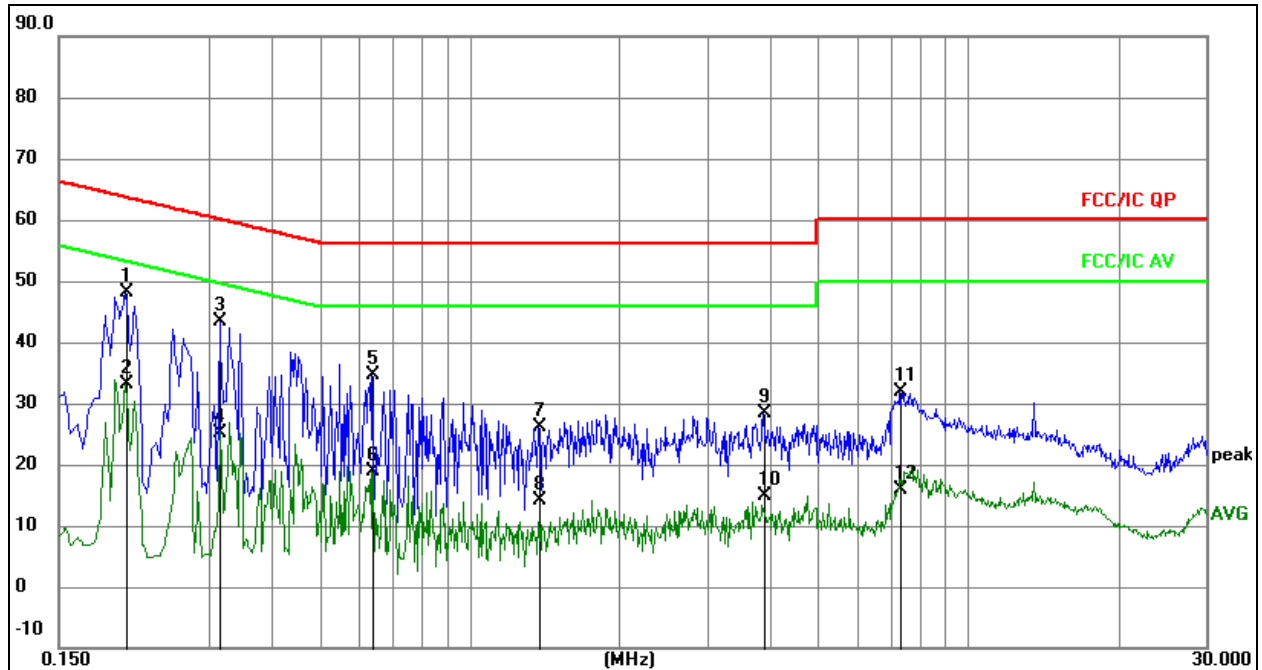


Remark:

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	*	0.1904	30.92	19.60	50.52	64.02	-13.50	QP
2		0.1904	15.78	19.60	35.38	54.02	-18.64	AVG
3		0.3286	23.58	19.61	43.19	59.49	-16.30	QP
4		0.3286	8.65	19.61	28.26	49.49	-21.23	AVG
5		0.5701	17.16	19.61	36.77	56.00	-19.23	QP
6		0.5701	0.41	19.61	20.02	46.00	-25.98	AVG
7		2.0333	9.62	19.62	29.24	56.00	-26.76	QP
8		2.0333	-3.60	19.62	16.02	46.00	-29.98	AVG
9		4.0704	8.47	19.68	28.15	56.00	-27.85	QP
10		4.0704	-3.75	19.68	15.93	46.00	-30.07	AVG
11		7.4860	17.42	19.74	37.16	60.00	-22.84	QP
12		7.4860	3.80	19.74	23.54	50.00	-26.46	AVG

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101kPa	Phase:	N
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 4


Remark:

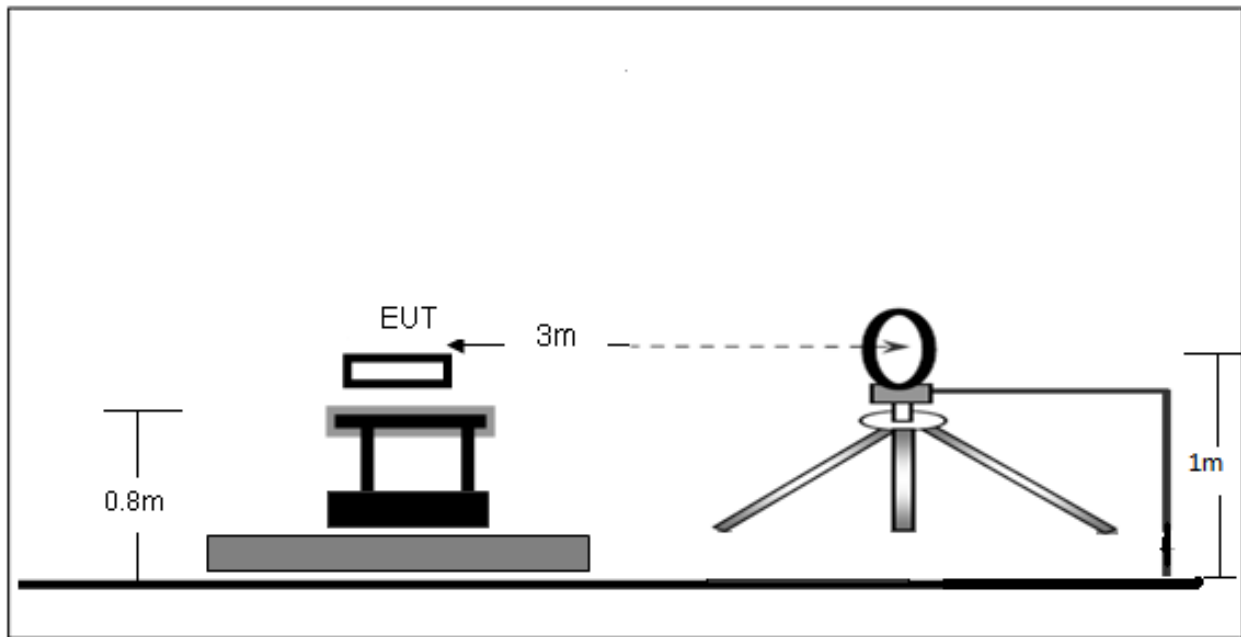
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement=Reading Level+ Correct Factor
4. Over+ Measurement-Limit

No.	Mk.	Freq. MHz	Reading Level	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	*	0.2040	28.58	19.60	48.18	63.45	-15.27	QP
2		0.2040	13.42	19.60	33.02	53.45	-20.43	AVG
3		0.3165	23.76	19.61	43.37	59.80	-16.43	QP
4		0.3165	5.48	19.61	25.09	49.80	-24.71	AVG
5		0.6405	15.05	19.61	34.66	56.00	-21.34	QP
6		0.6405	-0.84	19.61	18.77	46.00	-27.23	AVG
7		1.3785	6.39	19.62	26.01	56.00	-29.99	QP
8		1.3785	-5.51	19.62	14.11	46.00	-31.89	AVG
9		3.8940	8.65	19.67	28.32	56.00	-27.68	QP
10		3.8940	-4.78	19.67	14.89	46.00	-31.11	AVG
11		7.3185	12.12	19.74	31.86	60.00	-28.14	QP
12		7.3185	-3.94	19.74	15.80	50.00	-34.20	AVG

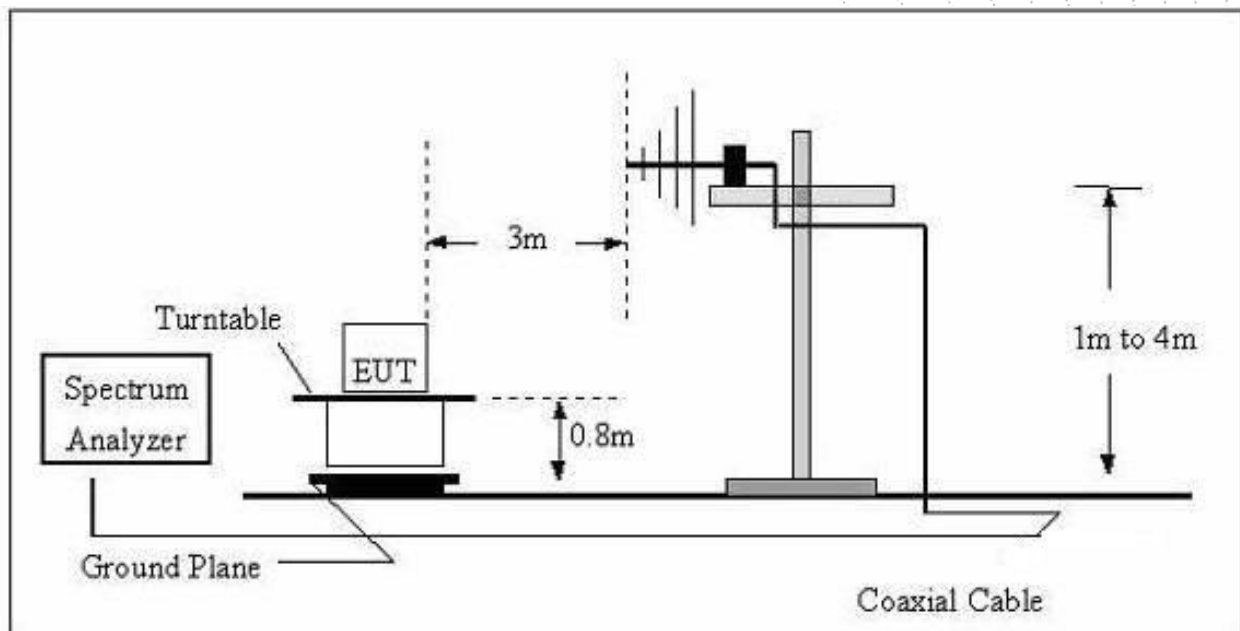
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

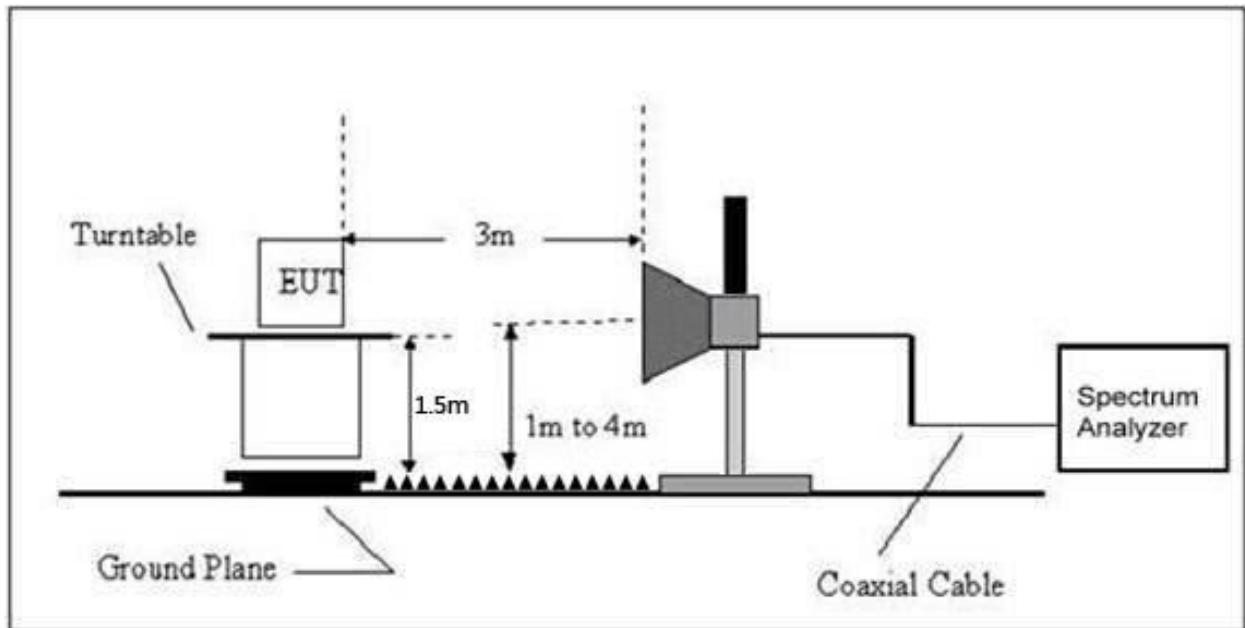
(A) Radiated Emission Test-Up Frequency Below 30MHz



(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:	AC120/60Hz
Test Mode:	Mode 4	Polarization:	--

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

Note:

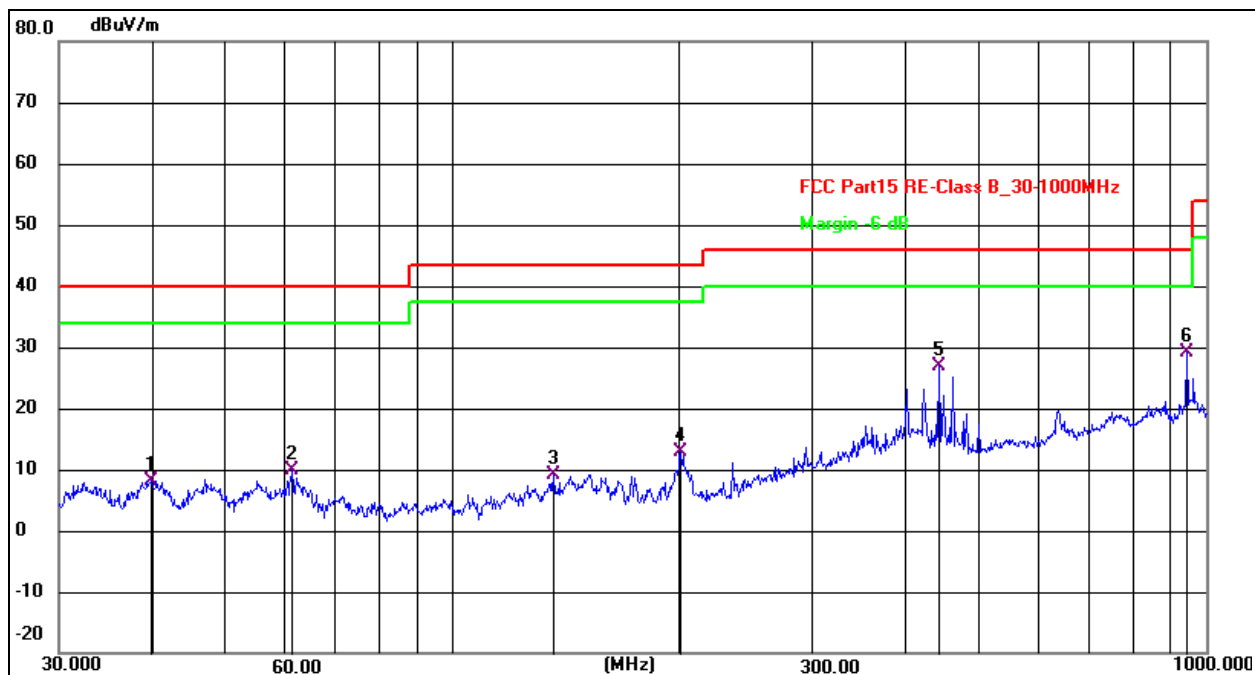
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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

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

Between 30MHz – 1GHz

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Test Voltage :	AC120/60Hz
Test Mode :	Mode 4	Polarization :	Horizontal

