FCC Part 15E Test Report
FCC ID: 2BLM9-AX3000W

Applicant:	Shenzhen Maiyuan Industry
Address:	Aohua Business Building, Longhua District, Shenzhen City, Guangdong Province, China
Manufacturer:	Shenzhen Maiyuan Industry
Address:	Aohua Business Building, Longhua District, Shenzhen City, Guangdong Province, China
EUT:	Router
Trade Mark:	N/A
Model Number:	MY-AX3000W
Date of Receipt:	Sep. 12, 2024
Test Date:	Sep. 12, 2024 - Sep. 27, 2024
Date of Report:	Sep. 27, 2024
Prepared By:	Shenzhen DL Testing Technology Co., Ltd.
Address:	101-201, Building C, Shuanghuan, No.8, Baoqing Road, Baolong Industrial Zone, Baolong Street, Longgang District, Shenzhen, Guangdong, China
Applicable Standards:	FCC PART 15 E 15.407 ANSI C63.10:2013
Test Result:	Pass
Report Number:	DL-240912024-2ER

Prepared (Test Engineer):	Alisa Song
Reviewer (Supervisor):	Jack Bu
Approved (Manager):	Jade Yang

This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.

Table of Contents **Page**

Table of Contents **Page**

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.407) , Subpart E			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.407(b), 15.209	Radiated Spurious Emission	PASS	
15.407 (b)	Band Edge Emission	PASS	
15.407 (a)	Peak Output Power	PASS	
15.407 (a)	Power Spectral Density	PASS	
15.403(i) 15.407(e)	26dB bandwidth and 99%dB Bandwidth 6dB bandwidth and 99%dB Bandwidth	PASS	
15.407(g)	Frequency Stability	PASS	
15.407(c)	Transmission in case of Absence of Information	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

Test lab: Shenzhen DL Testing Technology Co., Ltd.

Address: 101-201, Building C, Shuanghuan, No.8, Baoqing Road, Baolong Industrial Zone, Baolong Street, Longgang District, Shenzhen, Guangdong, China

FCC Test Firm Registration Number: 854456
Designation Number: CN1307
IC Registered No.: 27485
CAB ID.: CN0118

1.1 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y** ± **U**, where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95** %。

No.	Item	Uncertainty
1	Conducted Emission Test	±2.56dB
2	RF power,conducted	±0.42dB
3	Spurious emissions,conducted	±2.76dB
4	All emissions,radiated(<1G)	±3.65dB
5	All emissions,radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%
8	Bandwidth	±0.2MHz
9	Power Spectral Density	±2.45dBm

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product Name:	Router
Trademark	N/A
Model No.:	MY-AX3000W
Model Difference	N/A
Operation Frequency:	5745-5825MHz(802.11a/n/ac/ax(HT20)) 5755-5795MHz(802.11n/ac/ax(HT40)) 5775MHz(802.11ac/ax(HT80))
Channel numbers:	See channel list
Channel separation:	20MHz/40MHz/80MHz
Modulation technology:	64QAM,16QAM,QPSK, BPSK for OFDM BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM for OFDMA
Rate of Transmitter	802.11a: 6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps,54Mbps 802.11n: Up to 300Mbps 802.11ac: up to 867Mbps 802.11ax: up to 3000Mbps
Antenna Type:	Built-in Antenna*3
Antenna gain:	2.0dBi
Power Supply:	DC12V from adapter
Adapter 1:	Model: NBS12E120100VU Input: 100-240V~ 50/60Hz 0.3A Output: 12V⎓ 1.0A
Adapter 2:	Model: GQ12-120100-CU Input: 100-240V~ 50/60Hz 0.4A Output: 12V⎓ 1.0A

Note:

1.For a more detailed features description, please refer to the manufacturer’s specifications or the User's Manual.

2.The EUT’s all information provided by client.

3.The EUT only support full RU mode.

4. Refer to KDB662911 D01 Multiple Transmitter Output v02r01,The MIMO mode only support the 802.11n/ac/ax mode, the Directional Gain=2.0dBi+10log(2)=5.01dBi.

5. The product has 3 antennas, of which 2 support TX/RX and the other only supports RX.

6. Channel List

Channel List for 802.11a/n(HT20)/ac/ax(HT20)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	161	5805
153	5765	165	5825
157	5785		

Channel List for 802.11n(HT40)/ac/ax(HT40)			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795

Channel List for 802.11ac(HT80)/ax(HT80)			
Channel	Frequency (MHz)		
155	5775		

2.2 DESCRIPTION OF TEST MODES

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.

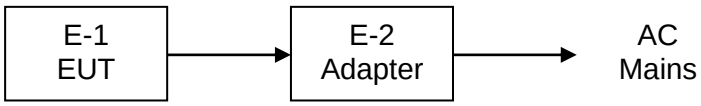
Description			
Pretest Mode	Channel	Band 4	
Mode 1	802.11a/n/ac/axHT20	CH149, CH157, CH165	
Mode 2	802.11n/ac/axHT40	CH151, CH159	
Mode 3	802.11n/ac/axHT80	CH155	
Mode 4	Link Mode		

For Radiated Emission			
Pretest Mode	Channel	Band 4	
Mode 1	802.11a/n/ac/axHT20	CH149, CH157, CH165	
Mode 2	802.11n/ac/axHT40	CH151, CH159	
Mode 3	802.11n/ac/axHT80	CH155	
Mode 4	Link Mode		

Note: 1. The measurements are performed at the highest, middle, lowest available channels.
2. During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.
3. we pretest all adapter, the report only show the worst mode(adapter 1)'s data.

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

AC power line conducted & Radiated Emission test



2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Model/Type No.	Series No.	Note
E-1	Router	MY-AX3000W	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

Note:

(1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

2.5 TABLE OF PARAMETERS OF TEST 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 end product.

Max output power Setting				
Test software Version	Test program: aicrf_test			
Mode	802.11a	802.11n/ac/ax HT20	802.11n/ac/ax HT40	802.11ac/ax HT80
Data Rate	6Mbps	MSC0	MSC0	MSC0
Power Setting of Softwave	60	60	66	50

The SISO mode antenna 1&2 and MIMO mode, the power setting was same.

2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation test, Band-edge test and 6db bandwidth test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	Agilent	E4408B	MY50140780	Nov. 04, 2023	Nov. 03, 2024
2	Test Receiver (9kHz-7GHz)	R&S	ESRP7	101393	Nov. 04, 2023	Nov. 03, 2024
3	Bilog Antenna (30MHz-1GHz)	R&S	VULB9162	00306	Nov. 04, 2023	Nov. 03, 2024
4	Horn Antenna (1GHz-18GHz)	Schwarzbeck	BBHA9120D	02139	Nov. 04, 2023	Nov. 03, 2024
5	Horn Antenna (18GHz-40GHz)	A.H. Systems	SAS-574	588	Nov. 04, 2023	Nov. 03, 2024
6	Amplifier (9KHz-6GHz)	Schwarzbeck	BBV9743B	00153	Nov. 04, 2023	Nov. 03, 2024
7	Amplifier (1GHz-18GHz)	EMEC	EM01G8GA	00270	Nov. 04, 2023	Nov. 03, 2024
8	Amplifier (18GHz-40GHz)	Quanjuda	DLE-161	97	Nov. 04, 2023	Nov. 03, 2024
9	Loop Antenna (9KHz-30MHz)	Schwarzbeck	FMZB1519B	00014	Nov. 04, 2023	Nov. 03, 2024
10	RF cables1 (9kHz-1GHz)	ChengYu	966	004	Nov. 04, 2023	Nov. 03, 2024
11	RF cables2 (1GHz-40GHz)	ChengYu	966	003	Nov. 04, 2023	Nov. 03, 2024
12	Antenna connector	Florida RF Labs	N/A	RF 01#	Nov. 04, 2023	Nov. 03, 2024
13	Power probe	KEYSIGHT	U2021XA	MY55210018	Nov. 04, 2023	Nov. 03, 2024
14	Signal Analyzer 9kHz-26.5GHz	Agilent	N9020A	MY55370280	Nov. 04, 2023	Nov. 03, 2024
15	Test Receiver 20kHz-40GHz	R&S	ESU 40	100376	Nov. 04, 2023	Nov. 03, 2024
16	D.C. Power Supply	LongWei	PS-305D	010964729	Nov. 04, 2023	Nov. 03, 2024

