

TEST REPORT

Report No.: BCTC2203790914-2E

Applicant: HK CHENYU TECHNOLOGY LIMITED

Product Name: USB WiFi Adapter

Model/Type Ref.: M-5572N-PCBA

Tested Date: 2022-03-08 to 2022-03-28

Issued Date: 2022-03-28

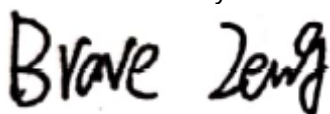
Shenzhen BCTC Testing Co., Ltd.



FCC ID: 2A50Q-M-5572N-PCBA

Product Name: USB WiFi Adapter
Trademark: N/A
Model/Type Ref.: M-5572N-PCBA
M-5572N,FX-5572N,FX-5572-PCBA
Prepared For: HK CHENYU TECHNOLOGY LIMITED
Address: Room 803, Chevalier House, 45-51 Chatham Road South, Tsim Sha Tsui, Kowloon, Hong Kong
Manufacturer: HK CHENYU TECHNOLOGY LIMITED
Address: Flr4, B Building, No.7 TongFu Road,Qiao'tou,Fuhai, Fuyong,Bao'an, Shenzhen, Guangdong.
Prepared By: 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
Sample Received Date: 2022-03-08
Sample tested Date: 2022-03-08 to 2022-03-28
Issue Date: 2022-03-28
Report No.: BCTC2203790914-2E
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

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

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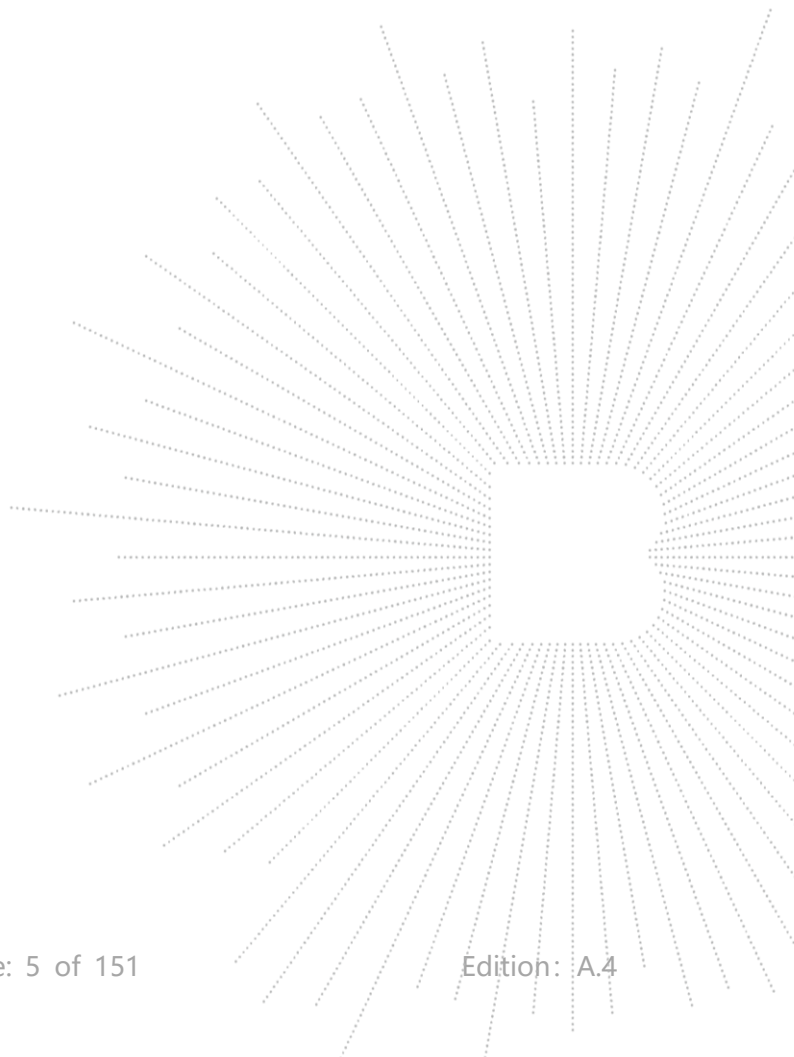
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(Note: N/A Means Not Applicable)

1. Version

Report No.	Issue Date	Description	Approved
BCTC2203790914-2E	2022-03-28	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

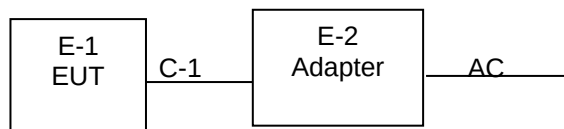
4.1 Product Information

Model/Type Ref.:	M-5572N-PCBA M-5572N,FX-5572N,FX-5572-PCBA
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 (20MHz channel bandwidth) 802.11n (40MHz channel bandwidth) 5180-5240MHz for 802.11a/n(HT20); 5190-5230MHz for 802.11n(HT40); 5260-5320MHz for 802.11a/n(HT20); 5270-5310MHz for 802.11n(HT40); 5745-5825 MHz for 802.11a/n(HT20); 5755-5795 MHz for 802.11n(HT40);
Operation Frequency:	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40):MCS0-MCS15;
Data Rate	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11a/n
Type of Modulation:	4 channels for 802.11a/n20 in the 5180-5240MHz band ; 2 channels for 802.11 n40 in the 5190-5230MHz band ; 4 channels for 802.11a/n20 in the 5260-5320MHz band ; 2 channels for 802.11 n40 in the 5270-5310MHz band ; 5 channels for 802.11a/n20 in the 5745-5825MHz band ; 2 channels for 802.11 n40 in the 5755-5795MHz band ;
Number Of Channel	PCB antenna
Antenna installation:	5.1G: Antenna A & B: 2 dBi 5.3G: Antenna A & B: 2 dBi 5.8G: Antenna A & B: 2 dBi
Antenna Gain:	DC 5V From PC
Ratings:	

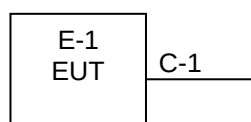
4.2 Test Setup Configuration

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	USB WiFi Adapter	N/A	M-5572N-PCBA	N/A	EUT
E-2	Notebook computer	N/A	T2264MD	N/A	Auxiliary

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	0.6M	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

Frequency and Channel list for 802.11a/n (20 MHz) band I (5180-5240MHz):

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

Frequency and Channel list for 802.11a/n(20 MHz) band 2A (5260-5320MHz):

802.11a/n (20 MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	64	5320	-	-	-	-
56	5280	-	-	-	-	-	-

802.11n 40MHz Carrier Frequency Channel					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
54	5270	62	5310	-	-

Frequency and Channel list for 802.11a/n(20 MHz) band 3 (5745-5825MHz):

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

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 20 CH36/ CH40 802.11a / n 20 CH149/ CH157
Mode 2	802.11n 40 CH38 802.11n 40 CH 151
Mode 3	Link Mode

Conducted Emission	
Final Test Mode	Description
Mode 3	Link Mode

Note:

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

4.6 Table Of Parameters Of Text Software Setting

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

Test software Version	CMD		
Parameters	DEF	DEF	DEF

4.7 Antenna

5.1G

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

5.3G

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

5.8G

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

EUT has two PCB antennas with Max gain GANT 2dBi on every antenna, also can operat with one spatial streams according to KDB662911 D01 v02r01,

Directional gain= GANT + Array Gain, where Array Gain is as follows.

1)For power spectral density(PSD) measurements,
 $\text{Array Gain} = 10\log(\text{NANT}/\text{NSS})\text{dB} = 10\log(2/1) = 3.01\text{ dBi}$,

So the directional gain for PSD is 5.01 dBi

2)For power measurements,
 The Array gain=0 for $\text{NANT} \leq 4$

So the directional gain for Power measurements is 2dBi

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

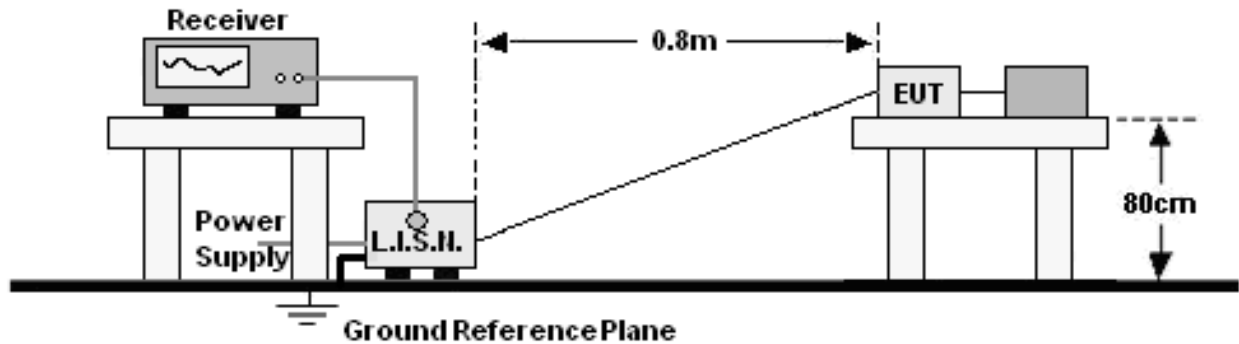
Conducted emissions Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Receiver	R&S	ESR3	102075	May 28, 2021	May 27, 2022
LISN	R&S	ENV216	101375	May 28, 2021	May 27, 2022
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\
Attenuator	\	10dB DC-6GHz	1650	May 28, 2021	May 27, 2022

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

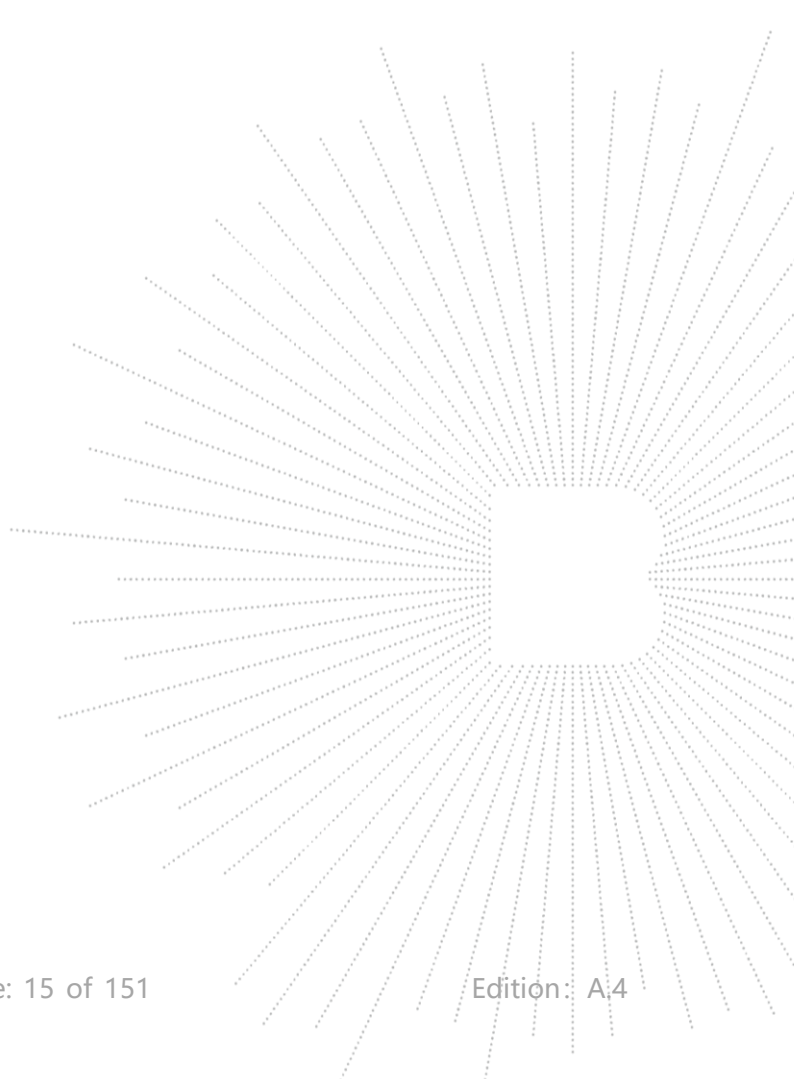
6.3 Test Procedure

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

- 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.