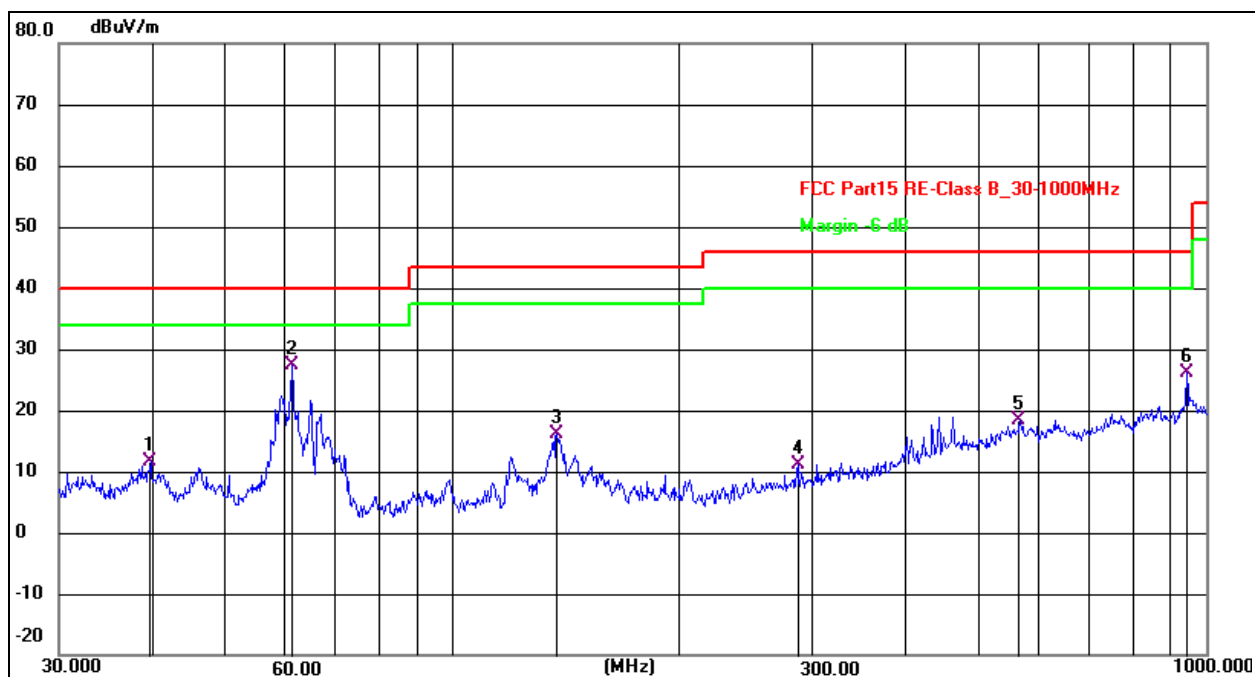


Remark:

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

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	39.8542	26.23	-18.01	8.22	40.00	-31.78	QP
2	61.1316	29.36	-19.40	9.96	40.00	-30.04	QP
3	135.9822	27.69	-18.57	9.12	43.50	-34.38	QP
4	200.6881	34.12	-21.12	13.00	43.50	-30.50	QP
5	441.7426	39.89	-12.93	26.96	46.00	-19.04	QP
6 *	942.1305	33.23	-4.05	29.18	46.00	-16.82	QP

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kPa	Test Voltage :	AC120/60Hz
Test Mode :	Mode 4	Polarization :	Vertical



Remark:

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

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	39.7146	29.76	-18.03	11.73	40.00	-28.27	QP
2 *	61.1315	46.77	-19.40	27.37	40.00	-12.63	QP
3	137.4202	34.60	-18.45	16.15	43.50	-27.35	QP
4	286.9823	28.67	-17.54	11.13	46.00	-34.87	QP
5	566.6221	29.13	-10.85	18.28	46.00	-27.72	QP
6	942.1304	30.09	-4.05	26.04	46.00	-19.96	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	4434.083	62.07	5.94	35.40	44.00	59.41	68.2	-8.79	PK
V	4434.083	43.90	5.94	35.40	44.00	41.24	54	-12.76	AV
V	10360.043	60.04	8.46	39.75	44.50	63.75	68.2	-4.45	PK
V	10360.043	43.37	8.46	39.75	44.50	47.08	54	-6.92	AV
V	15540.074	61.94	10.12	38.80	44.10	66.76	74	-7.24	PK
V	15540.074	43.22	10.12	38.80	42.70	49.44	54	-4.56	AV
H	4434.093	60.24	5.94	35.18	44.00	57.36	68.2	-10.84	PK
H	4434.093	43.82	5.94	35.18	44.00	40.94	54	-13.06	AV
H	10360.020	50.85	8.46	38.71	44.50	53.52	68.2	-14.68	PK
H	10360.020	44.03	8.46	38.71	44.50	46.70	54	-7.30	AV
H	15540.182	54.57	10.12	38.38	44.10	58.97	74	-15.03	PK
H	15540.182	42.03	10.12	38.38	44.10	46.43	54	-7.57	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.184	63.14	6.48	36.35	44.05	61.92	74	-12.08	PK
V	4592.184	43.24	6.48	36.35	44.05	42.02	54	-11.98	AV
V	10400.000	62.88	8.47	37.88	44.51	64.72	68.2	-3.48	PK
V	10400.000	43.79	8.47	37.88	44.51	45.63	54	-8.37	AV
V	15600.034	60.97	10.12	38.80	44.10	65.79	74	-8.21	PK
V	15600.034	43.40	10.12	38.80	42.70	49.62	54	-4.38	AV
H	4592.174	63.88	6.48	36.37	44.05	62.68	74	-11.32	PK
H	4592.174	43.11	6.48	36.37	44.05	41.91	54	-12.09	AV
H	10400.048	51.47	8.47	38.64	44.50	54.08	68.2	-14.12	PK
H	10400.048	42.29	8.47	38.64	44.50	44.90	54	-9.10	AV
H	15600.160	50.31	10.12	38.38	44.10	54.71	74	-19.29	PK
H	15600.160	41.60	10.12	38.38	44.10	46.00	54	-8.00	AV
High Channel (5240 MHz)-Above 1G									
V	4739.031	61.29	7.10	37.24	43.50	62.13	74	-11.87	PK
V	4739.031	43.29	7.10	37.24	43.50	44.13	54	-9.87	AV
V	10480.164	62.94	8.46	37.68	44.50	64.58	68.2	-3.62	PK
V	10480.164	43.58	8.46	37.68	44.50	45.22	54	-8.78	AV
V	15720.153	60.81	10.12	38.80	44.10	65.63	74	-8.37	PK
V	15720.153	43.24	10.12	38.80	42.70	49.46	54	-4.54	AV
H	4739.110	61.83	7.10	37.24	43.50	62.67	74	-11.33	PK
H	4739.110	43.61	7.10	37.24	43.50	44.45	54	-9.55	AV
H	10480.011	54.53	8.46	38.57	44.50	57.06	68.2	-11.14	PK
H	10480.011	40.67	8.46	38.57	44.50	43.20	54	-10.80	AV
H	15720.192	54.04	10.12	38.38	44.10	58.44	74	-15.56	PK
H	15720.192	42.61	10.12	38.38	44.10	47.01	54	-6.99	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	4434.157	62.29	5.94	35.40	44.00	59.63	68.2	-8.57	PK
V	4434.157	43.47	5.94	35.40	44.00	40.81	54	-13.19	AV
V	10360.033	63.26	8.46	39.75	44.50	66.97	68.2	-1.23	PK
V	10360.033	43.19	8.46	39.75	44.50	46.90	54	-7.10	AV
V	15540.075	60.85	10.12	38.80	44.10	65.67	74	-8.33	PK
V	15540.075	43.95	10.12	38.80	42.70	50.17	54	-3.83	AV
H	4434.102	61.57	5.94	35.18	44.00	58.69	68.2	-9.51	PK
H	4434.102	43.51	5.94	35.18	44.00	40.63	54	-13.37	AV
H	10360.015	50.45	8.46	38.71	44.50	53.12	68.2	-15.08	PK
H	10360.015	42.37	8.46	38.71	44.50	45.04	54	-8.96	AV
H	15540.077	51.46	10.12	38.38	44.10	55.86	74	-18.14	PK
H	15540.077	44.79	10.12	38.38	44.10	49.19	54	-4.81	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.141	64.66	6.48	36.35	44.05	63.44	74	-10.56	PK
V	4592.141	43.18	6.48	36.35	44.05	41.96	54	-12.04	AV
V	10400.072	61.82	8.47	37.88	44.51	63.66	68.2	-4.54	PK
V	10400.072	43.08	8.47	37.88	44.51	44.92	54	-9.08	AV
V	15600.102	63.59	10.12	38.80	44.10	68.41	74	-5.59	PK
V	15600.102	43.80	10.12	38.80	42.70	50.02	54	-3.98	AV
H	4592.025	62.81	6.48	36.37	44.05	61.61	74	-12.39	PK
H	4592.025	43.82	6.48	36.37	44.05	42.62	54	-11.38	AV
H	10400.058	53.96	8.47	38.64	44.50	56.57	68.2	-11.63	PK
H	10400.058	40.98	8.47	38.64	44.50	43.59	54	-10.41	AV
H	15600.146	50.80	10.12	38.38	44.10	55.20	74	-18.80	PK
H	15600.146	44.63	10.12	38.38	44.10	49.03	54	-4.97	AV
High Channel (5240 MHz)-Above 1G									
V	4739.050	64.61	7.10	37.24	43.50	65.45	74	-8.55	PK
V	4739.050	43.71	7.10	37.24	43.50	44.55	54	-9.45	AV
V	10480.183	62.23	8.46	37.68	44.50	63.87	68.2	-4.33	PK
V	10480.183	43.12	8.46	37.68	44.50	44.76	54	-9.24	AV
V	15720.050	64.92	10.12	38.80	44.10	69.74	74	-4.26	PK
V	15720.050	43.48	10.12	38.80	42.70	49.70	54	-4.30	AV
H	4739.084	60.07	7.10	37.24	43.50	60.91	74	-13.09	PK
H	4739.084	43.01	7.10	37.24	43.50	43.85	54	-10.15	AV
H	10480.112	54.56	8.46	38.57	44.50	57.09	68.2	-11.11	PK
H	10480.112	44.76	8.46	38.57	44.50	47.29	54	-6.71	AV
H	15720.006	54.84	10.12	38.38	44.10	59.24	74	-14.76	PK
H	15720.006	41.49	10.12	38.38	44.10	45.89	54	-8.11	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	4434.052	60.12	5.94	35.40	44.00	57.46	68.2	-10.74	PK
V	4434.052	43.79	5.94	35.40	44.00	41.13	54	-12.87	AV
V	10380.193	60.00	8.46	39.75	44.50	63.71	68.2	-4.49	PK
V	10380.193	43.91	8.46	39.75	44.50	47.62	54	-6.38	AV
V	15570.109	63.55	10.12	38.80	44.10	68.37	74	-5.63	PK
V	15570.109	43.39	10.12	38.80	42.70	49.61	54	-4.39	AV
H	4434.075	63.54	5.94	35.18	44.00	60.66	74	-13.34	PK
H	4434.075	43.75	5.94	35.18	44.00	40.87	54	-13.13	AV
H	10380.052	50.58	8.46	38.71	44.50	53.25	68.2	-14.95	PK
H	10380.052	42.72	8.46	38.71	44.50	45.39	54	-8.61	AV
H	15570.144	54.91	10.12	38.38	44.10	59.31	74	-14.69	PK
H	15570.144	44.04	10.12	38.38	44.10	48.44	54	-5.56	AV
middle Channel (5230 MHz)-Above 1G									
V	4739.065	62.47	6.48	36.35	44.05	61.25	68.2	-6.95	PK
V	4739.065	43.38	6.48	36.35	44.05	42.16	54	-11.84	AV
V	10460.014	62.40	8.47	37.88	44.51	64.24	68.2	-3.96	PK
V	10460.014	43.53	8.47	37.88	44.51	45.37	54	-8.63	AV
V	15690.032	63.38	10.12	38.80	44.10	68.20	74	-5.80	PK
V	15690.032	43.11	10.12	38.80	42.70	49.33	54	-4.67	AV
H	4739.133	61.76	6.48	36.37	44.05	60.56	68.2	-7.64	PK
H	4739.133	43.53	6.48	36.37	44.05	42.33	54	-11.67	AV
H	10460.043	52.00	8.47	38.64	44.50	54.61	68.2	-13.59	PK
H	10460.043	44.52	8.47	38.64	44.50	47.13	54	-6.87	AV
H	15690.098	50.15	10.12	38.38	44.10	54.55	74	-19.45	PK
H	15690.098	42.58	10.12	38.38	44.10	46.98	54	-7.02	AV

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

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

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

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

Test Mode is MIMO Mode.