Conduction Test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	843 Shielded Room	YIHENG	843 Room	843	Nov. 05, 2023	Nov. 04, 2026
2	EMI Receiver	R&S	ESR	101421	Nov. 04, 2023	Nov. 03, 2024
3	LISN	R&S	ENV216	102417	Nov. 04, 2023	Nov. 03, 2024
4	843 Cable 1#	ChengYu	CE Cable	001	Nov. 04, 2023	Nov. 03, 2024

Other

Item	Name	Manufacturer	Model	Software version
1	EMC Conduction Test System	FALA	EZ_EMC	EMC-CON 3A1.1
2	EMC radiation test system	FALA	EZ_EMC	FA-03A2
3	RF test system	MAIWEI	MTS8310	2.0.0.0
4	RF communication test system	MAIWEI	MTS8200	2.0.0.0

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

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

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

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

3.1.2 TEST PROCEDURE

a. The EUT is placed on a horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

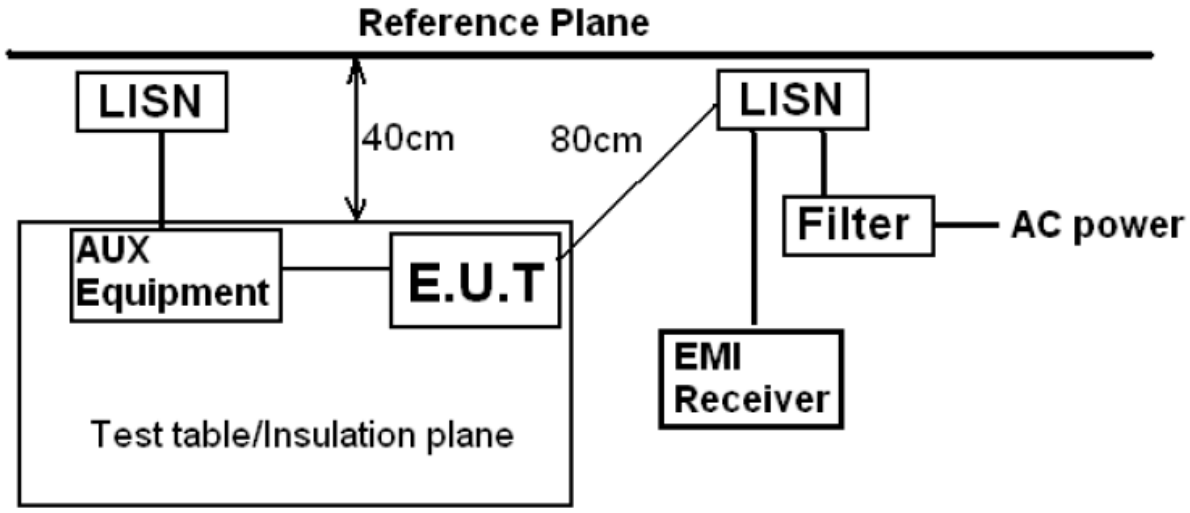
d. LISN at least 80 cm from nearest part of EUT chassis.

e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP

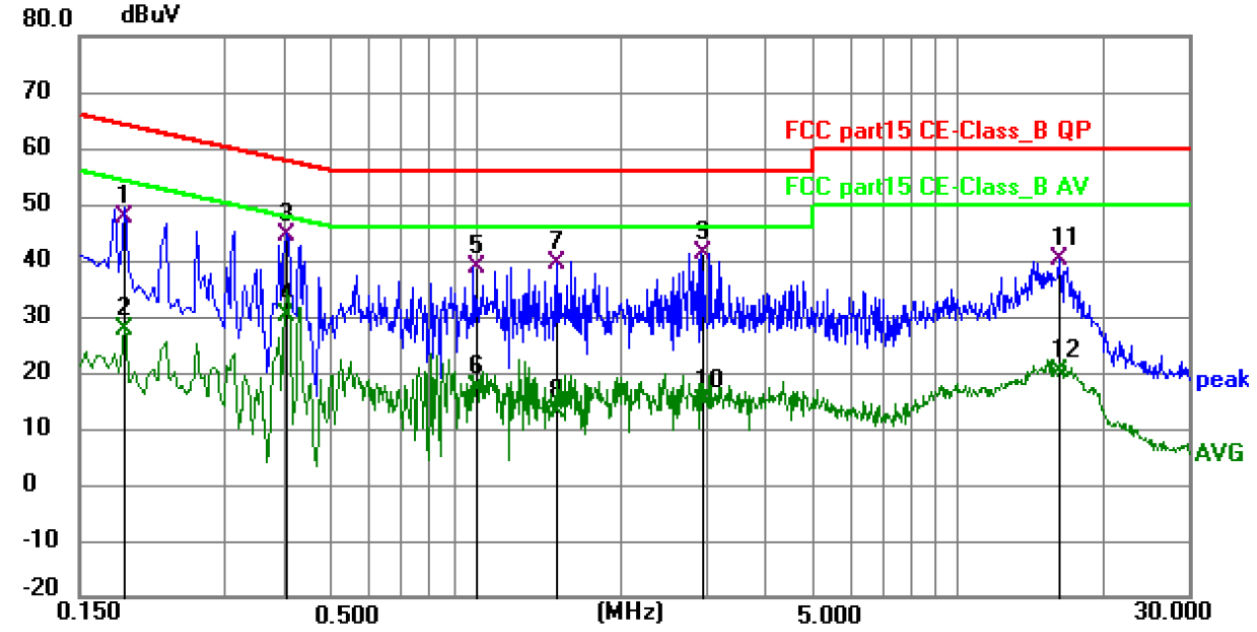


3.1.5 EUT OPERATING CONDITIONS

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.

3.1.6 TEST RESULTS

Temperature:	25 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	L
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 4