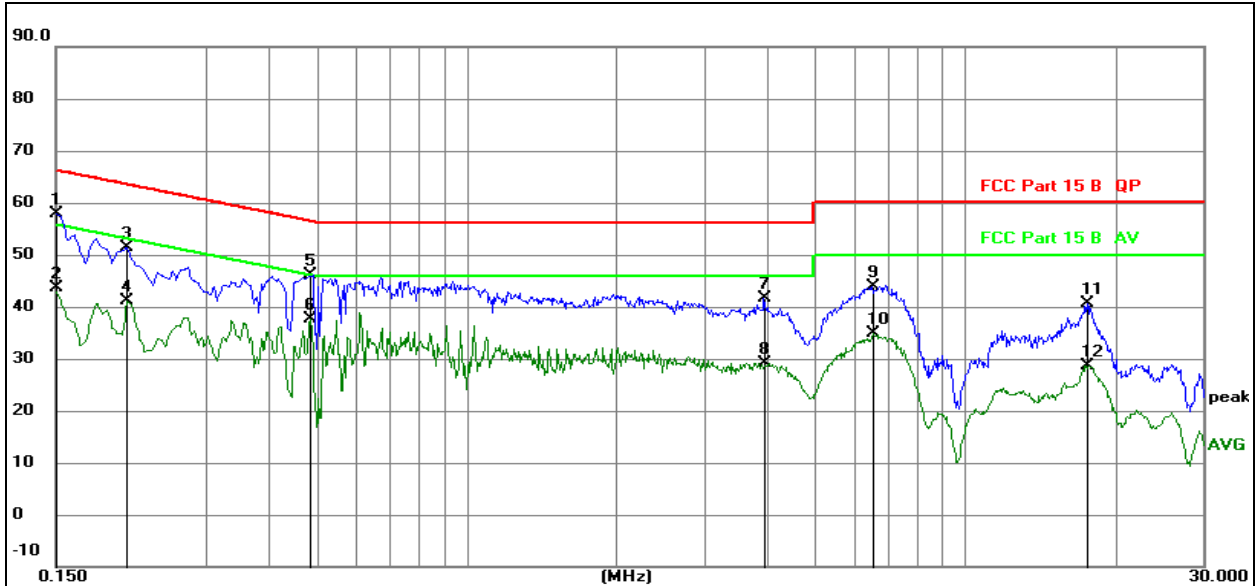
6.4 EUT Operating Conditions

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 :	AC120V/60Hz	Test Mode:	Mode 3

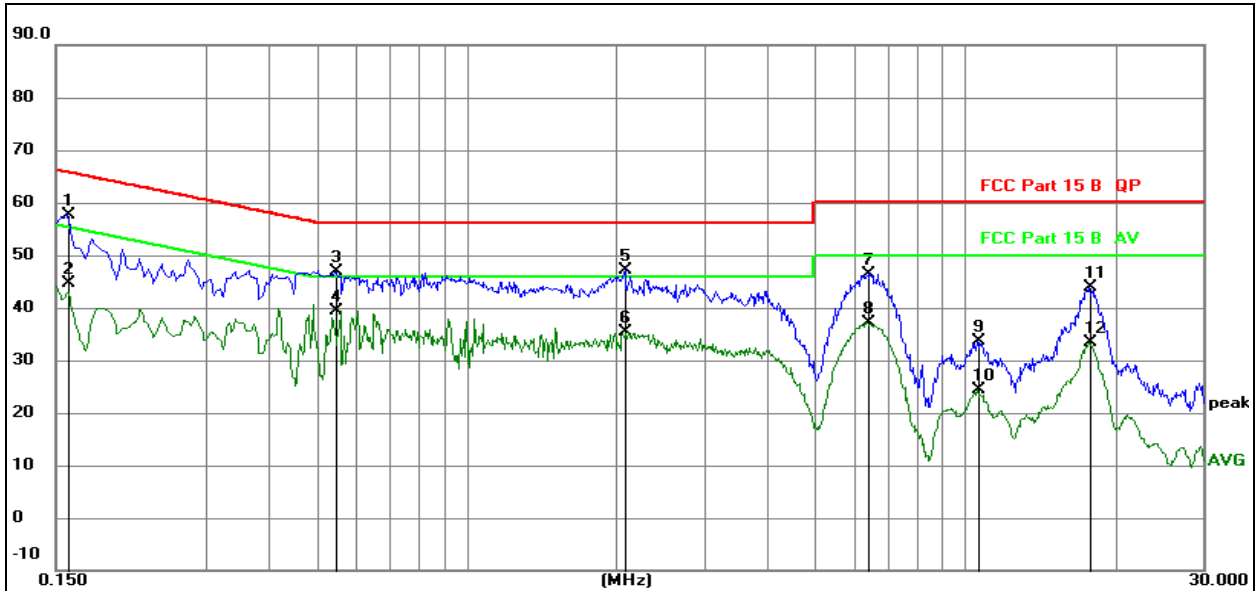


Remark:

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

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz		dB	dBuV	dBuV	dB	
1	*	0.1500	38.39	19.60	57.99	66.00	-8.01	QP
2		0.1500	23.95	19.60	43.55	56.00	-12.45	AVG
3		0.2083	31.85	19.60	51.45	63.27	-11.82	QP
4		0.2083	21.48	19.60	41.08	53.27	-12.19	AVG
5		0.4863	26.47	19.61	46.08	56.23	-10.15	QP
6		0.4863	17.96	19.61	37.57	46.23	-8.66	AVG
7		3.9430	21.91	19.67	41.58	56.00	-14.42	QP
8		3.9430	9.54	19.67	29.21	46.00	-16.79	AVG
9		6.5227	24.28	19.72	44.00	60.00	-16.00	QP
10		6.5227	15.06	19.72	34.78	50.00	-15.22	AVG
11		17.5677	20.79	19.75	40.54	60.00	-19.46	QP
12		17.5677	8.91	19.75	28.66	50.00	-21.34	AVG

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Phase :	N
Test Voltage :	AC120V/60Hz	Test Mode:	Mode 3


Remark:

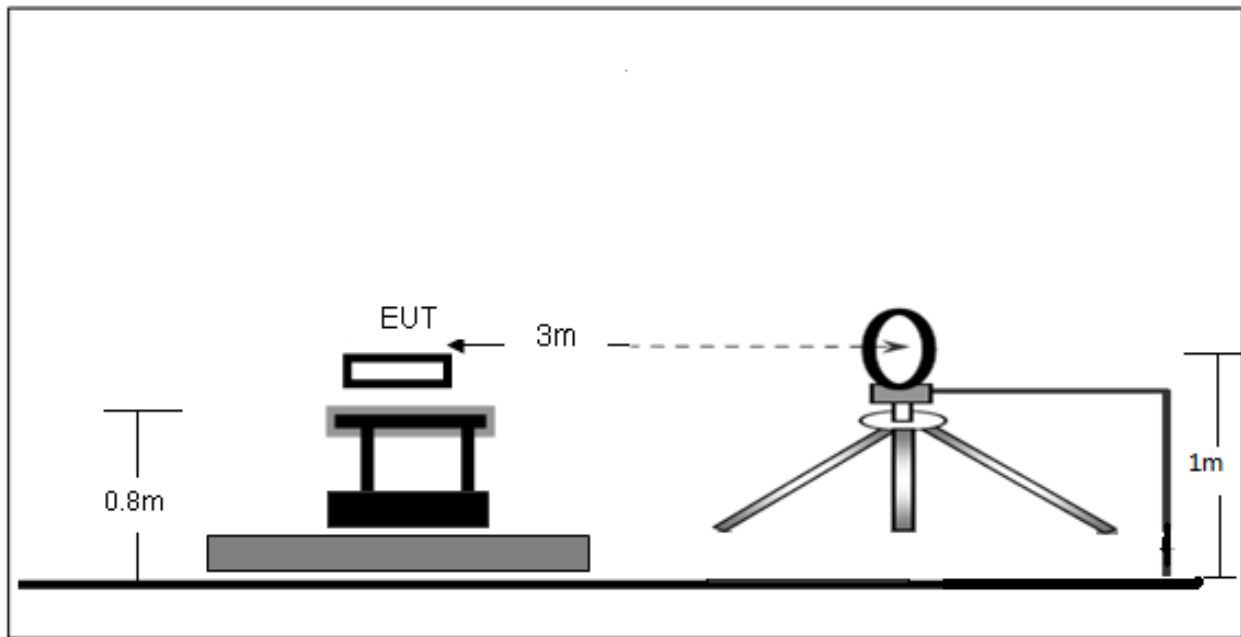
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.
3. Measurement=Reading Level+ Correct Factor
4. Over= Measurement-Limit

No.	Mk.	Freq. MHz	Reading Level	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1590	38.12	19.60	57.72	65.52	-7.80	QP
2		0.1590	24.98	19.60	44.58	55.52	-10.94	AVG
3		0.5460	27.37	19.61	46.98	56.00	-9.02	QP
4	*	0.5460	19.70	19.61	39.31	46.00	-6.69	AVG
5		2.0850	27.39	19.62	47.01	56.00	-8.99	QP
6		2.0850	15.84	19.62	35.46	46.00	-10.54	AVG
7		6.4185	26.68	19.72	46.40	60.00	-13.60	QP
8		6.4185	17.40	19.72	37.12	50.00	-12.88	AVG
9		10.6080	13.76	19.79	33.55	60.00	-26.45	QP
10		10.6080	4.48	19.79	24.27	50.00	-25.73	AVG
11		17.8215	24.11	19.75	43.86	60.00	-16.14	QP
12		17.8215	13.71	19.75	33.46	50.00	-16.54	AVG

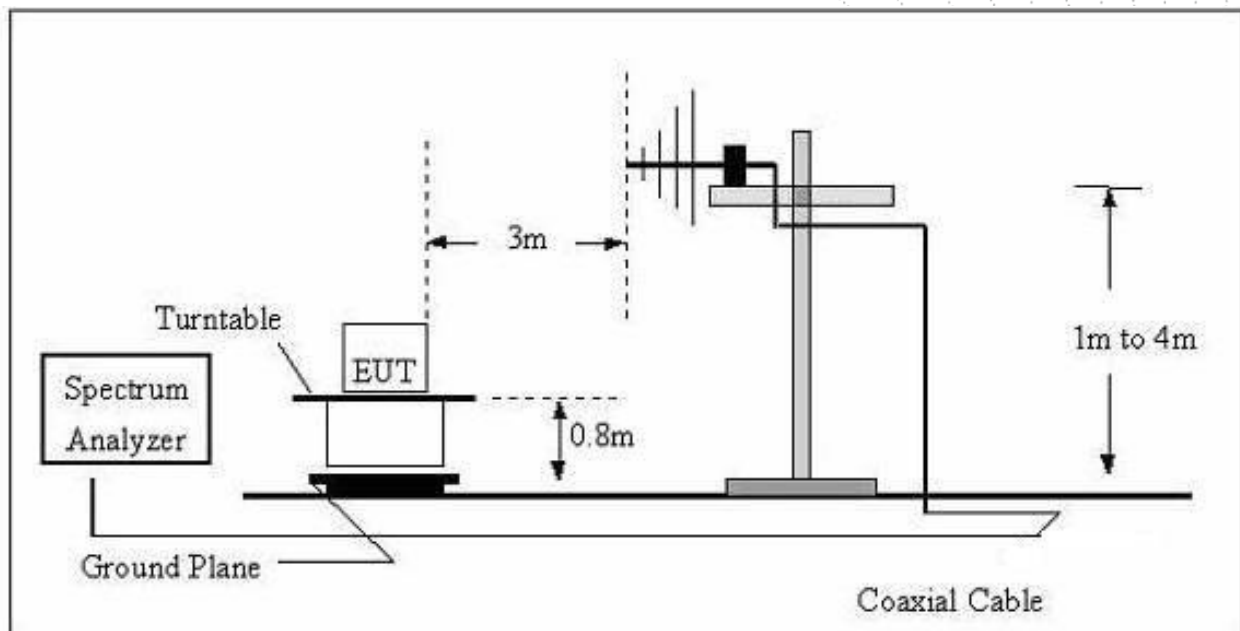
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

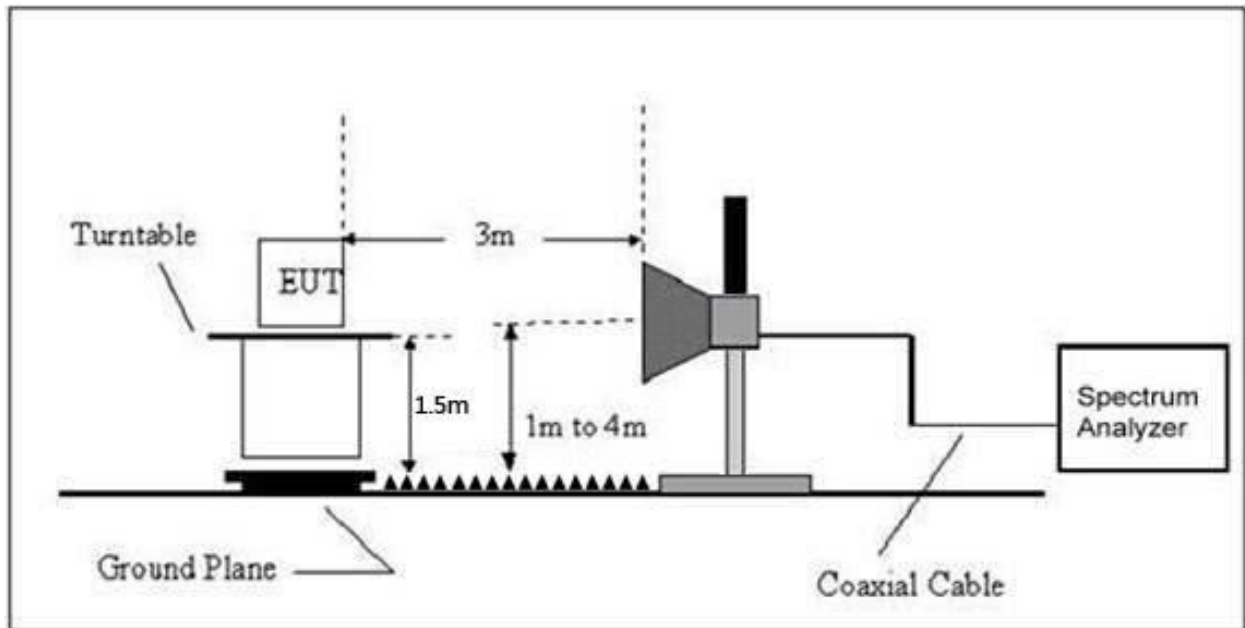
(A) Radiated Emission Test-Up Frequency Below 30MHz