Test Mode:	TX(5.1G) - 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	4434.190	60.43	5.94	35.40	44.00	57.77	68.2	-10.43	PK
V	4434.190	43.19	5.94	35.40	44.00	40.53	54	-13.47	AV
V	10360.079	62.72	8.46	39.75	44.50	66.43	68.2	-1.77	PK
V	10360.079	43.46	8.46	39.75	44.50	47.17	54	-6.83	AV
V	15540.074	64.20	10.12	38.80	44.10	69.02	74	-4.98	PK
V	15540.074	43.82	10.12	38.80	42.70	50.04	54	-3.96	AV
H	4434.181	62.95	5.94	35.18	44.00	60.07	68.2	-8.13	PK
H	4434.181	43.27	5.94	35.18	44.00	40.39	54	-13.61	AV
H	10360.025	51.91	8.46	38.71	44.50	54.58	68.2	-13.62	PK
H	10360.025	44.25	8.46	38.71	44.50	46.92	54	-7.08	AV
H	15540.191	50.76	10.12	38.38	44.10	55.16	74	-18.84	PK
H	15540.191	42.86	10.12	38.38	44.10	47.26	54	-6.74	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.198	60.43	6.48	36.35	44.05	59.21	74	-14.79	PK
V	4592.198	43.93	6.48	36.35	44.05	42.71	54	-11.29	AV
V	10400.022	60.31	8.47	37.88	44.51	62.15	68.2	-6.05	PK
V	10400.022	43.58	8.47	37.88	44.51	45.42	54	-8.58	AV
V	15600.174	63.59	10.12	38.80	44.10	68.41	74	-5.59	PK
V	15600.174	43.34	10.12	38.80	42.70	49.56	54	-4.44	AV
H	4592.089	63.15	6.48	36.37	44.05	61.95	74	-12.05	PK
H	4592.089	43.42	6.48	36.37	44.05	42.22	54	-11.78	AV
H	10400.005	51.82	8.47	38.64	44.50	54.43	68.2	-13.77	PK
H	10400.005	44.29	8.47	38.64	44.50	46.90	54	-7.10	AV
H	15600.019	53.21	10.12	38.38	44.10	57.61	74	-16.39	PK
H	15600.019	44.05	10.12	38.38	44.10	48.45	54	-5.55	AV
High Channel (5240 MHz)-Above 1G									
V	4739.155	60.59	7.10	37.24	43.50	61.43	74	-12.57	PK
V	4739.155	43.28	7.10	37.24	43.50	44.12	54	-9.88	AV
V	10480.180	63.11	8.46	37.68	44.50	64.75	68.2	-3.45	PK
V	10480.180	43.43	8.46	37.68	44.50	45.07	54	-8.93	AV
V	15720.064	62.54	10.12	38.80	44.10	67.36	74	-6.64	PK
V	15720.064	43.56	10.12	38.80	42.70	49.78	54	-4.22	AV
H	4739.152	62.17	7.10	37.24	43.50	63.01	74	-10.99	PK
H	4739.152	43.81	7.10	37.24	43.50	44.65	54	-9.35	AV
H	10480.054	50.09	8.46	38.57	44.50	52.62	68.2	-15.58	PK
H	10480.054	42.51	8.46	38.57	44.50	45.04	54	-8.96	AV
H	15720.151	52.54	10.12	38.38	44.10	56.94	74	-17.06	PK
H	15720.151	41.49	10.12	38.38	44.10	45.89	54	-8.11	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	4434.048	62.54	5.94	35.40	44.00	59.88	68.2	-8.32	PK
V	4434.048	43.34	5.94	35.40	44.00	40.68	54	-13.32	AV
V	10380.139	63.55	8.46	39.75	44.50	67.26	68.2	-0.94	PK
V	10380.139	43.33	8.46	39.75	44.50	47.04	54	-6.96	AV
V	15570.152	61.00	10.12	38.80	44.10	65.82	74	-8.18	PK
V	15570.152	43.75	10.12	38.80	42.70	49.97	54	-4.03	AV
H	4434.174	62.39	5.94	35.18	44.00	59.51	74	-14.49	PK
H	4434.174	43.79	5.94	35.18	44.00	40.91	54	-13.09	AV
H	10380.056	53.54	8.46	38.71	44.50	56.21	68.2	-11.99	PK
H	10380.056	42.31	8.46	38.71	44.50	44.98	54	-9.02	AV
H	15570.109	54.01	10.12	38.38	44.10	58.41	74	-15.59	PK
H	15570.109	44.04	10.12	38.38	44.10	48.44	54	-5.56	AV
middle Channel (5230 MHz)-Above 1G									
V	4739.133	64.05	6.48	36.35	44.05	62.83	68.2	-5.37	PK
V	4739.133	43.78	6.48	36.35	44.05	42.56	54	-11.44	AV
V	10460.016	64.67	8.47	37.88	44.51	66.51	68.2	-1.69	PK
V	10460.016	43.99	8.47	37.88	44.51	45.83	54	-8.17	AV
V	15690.085	64.15	10.12	38.80	44.10	68.97	74	-5.03	PK
V	15690.085	43.63	10.12	38.80	42.70	49.85	54	-4.15	AV
H	4739.027	60.56	6.48	36.37	44.05	59.36	68.2	-8.84	PK
H	4739.027	43.41	6.48	36.37	44.05	42.21	54	-11.79	AV
H	10460.119	51.66	8.47	38.64	44.50	54.27	68.2	-13.93	PK
H	10460.119	44.99	8.47	38.64	44.50	47.60	54	-6.40	AV
H	15690.110	54.35	10.12	38.38	44.10	58.75	74	-15.25	PK
H	15690.110	44.88	10.12	38.38	44.10	49.28	54	-4.72	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	4434.116	62.92	5.94	35.40	44.00	60.26	68.2	-7.94	PK
V	4434.116	43.13	5.94	35.40	44.00	40.47	54	-13.53	AV
V	10420.196	61.23	8.46	39.75	44.50	64.94	68.2	-3.26	PK
V	10420.196	43.21	8.46	39.75	44.50	46.92	54	-7.08	AV
V	15630.138	63.96	10.12	38.80	44.10	68.78	74	-5.22	PK
V	15630.138	43.68	10.12	38.80	42.70	49.90	54	-4.10	AV
H	4434.162	62.96	5.94	35.18	44.00	60.08	68.2	-8.12	PK
H	4434.162	43.92	5.94	35.18	44.00	41.04	54	-12.96	AV
H	10420.094	50.84	8.46	38.71	44.50	53.51	68.2	-14.69	PK
H	10420.094	43.29	8.46	38.71	44.50	45.96	54	-8.04	AV
H	15630.052	50.83	10.12	38.38	44.10	55.23	74	-18.77	PK
H	15630.052	43.17	10.12	38.38	44.10	47.57	54	-6.43	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	4679.081	57.41	5.94	35.40	44.00	54.75	74	-19.25	PK
V	4679.081	43.69	5.94	35.40	44.00	41.03	54	-12.97	AV
V	11490.047	57.46	8.46	39.75	44.50	61.17	68.2	-7.03	PK
V	11490.047	43.92	8.46	39.75	44.50	47.63	54	-6.37	AV
V	17235.046	58.73	10.12	38.80	44.10	63.55	68.2	-4.65	PK
V	17235.046	43.23	10.12	38.80	42.70	49.45	54	-4.55	AV
H	4679.035	54.21	5.94	35.18	44.00	51.33	74	-22.67	PK
H	4679.035	43.89	5.94	35.18	44.00	41.01	54	-12.99	AV
H	11490.173	50.79	8.46	38.71	44.50	53.46	68.2	-14.74	PK
H	11490.173	41.09	8.46	38.71	44.50	43.76	54	-10.24	AV
H	17235.027	51.63	10.12	38.38	44.10	56.03	68.2	-12.17	PK
H	17235.027	43.02	10.12	38.38	44.10	47.42	54	-6.58	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.171	56.81	6.48	36.35	44.05	55.59	74	-18.41	PK
V	4592.171	43.21	6.48	36.35	44.05	41.99	54	-12.01	AV
V	11570.187	58.90	8.47	37.88	44.51	60.74	68.2	-7.46	PK
V	11570.187	43.24	8.47	37.88	44.51	45.08	54	-8.92	AV
V	17355.003	59.56	10.12	38.80	44.10	64.38	68.2	-3.82	PK
V	17355.003	39.47	10.12	38.80	42.70	45.69	54	-8.31	AV
H	4592.143	59.72	6.48	36.37	44.05	58.52	74	-15.48	PK
H	4592.143	43.18	6.48	36.37	44.05	41.98	54	-12.02	AV
H	11570.107	50.88	8.47	38.64	44.50	53.49	68.2	-14.71	PK
H	11570.107	40.62	8.47	38.64	44.50	43.23	54	-10.77	AV
H	17355.200	50.07	10.12	38.38	44.10	54.47	68.2	-13.73	PK
H	17355.200	43.60	10.12	38.38	44.10	48.00	54	-6.00	AV
High Channel (5825 MHz)-Above 1G									
V	6039.115	58.75	7.10	37.24	43.50	59.59	68.2	-8.61	PK
V	6039.115	43.12	7.10	37.24	43.50	43.96	54	-10.04	AV
V	11650.087	58.14	8.46	37.68	44.50	59.78	74	-14.22	PK
V	11650.087	43.04	8.46	37.68	44.50	44.68	54	-9.32	AV
V	17475.127	54.57	10.12	38.80	44.10	59.39	68.2	-8.81	PK
V	17475.127	43.11	10.12	38.80	42.70	49.33	54	-4.67	AV
H	6039.003	55.05	7.10	37.24	43.50	55.89	68.2	-12.31	PK
H	6039.003	43.44	7.10	37.24	43.50	44.28	54	-9.72	AV
H	11650.054	53.21	8.46	38.57	44.50	55.74	74	-18.26	PK
H	11650.054	42.09	8.46	38.57	44.50	44.62	54	-9.38	AV
H	17475.117	52.92	10.12	38.38	44.10	57.32	68.2	-10.88	PK
H	17475.117	42.15	10.12	38.38	44.10	46.55	54	-7.45	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	4679.195	57.05	5.94	35.40	44.00	54.39	74	-19.61	PK
V	4679.195	43.76	5.94	35.40	44.00	41.10	54	-12.90	AV
V	11490.070	53.36	8.46	39.75	44.50	57.07	68.2	-11.13	PK
V	11490.070	43.69	8.46	39.75	44.50	47.40	54	-6.60	AV
V	17235.061	57.10	10.12	38.80	44.10	61.92	68.2	-6.28	PK
V	17235.061	43.24	10.12	38.80	42.70	49.46	54	-4.54	AV
H	4679.073	56.57	5.94	35.18	44.00	53.69	74	-20.31	PK
H	4679.073	43.00	5.94	35.18	44.00	40.12	54	-13.88	AV
H	11490.024	48.85	8.46	38.71	44.50	51.52	68.2	-16.68	PK
H	11490.024	43.77	8.46	38.71	44.50	46.44	54	-7.56	AV
H	17235.140	51.64	10.12	38.38	44.10	56.04	68.2	-12.16	PK
H	17235.140	41.54	10.12	38.38	44.10	45.94	54	-8.06	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.065	59.00	6.48	36.35	44.05	57.78	74	-16.22	PK
V	4592.065	43.67	6.48	36.35	44.05	42.45	54	-11.55	AV
V	11570.155	56.90	8.47	37.88	44.51	58.74	68.2	-9.46	PK
V	11570.155	43.43	8.47	37.88	44.51	45.27	54	-8.73	AV
V	17355.003	57.47	10.12	38.80	44.10	62.29	68.2	-5.91	PK
V	17355.003	43.80	10.12	38.80	42.70	50.02	54	-3.98	AV
H	4592.122	56.86	6.48	36.37	44.05	55.66	74	-18.34	PK
H	4592.122	43.86	6.48	36.37	44.05	42.66	54	-11.34	AV
H	11570.154	54.85	8.47	38.64	44.50	57.46	68.2	-10.74	PK
H	11570.154	42.54	8.47	38.64	44.50	45.15	54	-8.85	AV
H	17355.165	50.56	10.12	38.38	44.10	54.96	68.2	-13.24	PK
H	17355.165	40.18	10.12	38.38	44.10	44.58	54	-9.42	AV
High Channel (5825 MHz)-Above 1G									
V	6039.145	57.94	7.10	37.24	43.50	58.78	68.2	-9.42	PK
V	6039.145	43.71	7.10	37.24	43.50	44.55	54	-9.45	AV
V	11650.198	60.75	8.46	37.68	44.50	62.39	74	-11.61	PK
V	11650.198	43.09	8.46	37.68	44.50	44.73	54	-9.27	AV
V	17475.198	58.89	10.12	38.80	44.10	63.71	68.2	-4.49	PK
V	17475.198	43.35	10.12	38.80	42.70	49.57	54	-4.43	AV
H	6039.022	57.30	7.10	37.24	43.50	58.14	68.2	-10.06	PK
H	6039.022	43.17	7.10	37.24	43.50	44.01	54	-9.99	AV
H	11650.191	52.99	8.46	38.57	44.50	55.52	74	-18.48	PK
H	11650.191	42.07	8.46	38.57	44.50	44.60	54	-9.40	AV
H	17475.079	54.52	10.12	38.38	44.10	58.92	68.2	-9.28	PK
H	17475.079	43.25	10.12	38.38	44.10	47.65	54	-6.35	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	4679.038	58.02	5.94	35.40	44.00	55.36	74	-18.64	PK
V	4679.038	43.95	5.94	35.40	44.00	41.29	54	-12.71	AV
V	11510.181	56.43	8.46	39.75	44.50	60.14	74	-13.86	PK
V	11510.181	43.79	8.46	39.75	44.50	47.50	54	-6.50	AV
V	17265.047	57.74	10.12	38.80	44.10	62.56	68.2	-5.64	PK
V	17265.047	2.00	10.12	38.80	42.70	8.22	54	-45.78	AV
H	4679.149	57.17	5.94	35.18	44.00	54.29	74	-19.71	PK
H	4679.149	43.95	5.94	35.18	44.00	41.07	54	-12.93	AV
H	11510.199	52.60	8.46	38.71	44.50	55.27	74	-18.73	PK
H	11510.199	42.94	8.46	38.71	44.50	45.61	54	-8.39	AV
H	17265.125	54.86	10.12	38.38	44.10	59.26	68.2	-8.94	PK
H	17265.125	41.25	10.12	38.38	44.10	45.65	54	-8.35	AV
middle Channel (5795 MHz)-Above 1G									
V	6039.053	59.80	6.48	36.35	44.05	58.58	68.2	-9.62	PK
V	6039.053	43.36	6.48	36.35	44.05	42.14	54	-11.86	AV
V	11590.141	55.46	8.47	37.88	44.51	57.30	74	-16.70	PK
V	11590.141	43.30	8.47	37.88	44.51	45.14	54	-8.86	AV
V	17385.128	55.85	10.12	38.80	44.10	60.67	68.2	-7.53	PK
V	17385.128	41.59	10.12	38.80	42.70	47.81	54	-6.19	AV
H	6039.071	59.82	6.48	36.37	44.05	58.62	68.2	-9.58	PK
H	6039.071	43.24	6.48	36.37	44.05	42.04	54	-11.96	AV
H	11590.023	51.47	8.47	38.64	44.50	54.08	74	-19.92	PK
H	11590.023	41.67	8.47	38.64	44.50	44.28	54	-9.72	AV
H	17385.188	51.93	10.12	38.38	44.10	56.33	68.2	-11.87	PK
H	17385.188	43.72	10.12	38.38	44.10	48.12	54	-5.88	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) --802.11ac-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	4679.176	58.82	5.94	35.40	44.00	56.16	74	-17.84	PK
V	4679.176	43.57	5.94	35.40	44.00	40.91	54	-13.09	AV
V	11490.100	53.82	8.46	39.75	44.50	57.53	68.2	-10.67	PK
V	11490.100	43.89	8.46	39.75	44.50	47.60	54	-6.40	AV
V	17235.156	61.77	10.12	38.80	44.10	66.59	68.2	-1.61	PK
V	17235.156	43.34	10.12	38.80	42.70	49.56	54	-4.44	AV
H	4679.095	60.96	5.94	35.18	44.00	58.08	74	-15.92	PK
H	4679.095	43.31	5.94	35.18	44.00	40.43	54	-13.57	AV
H	11490.024	48.97	8.46	38.71	44.50	51.64	68.2	-16.56	PK
H	11490.024	40.93	8.46	38.71	44.50	43.60	54	-10.40	AV
H	17235.030	52.24	10.12	38.38	44.10	56.64	68.2	-11.56	PK
H	17235.030	44.62	10.12	38.38	44.10	49.02	54	-4.98	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.143	62.72	6.48	36.35	44.05	61.50	74	-12.50	PK
V	4592.143	43.49	6.48	36.35	44.05	42.27	54	-11.73	AV
V	11570.052	57.01	8.47	37.88	44.51	58.85	68.2	-9.35	PK
V	11570.052	43.81	8.47	37.88	44.51	45.65	54	-8.35	AV
V	17355.067	61.09	10.12	38.80	44.10	65.91	68.2	-2.29	PK
V	17355.067	43.48	10.12	38.80	42.70	49.70	54	-4.30	AV
H	4592.054	57.18	6.48	36.37	44.05	55.98	74	-18.02	PK
H	4592.054	43.15	6.48	36.37	44.05	41.95	54	-12.05	AV
H	11570.099	54.27	8.47	38.64	44.50	56.88	68.2	-11.32	PK
H	11570.099	43.27	8.47	38.64	44.50	45.88	54	-8.12	AV
H	17355.027	52.45	10.12	38.38	44.10	56.85	68.2	-11.35	PK
H	17355.027	40.75	10.12	38.38	44.10	45.15	54	-8.85	AV
High Channel (5825 MHz)-Above 1G									
V	6039.086	59.54	7.10	37.24	43.50	60.38	68.2	-7.82	PK
V	6039.086	43.52	7.10	37.24	43.50	44.36	54	-9.64	AV
V	11650.035	59.30	8.46	37.68	44.50	60.94	74	-13.06	PK
V	11650.035	43.91	8.46	37.68	44.50	45.55	54	-8.45	AV
V	17475.018	56.51	10.12	38.80	44.10	61.33	68.2	-6.87	PK
V	17475.018	43.93	10.12	38.80	42.70	50.15	54	-3.85	AV
H	6039.145	56.27	7.10	37.24	43.50	57.11	68.2	-11.09	PK
H	6039.145	43.67	7.10	37.24	43.50	44.51	54	-9.49	AV
H	11650.174	52.20	8.46	38.57	44.50	54.73	74	-19.27	PK
H	11650.174	40.77	8.46	38.57	44.50	43.30	54	-10.70	AV
H	17475.129	52.12	10.12	38.38	44.10	56.52	68.2	-11.68	PK
H	17475.129	41.20	10.12	38.38	44.10	45.60	54	-8.40	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	4679.016	58.93	5.94	35.40	44.00	56.27	74	-17.73	PK
V	4679.016	43.05	5.94	35.40	44.00	40.39	54	-13.61	AV
V	11510.123	56.60	8.46	39.75	44.50	60.31	74	-13.69	PK
V	11510.123	43.06	8.46	39.75	44.50	46.77	54	-7.23	AV
V	17265.016	56.44	10.12	38.80	44.10	61.26	68.2	-6.94	PK
V	17265.016	2.00	10.12	38.80	42.70	8.22	54	-45.78	AV
H	4679.176	58.70	5.94	35.18	44.00	55.82	74	-18.18	PK
H	4679.176	43.21	5.94	35.18	44.00	40.33	54	-13.67	AV
H	11510.044	53.41	8.46	38.71	44.50	56.08	74	-17.92	PK
H	11510.044	41.81	8.46	38.71	44.50	44.48	54	-9.52	AV
H	17265.052	54.41	10.12	38.38	44.10	58.81	68.2	-9.39	PK
H	17265.052	44.56	10.12	38.38	44.10	48.96	54	-5.04	AV
middle Channel (5795 MHz)-Above 1G									
V	6039.051	60.46	6.48	36.35	44.05	59.24	68.2	-8.96	PK
V	6039.051	43.02	6.48	36.35	44.05	41.80	54	-12.20	AV
V	11590.050	57.17	8.47	37.88	44.51	59.01	74	-14.99	PK
V	11590.050	43.12	8.47	37.88	44.51	44.96	54	-9.04	AV
V	17385.009	55.76	10.12	38.80	44.10	60.58	68.2	-7.62	PK
V	17385.009	41.84	10.12	38.80	42.70	48.06	54	-5.94	AV
H	6039.118	59.08	6.48	36.37	44.05	57.88	68.2	-10.32	PK
H	6039.118	43.84	6.48	36.37	44.05	42.64	54	-11.36	AV
H	11590.008	51.47	8.47	38.64	44.50	54.08	74	-19.92	PK
H	11590.008	40.78	8.47	38.64	44.50	43.39	54	-10.61	AV
H	17385.180	54.64	10.12	38.38	44.10	59.04	68.2	-9.16	PK
H	17385.180	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.

