TEST REPORT

Report No.:	BCTC2105423375-2E
Applicant:	Benison Tech USA, Inc
Product Name:	Nirad N100-I router High Performance Indoor Single SIM 4G LTE Cloud Managed Enterprise Router
Model/Type reference:	N100-I
Tested Date:	2021-05-12 to 2021-06-07
Issued Date:	2021-06-07

Shenzhen BCTC Testing Co., Ltd.

FCC ID: 2AXO3N100

Product Name:	Nirad N100-I router High Performance Indoor Single SIM 4G LTE Cloud Managed Enterprise Router
Trademark:	Nirad
Model/Type reference:	N100-I
Prepared For:	Benison Tech USA, Inc
Address:	2225 East Bayshore Road Suite 200, Palo Alto, CA 94303 US
Manufacturer:	Benison Tech USA, Inc
Address:	2225 East Bayshore Road Suite 200, Palo Alto, CA 94303 US
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:	2021-05-12
Sample tested Date:	2021-05-12 to 2021-06-07
Issue Date:	2021-06-07
Report No.:	BCTC2105423375-2E
Test Standards	FCC Part15 15.407 ANSI C63.10-2013 KDB 662911 D01 v02r01 KDB 789033 D02 v02r01
Test Results	PASS

Tested by:

Kelsey Tan/ 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.

TABLE OF CONTENT

(Note: N/A means not applicable)

1. VERSION

Report No.	Issue Date	Description	Approved
BCTC2105423375-2E	2021-06-07	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
10	Frequency Stability Measurement	15.407(g)	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(30MHz-1GHz)	U=4.3dB
2	3m chamber Radiated spurious emission(1GHz-18GHz)	U=4.5dB
3	3m chamber Radiated spurious emission(18GHz-40GHz)	U=3.34dB
4	Conducted Adjacent channel power	U=1.38dB
5	Conducted output power uncertainty Above 1G	U=1.576dB
6	Conducted output power uncertainty below 1G	U=1.28dB
7	humidity uncertainty	U=5.3%
8	Temperature uncertainty	U=0.59℃

4. PRODUCT INFORMATION AND TEST SETUP

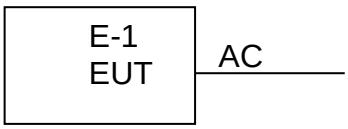
4.1 Product Information

Model/Type reference:	N100-I
Model differences:	N/A
IEEE 802.11 WLAN Mode Supported	802.11a/n/ac(20MHz channel bandwidth) 802.11n/ac(40MHz channel bandwidth) 802.11ac(80MHz channel bandwidth)
Operation Frequency:	5180-5240MHz for 802.11a/n/ac(HT20); 5190-5230MHz for 802.11n/ac(HT40); 5210MHz for 802.11 ac80; 5745-5825 MHz for 802.11a/n/ac(HT20); 5755-5795 MHz for 802.11a/n/ac(HT40); 5775MHz for 802.11 ac80;
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n/ac(HT20/HT40):MCS0-MCS15; 802.11ac(VHT20): NSS1, MCS0-MCS8 802.11ac(VHT40/VHT80):NSS1, MCS0-MCS
Type of Modulation:	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11a/n/ac;
Number Of Channel	4 channels for 802.11a/n20 in the 5180-5240MHz band ; 2 channels for 802.11 n40 in the 5190-5230MHz band ; 1 channels for 802.11 ac80 in the 5210MHz band ; 5 channels for 802.11a/n20 in the 5745-5825MHz band ; 2 channels for 802.11 n40 in the 5755-5795MHz band ; 1 channels for 802.11 ac80 in the 5775MHz band ;
Antenna installation:	External antenna*2
Antenna Gain:	Antenna A:5dBi Antenna B:5dBi
Product Type	Indoor AP devices
Ratings:	DC 12V 2.0A
Adapter	Model No.:TAP25-120S200U1 Input: AC100-240V~ 50/60Hz, 0.6A Output: DC 12V 2.0A

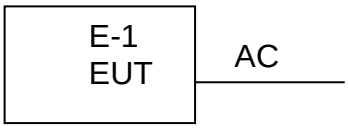
4.2 Test Setup Configuration

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

Conducted Emission Test:



Radiated Spurious Emission:



4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	Nirad N100-I router High Performance Indoor Single SIM 4G LTE Cloud Managed Enterprise Router	Nirad	N100-I	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note
--	--	--	--	--

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/ac(20 MHz) band IV (5180-5240MHz):

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

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

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	802.11a / n/ ac 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20 CH149/ CH157/ CH 165
Mode 5	Link Mode

Conducted Emission	
Final Test Mode	Description
Mode 5	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
Mode 4	802.11a / n/ ac 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20 CH149/ CH157/ CH 165

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

EUT has two External antennas with Max gain GANT 1dBi on every antenna, CDD device with two spatial streams, also can operat with one spatial streams according to KDB662911 D01 v02r01,
Directional gain= GANT + Array Gain, where Array Gain is as follows.
1)For power spectral density(PSD) measurements,
Array Gain=10log(NANT/NSS)dB=10log(2/1)=3.01dB,
So the directional gain for PSD is 8.01dBi
2)For power measurements,
The Array gain=0 dB for NANT≤4,
So the directional gain for Power measurements is 5dBi

Antenna	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
A	N/A	N/A	External antenna	5	N/A
B	N/A	N/A	External antenna	5	N/A

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

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	Agilent	E4407B	MY45109572	May 28, 2021	May 27, 2022
2	Test Receiver (9kHz-7GHz)	R&S	ESRP	101154	May 28, 2021	May 27, 2022
3	Bilog Antenna (30MHz-3GHz)	SCHWARZBECK	VULB9163	VULB9163-942	Jun. 01, 2021	May 31, 2022
4	Horn Antenna (1GHz-18GHz)	SCHWARZBECK	BBHA9120D	1541	Jun. 02, 2021	Jun. 01, 2022
5	Horn Antenna (18GHz-40GHz)	SCHWARZBECK	BBHA9170	00822	Jun. 10, 2020	Jun. 09, 2021
6	Amplifier (9KHz-6GHz)	SCHWARZBECK	BBV9744	9744-0037	May 28, 2021	May 27, 2022
7	Amplifier	SKET	LAPA_01G18G-45dB	\	May 28, 2021	May 27, 2022
8	Amplifier (18GHz-40GHz)	MITEQ	TTA1840-35-HG	2034381	May 28, 2021	May 27, 2022
9	Loop Antenna (9KHz-30MHz)	SCHWARZBECK	FMZB1519B	00014	Jun. 02, 2021	Jun. 01, 2022
10	RF cables1 (9kHz-30MHz)	Huber+Suhnar	9kHz-30MHz	B1702988-0008	May 28, 2021	May 27, 2022
11	RF cables2 (30MHz-1GHz)	Huber+Suhnar	30MHz-1GHz	1486150	May 28, 2021	May 27, 2022
12	RF cables3 (1GHz-40GHz)	Huber+Suhnar	1GHz-40GHz	1607106	May 28, 2021	May 27, 2022
13	Power Metter	Keysight	E4419B	\	May 28, 2021	May 27, 2022
14	Power Sensor (AV)	Keysight	E9 300A	\	May 28, 2021	May 27, 2022
15	Signal Analyzer 20kHz-26.5GHz	KEYSIGHT	N9020A	MY49100060	May 28, 2021	May 27, 2022
16	Spectrum Analyzer 9kHz-40GHz	R&S	FSP40	100363	May 28, 2021	May 27, 2022
17	D.C. Power Supply	LongWei	TPR-6405D	\	\	\
18	Software	Frad	EZ-EMC	FA-03A2 RE	\	\

Conduction Test equipment

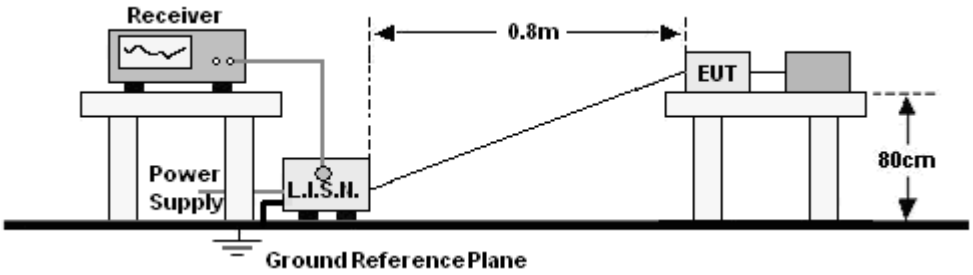
Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Test Receiver	R&S	ESR3	102075	May 28, 2021	May 27, 2022
2	LISN	SCHWARZBECK	NSLK8127	8127739	Jun. 13, 2020	Jun. 12, 2021
3	LISN	R&S	ENV216	101375	May 28, 2021	May 27, 2022
4	RF cables	Huber+Suhnar	9kHz-30MHz	B1702988-0008	May 28, 2021	May 27, 2022
5	Software	Frad	EZ-EMC	EMC-CON 3A1	\	\

RF conducted test

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Power Metter	Keysight	E4419B	\	May 28, 2021	May 27, 2022
2	Power Sensor (AV)	Keysight	E9 300A	\	May 28, 2021	May 27, 2022
3	Signal Analyzer 20kHz-26.5GHz	KEYSIGHT	N9020A	MY49100060	May 28, 2021	May 27, 2022
4	Spectrum Analyzer 9kHz-40GHz	R&S	FSP40	100363	May 28, 2021	May 27, 2022

6. CONDUCTED EMISSIONS

6.1 Block Diagram Of Test Setup



6.2 Limit

FREQUENCY (MHz)	Limit (dBuV)	
	Quas-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

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

6.3 Test procedure

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

a. The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).

b. The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.