(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 :	DC 5V From PC
Test Mode :	Mode 1	Polarization :	--

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

Note:

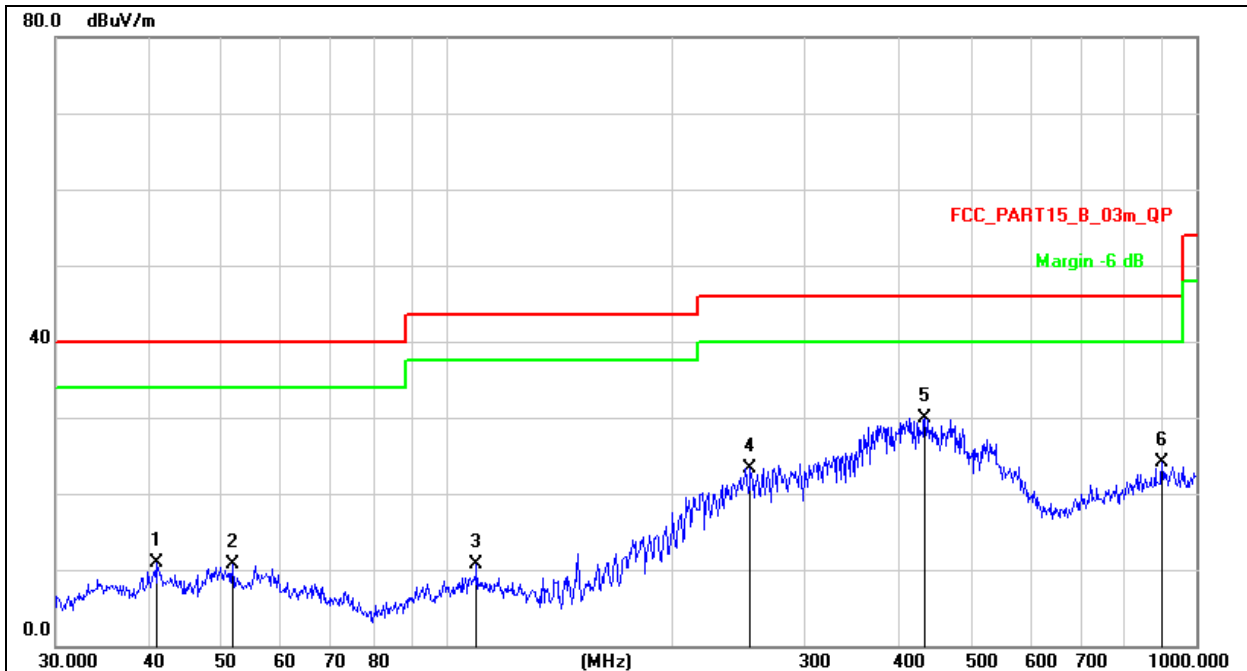
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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

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

Between 30MHz – 1GHz

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kPa	Test Voltage :	DC 5V From PC
Test Mode :	Mode 3	Polarization :	Horizontal

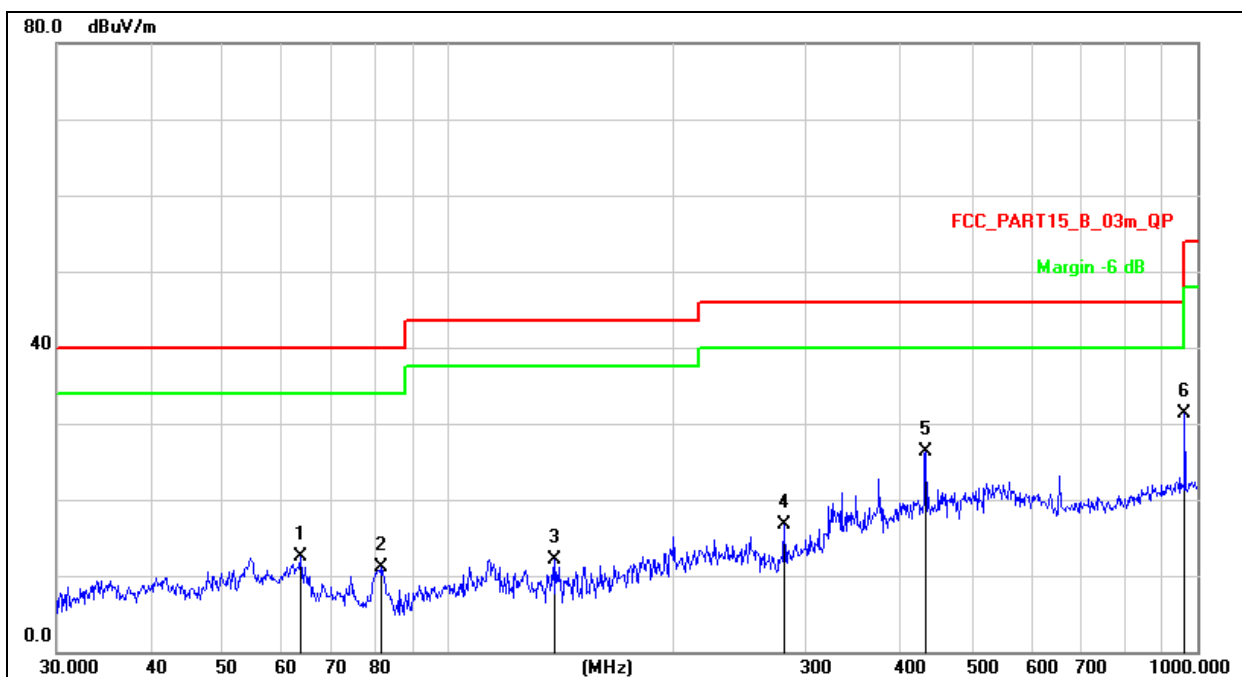


Remark:

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

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB	dBuV/m	dB/m	dB	
1		40.9881	26.24	-15.35	10.89	40.00	-29.11	QP
2		51.6616	25.69	-15.03	10.66	40.00	-29.34	QP
3		109.4116	27.52	-16.89	10.63	43.50	-32.87	QP
4		253.8367	38.41	-15.03	23.38	46.00	-22.62	QP
5	*	434.0651	40.33	-10.33	30.00	46.00	-16.00	QP
6		900.1474	25.58	-1.50	24.08	46.00	-21.92	QP

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kPa	Test Voltage :	DC 5V From PC
Test Mode :	Mode 1	Polarization :	Vertical



Remark:

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

No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
	MHz	dBuV	dB	dBuV/m	dB/m	dB	
1	63.5356	29.13	-16.72	12.41	40.00	-27.59	QP
2	81.4970	31.14	-20.06	11.08	40.00	-28.92	QP
3	138.8735	30.83	-18.78	12.05	43.50	-31.45	QP
4	281.0075	30.97	-14.19	16.78	46.00	-29.22	QP
5 *	434.0651	36.58	-10.33	26.25	46.00	-19.75	QP
6	962.1623	32.43	-1.04	31.39	54.00	-22.61	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	4434.081	62.15	5.94	35.40	44.00	59.49	68.2	-8.71	PK
V	4434.081	43.69	5.94	35.40	44.00	41.03	54	-12.97	AV
V	10360.058	63.52	8.46	39.75	44.50	67.23	68.2	-0.97	PK
V	10360.058	43.67	8.46	39.75	44.50	47.38	54	-6.62	AV
V	15540.148	61.49	10.12	38.80	44.10	66.31	74	-7.69	PK
V	15540.148	43.36	10.12	38.80	42.70	49.58	54	-4.42	AV
H	4434.061	64.69	5.94	35.18	44.00	61.81	68.2	-6.39	PK
H	4434.061	43.41	5.94	35.18	44.00	40.53	54	-13.47	AV
H	10360.088	50.08	8.46	38.71	44.50	52.75	68.2	-15.45	PK
H	10360.088	42.76	8.46	38.71	44.50	45.43	54	-8.57	AV
H	15540.155	53.07	10.12	38.38	44.10	57.47	74	-16.53	PK
H	15540.155	44.11	10.12	38.38	44.10	48.51	54	-5.49	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.085	64.72	6.48	36.35	44.05	63.50	74	-10.50	PK
V	4592.085	43.23	6.48	36.35	44.05	42.01	54	-11.99	AV
V	10400.039	61.74	8.47	37.88	44.51	63.58	68.2	-4.62	PK
V	10400.039	43.19	8.47	37.88	44.51	45.03	54	-8.97	AV
V	15600.012	64.58	10.12	38.80	44.10	69.40	74	-4.60	PK
V	15600.012	43.88	10.12	38.80	42.70	50.10	54	-3.90	AV
H	4592.117	63.89	6.48	36.37	44.05	62.69	74	-11.31	PK
H	4592.117	43.12	6.48	36.37	44.05	41.92	54	-12.08	AV
H	10400.098	51.30	8.47	38.64	44.50	53.91	68.2	-14.29	PK
H	10400.098	43.29	8.47	38.64	44.50	45.90	54	-8.10	AV
H	15600.127	54.59	10.12	38.38	44.10	58.99	74	-15.01	PK
H	15600.127	44.24	10.12	38.38	44.10	48.64	54	-5.36	AV
High Channel (5240 MHz)-Above 1G									
V	4739.057	62.53	7.10	37.24	43.50	63.37	74	-10.63	PK
V	4739.057	43.68	7.10	37.24	43.50	44.52	54	-9.48	AV
V	10480.094	61.56	8.46	37.68	44.50	63.20	68.2	-5.00	PK
V	10480.094	43.21	8.46	37.68	44.50	44.85	54	-9.15	AV
V	15720.192	62.89	10.12	38.80	44.10	67.71	74	-6.29	PK
V	15720.192	43.85	10.12	38.80	42.70	50.07	54	-3.93	AV
H	4739.138	64.25	7.10	37.24	43.50	65.09	74	-8.91	PK
H	4739.138	43.87	7.10	37.24	43.50	44.71	54	-9.29	AV
H	10480.013	50.72	8.46	38.57	44.50	53.25	68.2	-14.95	PK
H	10480.013	41.47	8.46	38.57	44.50	44.00	54	-10.00	AV
H	15720.175	54.16	10.12	38.38	44.10	58.56	74	-15.44	PK
H	15720.175	44.97	10.12	38.38	44.10	49.37	54	-4.63	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	4434.054	61.75	5.94	35.40	44.00	59.09	68.2	-9.11	PK
V	4434.054	43.87	5.94	35.40	44.00	41.21	54	-12.79	AV
V	10360.174	60.29	8.46	39.75	44.50	64.00	68.2	-4.20	PK
V	10360.174	43.31	8.46	39.75	44.50	47.02	54	-6.98	AV
V	15540.163	62.76	10.12	38.80	44.10	67.58	74	-6.42	PK
V	15540.163	43.82	10.12	38.80	42.70	50.04	54	-3.96	AV
H	4434.058	60.18	5.94	35.18	44.00	57.30	68.2	-10.90	PK
H	4434.058	43.15	5.94	35.18	44.00	40.27	54	-13.73	AV
H	10360.118	53.94	8.46	38.71	44.50	56.61	68.2	-11.59	PK
H	10360.118	44.19	8.46	38.71	44.50	46.86	54	-7.14	AV
H	15540.106	54.31	10.12	38.38	44.10	58.71	74	-15.29	PK
H	15540.106	42.77	10.12	38.38	44.10	47.17	54	-6.83	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.016	60.16	6.48	36.35	44.05	58.94	74	-15.06	PK
V	4592.016	43.74	6.48	36.35	44.05	42.52	54	-11.48	AV
V	10400.171	63.92	8.47	37.88	44.51	65.76	68.2	-2.44	PK
V	10400.171	43.26	8.47	37.88	44.51	45.10	54	-8.90	AV
V	15600.020	60.97	10.12	38.80	44.10	65.79	74	-8.21	PK
V	15600.020	43.24	10.12	38.80	42.70	49.46	54	-4.54	AV
H	4592.078	63.84	6.48	36.37	44.05	62.64	74	-11.36	PK
H	4592.078	43.18	6.48	36.37	44.05	41.98	54	-12.02	AV
H	10400.070	51.90	8.47	38.64	44.50	54.51	68.2	-13.69	PK
H	10400.070	42.43	8.47	38.64	44.50	45.04	54	-8.96	AV
H	15600.162	50.52	10.12	38.38	44.10	54.92	74	-19.08	PK
H	15600.162	41.99	10.12	38.38	44.10	46.39	54	-7.61	AV
High Channel (5240 MHz)-Above 1G									
V	4739.176	60.44	7.10	37.24	43.50	61.28	74	-12.72	PK
V	4739.176	43.55	7.10	37.24	43.50	44.39	54	-9.61	AV
V	10480.094	62.95	8.46	37.68	44.50	64.59	68.2	-3.61	PK
V	10480.094	43.86	8.46	37.68	44.50	45.50	54	-8.50	AV
V	15720.183	61.87	10.12	38.80	44.10	66.69	74	-7.31	PK
V	15720.183	43.18	10.12	38.80	42.70	49.40	54	-4.60	AV
H	4739.133	64.14	7.10	37.24	43.50	64.98	74	-9.02	PK
H	4739.133	43.18	7.10	37.24	43.50	44.02	54	-9.98	AV
H	10480.071	54.29	8.46	38.57	44.50	56.82	68.2	-11.38	PK
H	10480.071	44.14	8.46	38.57	44.50	46.67	54	-7.33	AV
H	15720.107	50.31	10.12	38.38	44.10	54.71	74	-19.29	PK
H	15720.107	42.56	10.12	38.38	44.10	46.96	54	-7.04	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	4434.025	64.81	5.94	35.40	44.00	62.15	68.2	-6.05	PK
V	4434.025	43.29	5.94	35.40	44.00	40.63	54	-13.37	AV
V	10380.006	66.94	8.46	39.75	44.50	67.65	68.2	-3.55	PK
V	10380.006	43.62	8.46	39.75	44.50	47.33	54	-6.67	AV
V	15570.184	60.95	10.12	38.80	44.10	65.77	74	-8.23	PK
V	15570.184	43.88	10.12	38.80	42.70	50.10	54	-3.90	AV
H	4434.184	62.96	5.94	35.18	44.00	60.08	74	-13.92	PK
H	4434.184	43.40	5.94	35.18	44.00	40.52	54	-13.48	AV
H	10380.130	53.95	8.46	38.71	44.50	56.62	68.2	-11.58	PK
H	10380.130	44.97	8.46	38.71	44.50	47.64	54	-6.36	AV
H	15570.040	53.82	10.12	38.38	44.10	58.22	74	-15.78	PK
H	15570.040	43.02	10.12	38.38	44.10	47.42	54	-6.58	AV
middle Channel (5230 MHz)-Above 1G									
V	4739.028	64.24	6.48	36.35	44.05	63.02	68.2	-5.18	PK
V	4739.028	43.13	6.48	36.35	44.05	41.91	54	-12.09	AV
V	10460.139	61.27	8.47	37.88	44.51	63.11	68.2	-5.09	PK
V	10460.139	43.34	8.47	37.88	44.51	45.18	54	-8.82	AV
V	15690.196	63.51	10.12	38.80	44.10	68.33	74	-5.67	PK
V	15690.196	43.65	10.12	38.80	42.70	49.87	54	-4.13	AV
H	4739.151	62.31	6.48	36.37	44.05	61.11	68.2	-7.09	PK
H	4739.151	43.52	6.48	36.37	44.05	42.32	54	-11.68	AV
H	10460.129	54.81	8.47	38.64	44.50	57.42	68.2	-10.78	PK
H	10460.129	40.93	8.47	38.64	44.50	43.54	54	-10.46	AV
H	15690.024	54.13	10.12	38.38	44.10	58.53	74	-15.47	PK
H	15690.024	42.35	10.12	38.38	44.10	46.75	54	-7.25	AV