The Worst mode is Antenna A.

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	4679.124	55.32	5.94	35.40	44.00	52.66	74	-21.34	PK
V	4679.124	43.51	5.94	35.40	44.00	40.85	54	-13.15	AV
V	11550.040	56.67	8.46	39.75	44.50	60.38	74	-13.62	PK
V	11550.040	43.82	8.46	39.75	44.50	47.53	54	-6.47	AV
V	17325.148	56.81	10.12	38.80	44.10	61.63	68.2	-6.57	PK
V	17325.148	41.82	10.12	38.80	42.70	48.04	54	-5.96	AV
H	4679.075	55.34	5.94	35.18	44.00	52.46	74	-21.54	PK
H	4679.075	43.79	5.94	35.18	44.00	40.91	54	-13.09	AV
H	11550.140	51.04	8.46	38.71	44.50	53.71	74	-20.29	PK
H	11550.140	40.97	8.46	38.71	44.50	43.64	54	-10.36	AV
H	17325.059	50.85	10.12	38.38	44.10	55.25	68.2	-12.95	PK
H	17325.059	40.78	10.12	38.38	44.10	45.18	54	-8.82	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.

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

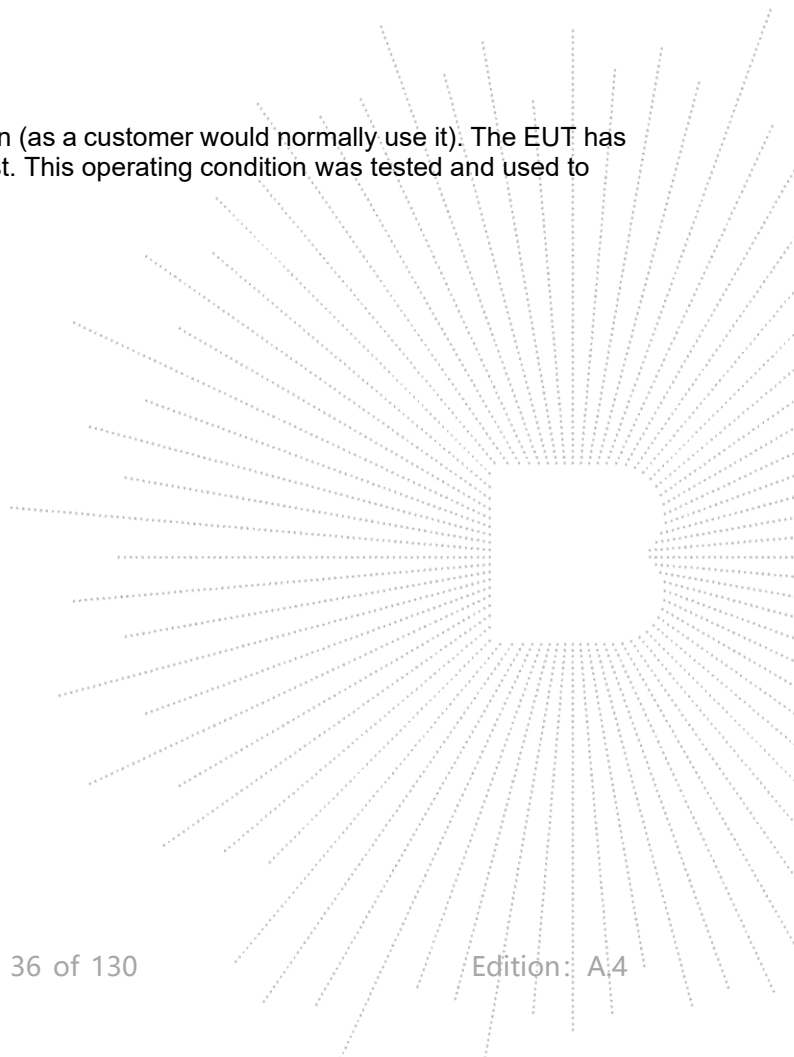
For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of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

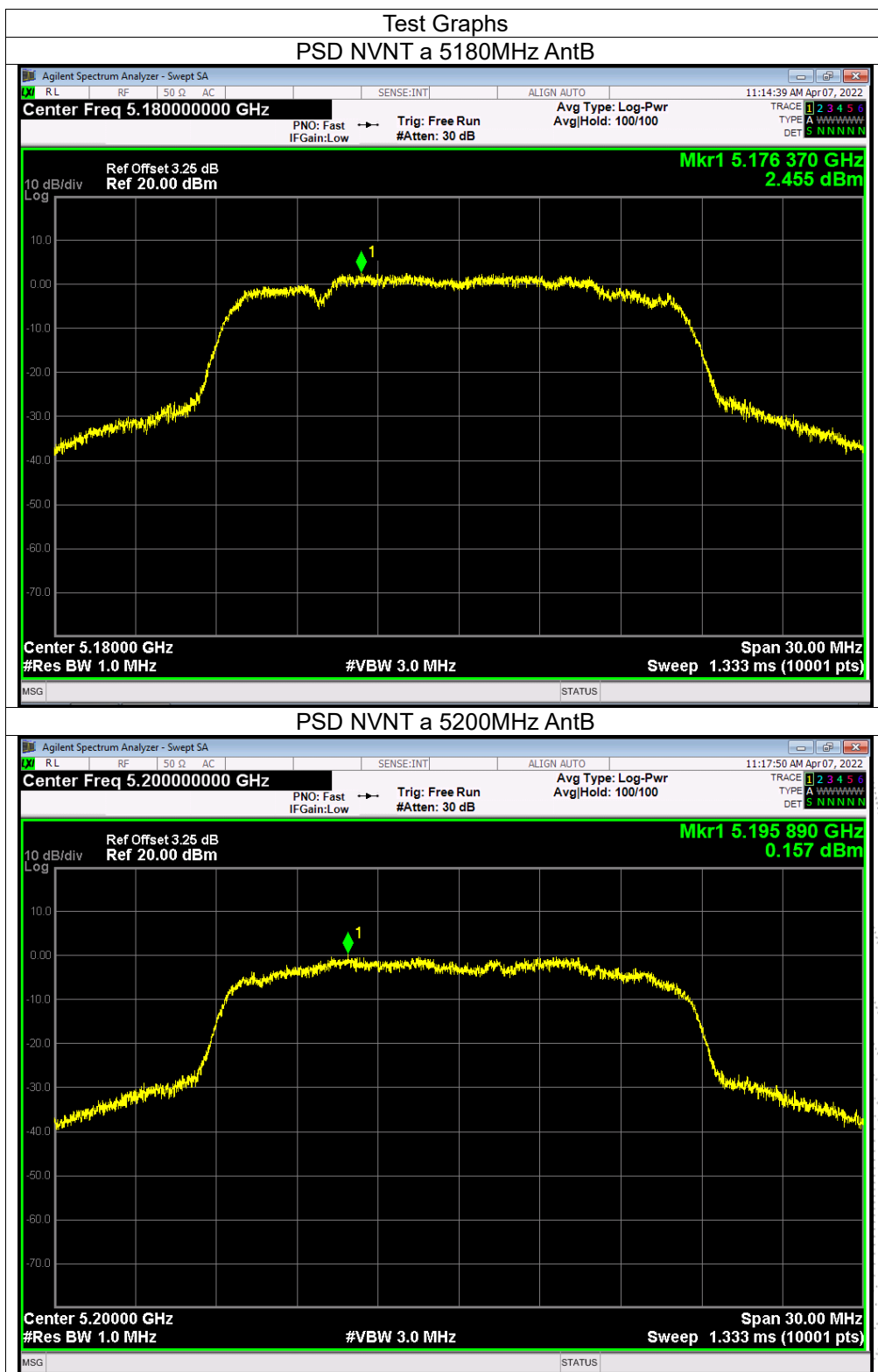


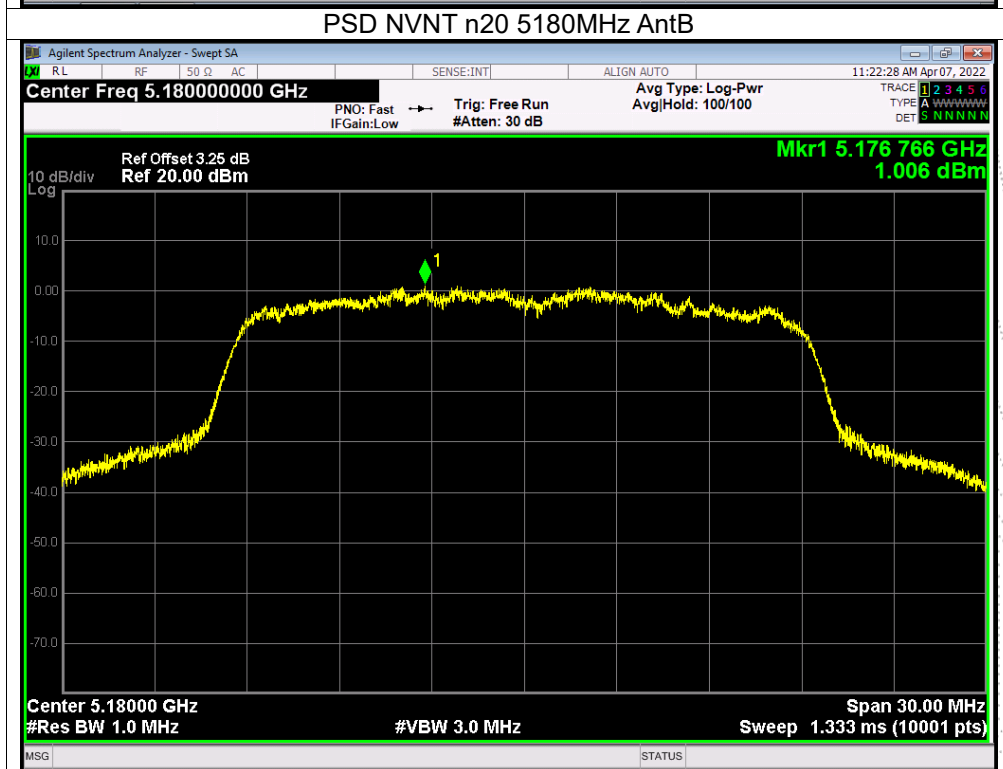
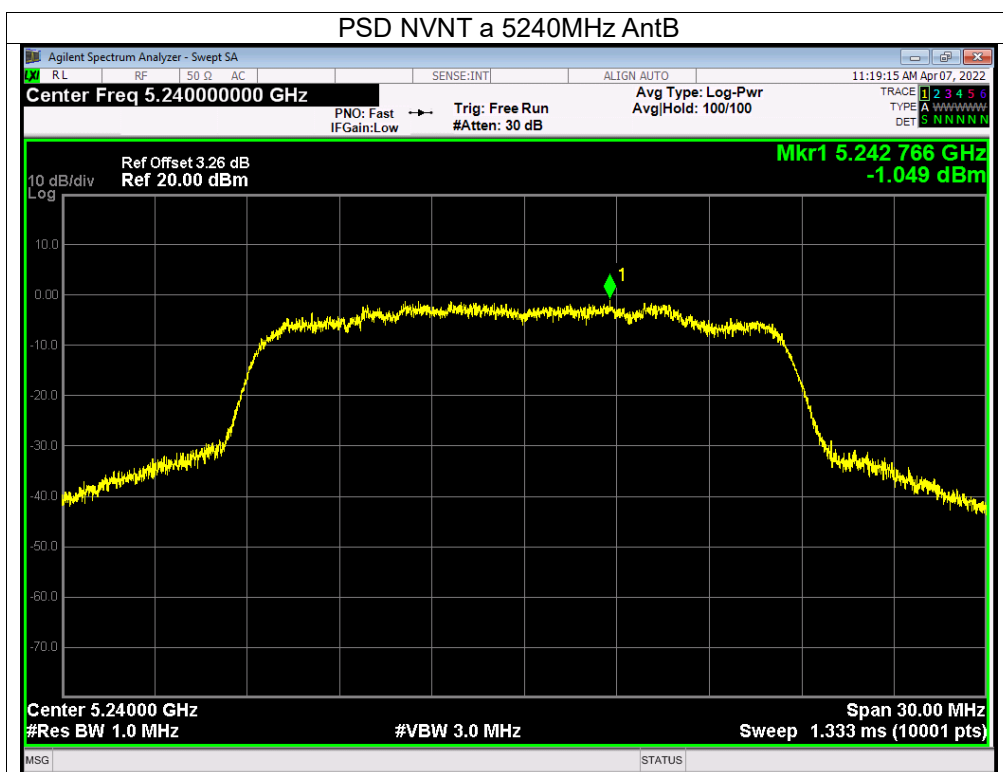
8.5 Test Result