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

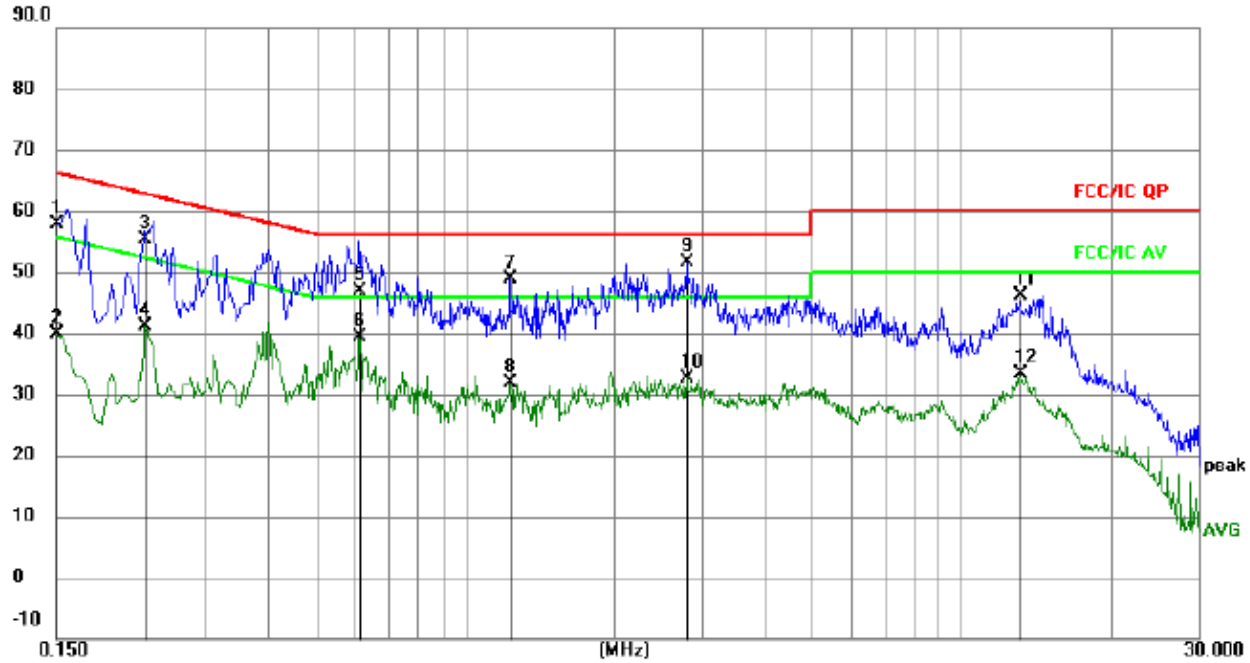
6.4 EUT operating Conditions

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

We pretest AC 120V and AC 240V, the worst voltage was AC 120V and the data recording in the report.

6.5 Test Result

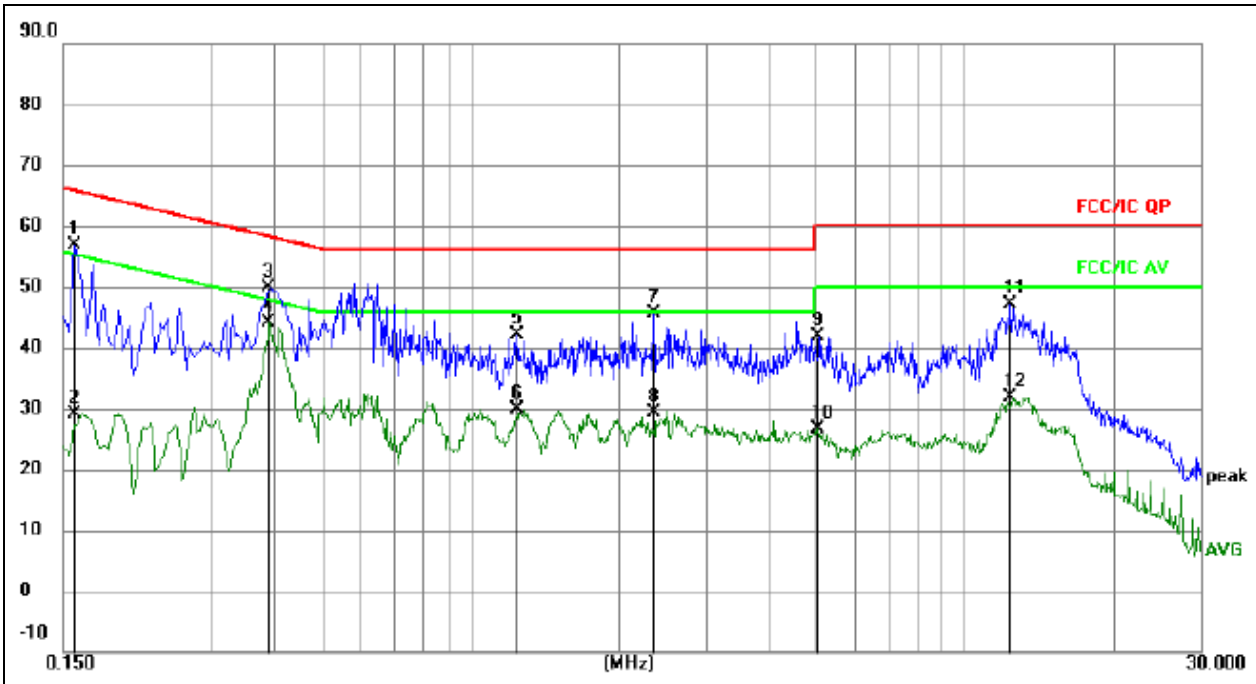
Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Phase：	L
Test Voltage ：	AC 120V/60Hz	Test Mode：	Mode 5



Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1		0.1500	48.42	9.52	57.94	66.00	-8.06	QP
2		0.1500	30.36	9.52	39.88	56.00	-16.12	AVG
3		0.2265	45.90	9.49	55.39	62.58	-7.19	QP
4		0.2265	31.68	9.49	41.17	52.58	-11.41	AVG
5		0.6134	36.92	9.95	46.87	56.00	-9.13	QP
6		0.6134	29.39	9.95	39.34	46.00	-6.66	AVG
7		1.2345	39.31	9.57	48.88	56.00	-7.12	QP
8		1.2345	22.26	9.57	31.83	46.00	-14.17	AVG
9	*	2.7960	41.98	9.65	51.63	56.00	-4.37	QP
10		2.7960	22.86	9.65	32.51	46.00	-13.49	AVG
11		13.1235	36.46	9.70	46.16	60.00	-13.84	QP
12		13.1235	23.57	9.70	33.27	50.00	-16.73	AVG

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Phase：	N
Test Voltage ：	AC 120V/60Hz	Test Mode：	Mode 5



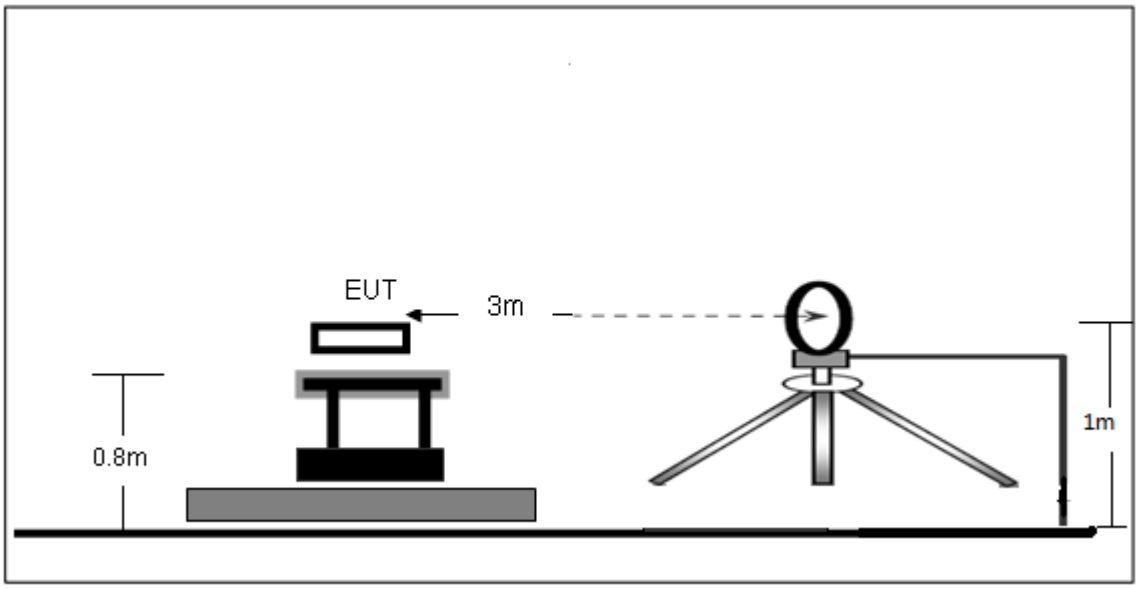
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz		dB	dBuV	dBuV	dB	Detector
1		0.1581	47.29	9.51	56.80	65.56	-8.76	QP
2		0.1581	19.55	9.51	29.06	55.56	-26.50	AVG
3		0.3913	40.38	9.51	49.89	58.04	-8.15	QP
4	*	0.3913	34.69	9.51	44.20	48.04	-3.84	AVG
5		1.2422	32.55	9.57	42.12	56.00	-13.88	QP
6		1.2422	20.38	9.57	29.95	46.00	-16.05	AVG
7		2.3459	35.97	9.61	45.58	56.00	-10.42	QP
8		2.3459	19.89	9.61	29.50	46.00	-16.50	AVG
9		5.0312	32.15	9.80	41.95	60.00	-18.05	QP
10		5.0312	16.86	9.80	26.66	50.00	-23.34	AVG
11		12.3836	37.43	9.69	47.12	60.00	-12.88	QP
12		12.3836	22.23	9.69	31.92	50.00	-18.08	AVG