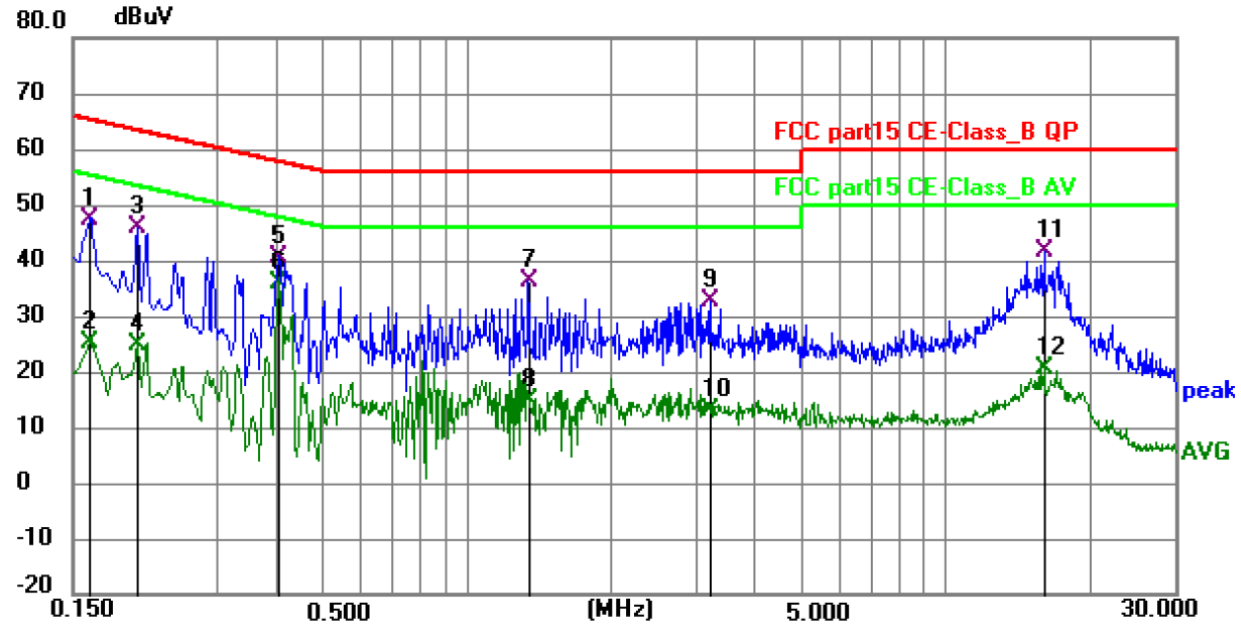


Remark:

Margin = Limit – Level, Correct Factor = Cable lose + LISN insertion loss, Level= Reading + Correct factor

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1860	37.68	10.16	47.84	64.21	-16.37	QP	P	
2	0.1860	17.53	10.16	27.69	54.21	-26.52	AVG	P	
3 *	0.4020	34.31	10.22	44.53	57.81	-13.28	QP	P	
4	0.4020	20.04	10.22	30.26	47.81	-17.55	AVG	P	
5	1.0004	28.77	10.11	38.88	56.00	-17.12	QP	P	
6	1.0004	7.33	10.11	17.44	46.00	-28.56	AVG	P	
7	1.4730	29.48	10.08	39.56	56.00	-16.44	QP	P	
8	1.4730	3.13	10.08	13.21	46.00	-32.79	AVG	P	
9	2.9490	31.13	10.08	41.21	56.00	-14.79	QP	P	
10	2.9490	4.81	10.08	14.89	46.00	-31.11	AVG	P	
11	16.1834	28.53	11.67	40.20	60.00	-19.80	QP	P	
12	16.1834	8.56	11.67	20.23	50.00	-29.77	AVG	P	

Temperature:	25 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	N
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 4



Remark:

Margin = Limit – Level, Correct Factor = Cable lose + LISN insertion loss, Level= Reading + Correct factor

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1635	37.46	10.04	47.50	65.28	-17.78	QP	P	
2	0.1635	15.21	10.04	25.25	55.28	-30.03	AVG	P	
3	0.2061	35.85	10.10	45.95	63.36	-17.41	QP	P	
4	0.2061	14.73	10.10	24.83	53.36	-28.53	AVG	P	
5	0.4061	30.42	10.26	40.68	57.73	-17.05	QP	P	
6 *	0.4061	25.49	10.26	35.75	47.73	-11.98	AVG	P	
7	1.3560	26.04	10.05	36.09	56.00	-19.91	QP	P	
8	1.3560	4.83	10.05	14.88	46.00	-31.12	AVG	P	
9	3.2324	22.36	10.15	32.51	56.00	-23.49	QP	P	
10	3.2324	2.96	10.15	13.11	46.00	-32.89	AVG	P	
11	16.0214	29.97	11.76	41.73	60.00	-18.27	QP	P	
12	16.0214	8.90	11.76	20.66	50.00	-29.34	AVG	P	

3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

15.407(b)Undesirable emission limits. Except as shown in paragraph (b) (10) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1)For transmitters operating in the 5.15-5.25GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2)For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(3)For transmitters operating in the 5.47-5.725GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(4)For transmitters operating solely in the 5.725-5.850GHz band:
All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to10dBm/MHzat25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

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).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	40GHz
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

3.2.2 TEST PROCEDURE

Below 1GHz test procedure as below:

a. The EUT is placed on a horizontal ground plane above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre(Above 18GHz the distance is 1 meter and table is 1.5 metre).
h. Test the EUT in the lowest channel, the middle channel, the Highest channel

Note:

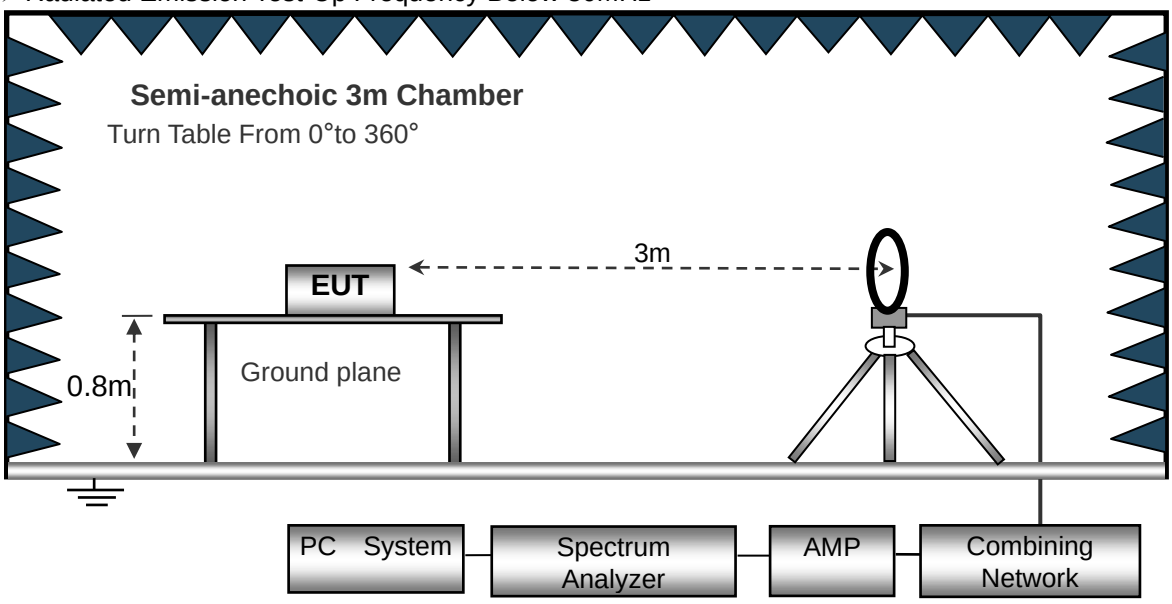
Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