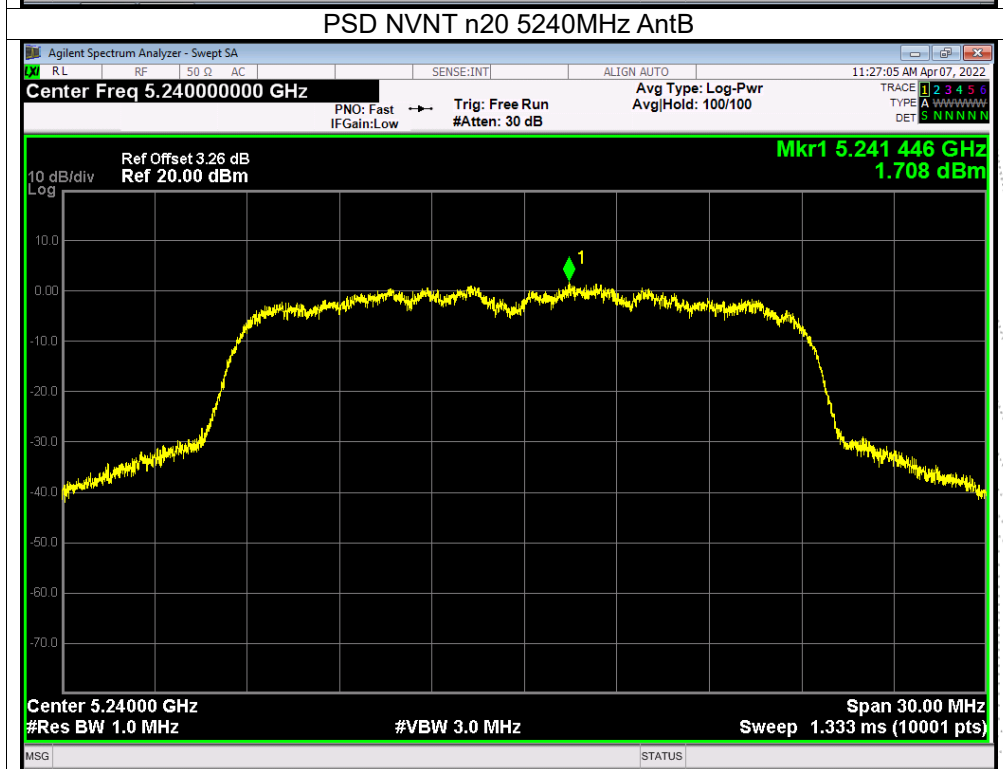
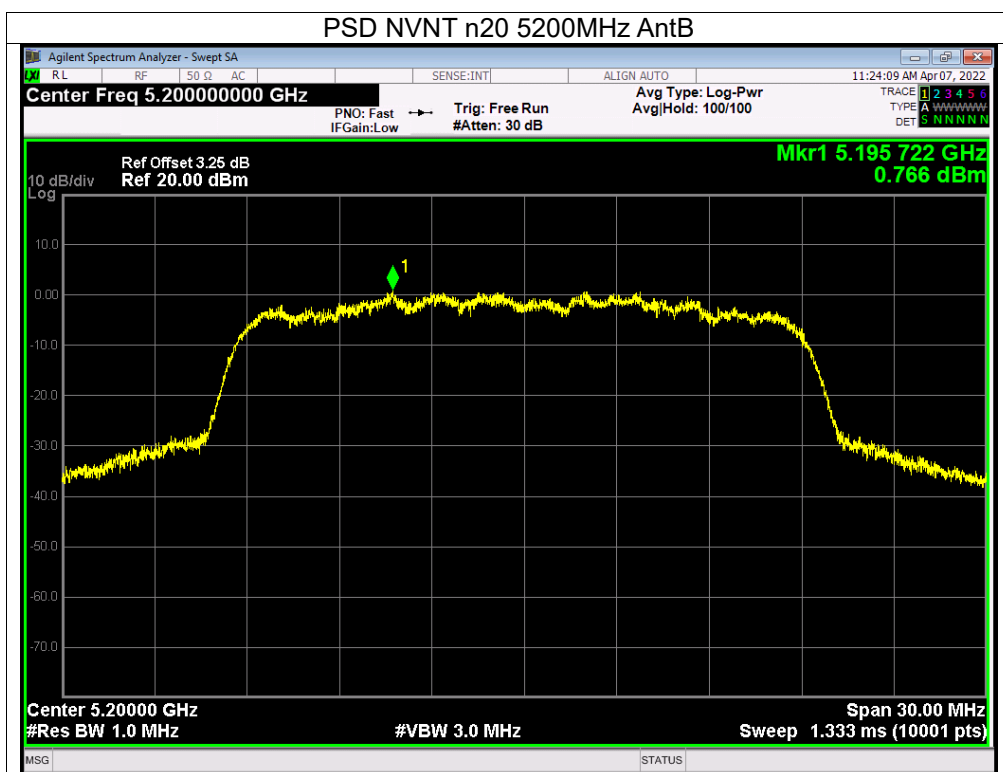
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX Frequency U-NII-1 (5180-5240MHz)		

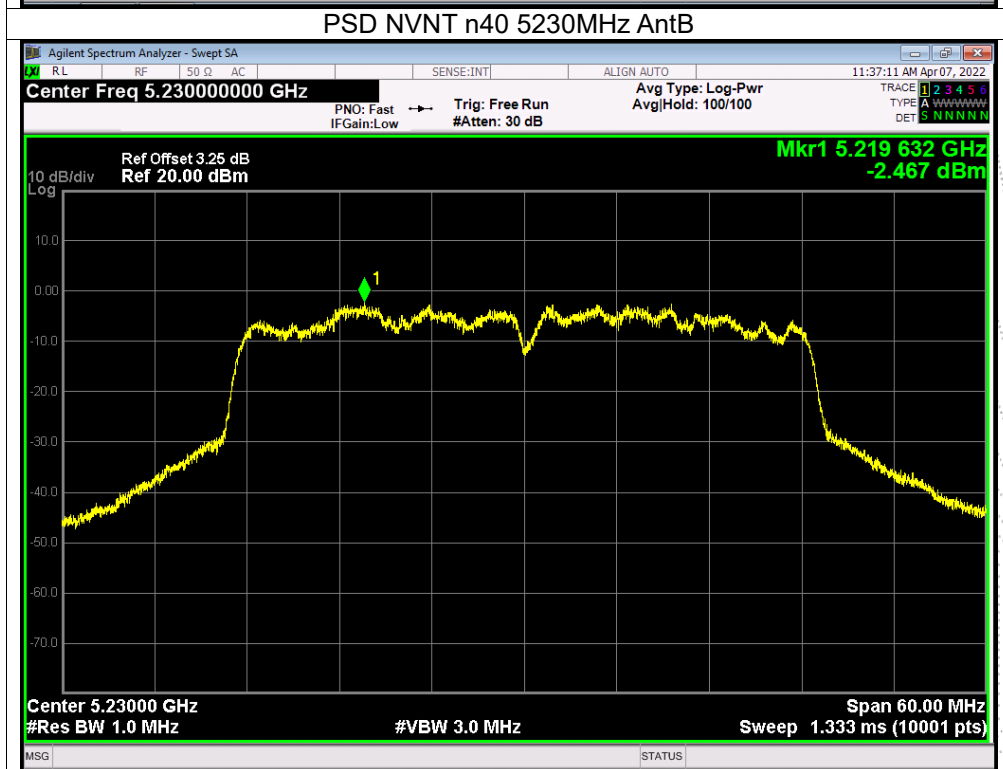
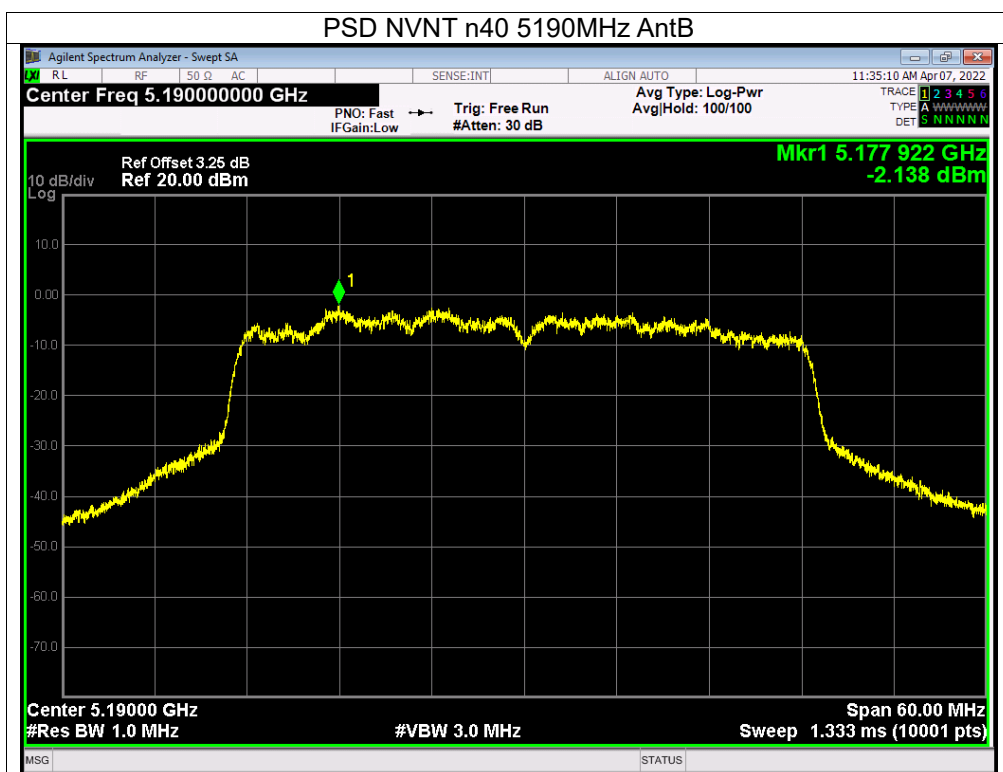
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

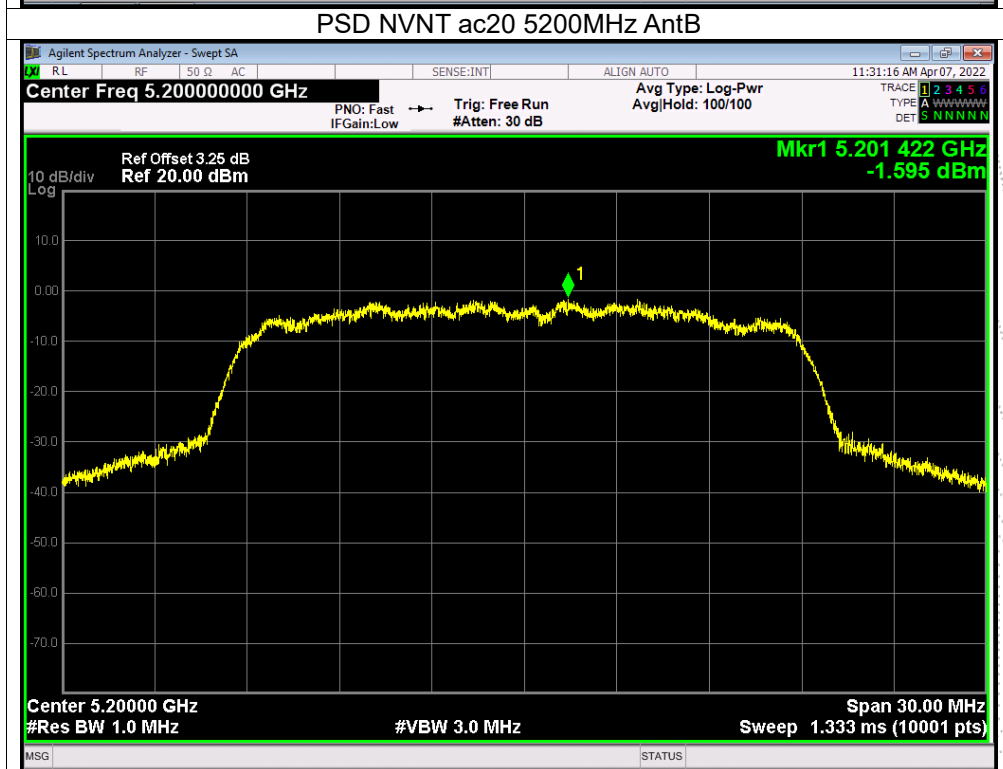
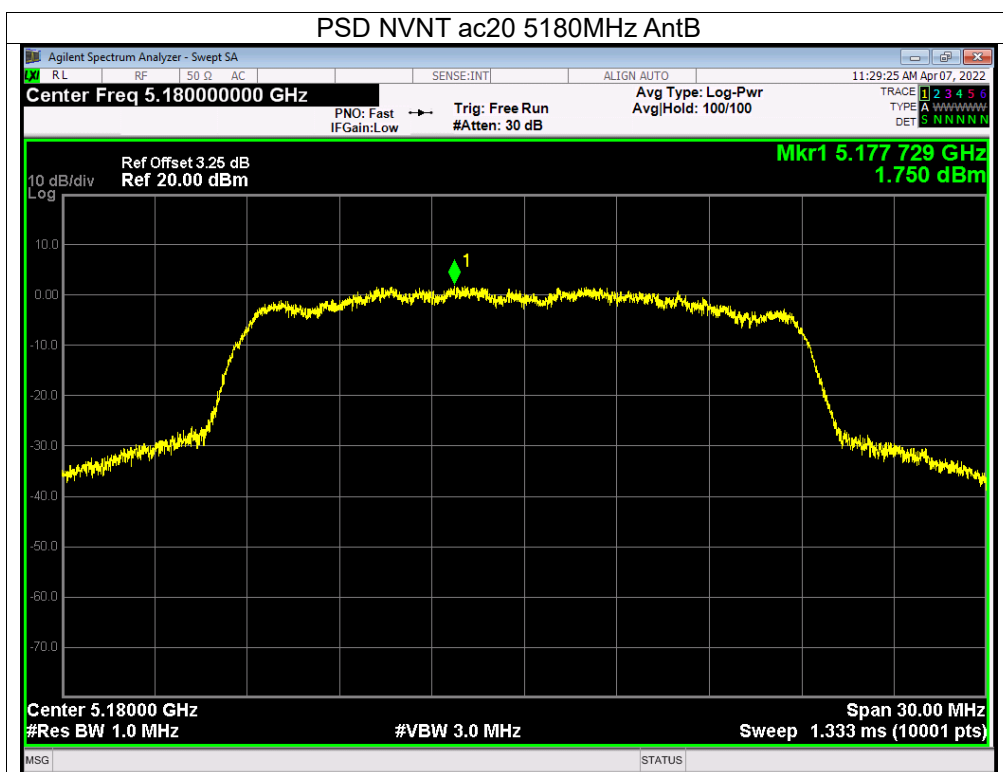
Mode	Frequency	Measured Power Density (dBm/MHz)			Limit (dBm/MHz)	Result
		ANT A	ANT B	Total		
802.11 a	5180 MHz	2.12	2.46	/	11	PASS
	5200 MHz	1.91	0.16	/	11	PASS
	5240 MHz	1.39	-1.05	/	11	PASS
802.11 n20	5180 MHz	1.61	1.01	4.33	11	PASS
	5200 MHz	1.27	0.77	4.04	11	PASS
	5240 MHz	0.44	1.71	4.13	11	PASS
802.11 n40	5190 MHz	-2.17	-2.14	0.86	11	PASS
	5230 MHz	-3.38	-2.47	0.11	11	PASS
802.11 ac20	5180 MHz	1.70	1.75	4.74	11	PASS
	5200 MHz	1.18	-1.60	3.02	11	PASS
	5240 MHz	-0.18	-1.57	2.19	11	PASS
802.11 ac40	5190 MHz	-2.82	-1.89	0.68	11	PASS
	5230 MHz	-4.61	-5.09	-1.83	11	PASS
802.11 AC80	5210 MHz	-4.11	-5.52	-1.75	11	PASS