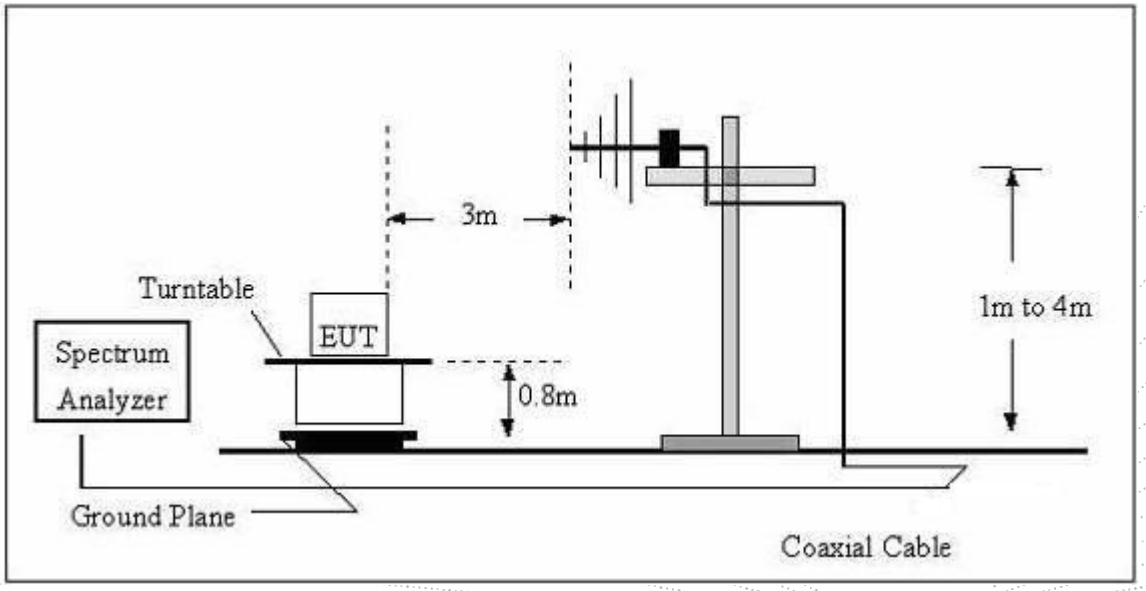
7. RADIATED EMISSIONS

7.1 Block Diagram Of Test Setup

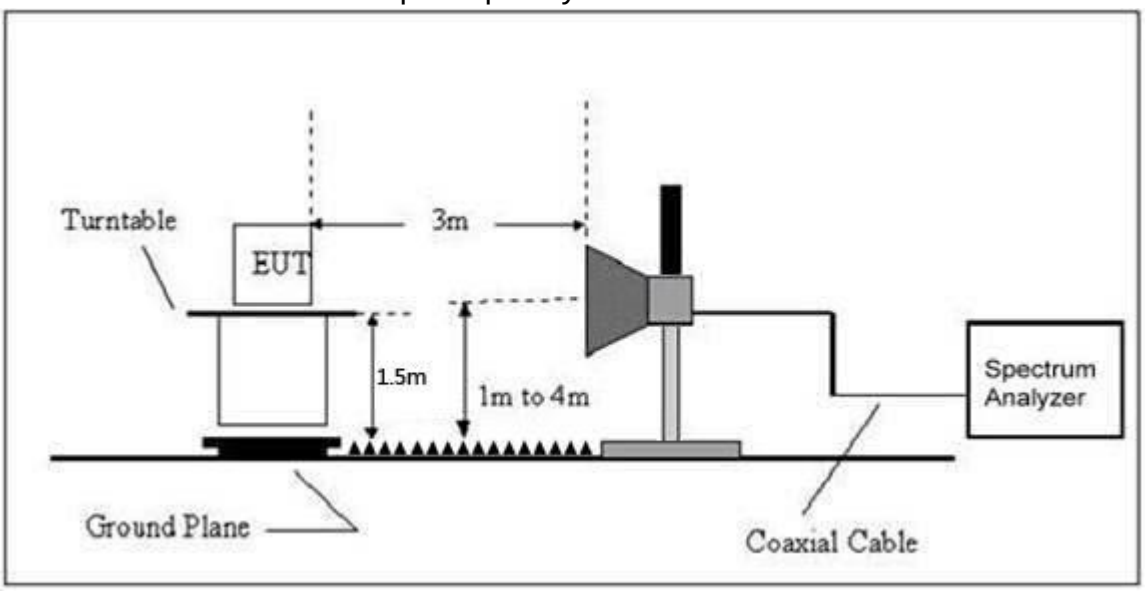
（A）Radiated Emission Test-Up Frequency Below 30MHz



（B）Radiated Emission Test-Up Frequency 30MHz~1GHz



（C）Radiated Emission Test-Up Frequency Above 1GHz



7.2 Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency	Field Strength	Distance	Field Strength Limit at 3m Distance	
(MHz)	uV/m	(m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	$20\log^{(2400/F(kHz))}$ + 80
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	$20\log^{(24000/F(kHz))}$ + 40
1.705 ~ 30	30	30	100 * 30	$20\log^{(30)}$ + 40
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:
(1)The limit for radiated test was performed according to FCC PART 15C.
(2)The tighter limit applies at the band edges.
(3) Emission level (dBuV/m)=20log Emission level (uV/m).

7.3 Test procedure

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10-2013. The test distance is 3m.The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 22.
This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205.
It must be performed with the highest gain of each type of antenna proposed for use with the EUT.
Use the following spectrum analyzer settings:

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:
Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	QP	120 kHz	300 kHz
Above 1000	Peak	1 MHz	1 MHz
	Average	1 MHz	10 Hz

Note: for the frequency ranges below 30 MHz, a narrower RBW is used for these ranges but the measured value should add a RBW correction factor (RBWCF) where RBWCF [dB] =10*lg(100 [kHz]/narrower RBW [kHz]). , the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

.

7.4 EUT operating Conditions

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

7.5 Test Result

Below 30MHz

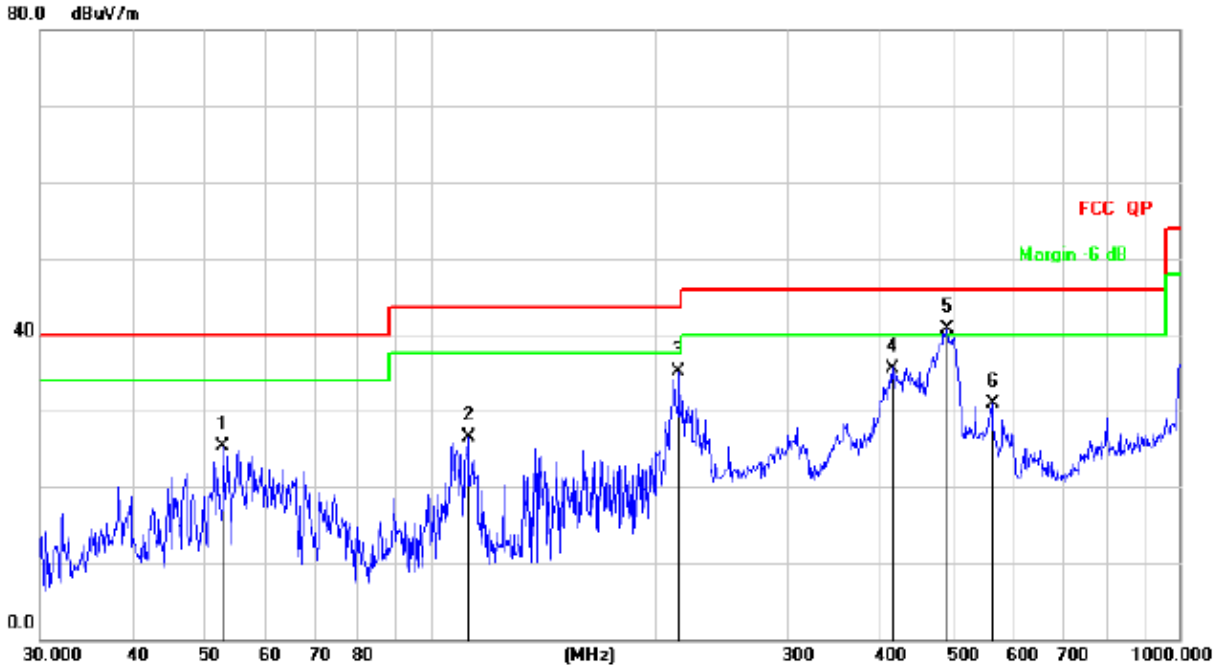
Temperature：	26℃	Relative Humidtity：	24%
Pressure：	101 kPa	Test Voltage ：	AC120V/60Hz
Test Mode ：	Mode 5	Polarization :	--

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 (specific distance/test distance)(dB);
Limit line = specific limits(dBuv) + distance extrapolation factor.

Between 30MHz – 1GHz

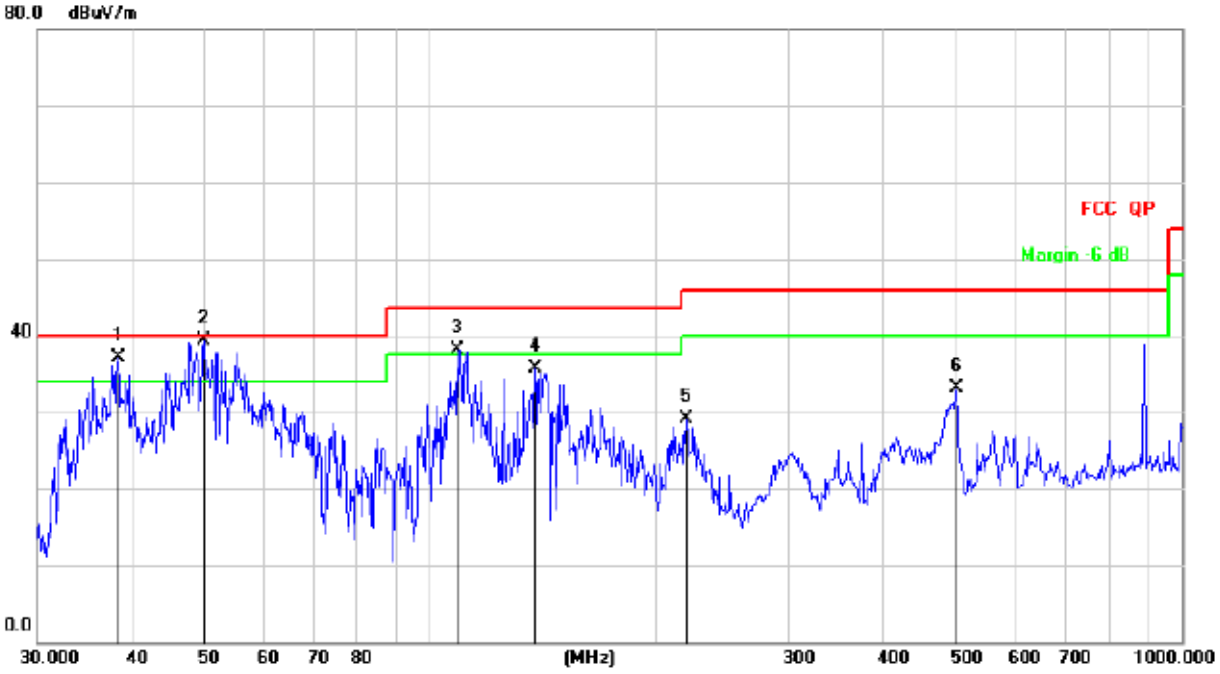
Temperature：	26℃	Relative Humidtity：	54%
Pressure：	101 kPa	Test Voltage ：	AC120V/60Hz
Test Mode ：	Mode 5	Polarization :	Horizontal