3.2.3 DEVIATION FROM TEST STANDARD

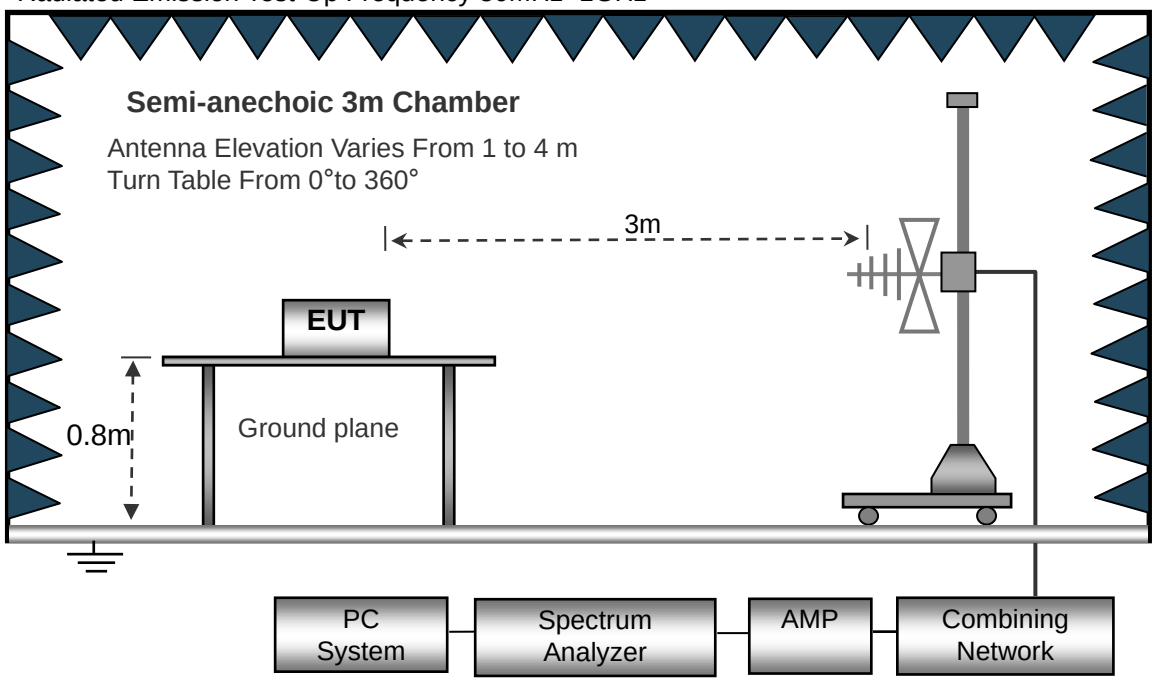
No deviation

3.2.4 TEST SETUP

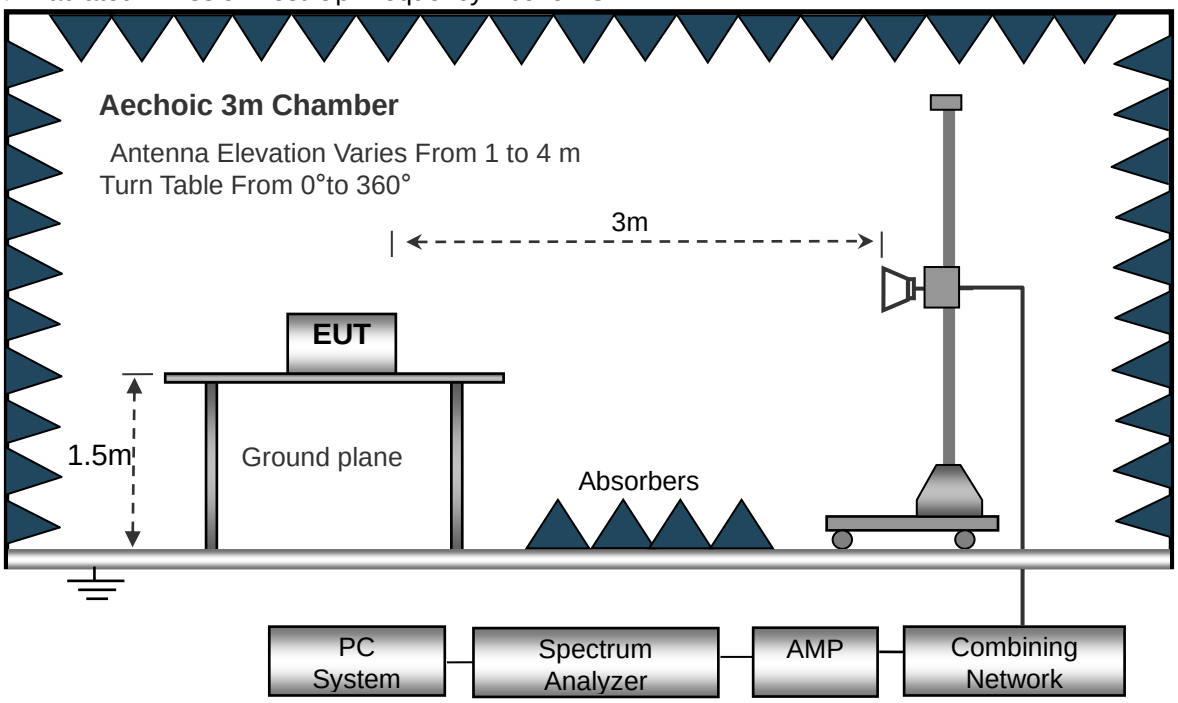
（A）Radiated Emission Test-Up Frequency Below 30MHz



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



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



3.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

3.2.6 TEST RESULTS (Between 9KHz – 30 MHz)

Temperature:	20℃	Relative Humidtity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	Mode 4	Polarization :	--

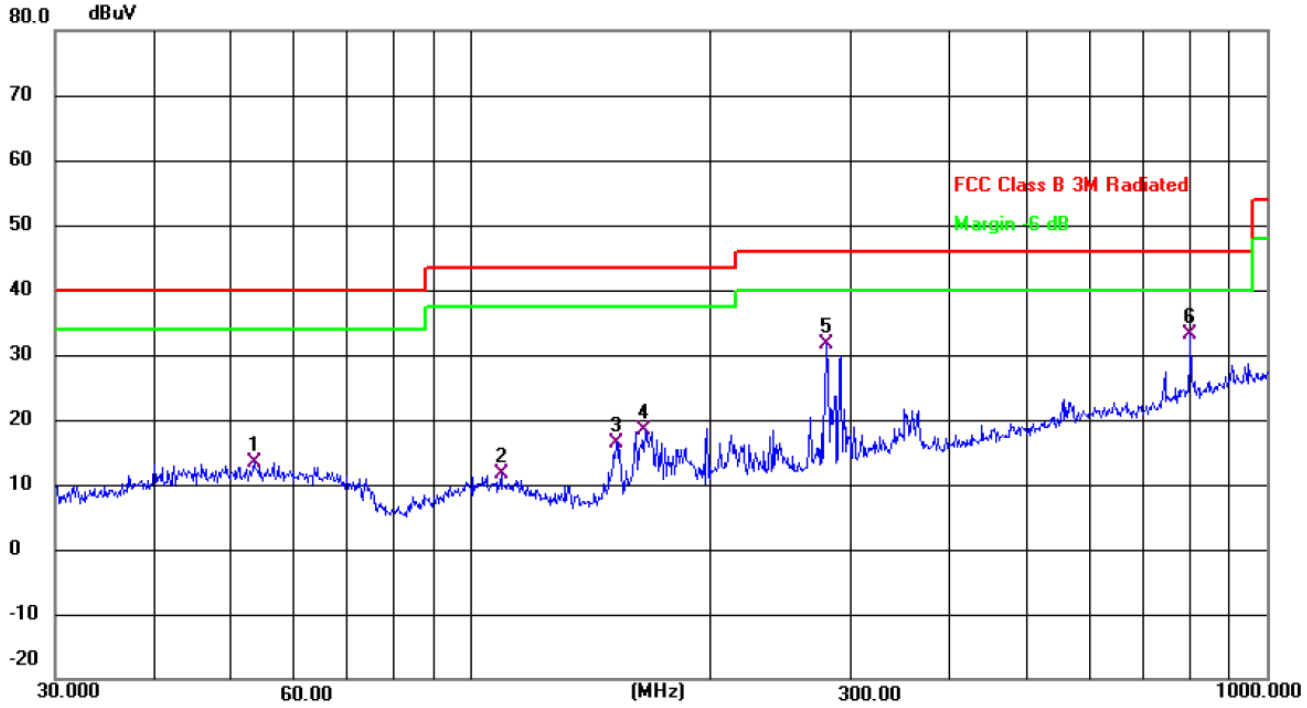
Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

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.