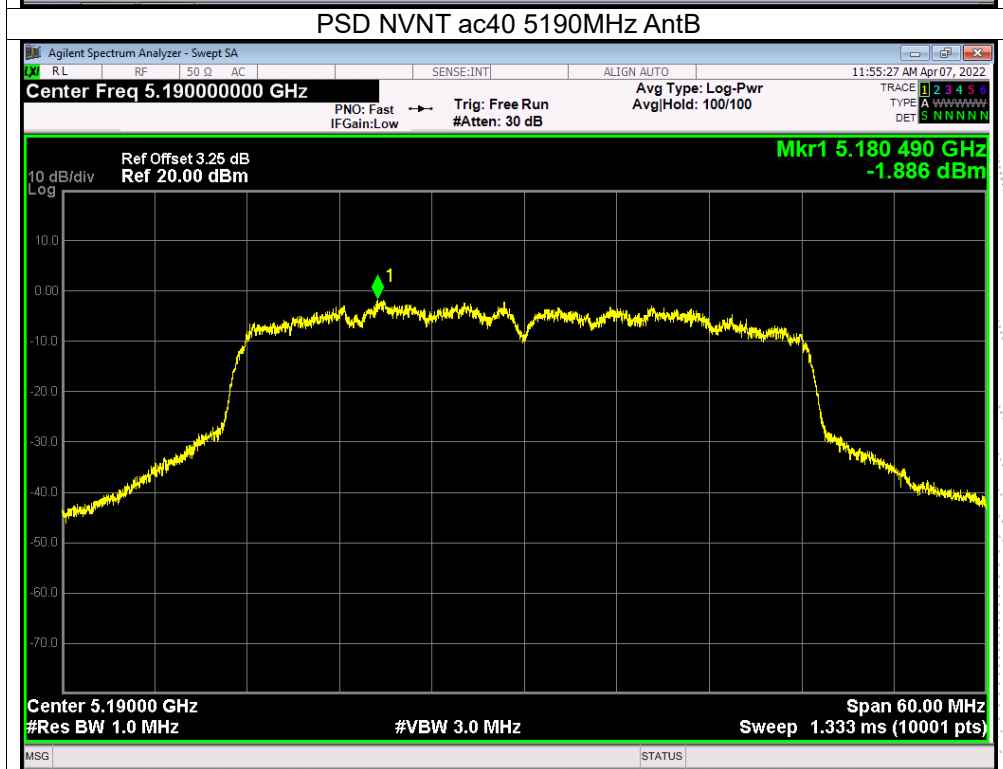
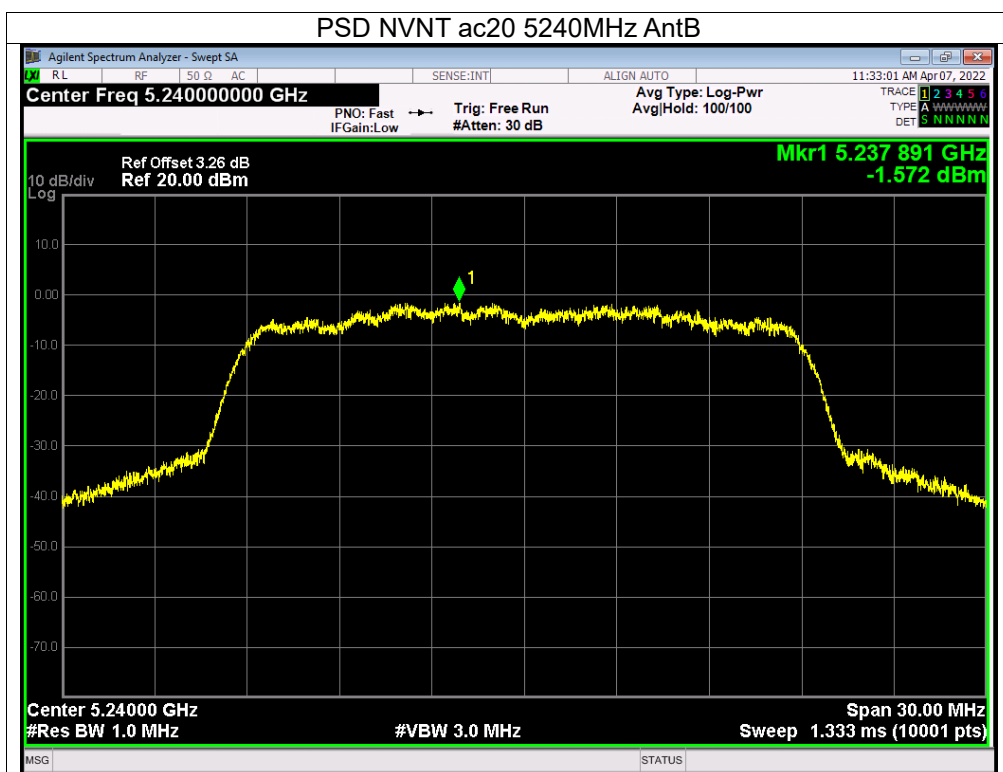


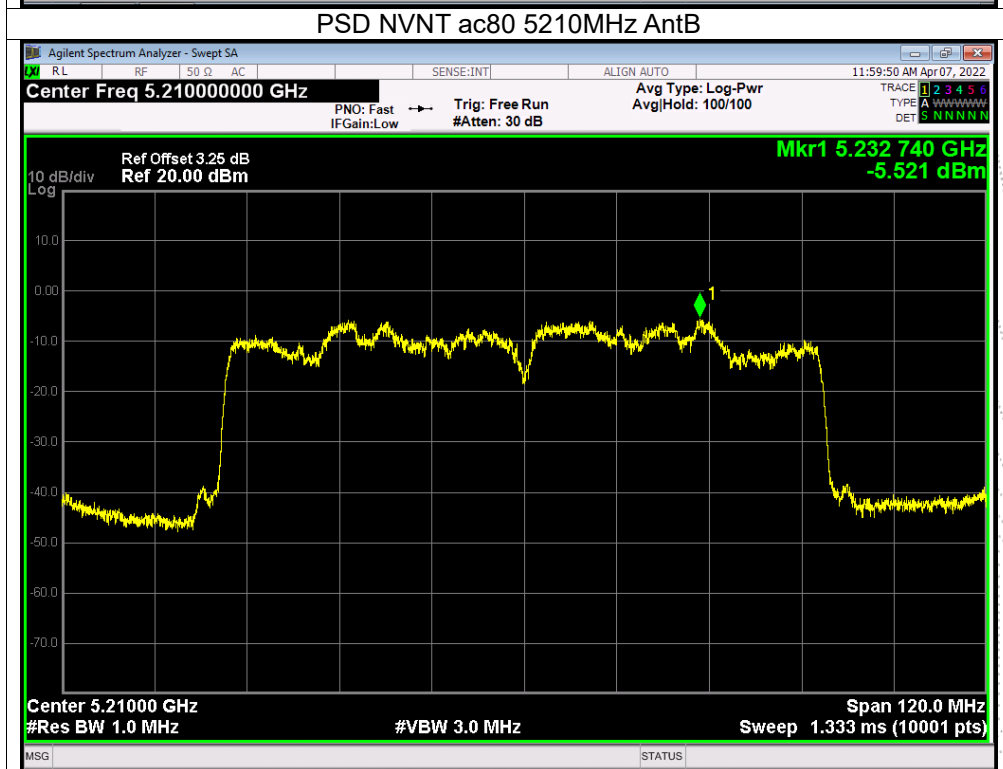
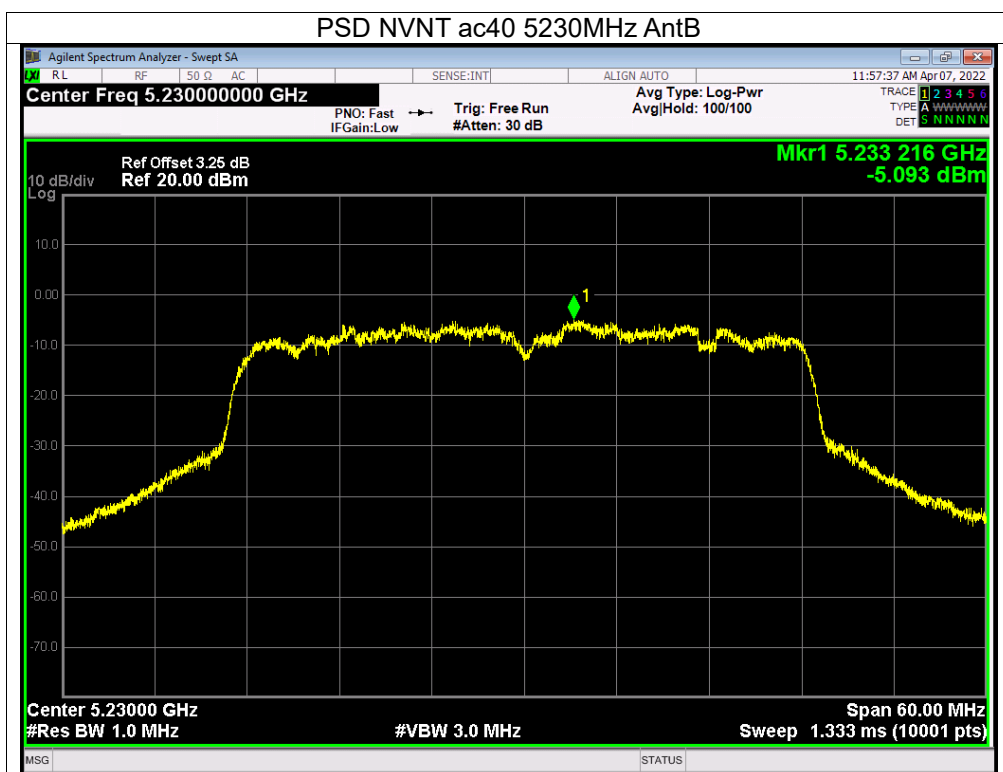








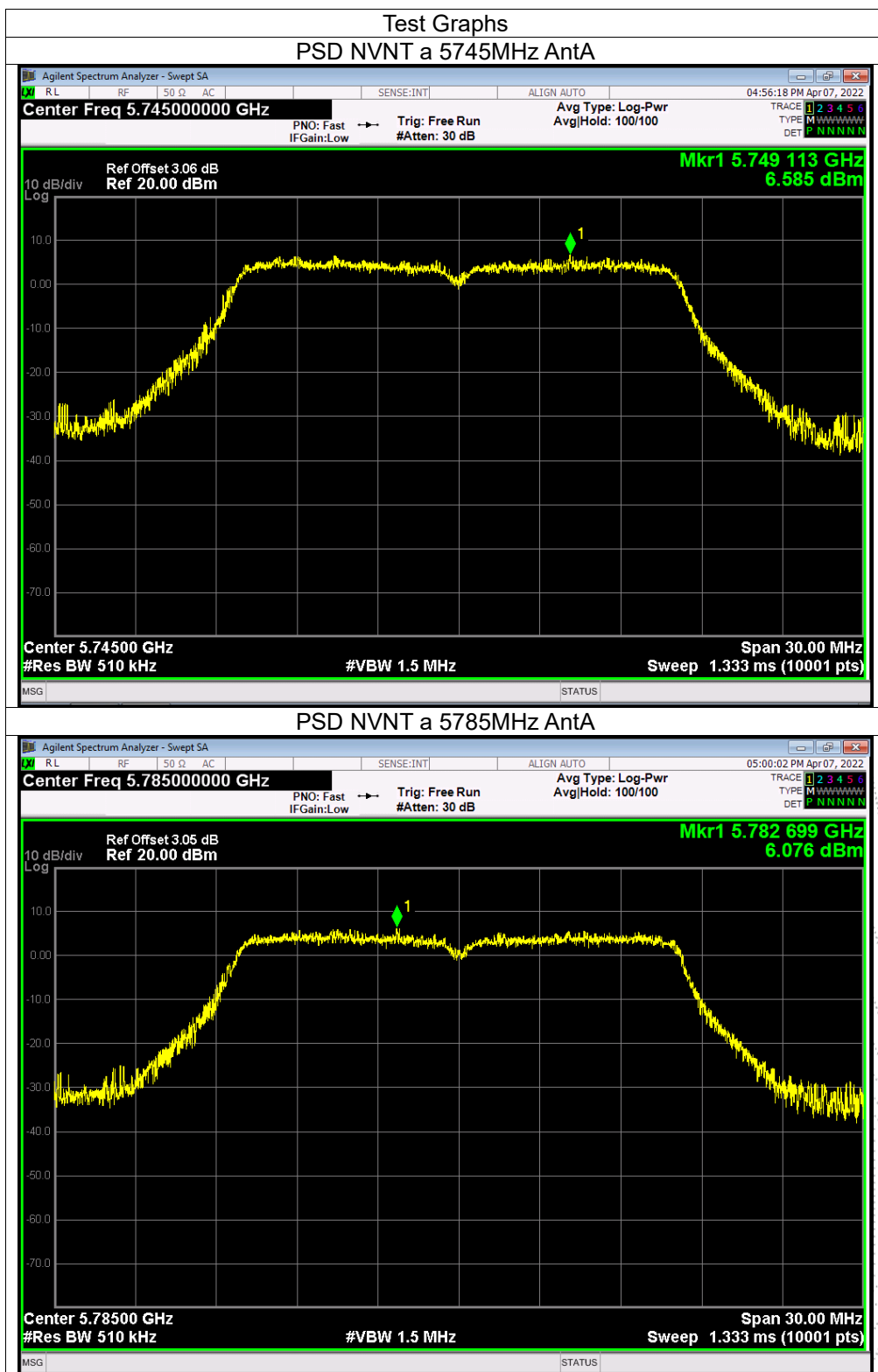


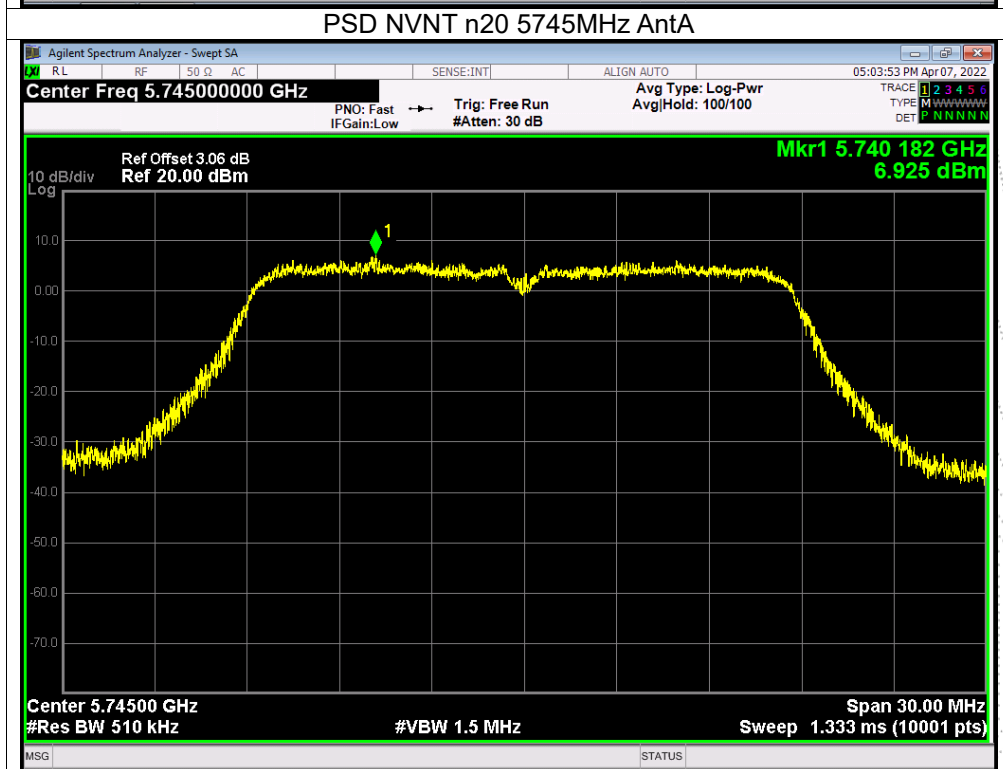
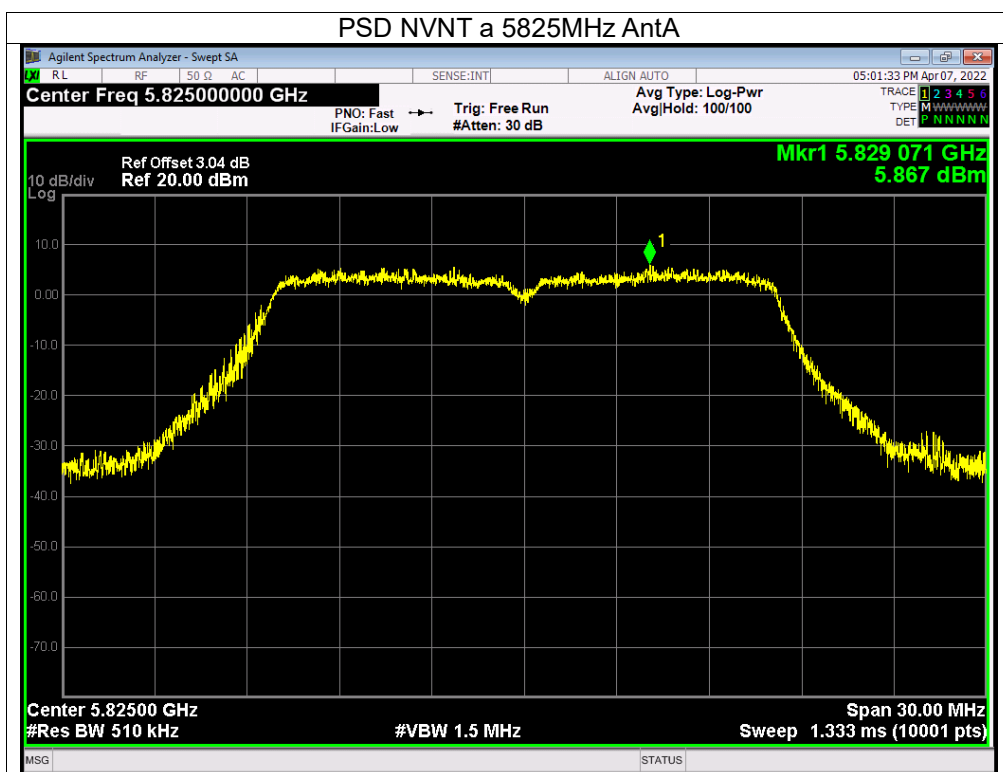