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		52.7600	39.62	-14.24	25.38	40.00	-14.62	QP
2		112.1305	42.78	-16.26	26.52	43.50	-16.98	QP
3		214.5143	49.98	-14.96	35.02	43.50	-8.48	QP
4		413.2706	45.00	-9.40	35.60	46.00	-10.40	QP
5	*	490.7447	48.53	-7.76	40.77	46.00	-5.23	QP
6		562.6624	36.80	-5.99	30.81	46.00	-15.19	QP

Temperature：	26℃	Relative Humidtity：	54%
Pressure：	101 kpa	Test Voltage ：	AC120V/60Hz
Test Mode ：	Mode 5	Polarization :	Vertical



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1	!	38.4809	52.15	-15.12	37.03	40.00	-2.97	QP
2	*	50.0566	53.44	-14.08	39.36	40.00	-0.64	QP
3	!	108.6470	54.21	-16.03	38.18	43.50	-5.32	QP
4		137.9028	53.66	-17.93	35.73	43.50	-7.77	QP
5		219.0753	43.99	-14.87	29.12	46.00	-16.88	QP
6		501.1790	40.67	-7.54	33.13	46.00	-12.87	QP

Between 1GHz – 40GHz

The worst case is Antenna A.

Test Mode :	TX(5.1G) - 802.11a

Polar (H/V)	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G									
V	4434.015	61.41	5.94	35.40	44.00	58.75	68.20	-9.45	PK
V	4434.015	43.34	5.94	35.40	44.00	40.68	54.00	-13.32	AV
V	10360.030	63.00	8.46	39.75	44.50	66.71	68.20	-1.49	PK
V	10360.030	43.10	8.46	39.75	44.50	46.81	54.00	-7.19	AV
V	15540.178	62.78	10.12	38.80	44.10	67.60	74.00	-6.40	PK
V	15540.178	43.56	10.12	38.80	42.70	49.78	54.00	-4.22	AV
H	4434.085	61.14	5.94	35.18	44.00	58.26	68.20	-9.94	PK
H	4434.085	43.44	5.94	35.18	44.00	40.56	54.00	-13.44	AV
H	10360.116	50.18	8.46	38.71	44.50	52.85	68.20	-15.35	PK
H	10360.116	43.26	8.46	38.71	44.50	45.93	54.00	-8.07	AV
H	15540.067	51.83	10.12	38.38	44.10	56.23	74.00	-17.77	PK
H	15540.067	42.32	10.12	38.38	44.10	46.72	54.00	-7.28	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.071	63.24	6.48	36.35	44.05	62.02	74.00	-11.98	PK
V	4592.071	43.87	6.48	36.35	44.05	42.65	54.00	-11.35	AV
V	10400.193	60.05	8.47	37.88	44.51	61.89	68.20	-6.31	PK
V	10400.193	43.91	8.47	37.88	44.51	45.75	54.00	-8.25	AV
V	15600.143	63.62	10.12	38.80	44.10	68.44	74.00	-5.56	PK
V	15600.143	43.29	10.12	38.80	42.70	49.51	54.00	-4.49	AV
H	4592.178	60.96	6.48	36.37	44.05	59.76	74.00	-14.24	PK
H	4592.178	43.76	6.48	36.37	44.05	42.56	54.00	-11.44	AV
H	10400.081	51.29	8.47	38.64	44.50	53.90	68.20	-14.30	PK
H	10400.081	44.24	8.47	38.64	44.50	46.85	54.00	-7.15	AV
H	15600.193	53.70	10.12	38.38	44.10	58.10	74.00	-15.90	PK
H	15600.193	44.10	10.12	38.38	44.10	48.50	54.00	-5.50	AV
High Channel (5240 MHz)-Above 1G									
V	4739.087	62.23	7.10	37.24	43.50	63.07	74.00	-10.93	PK
V	4739.087	43.46	7.10	37.24	43.50	44.30	54.00	-9.70	AV
V	10480.065	64.15	8.46	37.68	44.50	65.79	68.20	-2.41	PK
V	10480.065	43.07	8.46	37.68	44.50	44.71	54.00	-9.29	AV
V	15720.051	63.69	10.12	38.80	44.10	68.51	74.00	-5.49	PK
V	15720.051	43.77	10.12	38.80	42.70	49.99	54.00	-4.01	AV
H	4739.080	60.12	7.10	37.24	43.50	60.96	74.00	-13.04	PK
H	4739.080	43.56	7.10	37.24	43.50	44.40	54.00	-9.60	AV
H	10480.169	54.94	8.46	38.57	44.50	57.47	68.20	-10.73	PK
H	10480.169	40.67	8.46	38.57	44.50	43.20	54.00	-10.80	AV
H	15720.078	51.28	10.12	38.38	44.10	55.68	74.00	-18.32	PK
H	15720.078	42.93	10.12	38.38	44.10	47.33	54.00	-6.67	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 :	TX(5.1G) - 802.11n-HT20

Polar (H/V)	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G									
V	4434.157	61.52	5.94	35.40	44.00	58.86	68.20	-9.34	PK
V	4434.157	43.15	5.94	35.40	44.00	40.49	54.00	-13.51	AV
V	10360.108	63.95	8.46	39.75	44.50	67.66	68.20	-0.54	PK
V	10360.108	43.31	8.46	39.75	44.50	47.02	54.00	-6.98	AV
V	15540.005	64.78	10.12	38.80	44.10	69.60	74.00	-4.40	PK
V	15540.005	43.85	10.12	38.80	42.70	50.07	54.00	-3.93	AV
H	4434.156	60.02	5.94	35.18	44.00	57.14	68.20	-11.06	PK
H	4434.156	43.93	5.94	35.18	44.00	41.05	54.00	-12.95	AV
H	10360.177	53.82	8.46	38.71	44.50	56.49	68.20	-11.71	PK
H	10360.177	41.34	8.46	38.71	44.50	44.01	54.00	-9.99	AV
H	15540.026	52.26	10.12	38.38	44.10	56.66	74.00	-17.34	PK
H	15540.026	43.98	10.12	38.38	44.10	48.38	54.00	-5.62	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.114	64.09	6.48	36.35	44.05	62.87	74.00	-11.13	PK
V	4592.114	43.83	6.48	36.35	44.05	42.61	54.00	-11.39	AV
V	10400.133	62.43	8.47	37.88	44.51	64.27	68.20	-3.93	PK
V	10400.133	43.31	8.47	37.88	44.51	45.15	54.00	-8.85	AV
V	15600.194	64.12	10.12	38.80	44.10	68.94	74.00	-5.06	PK
V	15600.194	43.09	10.12	38.80	42.70	49.31	54.00	-4.69	AV
H	4592.011	60.36	6.48	36.37	44.05	59.16	74.00	-14.84	PK
H	4592.011	43.26	6.48	36.37	44.05	42.06	54.00	-11.94	AV
H	10400.108	50.19	8.47	38.64	44.50	52.80	68.20	-15.40	PK
H	10400.108	43.36	8.47	38.64	44.50	45.97	54.00	-8.03	AV
H	15600.168	52.12	10.12	38.38	44.10	56.52	74.00	-17.48	PK
H	15600.168	42.75	10.12	38.38	44.10	47.15	54.00	-6.85	AV
High Channel (5240 MHz)-Above 1G									
V	4739.121	60.80	7.10	37.24	43.50	61.64	74.00	-12.36	PK
V	4739.121	43.27	7.10	37.24	43.50	44.11	54.00	-9.89	AV
V	10480.060	61.16	8.46	37.68	44.50	62.80	68.20	-5.40	PK
V	10480.060	43.62	8.46	37.68	44.50	45.26	54.00	-8.74	AV
V	15720.052	62.04	10.12	38.80	44.10	66.86	74.00	-7.14	PK
V	15720.052	43.55	10.12	38.80	42.70	49.77	54.00	-4.23	AV
H	4739.079	60.93	7.10	37.24	43.50	61.77	74.00	-12.23	PK
H	4739.079	43.67	7.10	37.24	43.50	44.51	54.00	-9.49	AV
H	10480.178	54.51	8.46	38.57	44.50	57.04	68.20	-11.16	PK
H	10480.178	43.92	8.46	38.57	44.50	46.45	54.00	-7.55	AV
H	15720.141	54.76	10.12	38.38	44.10	59.16	74.00	-14.84	PK
H	15720.141	42.08	10.12	38.38	44.10	46.48	54.00	-7.52	AV