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

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

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

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

Test Mode is MIMO Mode.

Test Mode :	TX(5.3G) - 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 (5260 MHz)-Above 1G									
V	4434.047	60.45	5.94	35.40	44.00	57.79	68.2	-10.41	PK
V	4434.047	43.76	5.94	35.40	44.00	41.10	54	-12.90	AV
V	10520.110	66.29	8.46	39.75	44.50	67.00	68.2	-4.20	PK
V	10520.110	43.87	8.46	39.75	44.50	47.58	54	-6.42	AV
V	15780.118	63.35	10.12	38.80	44.10	68.17	74	-5.83	PK
V	15780.118	43.44	10.12	38.80	42.70	49.66	54	-4.34	AV
H	4434.058	61.77	5.94	35.18	44.00	58.89	68.2	-9.31	PK
H	4434.058	43.96	5.94	35.18	44.00	41.08	54	-12.92	AV
H	10520.158	52.54	8.46	38.71	44.50	55.21	68.2	-12.99	PK
H	10520.158	40.45	8.46	38.71	44.50	43.12	54	-10.88	AV
H	15780.099	54.20	10.12	38.38	44.10	58.60	74	-15.40	PK
H	15780.099	43.07	10.12	38.38	44.10	47.47	54	-6.53	AV
middle Channel (5280 MHz)-Above 1G									
V	4592.012	63.81	6.48	36.35	44.05	62.59	74	-11.41	PK
V	4592.012	43.05	6.48	36.35	44.05	41.83	54	-12.17	AV
V	10560.020	60.52	8.47	37.88	44.51	62.36	68.2	-5.84	PK
V	10560.020	43.58	8.47	37.88	44.51	45.42	54	-8.58	AV
V	15840.172	62.94	10.12	38.80	44.10	67.76	74	-6.24	PK
V	15840.172	43.12	10.12	38.80	42.70	49.34	54	-4.66	AV
H	4592.096	61.86	6.48	36.37	44.05	60.66	74	-13.34	PK
H	4592.096	43.25	6.48	36.37	44.05	42.05	54	-11.95	AV
H	10560.032	53.56	8.47	38.64	44.50	56.17	68.2	-12.03	PK
H	10560.032	44.83	8.47	38.64	44.50	47.44	54	-6.56	AV
H	15840.023	53.75	10.12	38.38	44.10	58.15	74	-15.85	PK
H	15840.023	44.63	10.12	38.38	44.10	49.03	54	-4.97	AV
High Channel (5320 MHz)-Above 1G									
V	4739.073	60.29	7.10	37.24	43.50	61.13	74	-12.87	PK
V	4739.073	43.35	7.10	37.24	43.50	44.19	54	-9.81	AV
V	10640.090	63.53	8.46	37.68	44.50	65.17	68.2	-3.03	PK
V	10640.090	43.54	8.46	37.68	44.50	45.18	54	-8.82	AV
V	15960.083	61.65	10.12	38.80	44.10	66.47	74	-7.53	PK
V	15960.083	43.62	10.12	38.80	42.70	49.84	54	-4.16	AV
H	4739.141	61.89	7.10	37.24	43.50	62.73	74	-11.27	PK
H	4739.141	43.49	7.10	37.24	43.50	44.33	54	-9.67	AV
H	10640.143	53.84	8.46	38.57	44.50	56.37	68.2	-11.83	PK
H	10640.143	40.75	8.46	38.57	44.50	43.28	54	-10.72	AV
H	15960.044	52.04	10.12	38.38	44.10	56.44	74	-17.56	PK
H	15960.044	41.94	10.12	38.38	44.10	46.34	54	-7.66	AV

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

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

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

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

The worst case is Antenna A.

Test Mode :	TX(5.3G) - 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 (5260 MHz)-Above 1G									
V	4434.166	60.38	5.94	35.40	44.00	57.72	68.2	-10.48	PK
V	4434.166	43.57	5.94	35.40	44.00	40.91	54	-13.09	AV
V	10520.149	64.62	8.46	39.75	44.50	66.33	68.2	-3.87	PK
V	10520.149	43.18	8.46	39.75	44.50	46.89	54	-7.11	AV
V	15780.059	60.69	10.12	38.80	44.10	65.51	74	-8.49	PK
V	15780.059	43.05	10.12	38.80	42.70	49.27	54	-4.73	AV
H	4434.065	64.96	5.94	35.18	44.00	62.08	68.2	-6.12	PK
H	4434.065	43.06	5.94	35.18	44.00	40.18	54	-13.82	AV
H	10520.084	50.29	8.46	38.71	44.50	52.96	68.2	-15.24	PK
H	10520.084	43.32	8.46	38.71	44.50	45.99	54	-8.01	AV
H	15780.174	50.08	10.12	38.38	44.10	54.48	74	-19.52	PK
H	15780.174	41.71	10.12	38.38	44.10	46.11	54	-7.89	AV
middle Channel (5280 MHz)-Above 1G									
V	4592.093	60.34	6.48	36.35	44.05	59.12	74	-14.88	PK
V	4592.093	43.99	6.48	36.35	44.05	42.77	54	-11.23	AV
V	10560.184	61.10	8.47	37.88	44.51	62.94	68.2	-5.26	PK
V	10560.184	43.90	8.47	37.88	44.51	45.74	54	-8.26	AV
V	15840.048	64.68	10.12	38.80	44.10	69.50	74	-4.50	PK
V	15840.048	43.46	10.12	38.80	42.70	49.68	54	-4.32	AV
H	4592.018	64.00	6.48	36.37	44.05	62.80	74	-11.20	PK
H	4592.018	43.07	6.48	36.37	44.05	41.87	54	-12.13	AV
H	10560.133	51.09	8.47	38.64	44.50	53.70	68.2	-14.50	PK
H	10560.133	41.16	8.47	38.64	44.50	43.77	54	-10.23	AV
H	15840.046	54.51	10.12	38.38	44.10	58.91	74	-15.09	PK
H	15840.046	44.32	10.12	38.38	44.10	48.72	54	-5.28	AV
High Channel (5320 MHz)-Above 1G									
V	4739.155	60.18	7.10	37.24	43.50	61.02	74	-12.98	PK
V	4739.155	43.89	7.10	37.24	43.50	44.73	54	-9.27	AV
V	10640.171	62.96	8.46	37.68	44.50	64.60	68.2	-3.60	PK
V	10640.171	43.69	8.46	37.68	44.50	45.33	54	-8.67	AV
V	15960.117	60.99	10.12	38.80	44.10	65.81	74	-8.19	PK
V	15960.117	43.99	10.12	38.80	42.70	50.21	54	-3.79	AV
H	4739.114	60.47	7.10	37.24	43.50	61.31	74	-12.69	PK
H	4739.114	43.57	7.10	37.24	43.50	44.41	54	-9.59	AV
H	10640.106	52.59	8.46	38.57	44.50	55.12	68.2	-13.08	PK
H	10640.106	43.08	8.46	38.57	44.50	45.61	54	-8.39	AV
H	15960.070	50.93	10.12	38.38	44.10	55.33	74	-18.67	PK
H	15960.070	40.58	10.12	38.38	44.10	44.98	54	-9.02	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(5.3G) - 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 (5270 MHz)-Above 1G									
V	4434.080	60.80	5.94	35.40	44.00	58.14	68.2	-10.06	PK
V	4434.080	43.05	5.94	35.40	44.00	40.39	54	-13.61	AV
V	10540.005	62.45	8.46	39.75	44.50	66.16	68.2	-2.04	PK
V	10540.005	43.63	8.46	39.75	44.50	47.34	54	-6.66	AV
V	15810.091	64.76	10.12	38.80	44.10	69.58	74	-4.42	PK
V	15810.091	43.32	10.12	38.80	42.70	49.54	54	-4.46	AV
H	4434.136	60.96	5.94	35.18	44.00	58.08	74	-15.92	PK
H	4434.136	43.55	5.94	35.18	44.00	40.67	54	-13.33	AV
H	10540.074	51.22	8.46	38.71	44.50	53.89	68.2	-14.31	PK
H	10540.074	43.98	8.46	38.71	44.50	46.65	54	-7.35	AV
H	15810.050	50.12	10.12	38.38	44.10	54.52	74	-19.48	PK
H	15810.050	42.35	10.12	38.38	44.10	46.75	54	-7.25	AV
middle Channel (5310 MHz)-Above 1G									
V	4739.129	61.64	6.48	36.35	44.05	60.42	68.2	-7.78	PK
V	4739.129	43.14	6.48	36.35	44.05	41.92	54	-12.08	AV
V	10620.133	61.82	8.47	37.88	44.51	63.66	68.2	-4.54	PK
V	10620.133	43.37	8.47	37.88	44.51	45.21	54	-8.79	AV
V	15930.144	62.29	10.12	38.80	44.10	67.11	74	-6.89	PK
V	15930.144	43.25	10.12	38.80	42.70	49.47	54	-4.53	AV
H	4739.190	62.05	6.48	36.37	44.05	60.85	68.2	-7.35	PK
H	4739.190	43.67	6.48	36.37	44.05	42.47	54	-11.53	AV
H	10620.052	52.35	8.47	38.64	44.50	54.96	68.2	-13.24	PK
H	10620.052	40.20	8.47	38.64	44.50	42.81	54	-11.19	AV
H	15930.030	52.82	10.12	38.38	44.10	57.22	74	-16.78	PK
H	15930.030	40.48	10.12	38.38	44.10	44.88	54	-9.12	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	4679.084	56.02	5.94	35.40	44.00	53.36	74	-20.64	PK
V	4679.084	43.27	5.94	35.40	44.00	40.61	54	-13.39	AV
V	11490.125	55.73	8.46	39.75	44.50	59.44	68.2	-8.76	PK
V	11490.125	43.33	8.46	39.75	44.50	47.04	54	-6.96	AV
V	17235.185	56.37	10.12	38.80	44.10	61.19	68.2	-7.01	PK
V	17235.185	43.60	10.12	38.80	42.70	49.82	54	-4.18	AV
H	4679.033	54.86	5.94	35.18	44.00	51.98	74	-22.02	PK
H	4679.033	43.75	5.94	35.18	44.00	40.87	54	-13.13	AV
H	11490.024	50.15	8.46	38.71	44.50	52.82	68.2	-15.38	PK
H	11490.024	41.19	8.46	38.71	44.50	43.86	54	-10.14	AV
H	17235.047	53.92	10.12	38.38	44.10	58.32	68.2	-9.88	PK
H	17235.047	40.88	10.12	38.38	44.10	45.28	54	-8.72	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.126	57.10	6.48	36.35	44.05	55.88	74	-18.12	PK
V	4592.126	43.69	6.48	36.35	44.05	42.47	54	-11.53	AV
V	11570.159	55.67	8.47	37.88	44.51	57.51	68.2	-10.69	PK
V	11570.159	43.36	8.47	37.88	44.51	45.20	54	-8.80	AV
V	17355.154	59.32	10.12	38.80	44.10	64.14	68.2	-4.06	PK
V	17355.154	39.93	10.12	38.80	42.70	46.15	54	-7.85	AV
H	4592.122	57.47	6.48	36.37	44.05	56.27	74	-17.73	PK
H	4592.122	43.35	6.48	36.37	44.05	42.15	54	-11.85	AV
H	11570.036	54.16	8.47	38.64	44.50	56.77	68.2	-11.43	PK
H	11570.036	44.98	8.47	38.64	44.50	47.59	54	-6.41	AV
H	17355.052	53.75	10.12	38.38	44.10	58.15	68.2	-10.05	PK
H	17355.052	41.36	10.12	38.38	44.10	45.76	54	-8.24	AV
High Channel (5825 MHz)-Above 1G									
V	6039.074	57.98	7.10	37.24	43.50	58.82	68.2	-9.38	PK
V	6039.074	43.83	7.10	37.24	43.50	44.67	54	-9.33	AV
V	11650.035	61.11	8.46	37.68	44.50	62.75	74	-11.25	PK
V	11650.035	43.58	8.46	37.68	44.50	45.22	54	-8.78	AV
V	17475.022	57.71	10.12	38.80	44.10	62.53	68.2	-5.67	PK
V	17475.022	43.14	10.12	38.80	42.70	49.36	54	-4.64	AV
H	6039.004	58.12	7.10	37.24	43.50	58.96	68.2	-9.24	PK
H	6039.004	43.25	7.10	37.24	43.50	44.09	54	-9.91	AV
H	11650.159	53.58	8.46	38.57	44.50	56.11	74	-17.89	PK
H	11650.159	44.03	8.46	38.57	44.50	46.56	54	-7.44	AV
H	17475.181	52.81	10.12	38.38	44.10	57.21	68.2	-10.99	PK
H	17475.181	40.60	10.12	38.38	44.10	45.00	54	-9.00	AV