3.2.7 TEST RESULTS (Between 30MHz – 1GHz)

Temperature:	26℃	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Horizontal
Test Voltage :	AC 120V/60Hz		
Test Mode :	Mode 4		



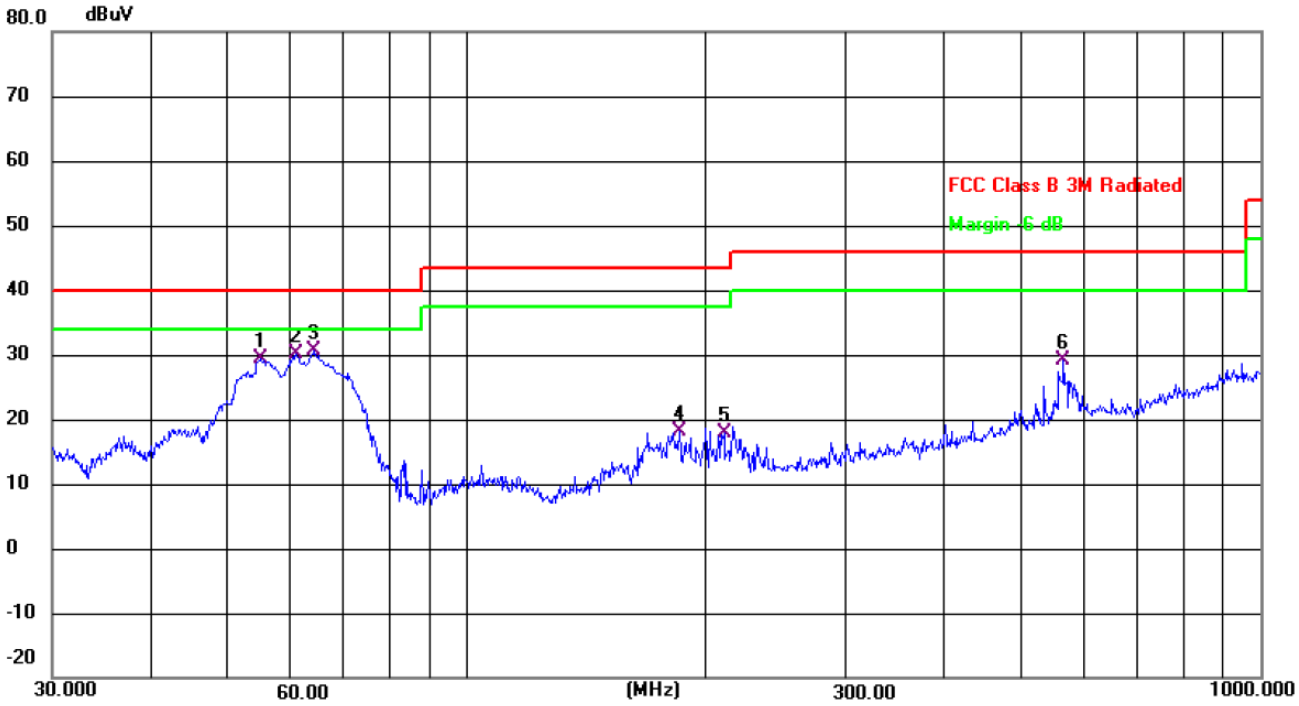
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	
		MHz	dBuV	dB	dBuV	dB	dB	Detector
1		53.3179	26.51	-13.15	13.36	40.00	-26.64	QP
2		109.0286	26.62	-15.06	11.56	43.50	-31.94	QP
3		152.1297	34.61	-18.18	16.43	43.50	-27.07	QP
4		165.4866	35.89	-17.51	18.38	43.50	-25.12	QP
5		280.0237	43.87	-12.24	31.63	46.00	-14.37	QP
6	*	801.7863	35.21	-2.12	33.09	46.00	-12.91	QP

Remark:

Correct Factor = Cable loss + Antenna factor – Preamplifier;

Level = Reading Level + Correct Factor; Margin = Level - Limit;

Temperature:	26℃	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Vertical
test voltage :	AC 120V/60Hz		
Test Mode :	Mode 4		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	
		MHz	dBuV	dB	dBuV	dB	dB	Detector
1		55.0274	42.54	-13.22	29.32	40.00	-10.68	QP
2		60.9176	44.19	-13.97	30.22	40.00	-9.78	QP
3	*	64.2074	45.20	-14.68	30.52	40.00	-9.48	QP
4		185.1379	34.40	-16.21	18.19	43.50	-25.31	QP
5		210.7860	32.17	-14.40	17.77	43.50	-25.73	QP
6		564.6389	35.16	-6.15	29.01	46.00	-16.99	QP

Remark:

Correct Factor = Cable loss + Antenna factor – Preamplifier;

Level = Reading Level + Correct Factor; Margin = Level - Limit;

3.2.8 TEST RESULTS (1GHZ~40GHZ)

Note: Note: we pretest all antenna, the data only show the worst mode.

band 4

802.11a Antenna 1

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5745									
V	11490	54.45	49.05	15.3	37.39	58.09	74	-15.91	PK
V	11490	41.33	49.05	15.3	37.39	44.97	54	-9.03	AV
V	17235	56.08	49.16	15.27	40.45	62.64	68.2	-5.56	PK
V	17235	40.35	49.16	15.27	40.45	46.91	54	-7.09	AV
H	11490	52.23	49.05	15.3	37.39	55.87	74	-18.13	PK
H	11490	42.25	49.05	15.3	37.39	45.89	54	-8.11	AV
H	17235	51.41	49.16	15.27	40.45	57.97	68.2	-10.23	PK
H	17235	40.25	49.16	15.27	40.45	46.81	54	-7.19	AV
operation frequency:5785									
V	11570	52.02	49.09	15.34	37.42	55.69	74	-18.31	PK
V	11570	41.25	49.09	15.34	37.42	44.92	54	-9.08	AV
V	17355	50.60	49.18	15.29	40.47	57.18	68.2	-11.02	PK
V	17355	40.27	49.18	15.29	40.47	46.85	54	-7.15	AV
H	11570	50.84	49.09	15.34	37.42	54.51	74	-19.49	PK
H	11570	42.41	49.09	15.34	37.42	46.08	54	-7.92	AV
H	17355	48.71	49.18	15.29	40.47	55.29	68.2	-12.91	PK
H	17355	40.44	49.18	15.29	40.47	47.02	54	-6.98	AV
operation frequency:5825									
V	11650	52.31	49.11	15.37	37.46	56.03	74	-17.97	PK
V	11650	41.35	49.11	15.37	37.46	45.07	54	-8.93	AV
V	17475	49.92	49.21	15.34	40.51	56.56	68.2	-11.64	PK
V	17475	40.39	49.21	15.34	40.51	47.03	54	-6.97	AV
H	11650	57.77	49.11	15.37	31.31	55.34	74	-18.66	PK
H	11650	48.42	49.11	15.37	31.31	45.99	54	-8.01	AV
H	17475	49.37	49.21	15.34	40.51	56.01	68.2	-12.19	PK
H	17475	40.58	49.21	15.34	40.51	47.22	54	-6.78	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
   Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