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

Test Mode :	TX(5.1G) - 802.11n-HT40

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	4434.144	61.25	5.94	35.40	44.00	58.59	74.00	-15.41	PK
V	4434.144	43.53	5.94	35.40	44.00	40.87	54.00	-13.13	AV
V	10380.155	62.38	8.46	39.75	44.50	66.09	68.20	-2.11	PK
V	10380.155	43.99	8.46	39.75	44.50	47.70	54.00	-6.30	AV
V	15570.137	60.91	10.12	38.80	44.10	65.73	74.00	-8.27	PK
V	15570.137	43.71	10.12	38.80	42.70	49.93	54.00	-4.07	AV
H	4434.031	63.80	5.94	35.18	44.00	60.92	74.00	-13.08	PK
H	4434.031	43.56	5.94	35.18	44.00	40.68	54.00	-13.32	AV
H	10380.078	52.22	8.46	38.71	44.50	54.89	68.20	-13.31	PK
H	10380.078	43.01	8.46	38.71	44.50	45.68	54.00	-8.32	AV
H	15570.159	53.31	10.12	38.38	44.10	57.71	74.00	-16.29	PK
H	15570.159	43.94	10.12	38.38	44.10	48.34	54.00	-5.66	AV
middle Channel (5230 MHz)-Above 1G									
V	4739.089	61.63	6.48	36.35	44.05	60.41	74.00	-13.59	PK
V	4739.089	43.42	6.48	36.35	44.05	42.20	54.00	-11.80	AV
V	10460.100	62.27	8.47	37.88	44.51	64.11	68.20	-4.09	PK
V	10460.100	43.36	8.47	37.88	44.51	45.20	54.00	-8.80	AV
V	15690.128	63.03	10.12	38.80	44.10	67.85	74.00	-6.15	PK
V	15690.128	43.18	10.12	38.80	42.70	49.40	54.00	-4.60	AV
H	4739.134	62.90	6.48	36.37	44.05	61.70	74.00	-12.30	PK
H	4739.134	43.72	6.48	36.37	44.05	42.52	54.00	-11.48	AV
H	10460.113	50.38	8.47	38.64	44.50	52.99	68.20	-15.21	PK
H	10460.113	43.11	8.47	38.64	44.50	45.72	54.00	-8.28	AV
H	15690.106	52.07	10.12	38.38	44.10	56.47	74.00	-17.53	PK
H	15690.106	42.82	10.12	38.38	44.10	47.22	54.00	-6.78	AV

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

Test Mode :	TX(5.1G) - 802.11ac-HT20

Polar (H/V)	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G									
V	4434.125	63.82	5.94	35.40	44.00	61.16	68.20	-7.04	PK
V	4434.125	43.11	5.94	35.40	44.00	40.45	54.00	-13.55	AV
V	10360.167	61.63	8.46	39.75	44.50	65.34	68.20	-2.86	PK
V	10360.167	43.42	8.46	39.75	44.50	47.13	54.00	-6.87	AV
V	15540.007	64.06	10.12	38.80	44.10	68.88	74.00	-5.12	PK
V	15540.007	43.03	10.12	38.80	42.70	49.25	54.00	-4.75	AV
H	4434.199	64.88	5.94	35.18	44.00	62.00	68.20	-6.20	PK
H	4434.199	43.83	5.94	35.18	44.00	40.95	54.00	-13.05	AV
H	10360.138	54.10	8.46	38.71	44.50	56.77	68.20	-11.43	PK
H	10360.138	44.48	8.46	38.71	44.50	47.15	54.00	-6.85	AV
H	15540.200	51.71	10.12	38.38	44.10	56.11	74.00	-17.89	PK
H	15540.200	40.93	10.12	38.38	44.10	45.33	54.00	-8.67	AV
middle Channel (5200 MHz)-Above 1G									
V	4592.072	63.20	6.48	36.35	44.05	61.98	74.00	-12.02	PK
V	4592.072	43.38	6.48	36.35	44.05	42.16	54.00	-11.84	AV
V	10400.018	64.76	8.47	37.88	44.51	66.60	68.20	-1.60	PK
V	10400.018	43.59	8.47	37.88	44.51	45.43	54.00	-8.57	AV
V	15600.189	63.75	10.12	38.80	44.10	68.57	74.00	-5.43	PK
V	15600.189	43.89	10.12	38.80	42.70	50.11	54.00	-3.89	AV
H	4592.061	62.68	6.48	36.37	44.05	61.48	74.00	-12.52	PK
H	4592.061	43.31	6.48	36.37	44.05	42.11	54.00	-11.89	AV
H	10400.160	54.28	8.47	38.64	44.50	56.89	68.20	-11.31	PK
H	10400.160	44.47	8.47	38.64	44.50	47.08	54.00	-6.92	AV
H	15600.013	52.99	10.12	38.38	44.10	57.39	74.00	-16.61	PK
H	15600.013	43.02	10.12	38.38	44.10	47.42	54.00	-6.58	AV
High Channel (5240 MHz)-Above 1G									
V	4739.060	62.12	7.10	37.24	43.50	62.96	74.00	-11.04	PK
V	4739.060	43.62	7.10	37.24	43.50	44.46	54.00	-9.54	AV
V	10480.032	63.80	8.46	37.68	44.50	65.44	68.20	-2.76	PK
V	10480.032	43.80	8.46	37.68	44.50	45.44	54.00	-8.56	AV
V	15720.007	65.00	10.12	38.80	44.10	69.82	74.00	-4.18	PK
V	15720.007	43.36	10.12	38.80	42.70	49.58	54.00	-4.42	AV
H	4739.102	63.11	7.10	37.24	43.50	63.95	74.00	-10.05	PK
H	4739.102	43.51	7.10	37.24	43.50	44.35	54.00	-9.65	AV
H	10480.130	50.36	8.46	38.57	44.50	52.89	68.20	-15.31	PK
H	10480.130	42.23	8.46	38.57	44.50	44.76	54.00	-9.24	AV
H	15720.186	53.36	10.12	38.38	44.10	57.76	74.00	-16.24	PK
H	15720.186	42.05	10.12	38.38	44.10	46.45	54.00	-7.55	AV

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

Test Mode :	TX(5.1G) - 802.11ac-HT40

Polar (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	4434.042	61.04	5.94	35.40	44.00	58.38	74.00	-15.62	PK
V	4434.042	43.41	5.94	35.40	44.00	40.75	54.00	-13.25	AV
V	10380.139	60.21	8.46	39.75	44.50	63.92	68.20	-4.28	PK
V	10380.139	43.95	8.46	39.75	44.50	47.66	54.00	-6.34	AV
V	15570.120	64.87	10.12	38.80	44.10	69.69	74.00	-4.31	PK
V	15570.120	43.72	10.12	38.80	42.70	49.94	54.00	-4.06	AV
H	4434.065	62.11	5.94	35.18	44.00	59.23	74.00	-14.77	PK
H	4434.065	43.80	5.94	35.18	44.00	40.92	54.00	-13.08	AV
H	10380.195	50.35	8.46	38.71	44.50	53.02	68.20	-15.18	PK
H	10380.195	42.51	8.46	38.71	44.50	45.18	54.00	-8.82	AV
H	15570.184	51.26	10.12	38.38	44.10	55.66	74.00	-18.34	PK
H	15570.184	40.99	10.12	38.38	44.10	45.39	54.00	-8.61	AV
middle Channel (5230 MHz)-Above 1G									
V	4739.132	62.55	6.48	36.35	44.05	61.33	74.00	-12.67	PK
V	4739.132	43.85	6.48	36.35	44.05	42.63	54.00	-11.37	AV
V	10460.107	63.29	8.47	37.88	44.51	65.13	68.20	-3.07	PK
V	10460.107	43.64	8.47	37.88	44.51	45.48	54.00	-8.52	AV
V	15690.082	63.22	10.12	38.80	44.10	68.04	74.00	-5.96	PK
V	15690.082	43.44	10.12	38.80	42.70	49.66	54.00	-4.34	AV
H	4739.022	61.18	6.48	36.37	44.05	59.98	74.00	-14.02	PK
H	4739.022	43.21	6.48	36.37	44.05	42.01	54.00	-11.99	AV
H	10460.118	54.68	8.47	38.64	44.50	57.29	68.20	-10.91	PK
H	10460.118	41.18	8.47	38.64	44.50	43.79	54.00	-10.21	AV
H	15690.181	53.65	10.12	38.38	44.10	58.05	74.00	-15.95	PK
H	15690.181	41.09	10.12	38.38	44.10	45.49	54.00	-8.51	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) - 802.11 AC80

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
(5210 MHz)-Above 1G									
V	4434.097	61.70	5.94	35.40	44.00	59.04	74.00	-14.96	PK
V	4434.097	43.22	5.94	35.40	44.00	40.56	54.00	-13.44	AV
V	10420.074	61.07	8.46	39.75	44.50	64.78	68.20	-3.42	PK
V	10420.074	43.67	8.46	39.75	44.50	47.38	54.00	-6.62	AV
V	15630.007	63.15	10.12	38.80	44.10	67.97	74.00	-6.03	PK
V	15630.007	43.93	10.12	38.80	42.70	50.15	54.00	-3.85	AV
H	4434.013	61.68	5.94	35.18	44.00	58.80	74.00	-15.20	PK
H	4434.013	43.18	5.94	35.18	44.00	40.30	54.00	-13.70	AV
H	10420.140	52.56	8.46	38.71	44.50	55.23	68.20	-12.97	PK
H	10420.140	44.04	8.46	38.71	44.50	46.71	54.00	-7.29	AV
H	15630.005	53.26	10.12	38.38	44.10	57.66	74.00	-16.34	PK
H	15630.005	42.31	10.12	38.38	44.10	46.71	54.00	-7.29	AV