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

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

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

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

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	4679.043	59.26	5.94	35.40	44.00	56.60	74	-17.40	PK
V	4679.043	43.76	5.94	35.40	44.00	41.10	54	-12.90	AV
V	11490.144	57.00	8.46	39.75	44.50	60.71	68.2	-7.49	PK
V	11490.144	43.98	8.46	39.75	44.50	47.69	54	-6.31	AV
V	17235.146	60.23	10.12	38.80	44.10	65.05	68.2	-3.15	PK
V	17235.146	43.17	10.12	38.80	42.70	49.39	54	-4.61	AV
H	4679.108	57.33	5.94	35.18	44.00	54.45	74	-19.55	PK
H	4679.108	43.15	5.94	35.18	44.00	40.27	54	-13.73	AV
H	11490.039	50.41	8.46	38.71	44.50	53.08	68.2	-15.12	PK
H	11490.039	43.48	8.46	38.71	44.50	46.15	54	-7.85	AV
H	17235.070	51.59	10.12	38.38	44.10	55.99	68.2	-12.21	PK
H	17235.070	42.60	10.12	38.38	44.10	47.00	54	-7.00	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.000	59.86	6.48	36.35	44.05	58.64	74	-15.36	PK
V	4592.000	43.03	6.48	36.35	44.05	41.81	54	-12.19	AV
V	11570.176	58.55	8.47	37.88	44.51	60.39	68.2	-7.81	PK
V	11570.176	43.66	8.47	37.88	44.51	45.50	54	-8.50	AV
V	17355.060	57.91	10.12	38.80	44.10	62.73	68.2	-5.47	PK
V	17355.060	43.44	10.12	38.80	42.70	49.66	54	-4.34	AV
H	4592.092	56.02	6.48	36.37	44.05	54.82	74	-19.18	PK
H	4592.092	43.46	6.48	36.37	44.05	42.26	54	-11.74	AV
H	11570.037	50.60	8.47	38.64	44.50	53.21	68.2	-14.99	PK
H	11570.037	43.36	8.47	38.64	44.50	45.97	54	-8.03	AV
H	17355.175	52.13	10.12	38.38	44.10	56.53	68.2	-11.67	PK
H	17355.175	42.53	10.12	38.38	44.10	46.93	54	-7.07	AV
High Channel (5825 MHz)-Above 1G									
V	6039.074	56.76	7.10	37.24	43.50	57.60	68.2	-10.60	PK
V	6039.074	43.80	7.10	37.24	43.50	44.64	54	-9.36	AV
V	11650.061	57.22	8.46	37.68	44.50	58.86	74	-15.14	PK
V	11650.061	43.96	8.46	37.68	44.50	45.60	54	-8.40	AV
V	17475.024	55.14	10.12	38.80	44.10	59.96	68.2	-8.24	PK
V	17475.024	43.63	10.12	38.80	42.70	49.85	54	-4.15	AV
H	6039.140	56.67	7.10	37.24	43.50	57.51	68.2	-10.69	PK
H	6039.140	43.10	7.10	37.24	43.50	43.94	54	-10.06	AV
H	11650.055	54.23	8.46	38.57	44.50	56.76	74	-17.24	PK
H	11650.055	42.99	8.46	38.57	44.50	45.52	54	-8.48	AV
H	17475.003	50.84	10.12	38.38	44.10	55.24	68.2	-12.96	PK
H	17475.003	43.29	10.12	38.38	44.10	47.69	54	-6.31	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	4679.195	56.31	5.94	35.40	44.00	53.65	74	-20.35	PK
V	4679.195	43.46	5.94	35.40	44.00	40.80	54	-13.20	AV
V	11510.148	56.43	8.46	39.75	44.50	60.14	74	-13.86	PK
V	11510.148	43.69	8.46	39.75	44.50	47.40	54	-6.60	AV
V	17265.134	56.96	10.12	38.80	44.10	61.78	68.2	-6.42	PK
V	17265.134	2.00	10.12	38.80	42.70	8.22	54	-45.78	AV
H	4679.176	56.43	5.94	35.18	44.00	53.55	74	-20.45	PK
H	4679.176	43.44	5.94	35.18	44.00	40.56	54	-13.44	AV
H	11510.073	50.80	8.46	38.71	44.50	53.47	74	-20.53	PK
H	11510.073	41.49	8.46	38.71	44.50	44.16	54	-9.84	AV
H	17265.099	52.51	10.12	38.38	44.10	56.91	68.2	-11.29	PK
H	17265.099	40.44	10.12	38.38	44.10	44.84	54	-9.16	AV
middle Channel (5795 MHz)-Above 1G									
V	6039.114	56.15	6.48	36.35	44.05	54.93	68.2	-13.27	PK
V	6039.114	43.01	6.48	36.35	44.05	41.79	54	-12.21	AV
V	11590.037	55.81	8.47	37.88	44.51	57.65	74	-16.35	PK
V	11590.037	43.79	8.47	37.88	44.51	45.63	54	-8.37	AV
V	17385.147	55.94	10.12	38.80	44.10	60.76	68.2	-7.44	PK
V	17385.147	41.84	10.12	38.80	42.70	48.06	54	-5.94	AV
H	6039.050	58.98	6.48	36.37	44.05	57.78	68.2	-10.42	PK
H	6039.050	43.03	6.48	36.37	44.05	41.83	54	-12.17	AV
H	11590.126	53.77	8.47	38.64	44.50	56.38	74	-17.62	PK
H	11590.126	42.02	8.47	38.64	44.50	44.63	54	-9.37	AV
H	17385.200	52.82	10.12	38.38	44.10	57.22	68.2	-10.98	PK
H	17385.200	44.44	10.12	38.38	44.10	48.84	54	-5.16	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.

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

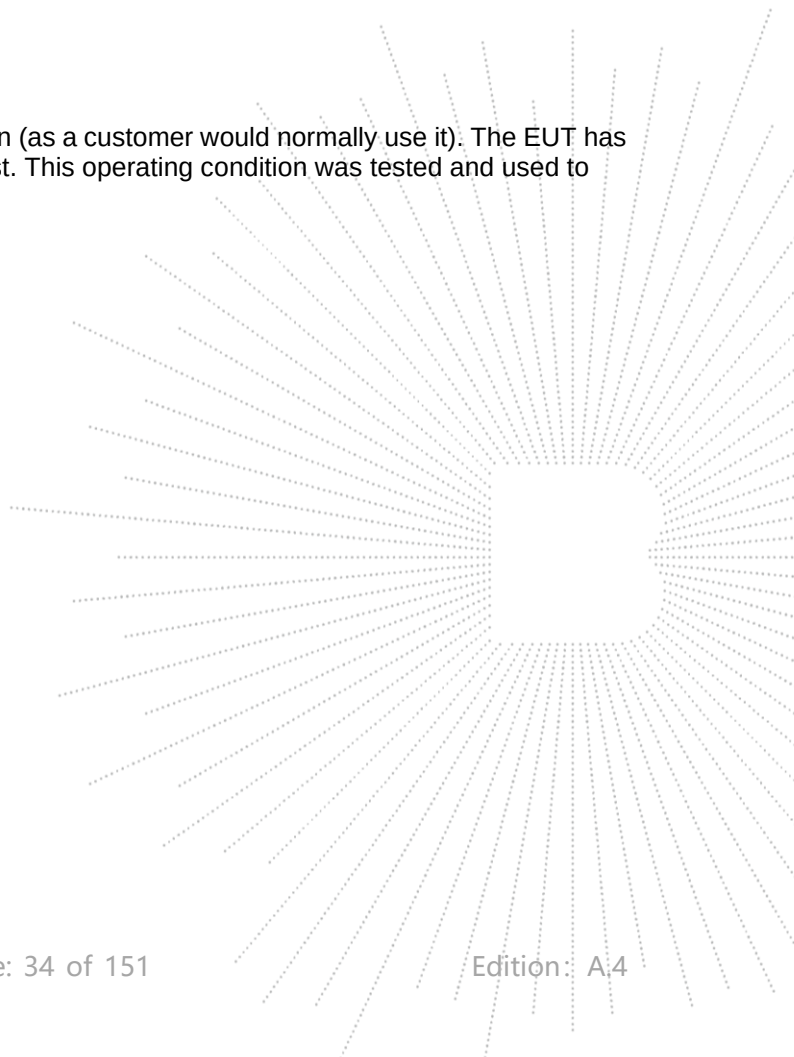
For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of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