802.11n HT20 MIMO

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5745									
V	11490	49.47	49.05	15.3	37.39	53.11	74	-20.89	PK
V	11490	42.48	49.05	15.3	37.39	46.12	54	-7.88	AV
V	17235	48.41	49.16	15.27	40.45	54.97	68.2	-13.23	PK
V	17235	40.24	49.16	15.27	40.45	46.80	54	-7.20	AV
H	11490	49.71	49.05	15.3	37.39	53.35	74	-20.65	PK
H	11490	41.30	49.05	15.3	37.39	44.94	54	-9.06	AV
H	17235	48.93	49.16	15.27	40.45	55.49	68.2	-12.71	PK
H	17235	40.39	49.16	15.27	40.45	46.95	54	-7.05	AV
operation frequency:5785									
V	11570	52.47	49.09	15.34	37.42	56.14	74	-17.86	PK
V	11570	42.18	49.09	15.34	37.42	45.85	54	-8.15	AV
V	17355	50.04	49.18	15.29	40.47	56.62	68.2	-11.58	PK
V	17355	40.30	49.18	15.29	40.47	46.88	54	-7.12	AV
H	11570	49.93	49.09	15.34	37.42	53.60	74	-20.40	PK
H	11570	43.70	49.09	15.34	37.42	47.37	54	-6.63	AV
H	17355	49.22	49.18	15.29	40.47	55.80	68.2	-12.40	PK
H	17355	40.30	49.18	15.29	40.47	46.88	54	-7.12	AV
operation frequency:5825									
V	11650	51.44	49.11	15.37	37.46	55.16	74	-18.84	PK
V	11650	41.27	49.11	15.37	37.46	44.99	54	-9.01	AV
V	17475	48.31	49.21	15.34	40.51	54.95	68.2	-13.25	PK
V	17475	40.20	49.21	15.34	40.51	46.84	54	-7.16	AV
H	11650	57.28	49.11	15.37	31.31	54.85	74	-19.15	PK
H	11650	44.60	49.11	15.37	31.31	42.17	54	-11.83	AV
H	17475	49.71	49.21	15.34	40.51	56.35	68.2	-11.85	PK
H	17475	40.33	49.21	15.34	40.51	46.97	54	-7.03	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
   Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

802.11n HT40 MIMO

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5755									
V	11510	49.41	49.07	15.33	37.41	53.08	74	-20.92	PK
V	11510	42.03	49.07	15.33	37.41	45.70	54	-8.30	AV
V	17265	49.72	49.17	15.28	40.46	56.29	68.2	-11.91	PK
V	17265	40.28	49.17	15.28	40.46	46.85	54	-7.15	AV
H	11510	48.37	49.07	15.33	37.41	52.04	74	-21.96	PK
H	11510	41.24	49.07	15.33	37.41	44.91	54	-9.09	AV
H	17265	49.22	49.17	15.28	40.46	55.79	68.2	-12.41	PK
H	17265	40.55	49.17	15.28	40.46	47.12	54	-6.88	AV
operation frequency:5795									
V	11590	49.22	49.11	15.37	37.46	52.94	74	-21.06	PK
V	11590	41.66	49.11	15.37	37.46	45.38	54	-8.62	AV
V	17385	48.31	49.21	15.34	40.51	54.95	68.2	-13.25	PK
V	17385	40.84	49.21	15.34	40.51	47.48	54	-6.52	AV
H	11590	57.34	49.11	15.37	31.31	54.91	74	-19.09	PK
H	11590	44.43	49.11	15.37	31.31	42.00	54	-12.00	AV
H	17385	48.75	49.21	15.34	40.51	55.39	68.2	-12.81	PK
H	17385	41.05	49.21	15.34	40.51	47.69	54	-6.31	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
   Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

802.11ac HT20 MIMO

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5745									
V	11490	49.42	49.05	15.3	37.39	53.06	74	-20.94	PK
V	11490	42.85	49.05	15.3	37.39	46.49	54	-7.51	AV
V	17235	48.61	49.16	15.27	40.45	55.17	68.2	-13.03	PK
V	17235	40.30	49.16	15.27	40.45	46.86	54	-7.14	AV
H	11490	49.00	49.05	15.3	37.39	52.64	74	-21.36	PK
H	11490	41.66	49.05	15.3	37.39	45.30	54	-8.70	AV
H	17235	48.76	49.16	15.27	40.45	55.32	68.2	-12.88	PK
H	17235	40.75	49.16	15.27	40.45	47.31	54	-6.69	AV
operation frequency:5785									
V	11570	48.49	49.09	15.34	37.42	52.16	74	-21.84	PK
V	11570	41.42	49.09	15.34	37.42	45.09	54	-8.91	AV
V	17355	49.66	49.18	15.29	40.47	56.24	68.2	-11.96	PK
V	17355	40.40	49.18	15.29	40.47	46.98	54	-7.02	AV
H	11570	49.71	49.09	15.34	37.42	53.38	74	-20.62	PK
H	11570	43.25	49.09	15.34	37.42	46.92	54	-7.08	AV
H	17355	49.33	49.18	15.29	40.47	55.91	68.2	-12.29	PK
H	17355	40.95	49.18	15.29	40.47	47.53	54	-6.47	AV
operation frequency:5825									
V	11650	49.36	49.11	15.37	37.46	53.08	74	-20.92	PK
V	11650	42.06	49.11	15.37	37.46	45.78	54	-8.22	AV
V	17475	48.49	49.21	15.34	40.51	55.13	68.2	-13.07	PK
V	17475	40.19	49.21	15.34	40.51	46.83	54	-7.17	AV
H	11650	57.34	49.11	15.37	31.31	54.91	74	-19.09	PK
H	11650	44.71	49.11	15.37	31.31	42.28	54	-11.72	AV
H	17475	48.27	49.21	15.34	40.51	54.91	68.2	-13.29	PK
H	17475	40.20	49.21	15.34	40.51	46.84	54	-7.16	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
   Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

802.11ac HT40 MIMO

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5755									
V	11510	49.27	49.07	15.33	37.41	52.94	74	-21.06	PK
V	11510	42.60	49.07	15.33	37.41	46.27	54	-7.73	AV
V	17265	48.46	49.17	15.28	40.46	55.03	68.2	-13.17	PK
V	17265	41.71	49.17	15.28	40.46	48.28	54	-5.72	AV
H	11510	48.87	49.07	15.33	37.41	52.54	74	-21.46	PK
H	11510	42.44	49.07	15.33	37.41	46.11	54	-7.89	AV
H	17265	48.71	49.17	15.28	40.46	55.28	68.2	-12.92	PK
H	17265	40.31	49.17	15.28	40.46	46.88	54	-7.12	AV
operation frequency:5795									
V	11590	49.47	49.11	15.37	37.46	53.19	74	-20.81	PK
V	11590	41.71	49.11	15.37	37.46	45.43	54	-8.57	AV
V	17385	48.93	49.21	15.34	40.51	55.57	68.2	-12.63	PK
V	17385	41.05	49.21	15.34	40.51	47.69	54	-6.31	AV
H	11590	57.93	49.11	15.37	31.31	55.50	74	-18.50	PK
H	11590	44.76	49.11	15.37	31.31	42.33	54	-11.67	AV
H	17385	48.41	49.21	15.34	40.51	55.05	68.2	-13.15	PK
H	17385	40.35	49.21	15.34	40.51	46.99	54	-7.01	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
   Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