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

Test Mode :	TX (5.8G) -- 802.11a

Polar (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	4679.091	62.02	5.94	35.40	44.00	59.36	74.00	-14.64	PK
V	4679.091	43.69	5.94	35.40	44.00	41.03	54.00	-12.97	AV
V	11490.186	63.38	8.46	39.75	44.50	67.09	68.20	-1.11	PK
V	11490.186	43.75	8.46	39.75	44.50	47.46	54.00	-6.54	AV
V	17235.100	60.90	10.12	38.80	44.10	65.72	74.00	-8.28	PK
V	17235.100	43.66	10.12	38.80	42.70	49.88	54.00	-4.12	AV
H	4679.007	63.55	5.94	35.18	44.00	60.67	74.00	-13.33	PK
H	4679.007	43.82	5.94	35.18	44.00	40.94	54.00	-13.06	AV
H	11490.142	52.02	8.46	38.71	44.50	54.69	68.20	-13.51	PK
H	11490.142	43.87	8.46	38.71	44.50	46.54	54.00	-7.46	AV
H	17235.037	52.34	10.12	38.38	44.10	56.74	74.00	-17.26	PK
H	17235.037	45.00	10.12	38.38	44.10	49.40	54.00	-4.60	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.027	61.89	6.48	36.35	44.05	60.67	74.00	-13.33	PK
V	4592.027	43.76	6.48	36.35	44.05	42.54	54.00	-11.46	AV
V	11570.161	61.62	8.47	37.88	44.51	63.46	68.20	-4.74	PK
V	11570.161	43.71	8.47	37.88	44.51	45.55	54.00	-8.45	AV
V	17355.008	64.86	10.12	38.80	44.10	69.68	74.00	-4.32	PK
V	17355.008	43.83	10.12	38.80	42.70	50.05	54.00	-3.95	AV
H	4592.170	60.52	6.48	36.37	44.05	59.32	74.00	-14.68	PK
H	4592.170	43.83	6.48	36.37	44.05	42.63	54.00	-11.37	AV
H	11570.199	54.42	8.47	38.64	44.50	57.03	68.20	-11.17	PK
H	11570.199	40.28	8.47	38.64	44.50	42.89	54.00	-11.11	AV
H	17355.103	53.97	10.12	38.38	44.10	58.37	74.00	-15.63	PK
H	17355.103	41.77	10.12	38.38	44.10	46.17	54.00	-7.83	AV
High Channel (5825 MHz)-Above 1G									
V	6039.015	61.68	7.10	37.24	43.50	62.52	68.20	-5.68	PK
V	6039.015	43.63	7.10	37.24	43.50	44.47	54.00	-9.53	AV
V	11650.134	64.33	8.46	37.68	44.50	65.97	74.00	-8.03	PK
V	11650.134	43.13	8.46	37.68	44.50	44.77	54.00	-9.23	AV
V	17475.046	60.16	10.12	38.80	44.10	64.98	68.20	-3.22	PK
V	17475.046	43.67	10.12	38.80	42.70	49.89	54.00	-4.11	AV
H	6039.074	63.58	7.10	37.24	43.50	64.42	68.20	-3.78	PK
H	6039.074	43.22	7.10	37.24	43.50	44.06	54.00	-9.94	AV
H	11650.184	50.26	8.46	38.57	44.50	52.79	74.00	-21.21	PK
H	11650.184	42.79	8.46	38.57	44.50	45.32	54.00	-8.68	AV
H	17475.197	53.88	10.12	38.38	44.10	58.28	68.20	-9.92	PK
H	17475.197	43.16	10.12	38.38	44.10	47.56	54.00	-6.44	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

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	4679.118	64.38	5.94	35.40	44.00	61.72	74.00	-12.28	PK
V	4679.118	43.41	5.94	35.40	44.00	40.75	54.00	-13.25	AV
V	11490.037	63.20	8.46	39.75	44.50	66.91	68.20	-1.29	PK
V	11490.037	43.96	8.46	39.75	44.50	47.67	54.00	-6.33	AV
V	17235.173	64.35	10.12	38.80	44.10	69.17	74.00	-4.83	PK
V	17235.173	43.71	10.12	38.80	42.70	49.93	54.00	-4.07	AV
H	4679.128	64.93	5.94	35.18	44.00	62.05	74.00	-11.95	PK
H	4679.128	43.79	5.94	35.18	44.00	40.91	54.00	-13.09	AV
H	11490.150	51.47	8.46	38.71	44.50	54.14	68.20	-14.06	PK
H	11490.150	41.98	8.46	38.71	44.50	44.65	54.00	-9.35	AV
H	17235.186	50.79	10.12	38.38	44.10	55.19	74.00	-18.81	PK
H	17235.186	41.53	10.12	38.38	44.10	45.93	54.00	-8.07	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.125	64.91	6.48	36.35	44.05	63.69	74.00	-10.31	PK
V	4592.125	43.55	6.48	36.35	44.05	42.33	54.00	-11.67	AV
V	11570.155	62.36	8.47	37.88	44.51	64.20	68.20	-4.00	PK
V	11570.155	43.75	8.47	37.88	44.51	45.59	54.00	-8.41	AV
V	17355.049	63.51	10.12	38.80	44.10	68.33	74.00	-5.67	PK
V	17355.049	43.72	10.12	38.80	42.70	49.94	54.00	-4.06	AV
H	4592.051	61.87	6.48	36.37	44.05	60.67	74.00	-13.33	PK
H	4592.051	43.09	6.48	36.37	44.05	41.89	54.00	-12.11	AV
H	11570.126	52.09	8.47	38.64	44.50	54.70	68.20	-13.50	PK
H	11570.126	41.74	8.47	38.64	44.50	44.35	54.00	-9.65	AV
H	17355.154	52.93	10.12	38.38	44.10	57.33	74.00	-16.67	PK
H	17355.154	41.86	10.12	38.38	44.10	46.26	54.00	-7.74	AV
High Channel (5825 MHz)-Above 1G									
V	6039.007	63.55	7.10	37.24	43.50	64.39	68.20	-3.81	PK
V	6039.007	43.70	7.10	37.24	43.50	44.54	54.00	-9.46	AV
V	11650.084	60.82	8.46	37.68	44.50	62.46	74.00	-11.54	PK
V	11650.084	43.99	8.46	37.68	44.50	45.63	54.00	-8.37	AV
V	17475.194	62.36	10.12	38.80	44.10	67.18	68.20	-1.02	PK
V	17475.194	43.66	10.12	38.80	42.70	49.88	54.00	-4.12	AV
H	6039.009	64.90	7.10	37.24	43.50	65.74	68.20	-2.46	PK
H	6039.009	43.62	7.10	37.24	43.50	44.46	54.00	-9.54	AV
H	11650.087	53.08	8.46	38.57	44.50	55.61	74.00	-18.39	PK
H	11650.087	40.95	8.46	38.57	44.50	43.48	54.00	-10.52	AV
H	17475.134	52.67	10.12	38.38	44.10	57.07	68.20	-11.13	PK
H	17475.134	44.07	10.12	38.38	44.10	48.47	54.00	-5.53	AV

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

Test Mode :	TX (5.8G) -- 802.11n-HT40

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	4679.105	64.13	5.94	35.40	44.00	61.47	74.00	-12.53	PK
V	4679.105	43.12	5.94	35.40	44.00	40.46	54.00	-13.54	AV
V	11510.025	61.56	8.46	39.75	44.50	65.27	68.20	-2.93	PK
V	11510.025	43.52	8.46	39.75	44.50	47.23	54.00	-6.77	AV
V	17265.179	60.62	10.12	38.80	44.10	65.44	74.00	-8.56	PK
V	17265.179	43.93	10.12	38.80	42.70	50.15	54.00	-3.85	AV
H	4679.047	61.95	5.94	35.18	44.00	59.07	74.00	-14.93	PK
H	4679.047	43.25	5.94	35.18	44.00	40.37	54.00	-13.63	AV
H	11510.035	51.79	8.46	38.71	44.50	54.46	68.20	-13.74	PK
H	11510.035	42.74	8.46	38.71	44.50	45.41	54.00	-8.59	AV
H	17265.140	51.99	10.12	38.38	44.10	56.39	74.00	-17.61	PK
H	17265.140	44.13	10.12	38.38	44.10	48.53	54.00	-5.47	AV
middle Channel (5795 MHz)-Above 1G									
V	6039.015	63.37	6.48	36.35	44.05	62.15	68.20	-6.05	PK
V	6039.015	43.14	6.48	36.35	44.05	41.92	54.00	-12.08	AV
V	11590.078	63.03	8.47	37.88	44.51	64.87	74.00	-9.13	PK
V	11590.078	43.38	8.47	37.88	44.51	45.22	54.00	-8.78	AV
V	17385.064	60.92	10.12	38.80	44.10	65.74	68.20	-2.46	PK
V	17385.064	43.58	10.12	38.80	42.70	49.80	54.00	-4.20	AV
H	6039.082	64.91	6.48	36.37	44.05	63.71	68.20	-4.49	PK
H	6039.082	43.01	6.48	36.37	44.05	41.81	54.00	-12.19	AV
H	11590.124	51.27	8.47	38.64	44.50	53.88	74.00	-20.12	PK
H	11590.124	41.11	8.47	38.64	44.50	43.72	54.00	-10.28	AV
H	17385.164	53.64	10.12	38.38	44.10	58.04	68.20	-10.16	PK
H	17385.164	41.50	10.12	38.38	44.10	45.90	54.00	-8.10	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

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	4679.015	64.82	5.94	35.40	44.00	62.16	74.00	-11.84	PK
V	4679.015	43.62	5.94	35.40	44.00	40.96	54.00	-13.04	AV
V	11490.067	61.96	8.46	39.75	44.50	65.67	68.20	-2.53	PK
V	11490.067	43.92	8.46	39.75	44.50	47.63	54.00	-6.37	AV
V	17235.071	64.15	10.12	38.80	44.10	68.97	74.00	-5.03	PK
V	17235.071	43.61	10.12	38.80	42.70	49.83	54.00	-4.17	AV
H	4679.128	62.24	5.94	35.18	44.00	59.36	74.00	-14.64	PK
H	4679.128	43.04	5.94	35.18	44.00	40.16	54.00	-13.84	AV
H	11490.098	52.41	8.46	38.71	44.50	55.08	68.20	-13.12	PK
H	11490.098	42.57	8.46	38.71	44.50	45.24	54.00	-8.76	AV
H	17235.148	53.07	10.12	38.38	44.10	57.47	74.00	-16.53	PK
H	17235.148	40.19	10.12	38.38	44.10	44.59	54.00	-9.41	AV
middle Channel (5785 MHz)-Above 1G									
V	4592.166	62.59	6.48	36.35	44.05	61.37	74.00	-12.63	PK
V	4592.166	43.72	6.48	36.35	44.05	42.50	54.00	-11.50	AV
V	11570.125	63.46	8.47	37.88	44.51	65.30	68.20	-2.90	PK
V	11570.125	43.38	8.47	37.88	44.51	45.22	54.00	-8.78	AV
V	17355.100	64.44	10.12	38.80	44.10	69.26	74.00	-4.74	PK
V	17355.100	43.53	10.12	38.80	42.70	49.75	54.00	-4.25	AV
H	4592.012	60.80	6.48	36.37	44.05	59.60	74.00	-14.40	PK
H	4592.012	43.77	6.48	36.37	44.05	42.57	54.00	-11.43	AV
H	11570.166	50.93	8.47	38.64	44.50	53.54	68.20	-14.66	PK
H	11570.166	41.06	8.47	38.64	44.50	43.67	54.00	-10.33	AV
H	17355.121	53.94	10.12	38.38	44.10	58.34	74.00	-15.66	PK
H	17355.121	40.34	10.12	38.38	44.10	44.74	54.00	-9.26	AV
High Channel (5825 MHz)-Above 1G									
V	6039.184	61.42	7.10	37.24	43.50	62.26	68.20	-5.94	PK
V	6039.184	43.95	7.10	37.24	43.50	44.79	54.00	-9.21	AV
V	11650.119	60.94	8.46	37.68	44.50	62.58	74.00	-11.42	PK
V	11650.119	44.00	8.46	37.68	44.50	45.64	54.00	-8.36	AV
V	17475.163	61.36	10.12	38.80	44.10	66.18	68.20	-2.02	PK
V	17475.163	43.75	10.12	38.80	42.70	49.97	54.00	-4.03	AV
H	6039.133	60.59	7.10	37.24	43.50	61.43	68.20	-6.77	PK
H	6039.133	43.58	7.10	37.24	43.50	44.42	54.00	-9.58	AV
H	11650.161	52.95	8.46	38.57	44.50	55.48	74.00	-18.52	PK
H	11650.161	42.80	8.46	38.57	44.50	45.33	54.00	-8.67	AV
H	17475.126	54.95	10.12	38.38	44.10	59.35	68.20	-8.85	PK
H	17475.126	42.89	10.12	38.38	44.10	47.29	54.00	-6.71	AV