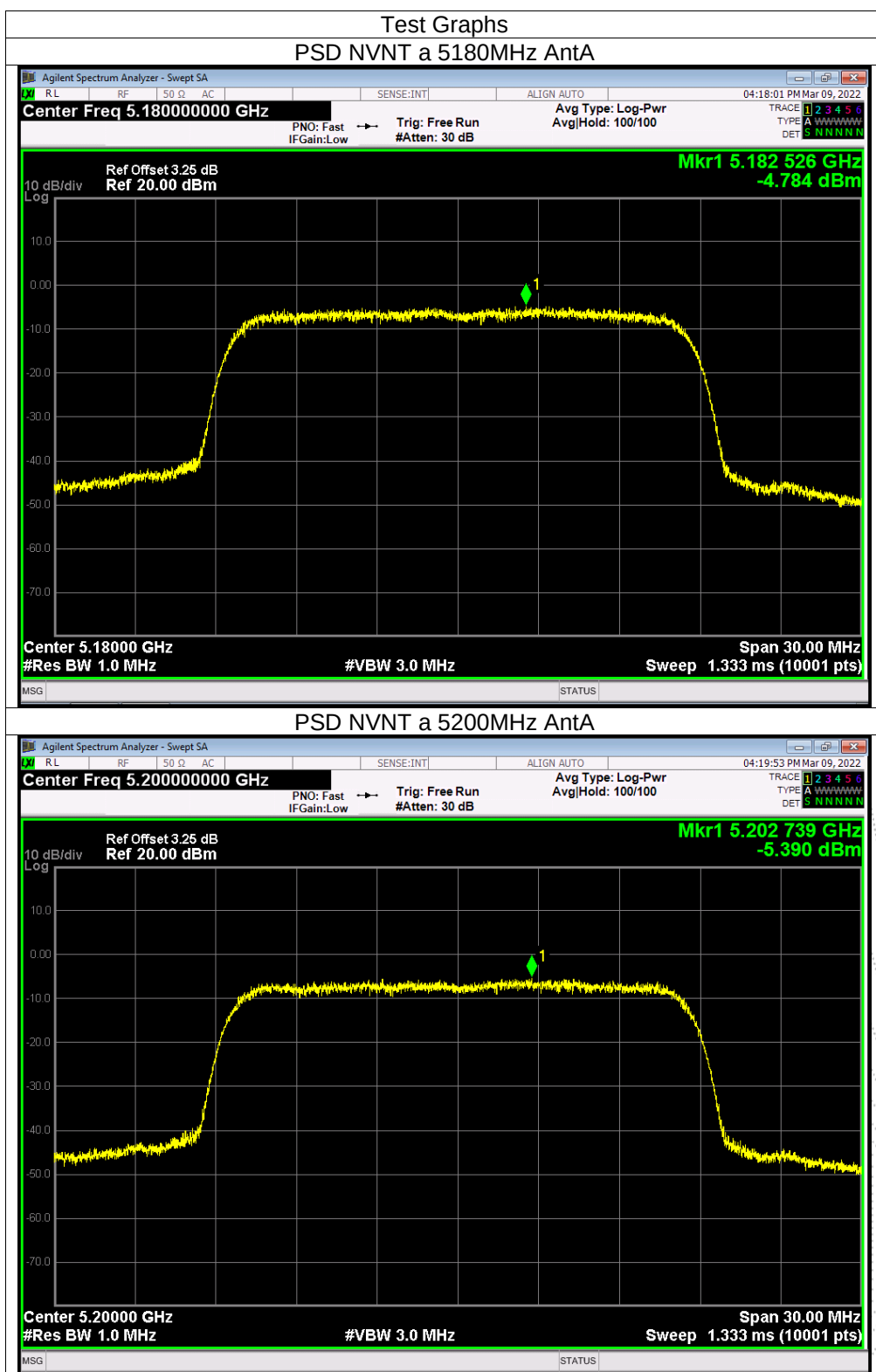


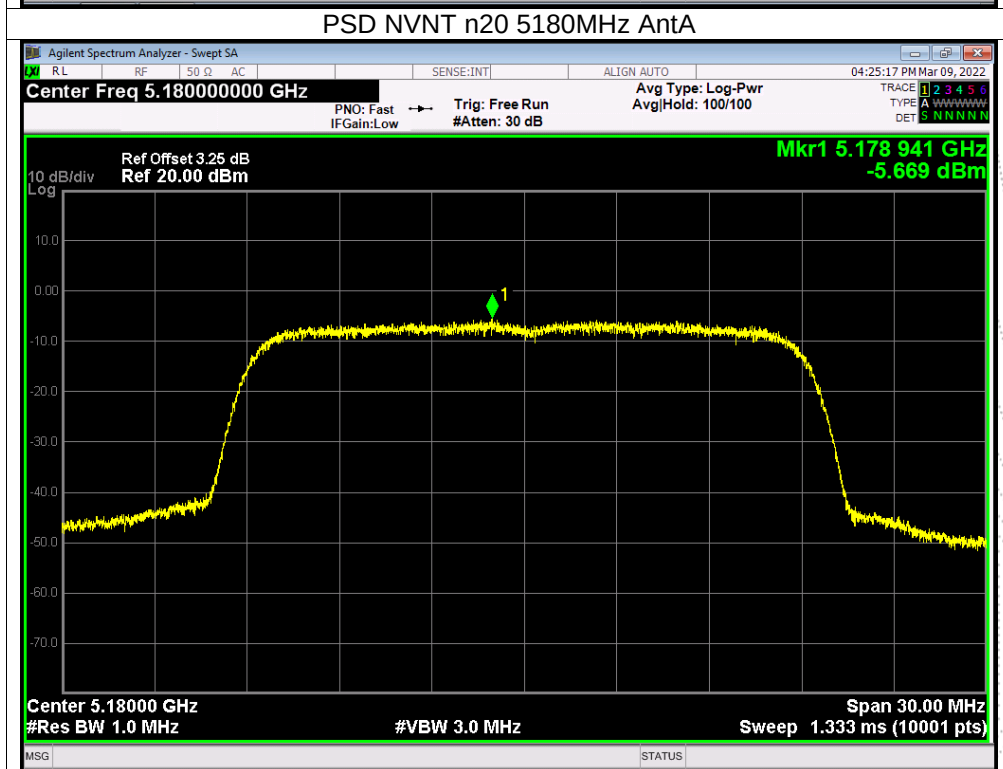
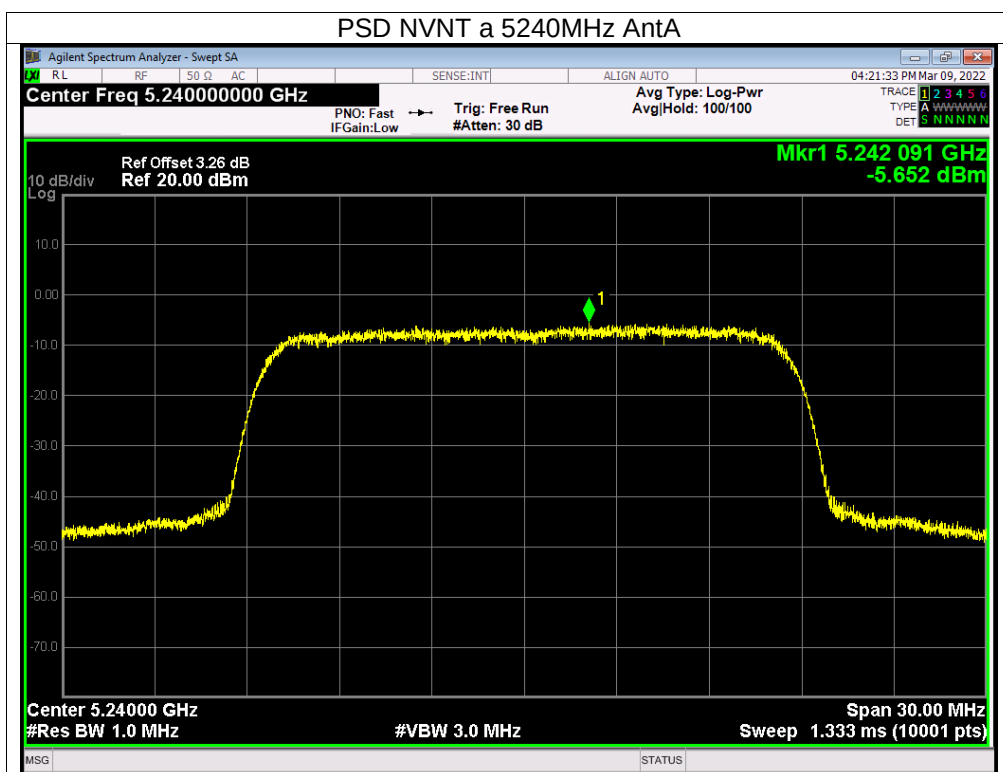
8.5 Test Result

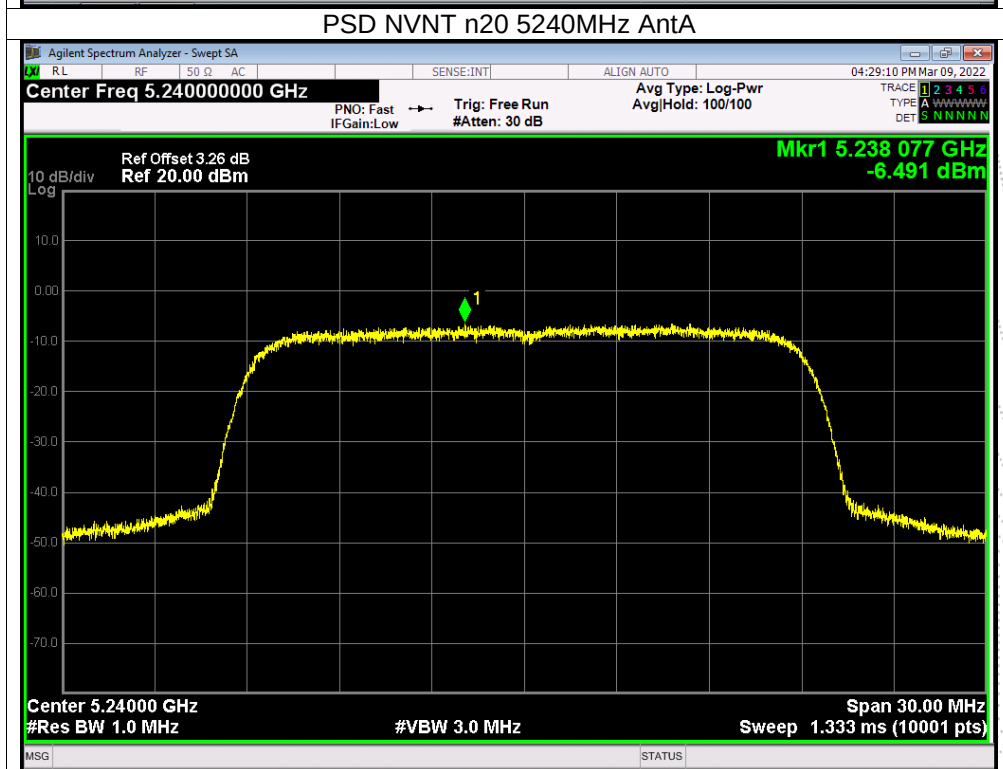
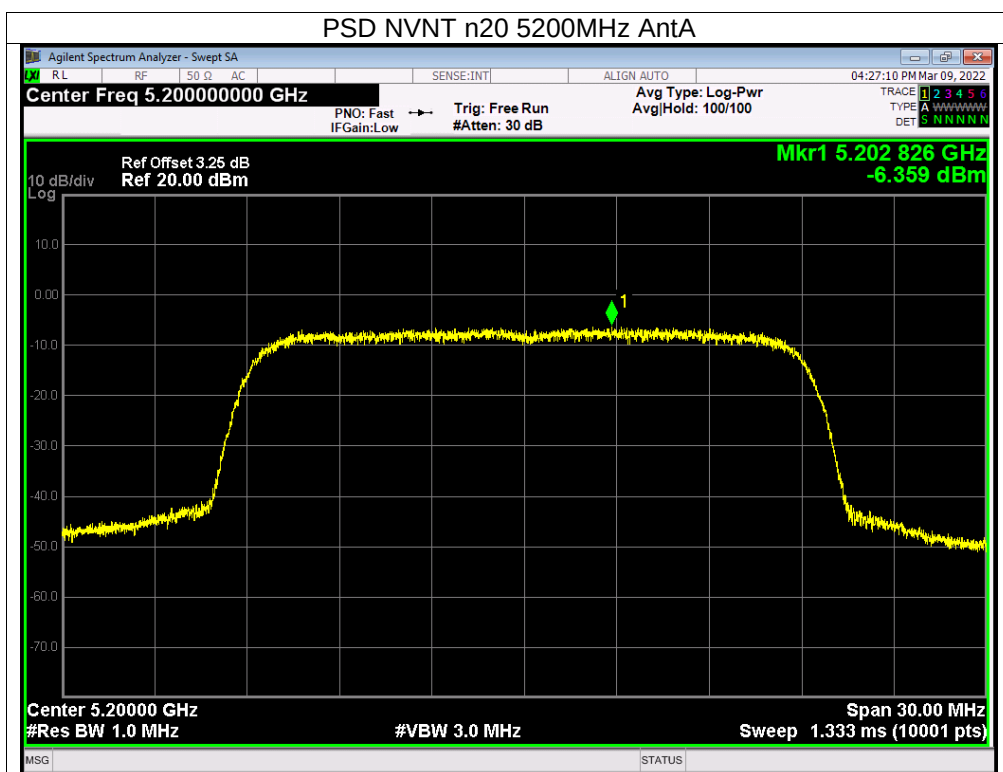
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX Frequency U-NII-1 (5180-5240MHz)		