802.11ac HT80 MIMO

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5775									
V	11550	49.29	49.07	15.33	37.41	52.96	74	-21.04	PK
V	11550	42.62	49.07	15.33	37.41	46.29	54	-7.71	AV
V	17325	48.48	49.17	15.28	40.46	55.05	68.2	-13.15	PK
V	17325	41.73	49.17	15.28	40.46	48.30	54	-5.70	AV
H	11550	48.89	49.07	15.33	37.41	52.56	74	-21.44	PK
H	11550	42.46	49.07	15.33	37.41	46.13	54	-7.87	AV
H	17325	48.73	49.17	15.28	40.46	55.30	68.2	-12.90	PK
H	17325	40.33	49.17	15.28	40.46	46.90	54	-7.10	AV

802.11ax HT20 MIMO

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5745									
V	11490	49.39	49.05	15.3	37.39	53.03	74	-20.97	PK
V	11490	42.83	49.05	15.3	37.39	46.47	54	-7.53	AV
V	17235	48.58	49.16	15.27	40.45	55.14	68.2	-13.06	PK
V	17235	40.28	49.16	15.27	40.45	46.84	54	-7.16	AV
H	11490	48.97	49.05	15.3	37.39	52.61	74	-21.39	PK
H	11490	41.64	49.05	15.3	37.39	45.28	54	-8.72	AV
H	17235	48.73	49.16	15.27	40.45	55.29	68.2	-12.91	PK
H	17235	40.73	49.16	15.27	40.45	47.29	54	-6.71	AV
operation frequency:5785									
V	11570	48.46	49.09	15.34	37.42	52.13	74	-21.87	PK
V	11570	41.40	49.09	15.34	37.42	45.07	54	-8.93	AV
V	17355	49.63	49.18	15.29	40.47	56.21	68.2	-11.99	PK
V	17355	40.38	49.18	15.29	40.47	46.96	54	-7.04	AV
H	11570	49.68	49.09	15.34	37.42	53.35	74	-20.65	PK
H	11570	43.23	49.09	15.34	37.42	46.90	54	-7.10	AV
H	17355	49.30	49.18	15.29	40.47	55.88	68.2	-12.32	PK
H	17355	40.93	49.18	15.29	40.47	47.51	54	-6.49	AV
operation frequency:5825									
V	11650	49.33	49.11	15.37	37.46	53.05	74	-20.95	PK
V	11650	42.04	49.11	15.37	37.46	45.76	54	-8.24	AV
V	17475	48.46	49.21	15.34	40.51	55.10	68.2	-13.10	PK
V	17475	40.17	49.21	15.34	40.51	46.81	54	-7.19	AV
H	11650	57.31	49.11	15.37	31.31	54.88	74	-19.12	PK
H	11650	44.68	49.11	15.37	31.31	42.25	54	-11.75	AV
H	17475	48.24	49.21	15.34	40.51	54.88	68.2	-13.32	PK
H	17475	40.18	49.21	15.34	40.51	46.82	54	-7.18	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
   Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

802.11ax HT40 MIMO

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5755									
V	11510	49.24	49.07	15.33	37.41	52.91	74	-21.09	PK
V	11510	42.58	49.07	15.33	37.41	46.25	54	-7.75	AV
V	17265	48.43	49.17	15.28	40.46	55.00	68.2	-13.20	PK
V	17265	41.69	49.17	15.28	40.46	48.26	54	-5.74	AV
H	11510	48.84	49.07	15.33	37.41	52.51	74	-21.49	PK
H	11510	42.42	49.07	15.33	37.41	46.09	54	-7.91	AV
H	17265	48.68	49.17	15.28	40.46	55.25	68.2	-12.95	PK
H	17265	40.29	49.17	15.28	40.46	46.86	54	-7.14	AV
operation frequency:5795									
V	11590	49.44	49.11	15.37	37.46	53.16	74	-20.84	PK
V	11590	41.69	49.11	15.37	37.46	45.41	54	-8.59	AV
V	17385	48.90	49.21	15.34	40.51	55.54	68.2	-12.66	PK
V	17385	41.03	49.21	15.34	40.51	47.67	54	-6.33	AV
H	11590	57.90	49.11	15.37	31.31	55.47	74	-18.53	PK
H	11590	44.73	49.11	15.37	31.31	42.30	54	-11.70	AV
H	17385	48.38	49.21	15.34	40.51	55.02	68.2	-13.18	PK
H	17385	40.33	49.21	15.34	40.51	46.97	54	-7.03	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
   Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

802.11ax HT80 MIMO

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
operation frequency:5775									
V	11550	49.26	49.07	15.33	37.41	52.93	74	-21.07	PK
V	11550	42.59	49.07	15.33	37.41	46.26	54	-7.74	AV
V	17325	48.45	49.17	15.28	40.46	55.02	68.2	-13.18	PK
V	17325	41.70	49.17	15.28	40.46	48.27	54	-5.73	AV
H	11550	48.86	49.07	15.33	37.41	52.53	74	-21.47	PK
H	11550	42.43	49.07	15.33	37.41	46.10	54	-7.90	AV
H	17325	48.70	49.17	15.28	40.46	55.27	68.2	-12.93	PK
H	17325	40.31	49.17	15.28	40.46	46.88	54	-7.12	AV

3.3 CONDUCTED BAND EMISSION MEASUREMENT

3.3.1 TEST REQUIREMENT:

FCC Part15 C Section 15.209 and 15.407

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Spectrum Parameter	Setting	
Attenuation	Auto	
Start Frequency	5725MHz	
Stop Frequency	5850MHz	
RB / VB (emission in restricted band)	1 MHz / 3 MHz for Peak, 1 MHz / 10Hz for Average	

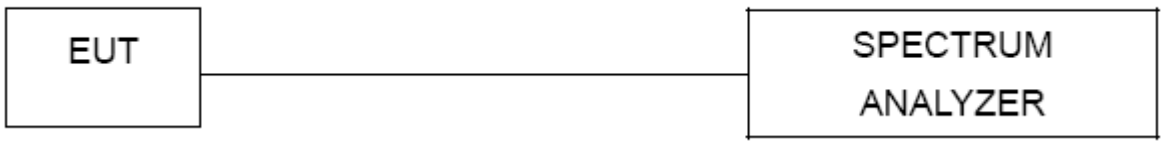
3.3.2 TEST PROCEDURE

Test method: FCC KDB 789033 G)& Parts 15.407(b)(4) & 15.209(a)

3.3.3 DEVIATION FROM TEST STANDARD

No deviation

3.3.4 TEST SETUP



3.3.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

3.3.6 TEST RESULT

The antenna gain is compensated in the test data.

Please see annex 2.

4. AVERAGING OUTPUT POWER

4.1 APPLIED PROCEDURES / LIMIT

For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.
For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

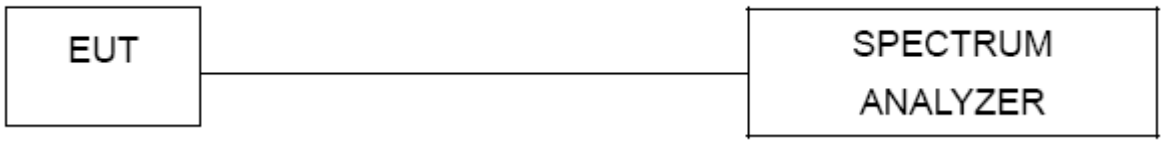
4.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting : Set RBW = 1 MHz， Set VBW ≥ 3 MHz
Span = Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.
Sweep = auto
Detector function = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
Trace = max hold

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP



4.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

4.1.5 TEST RESULTS

Please see annex 2.