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

Test Mode :	TX (5.8G) -- 802.11ac-HT40

Polar (H/V)	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5755 MHz)-Above 1G									
V	4679.053	60.17	5.94	35.40	44.00	57.51	74.00	-16.49	PK
V	4679.053	43.37	5.94	35.40	44.00	40.71	54.00	-13.29	AV
V	11510.141	60.36	8.46	39.75	44.50	64.07	68.20	-4.13	PK
V	11510.141	43.97	8.46	39.75	44.50	47.68	54.00	-6.32	AV
V	17265.195	64.46	10.12	38.80	44.10	69.28	74.00	-4.72	PK
V	17265.195	43.46	10.12	38.80	42.70	49.68	54.00	-4.32	AV
H	4679.188	61.63	5.94	35.18	44.00	58.75	74.00	-15.25	PK
H	4679.188	43.94	5.94	35.18	44.00	41.06	54.00	-12.94	AV
H	11510.189	52.36	8.46	38.71	44.50	55.03	68.20	-13.17	PK
H	11510.189	43.84	8.46	38.71	44.50	46.51	54.00	-7.49	AV
H	17265.022	51.06	10.12	38.38	44.10	55.46	74.00	-18.54	PK
H	17265.022	42.22	10.12	38.38	44.10	46.62	54.00	-7.38	AV
middle Channel (5795 MHz)-Above 1G									
V	6039.036	64.91	6.48	36.35	44.05	63.69	68.20	-4.51	PK
V	6039.036	43.52	6.48	36.35	44.05	42.30	54.00	-11.70	AV
V	11590.025	61.83	8.47	37.88	44.51	63.67	74.00	-10.33	PK
V	11590.025	43.19	8.47	37.88	44.51	45.03	54.00	-8.97	AV
V	17385.067	60.33	10.12	38.80	44.10	65.15	68.20	-3.05	PK
V	17385.067	43.69	10.12	38.80	42.70	49.91	54.00	-4.09	AV
H	6039.014	60.04	6.48	36.37	44.05	58.84	68.20	-9.36	PK
H	6039.014	43.74	6.48	36.37	44.05	42.54	54.00	-11.46	AV
H	11590.159	53.75	8.47	38.64	44.50	56.36	74.00	-17.64	PK
H	11590.159	42.08	8.47	38.64	44.50	44.69	54.00	-9.31	AV
H	17385.124	51.07	10.12	38.38	44.10	55.47	68.20	-12.73	PK
H	17385.124	44.76	10.12	38.38	44.10	49.16	54.00	-4.84	AV

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

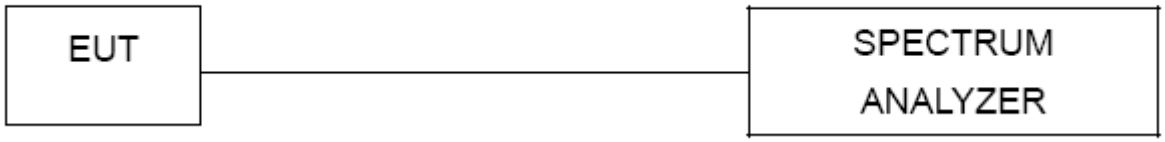
Test Mode :	TX(5.8G) - 802.11 AC80

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
(5775 MHz)-Above 1G									
V	4679.111	63.26	5.94	35.40	44.00	60.60	74.00	-13.40	PK
V	4679.111	43.10	5.94	35.40	44.00	40.44	54.00	-13.56	AV
V	11550.072	61.41	8.46	39.75	44.50	65.12	68.20	-3.08	PK
V	11550.072	43.09	8.46	39.75	44.50	46.80	54.00	-7.20	AV
V	17325.159	64.41	10.12	38.80	44.10	69.23	74.00	-4.77	PK
V	17325.159	43.73	10.12	38.80	42.70	49.95	54.00	-4.05	AV
H	4679.197	62.88	5.94	35.18	44.00	60.00	74.00	-14.00	PK
H	4679.197	43.38	5.94	35.18	44.00	40.50	54.00	-13.50	AV
H	11550.118	51.03	8.46	38.71	44.50	53.70	68.20	-14.50	PK
H	11550.118	41.16	8.46	38.71	44.50	43.83	54.00	-10.17	AV
H	17325.108	51.77	10.12	38.38	44.10	56.17	74.00	-17.83	PK
H	17325.108	42.29	10.12	38.38	44.10	46.69	54.00	-7.31	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.

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 Wifi Repeater 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 Wifi Repeater 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 Wifi Repeaters 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 ≥ 1/T, where T is defined in section II.B.I.a).

b) Set VBW ≥ 3 RBW.

c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10log(1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.

e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 KHz for the sections 5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.

.

8.4 EUT operating Conditions

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

8.5 Test Result

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC120V/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.

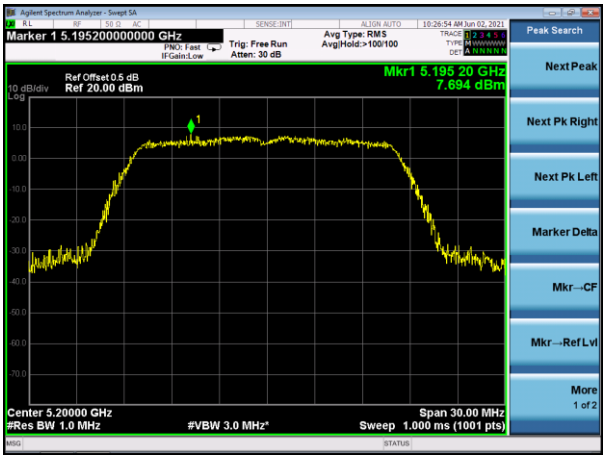
For power spectral density(PSD) measurements,
Array Gain=10log(NANT/NSS)dB=10log(2/1)=3.01dB,
So the directional gain for PSD is 8.01dBi

Mode	Frequency	Measured Power Density (dBm/MHz)			Limit (dBm/MHz)	Result
		ANT A	ANT B	Total		
802.11 a	5180 MHz	7.485	6.479	/	17	PASS
	5200 MHz	7.694	5.883	/	17	PASS
	5240 MHz	7.816	5.584	/	17	PASS
802.11 n20	5180 MHz	5.546	4.925	8.257	14.99	PASS
	5200 MHz	6.043	4.896	8.518	14.99	PASS
	5240 MHz	6.022	4.490	8.334	14.99	PASS
802.11 n40	5190 MHz	4.807	4.987	7.908	14.99	PASS
	5230 MHz	4.526	4.987	7.773	14.99	PASS
802.11 ac20	5180 MHz	5.506	5.017	8.279	14.99	PASS
	5200 MHz	6.347	5.066	8.764	14.99	PASS
	5240 MHz	6.131	4.560	8.426	14.99	PASS
802.11 ac40	5190 MHz	4.426	3.973	7.216	14.99	PASS
	5230 MHz	4.883	4.641	7.774	14.99	PASS
802.11 AC80	5210 MHz	3.500	1.077	5.466	14.99	PASS

(802.11a) PSD plot on channel 36

(802.11n20) PSD plot on channel 36

(802.11a) PSD plot on channel 40

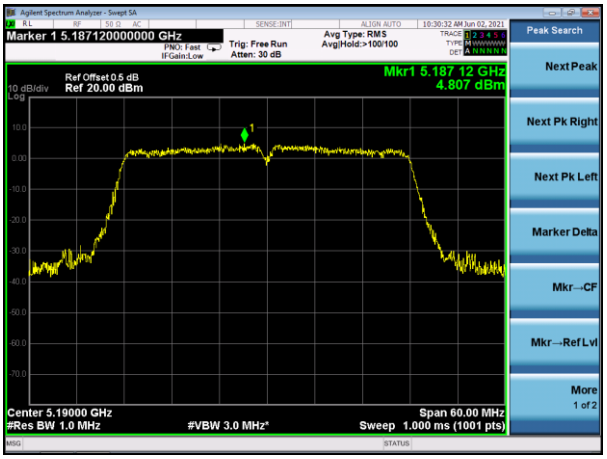


(802.11n20) PSD plot on channel 40

(802.11a) PSD plot on channel 48

(802.11n20) PSD plot on channel 48

(802.11n40) PSD plot on channel 38



(802.11ac20) PSD plot on channel 36

(802.11n40) PSD plot on channel 46

(802.11ac20) PSD plot on channel 40

(802.11ac20) PSD plot on channel 48

(802.11ac40) PSD plot on channel 38

(802.11ac80) PSD plot on channel 42

(802.11ac40) PSD plot on channel 46

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC120V/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.