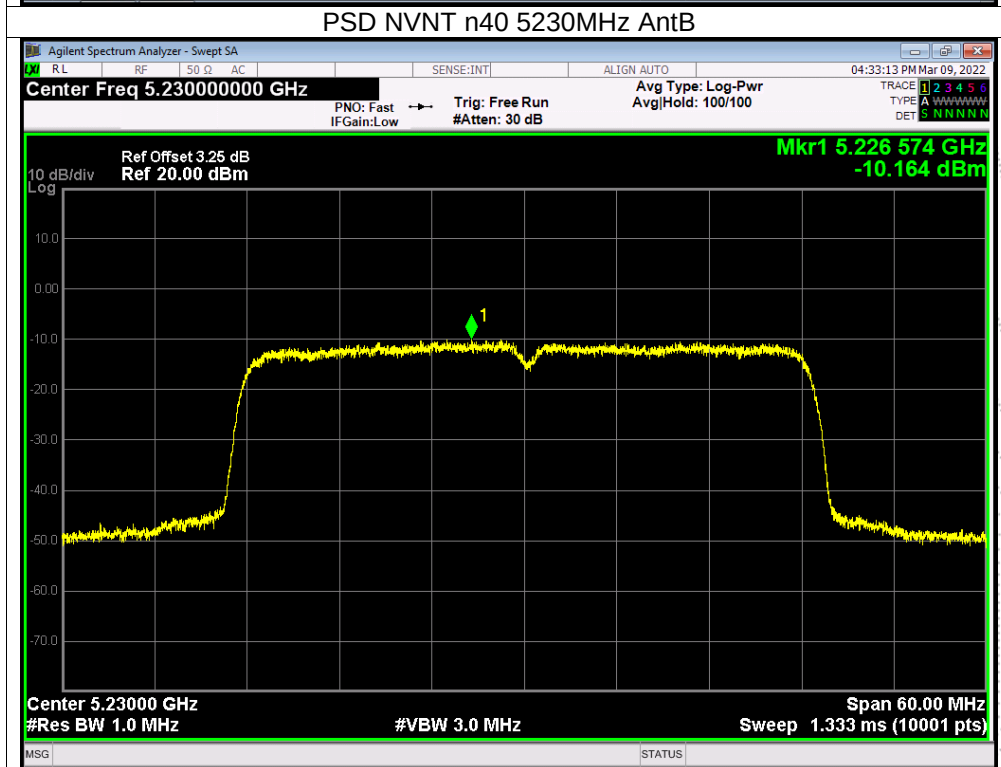
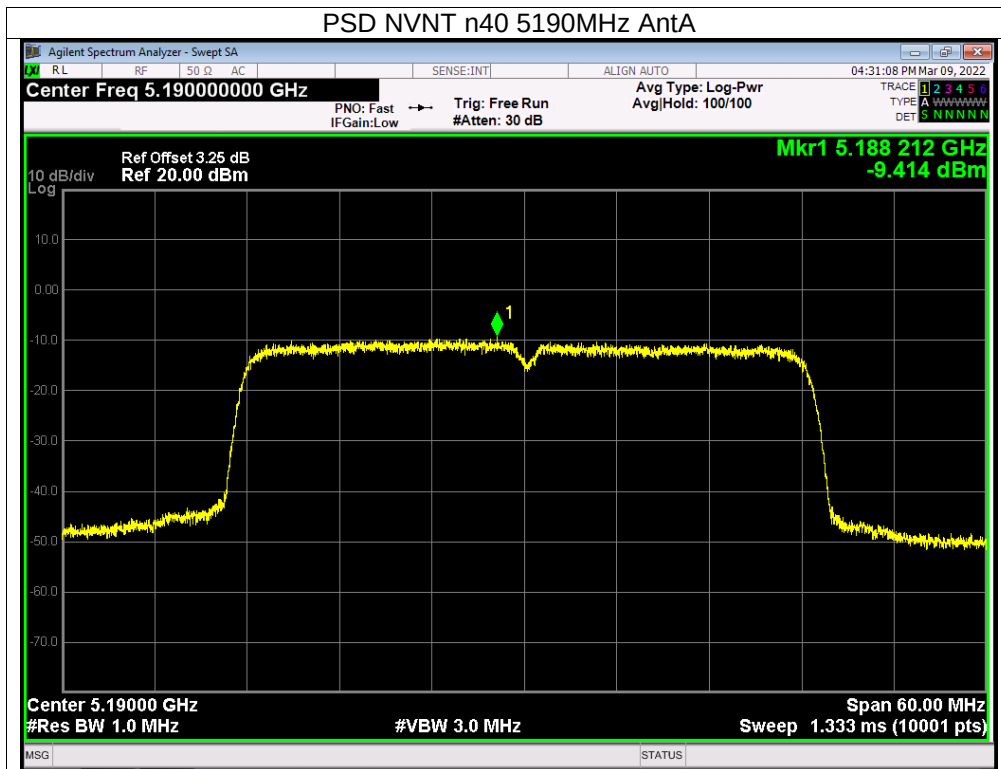
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

Mode	Frequency	Measured Power Density (dBm/MHz)			Limit (dBm/MHz)	Result
		ANT A	ANT B	Total		
802.11 a	5180 MHz	-4.78	-4.96	/	11	PASS
	5200 MHz	-5.39	-5.56	/	11	PASS
	5240 MHz	-5.65	-5.92	/	11	PASS
802.11 n20	5180 MHz	-5.67	-4.85	-2.23	11	PASS
	5200 MHz	-6.36	-6.77	-3.55	11	PASS
	5240 MHz	-6.49	-6.37	-3.42	11	PASS
802.11 n40	5190 MHz	-9.41	-9.28	-6.33	11	PASS
	5230 MHz	-10.16	-10.51	-7.32	11	PASS





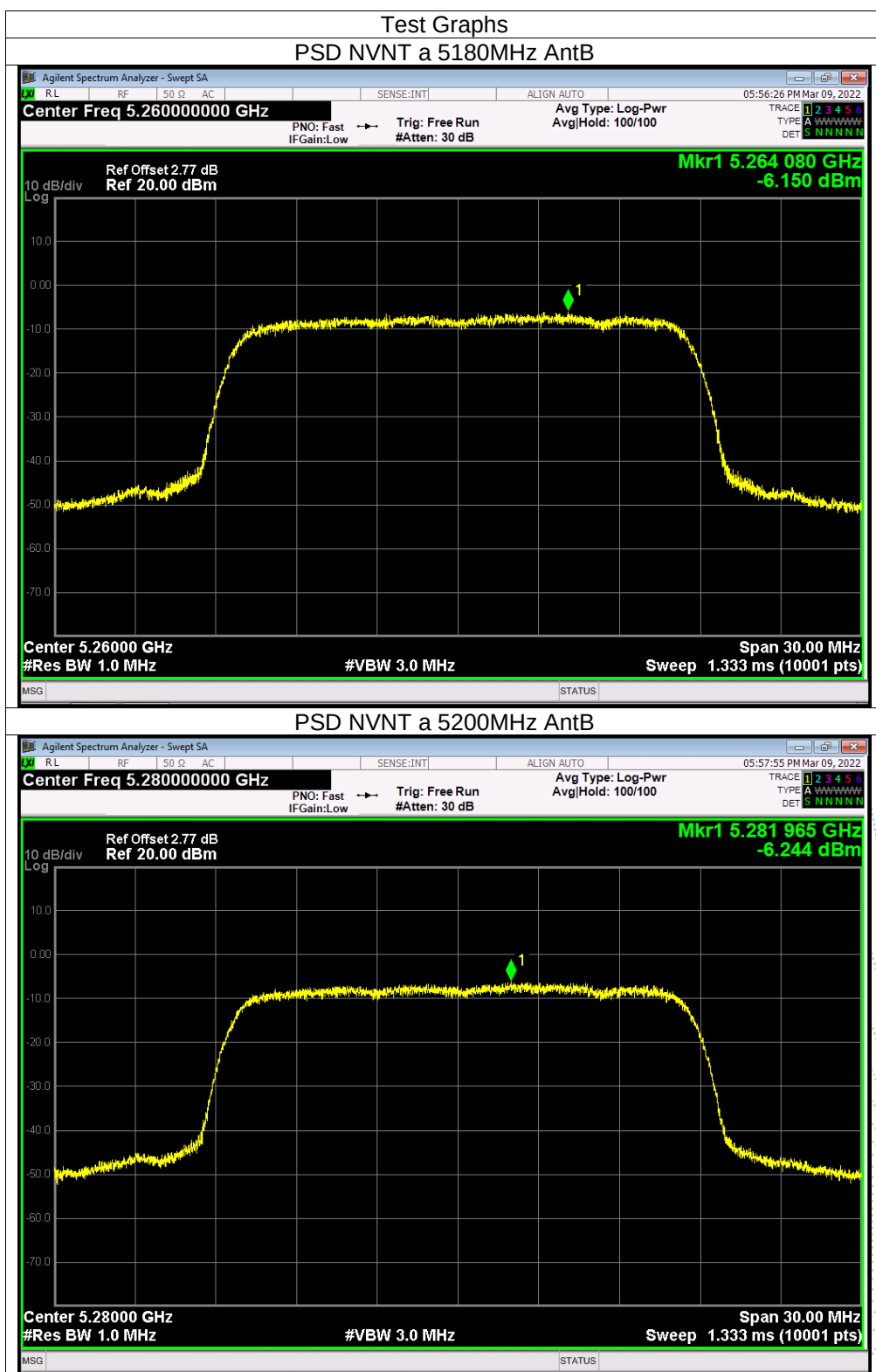


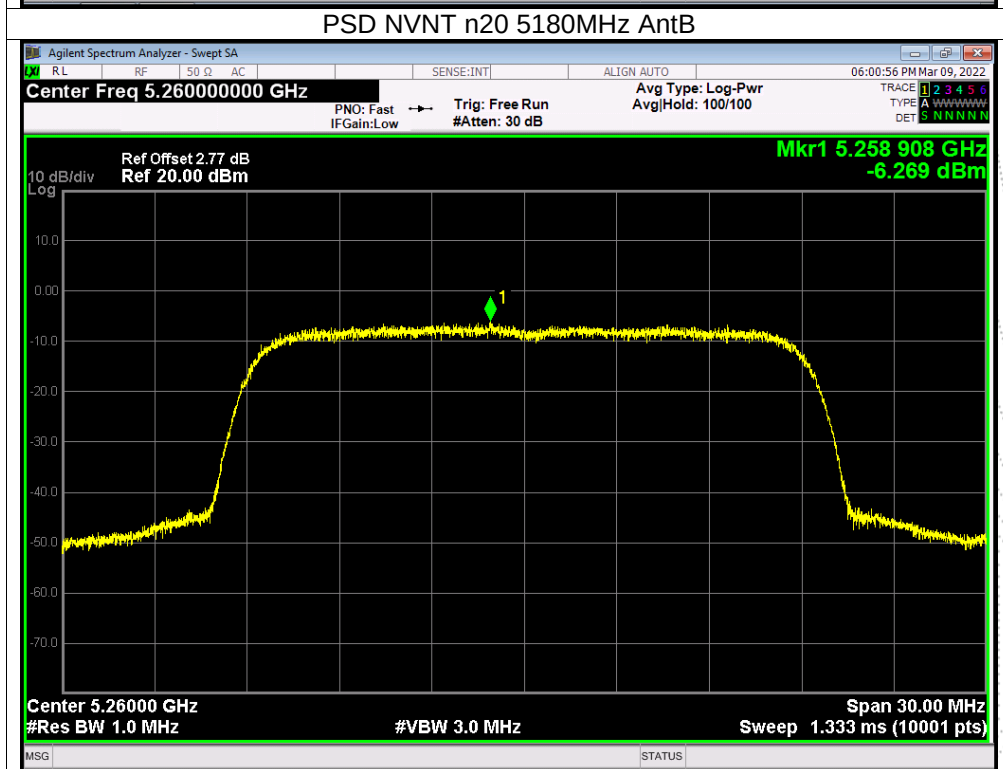
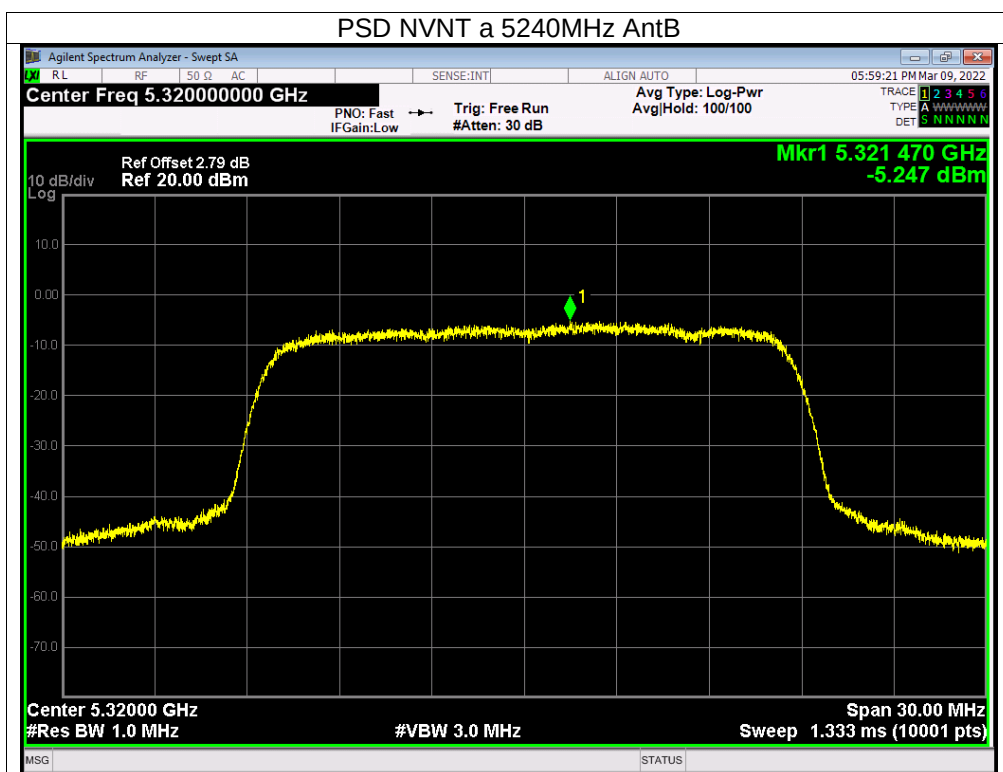