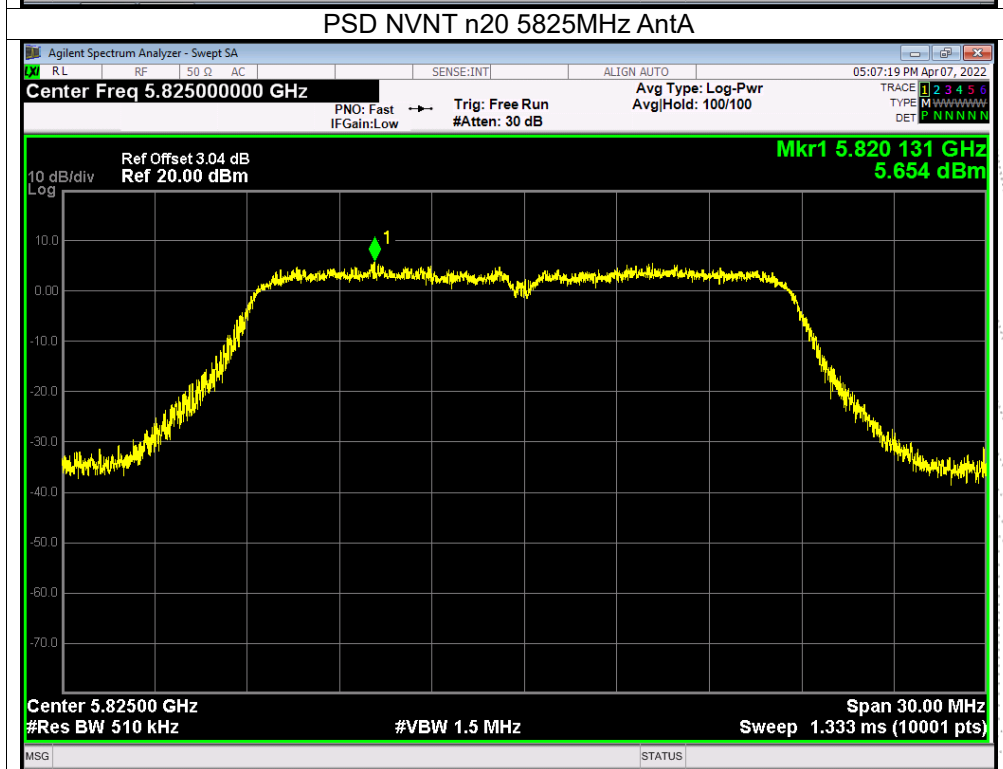
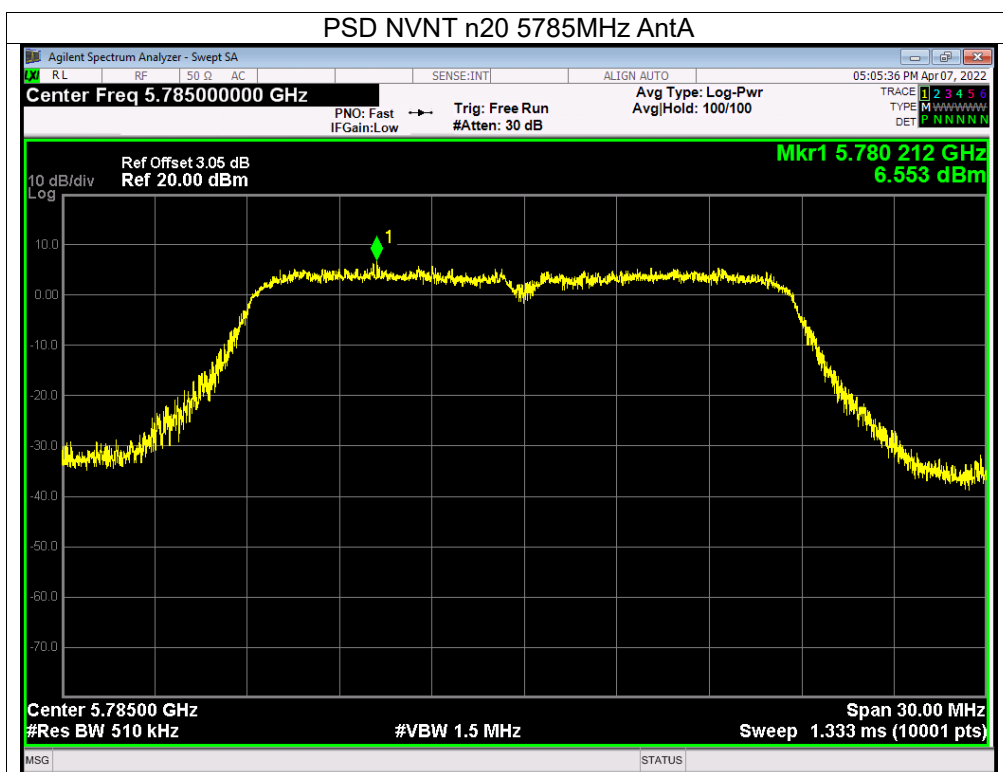
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX Frequency U-NII-3 (5745-5825MHz)		

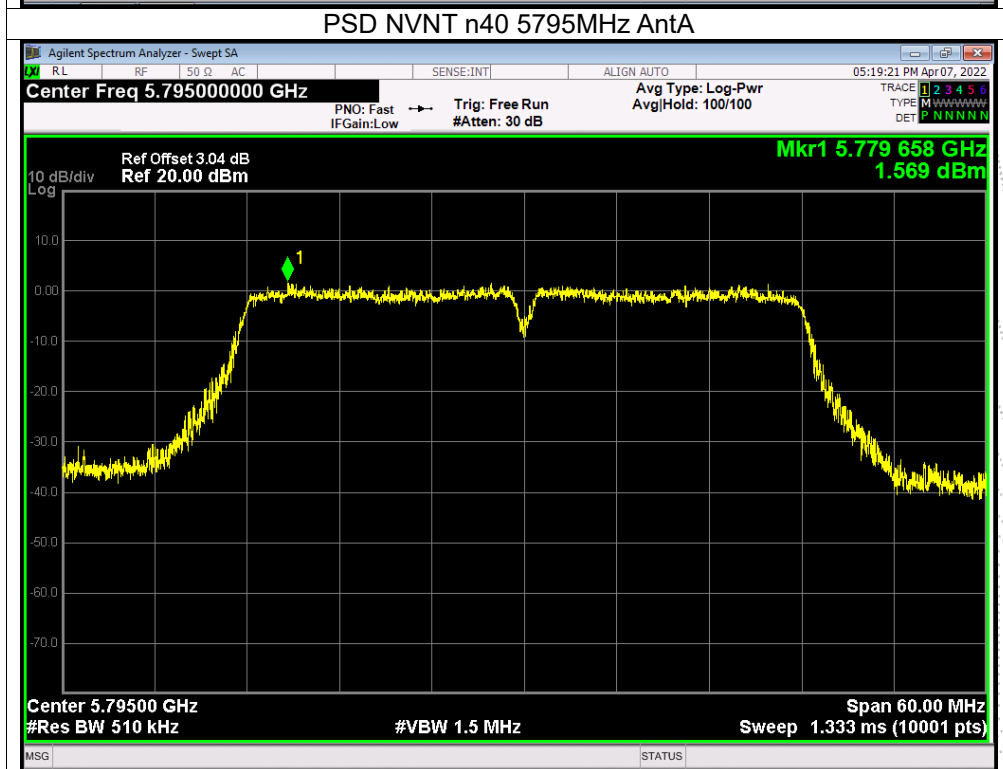
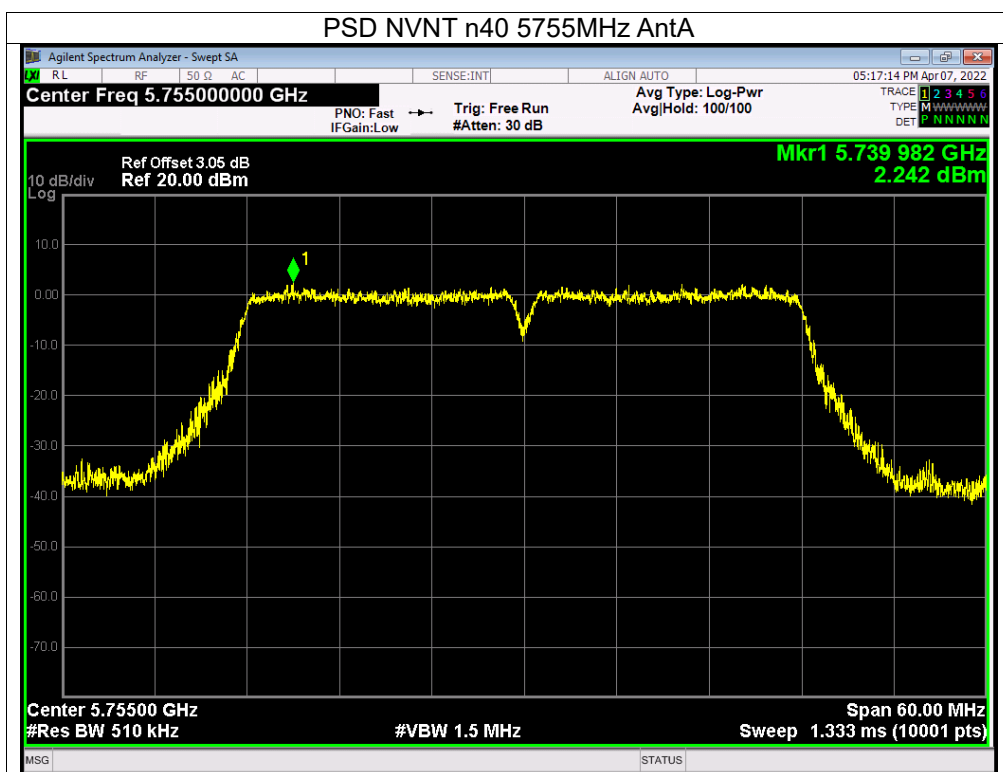
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A ,only shown Antenna A Plot.

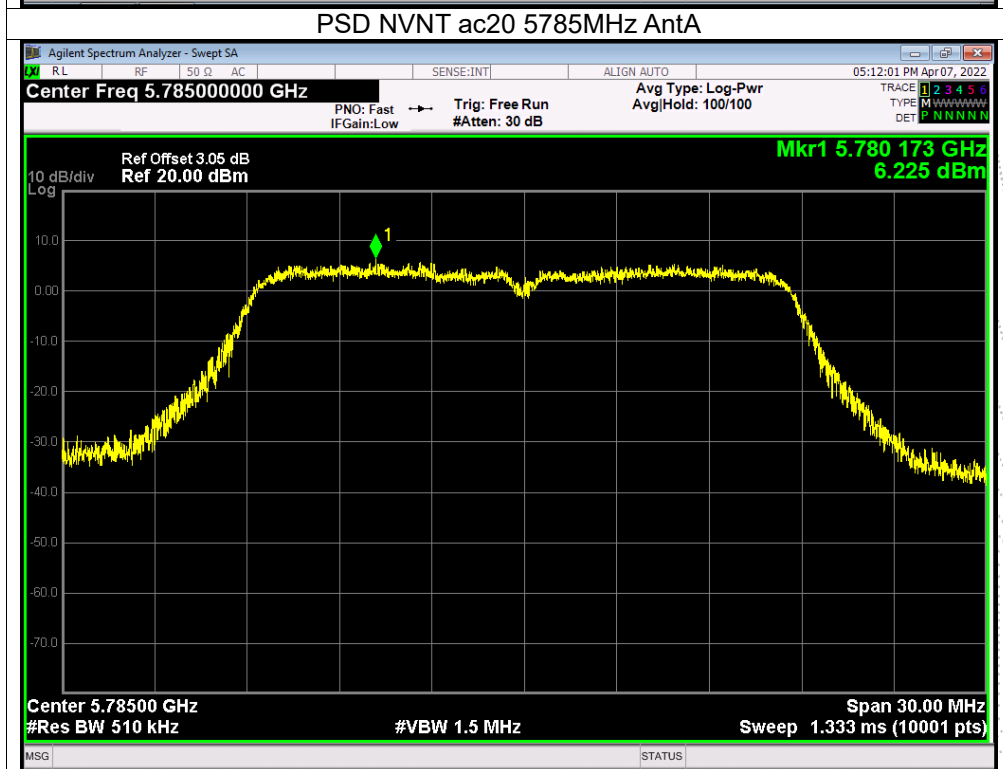
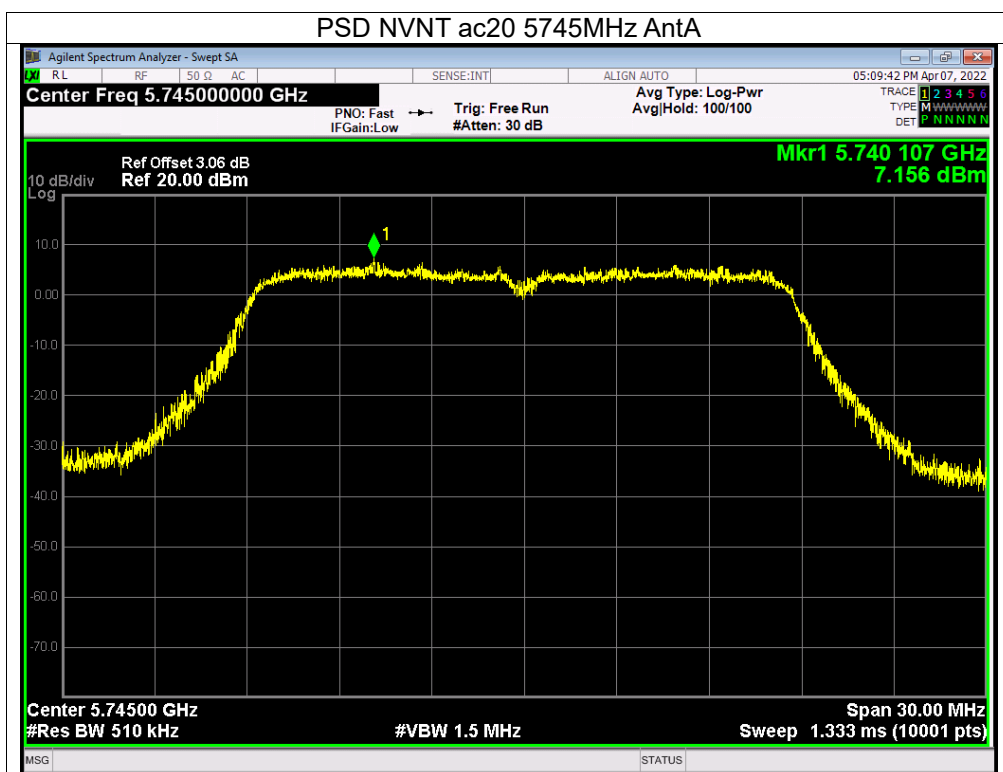
Mode	Frequency	Measured Power Density (dBm/500KHz)			Limit (dBm/500kHz)	Result
		ANT A	ANT B	Total		
802.11 a	5745 MHz	6.59	6.24	/	30	PASS
	5785 MHz	6.08	5.33	/	30	PASS
	5825 MHz	5.87	4.75	/	30	PASS
802.11 n20	5745 MHz	6.93	6.83	9.89	30	PASS
	5785 MHz	6.55	6.29	9.43	30	PASS
	5825 MHz	5.65	5.34	8.51	30	PASS
802.11 n40	5755 MHz	2.24	2.48	5.37	30	PASS
	5795 MHz	1.57	2.13	4.87	30	PASS
802.11 ac20	5745 MHz	7.16	6.46	9.83	30	PASS
	5785 MHz	6.23	5.61	8.94	30	PASS
	5825 MHz	5.29	5.45	8.38	30	PASS
802.11 ac40	5755 MHz	2.26	3.05	5.68	30	PASS
	5795 MHz	1.3	2.84	5.15	30	PASS
802.11 AC80	5775 MHz	-0.1	1.31	3.67	30	PASS