For power spectral density(PSD) measurements,
Array Gain=10log(NANT/NSS)dB=10log(2/1)=3.01dB,
So the directional gain for PSD is 8.01dBi

Mode	Frequency	Measured Power Density (dBm/500KHz)			Limit (dBm/500kHz)	Result
		ANT A	ANT B	Total		
802.11 a	5745 MHz	5.982	4.007	/	30	PASS
	5785 MHz	5.318	3.222	/	30	PASS
	5825 MHz	4.762	3.655	/	30	PASS
802.11 n20	5745 MHz	4.029	2.353	6.282	27.99	PASS
	5785 MHz	3.372	1.595	5.584	27.99	PASS
	5825 MHz	3.194	1.626	5.491	27.99	PASS
802.11 n40	5755 MHz	3.533	2.261	5.954	27.99	PASS
	5795 MHz	2.674	1.768	5.255	27.99	PASS
802.11 ac20	5745 MHz	4.078	2.545	6.389	27.99	PASS
	5785 MHz	3.422	2.152	5.844	27.99	PASS
	5825 MHz	2.969	1.642	5.366	27.99	PASS
802.11 ac40	5755 MHz	3.737	2.377	6.120	27.99	PASS
	5795 MHz	2.454	1.193	4.879	27.99	PASS
802.11 AC80	5775 MHz	1.851	0.462	4.222	27.99	PASS

(802.11a) PSD plot on channel 149

(802.11n20) PSD plot on channel 149

(802.11a) PSD plot on channel 157

(802.11n20) PSD plot on channel 157

(802.11a) PSD plot on channel 165

(802.11n20) PSD plot on channel 165

(802.11n40) PSD plot on channel 151

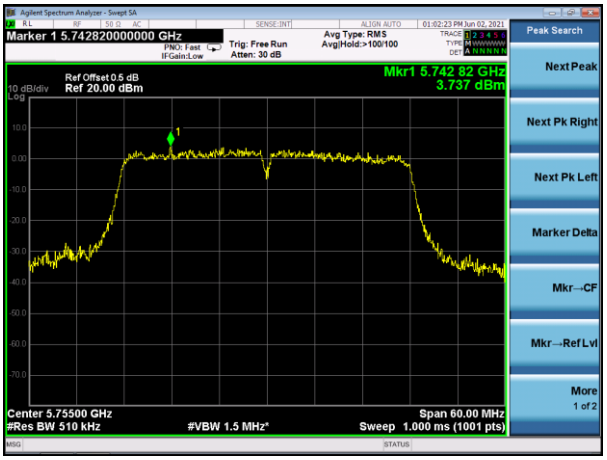
(802.11ac20) PSD plot on channel 149

(802.11n40) PSD plot on channel 159

(802.11ac20) PSD plot on channel 157

(802.11ac20) PSD plot on channel 165

(802.11ac40) PSD plot on channel 151

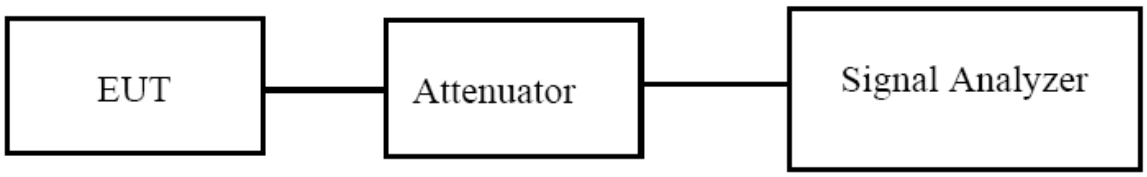


(802.11ac80) PSD plot on channel 155

(802.11ac40) PSD plot on channel 159

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.

9.3 Test procedure

a) Set RBW = approximately 1% of the emission bandwidth.
b) Set the VBW > RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
The following procedure shall be used for measuring (99 %) power bandwidth:

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

9.4 EUT operating Conditions

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

9.5 Test Result

Temperature :	26 ℃	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC120V/60Hz
Test Mode :	TX Frequency U-NII-1 (5180-5240MHz)		

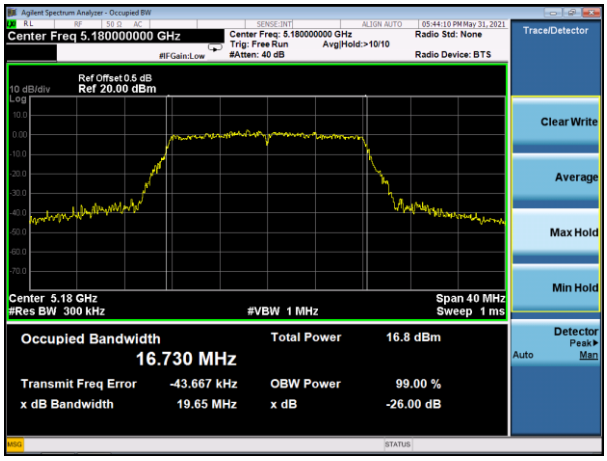
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

Mode	Channel	Frequency (MHz)	99% bandwidth(MHz)	26dB bandwidth (MHz)	Limit MHz	Result
			ANT A	ANT A		
802.11a	CH36	5180	16.732	19.78	N/A	Pass
	CH40	5200	16.767	19.88	N/A	Pass
	CH48	5240	16.752	19.96	N/A	Pass
802.11 n20	CH36	5180	17.659	20.11	N/A	Pass
	CH40	5200	17.691	20.38	N/A	Pass
	CH48	5240	17.675	20.29	N/A	Pass
802.11 n40	CH 38	5190	36.106	41.33	N/A	Pass
	CH 46	5230	36.186	41.29	N/A	Pass
802.11 ac20	CH36	5180	17.680	20.02	N/A	Pass
	CH40	5200	17.679	20.28	N/A	Pass
	CH48	5240	17.703	20.27	N/A	Pass
802.11 ac40	CH 38	5190	36.116	41.09	N/A	Pass
	CH 46	5230	36.214	41.13	N/A	Pass
802.11 AC80	CH 42	5210	75.072	81.35	N/A	Pass

Mode	Channel	Frequency (MHz)	99% bandwidth (MHz)	26dB bandwidth (MHz)	Limit MHz	Result
			ANT B	ANT B		
802.11a	CH36	5180	16.730	19.65	N/A	Pass
	CH40	5200	16.721	19.88	N/A	Pass
	CH48	5240	16.793	19.87	N/A	Pass
802.11 n20	CH36	5180	17.659	20.35	N/A	Pass
	CH40	5200	17.699	20.13	N/A	Pass
	CH48	5240	17.726	20.13	N/A	Pass
802.11 n40	CH 38	5190	36.150	41.20	N/A	Pass
	CH 46	5230	36.233	41.15	N/A	Pass
802.11 ac20	CH36	5180	17.651	20.15	N/A	Pass
	CH40	5200	17.656	20.14	N/A	Pass
	CH48	5240	17.695	20.34	N/A	Pass
802.11 ac40	CH 38	5190	36.150	40.98	N/A	Pass
	CH 46	5230	36.190	41.49	N/A	Pass
802.11 AC80	CH 42	5210	74.960	81.43	N/A	Pass

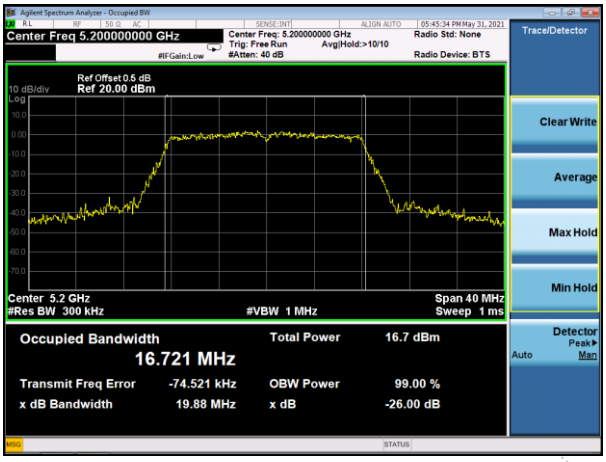
Test plot

(802.11a) 26dB&99%Bandwidth plot on channel 36

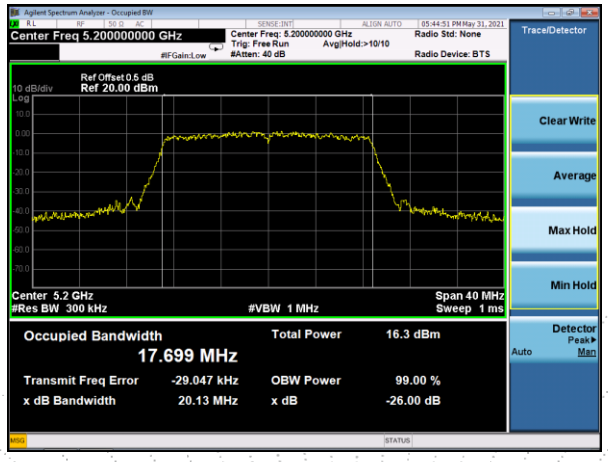


(802.11 n20) 26dB&99%Bandwidth plot on channel 36

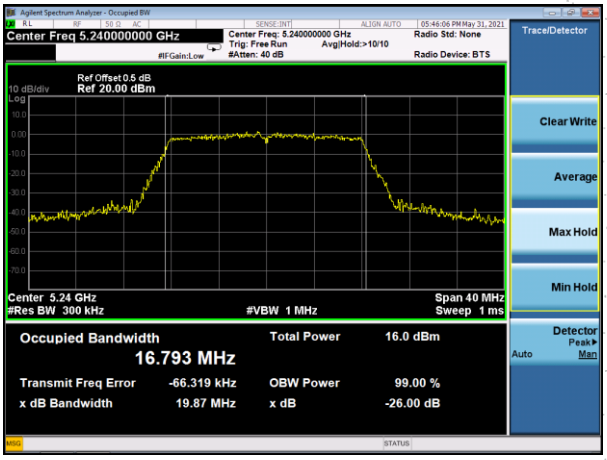
(802.11a) 26dB&99%Bandwidth plot on channel 40



(802.11 n20) 26dB&99%Bandwidth plot on channel 40



(802.11a) 26dB&99%Bandwidth plot on channel 48



(802.11 n20) 26dB&99%Bandwidth plot on channel 48