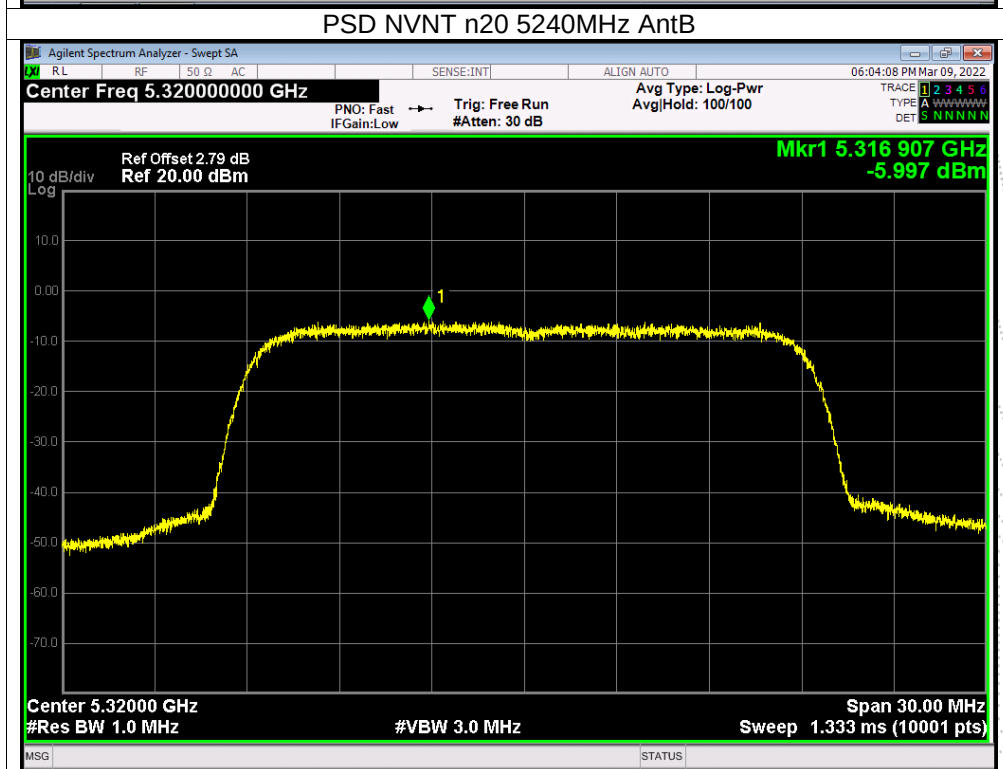
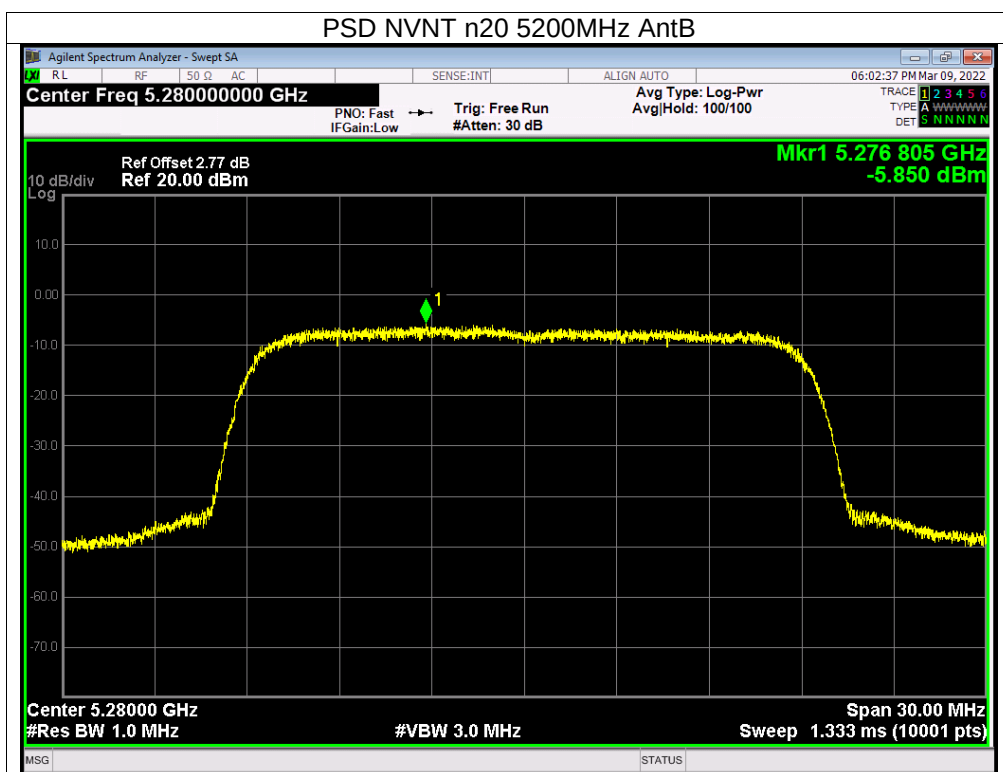
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX Frequency (5260-5320MHz)		

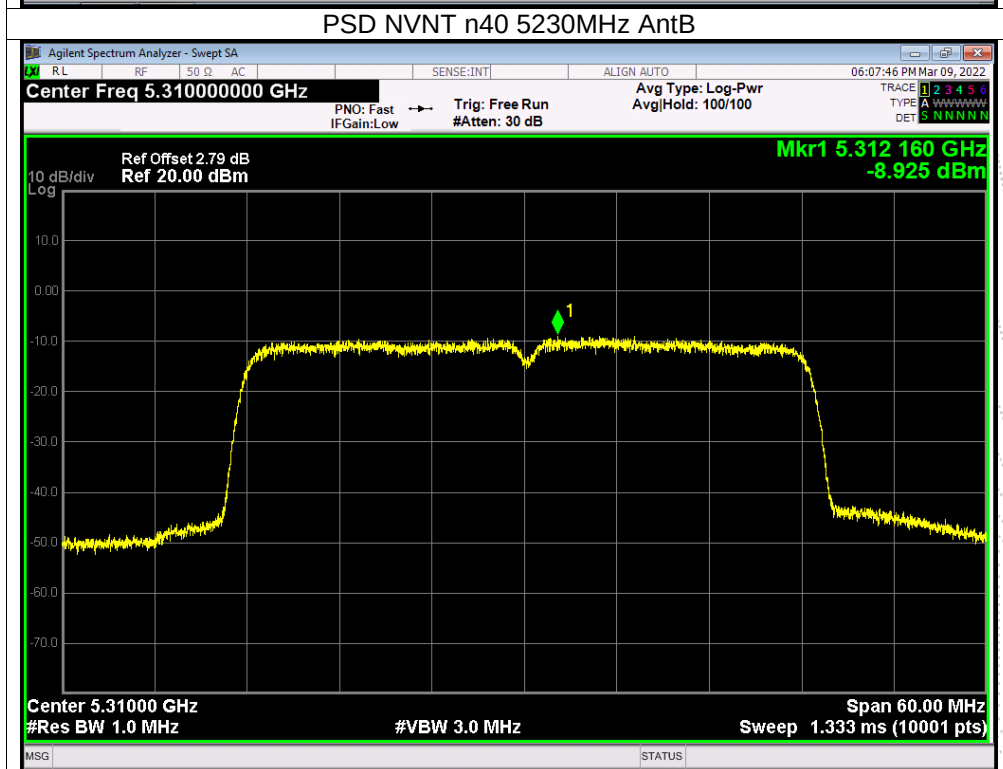
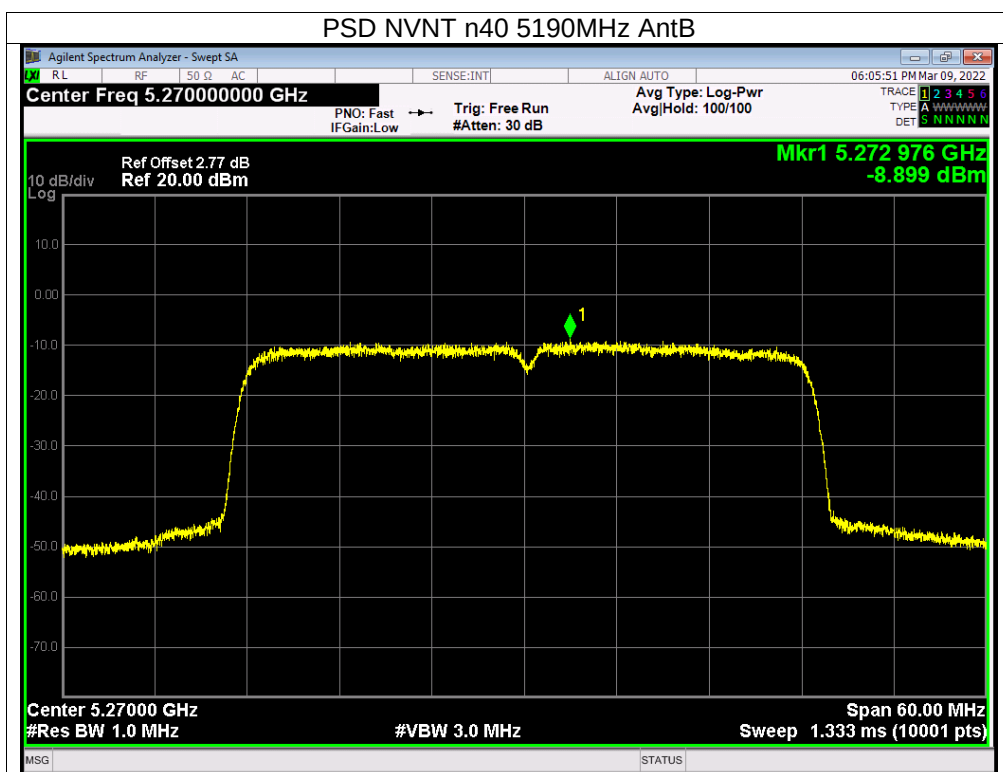
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

Mode	Frequency	Measured Power Density (dBm/MHz)			Limit (dBm/MHz)	Result
		ANT A	ANT B	Total		
802.11 a	5260 MHz	-7.11	-6.15	/	11	PASS
	5280 MHz	-5.68	-6.24	/	11	PASS
	5320 MHz	-6.17	-5.25	/	11	PASS
802.11 n20	5260 MHz	-6.74	-6.27	-3.49	11	PASS
	5280 MHz	-7.02	-5.85	-3.39	11	PASS
	5320 MHz	-6.74	-6	-3.34	11	PASS
802.11 n40	5270 MHz	-10.32	-8.9	-6.54	11	PASS
	5310 MHz	-10.23	-8.93	-6.52	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 B, only shown Antenna B Plot.

Mode	Frequency	Measured Power Density (dBm/500KHz)			Limit (dBm/500kHz)	Result
		ANT A	ANT B	Total		
802.11 a	5745 MHz	-0.63	0.84	/	30	PASS
	5785 MHz	-2.32	-1.01	/	30	PASS
	5825 MHz	-3.93	-4.54	/	30	PASS
802.11 n20	5745 MHz	-0.84	-0.51	2.34	30	PASS
	5785 MHz	-1.85	-2.76	0.73	30	PASS
	5825 MHz	-3.29	-4.92	-1.02	30	PASS
802.11 n40	5755 MHz	-4.93	-5.13	-2.02	30	PASS
	5795 MHz	-6.22	-7.06	-3.61	30	PASS