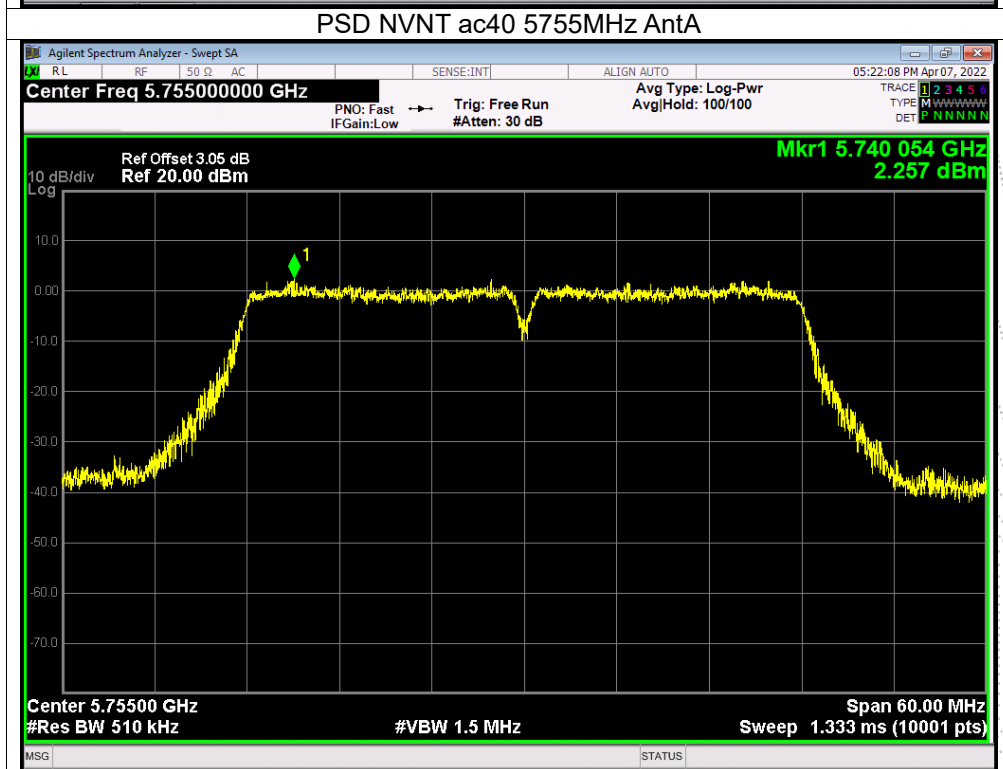
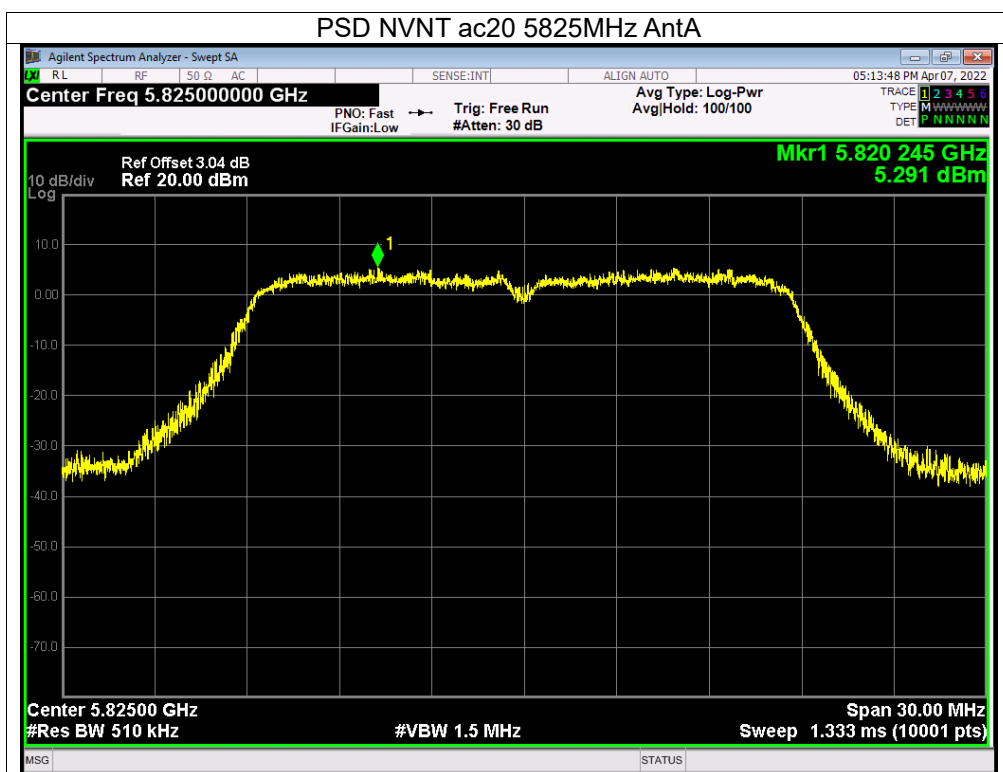


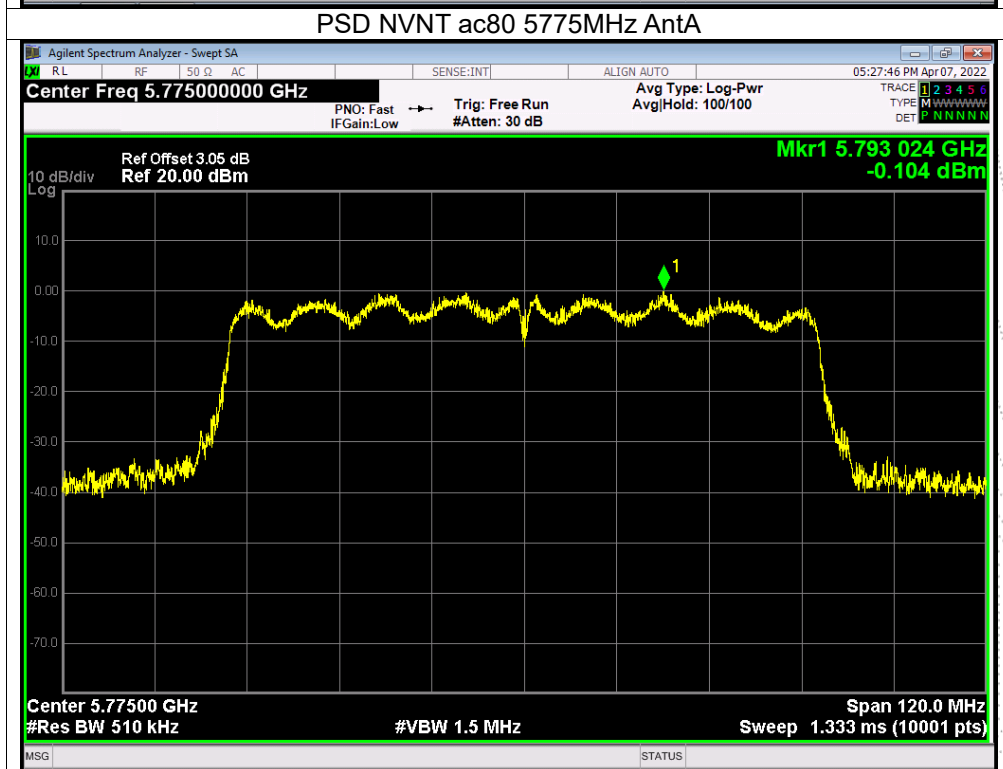
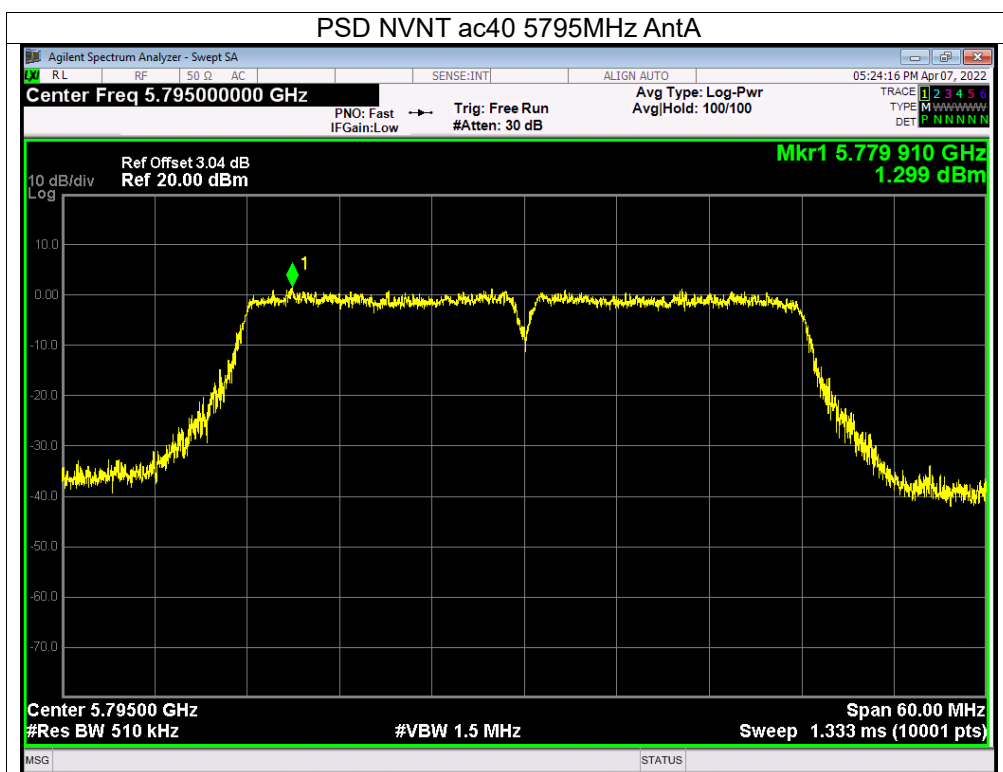






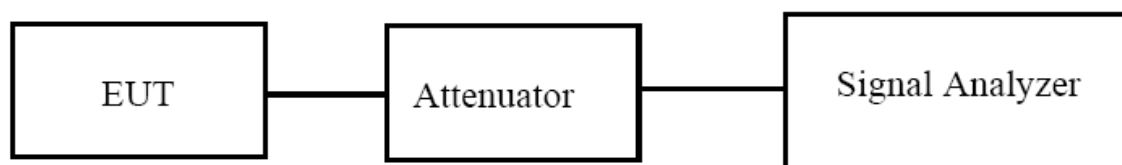






9. 26dB & 6dB & 99% Emission Bandwidth

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.

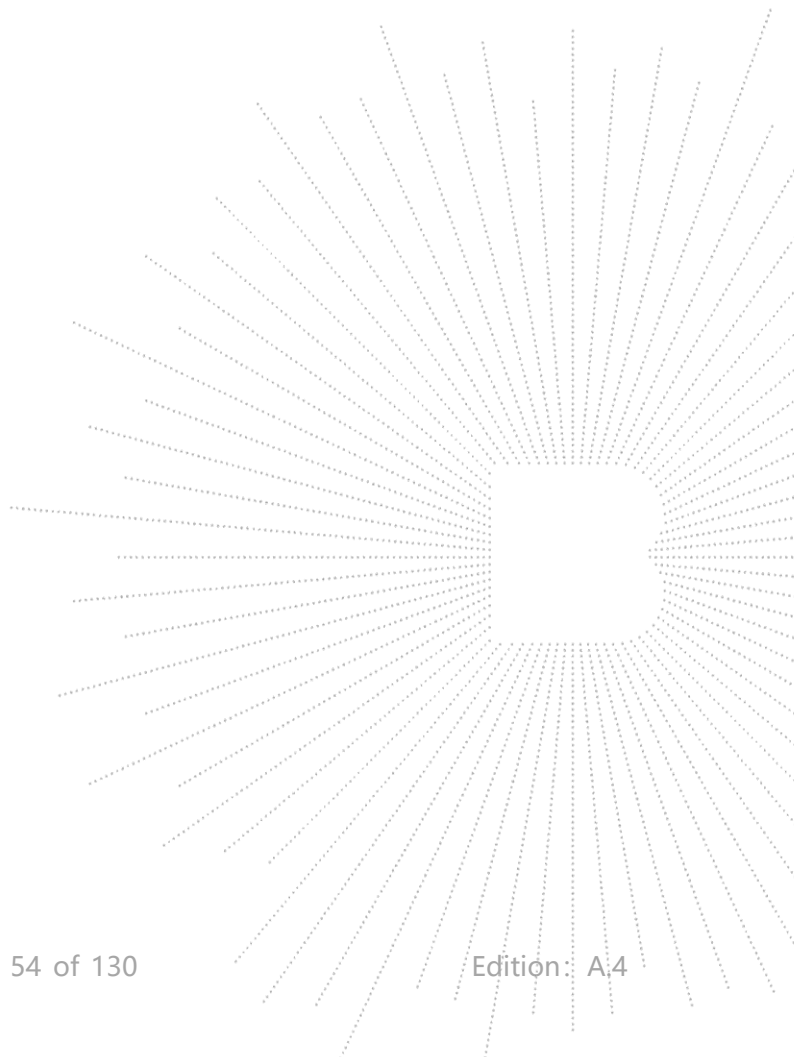
6dB

- 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)	Limit MHz	Result
			ANT A	ANT A		
802.11a	CH36	5180	16.525	20.867	N/A	Pass
	CH40	5200	16.476	20.254	N/A	Pass
	CH48	5240	16.497	21.016	N/A	Pass
802.11 n20	CH36	5180	17.583	20.716	N/A	Pass
	CH40	5200	17.58	20.689	N/A	Pass
	CH48	5240	17.599	21.104	N/A	Pass
802.11 n40	CH 38	5190	36.236	41.331	N/A	Pass
	CH 46	5230	36.313	42.158	N/A	Pass
802.11 ac20	CH36	5180	17.593	20.993	N/A	Pass
	CH40	5200	17.577	21.011	N/A	Pass
	CH48	5240	17.591	21.147	N/A	Pass
802.11 ac40	CH 38	5190	36.197	42.033	N/A	Pass
	CH 46	5230	36.242	42.232	N/A	Pass
802.11 AC80	CH 42	5210	75.407	81.678	N/A	Pass

Mode	Channel	Frequency (MHz)	99% bandwidth (MHz)	26dB bandwidth (MHz)	Limit MHz	Result
			ANT B	ANT B		
802.11a	CH36	5180	16.437	23.075	N/A	Pass
	CH40	5200	16.442	23.857	N/A	Pass
	CH48	5240	16.469	24.431	N/A	Pass
802.11 n20	CH36	5180	17.635	23.963	N/A	Pass
	CH40	5200	17.679	24.959	N/A	Pass
	CH48	5240	17.597	24.168	N/A	Pass
802.11 n40	CH 38	5190	36.111	44.026	N/A	Pass
	CH 46	5230	36.055	42.61	N/A	Pass
802.11 ac20	CH36	5180	17.625	24.496	N/A	Pass
	CH40	5200	17.639	25.716	N/A	Pass
	CH48	5240	17.598	24.128	N/A	Pass
802.11 ac40	CH 38	5190	36.017	42.302	N/A	Pass
	CH 46	5230	36.076	42.988	N/A	Pass
802.11 AC80	CH 42	5210	75.414	81.736	N/A	Pass