5. POWER SPECTRAL DENSITY TEST

5.1 APPLIED PROCEDURES / LIMIT

In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.
In addition, the maximum power spectral density shall not exceed 30 dBm in any 500 kHz band.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	= the frequency band of operation
RB	RBW = 1MHz for band 1 RBW = 510KHz for band 4
VB	VBW ≥ 3RBW
Detector	RMS (i.e., power averaging).
Trace	Averaging
Sweep Time	Auto

5.1.1 TEST PROCEDURE

1. Place the EUT on the table and set it in transmitting mode.
2. The testing follows FCC KDB 789033 D02.
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.
4. For U-NII1, U-NII-2A, U-NII-2C Band:
Set RBW=1MHz, VBW=3MHz, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)
For U-NII-3 Band:
Set RBW=510 kHz, VBW=3*RBW, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)
5. User the cursor on spectrum to peak search the highest level of trace
6. Record the max. reading and add 10 log(1/duty cycle).
we test all antennas, the antenna 1 was worst mode and the data recording in the report.
7. Duty factor Reference is made to the test results in Section 7.1.5.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP

5.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.5 TEST RESULTS

Please see annex 2.

6. 6DB&26DB&99% BANDWIDTH TEST

6.1 APPLIED PROCEDURES / LIMIT

The 26 dB bandwidth is used to determine the conducted power limits.
There is no limit bandwidth for U-NII-1, U-NII-2-A and U-NII-2-C.
The minimum of 6dB Bandwidth measurement is 0.5 MHz for U-NII-3

6.1.1 TEST PROCEDURE

6dB Bandwidth	
Spectrum Parameters	Setting
RBW	100KHz
VBW	300KHz
Span	30MHz(20MHz Bandwidth mode) 60MHz(40MHz Bandwidth mode) 120MHz(80MHz Bandwidth mode)
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

26dB Bandwidth	
Spectrum Parameters	Setting
RBW	approximately 1% of the emission bandwidth
VBW	>RBW
Span	30MHz(20MHz Bandwidth mode) 60MHz(40MHz Bandwidth mode) 120MHz(80MHz Bandwidth mode)
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

99% Occupied Bandwidth	
Spectrum Parameters	Setting
RBW	1% to 5% of the OBW
VBW	Approximately three times the RBW
Span	between 1.5 times and 5.0 times the OBW
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP

6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.5 TEST RESULTS

Please see annex 2.

7. DUTY CYCLE TEST SIGNAL

7.1 APPLIED PROCEDURES / LIMIT

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle. All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

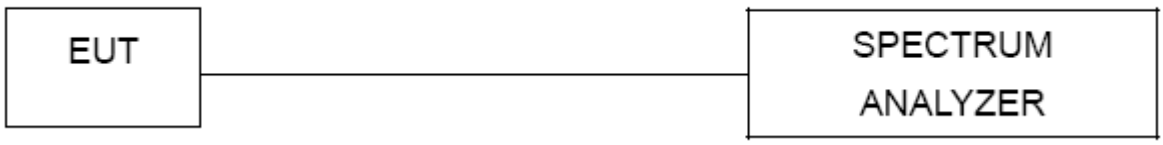
7.1.1 TEST PROCEDURE

1. Set RBW = 1 MHz.
2. Set the video bandwidth (VBW) ≥RBW.
3. Detector = Peak.
4. Sweep = auto couple.
5. Allow the trace to stabilize.
6. Span=0

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

7.1.5 TEST RESULTS

Please see annex 2.

8. FREQUENCY STABILITY

8.1 APPLIED PROCEDURES / LIMIT

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

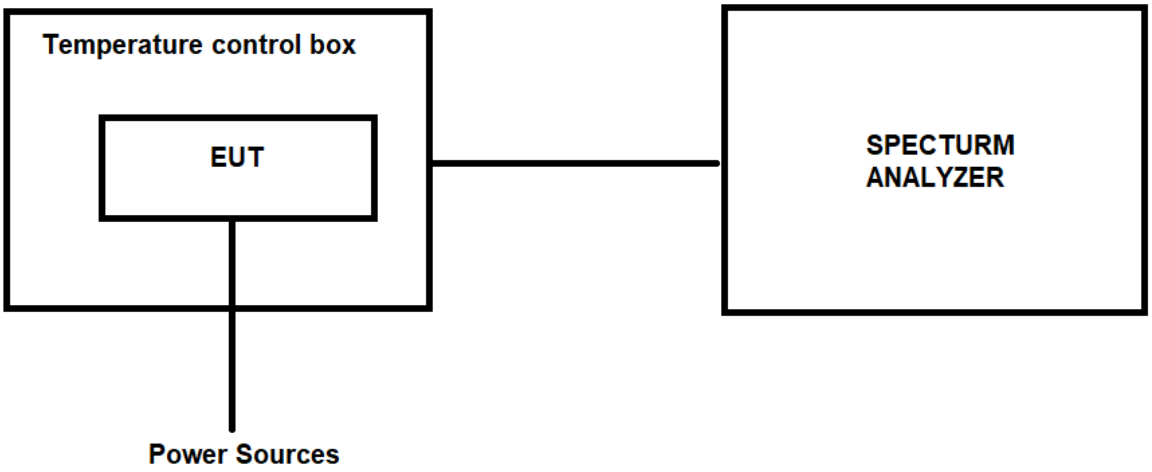
8.1.1 TEST PROCEDURE

1. The EUT was placed inside temperature chamber and powered and powered by nominal DC voltage.
2. Set EUT as normal operation.
3. Turn the EUT on and couple its output to spectrum.
4. Turn the EUT off and set the chamber to the highest temperature specified.
5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT and measure the operating frequency.
6. Repeat step with the temperature chamber set to the lowest temperature.

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP



8.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

8.1.5 TEST RESULTS

Test Voltage	Test Temp.	Measured Frequency	Spectrum Frequency (MHz)			Δ Frequency (PPM)		
		(MHz)	802.11a	802.11n HT20	802.11ac HT20	802.11a	802.11n HT20	802.11ac HT20
13.2V	-20℃	5745	5745.0339	5745.0394	5745.0368	0.0339	0.0381	0.0368
		5785	5785.0381	5785.0312	5785.0286	0.0381	0.0299	0.0286
		5825	5825.0299	5825.0350	5825.0324	0.0299	0.0337	0.0324
10.8V		5745	5745.0254	5745.0223	5745.0197	0.0254	0.0210	0.0197
		5785	5785.0326	5785.0361	5785.0335	0.0326	0.0348	0.0335
		5825	5825.0402	5825.0439	5825.0413	0.0402	0.0426	0.0413
12.0V	25℃	5745	5745.0339	5745.0320	5745.0294	0.0339	0.0307	0.0294
		5785	5785.0421	5785.0434	5785.0408	0.0421	0.0421	0.0408
		5825	5825.0203	5825.0221	5825.0195	0.0203	0.0208	0.0195
13.2V	50℃	5745	5745.0599	5745.0656	5745.0630	0.0599	0.0643	0.0630
		5785	5785.0413	5785.0424	5785.0398	0.0413	0.0411	0.0398
		5825	5825.0629	5825.0623	5825.0597	0.0629	0.0610	0.0597
10.8V		5745	5745.0448	5745.0422	5745.0396	0.0448	0.0409	0.0396
		5785	5785.0239	5785.0255	5785.0229	0.0239	0.0242	0.0229
		5825	5825.0724	5825.0734	5825.0708	0.0724	0.0721	0.0708

Test Voltage	Test Temp.	Measured Frequency (MHz)	Spectrum Frequency (MHz)		Δ Frequency (PPM)	
			802.11n HT40	802.11ac HT40	802.11n HT40	802.11ac HT40
13.2V	-20℃	5755	5755.0559	5755.0570	0.0559	0.0570
		5795	5795.0637	5795.0649	0.0637	0.0649
10.8V		5755	5755.0218	5755.0648	0.0218	0.0648
		5795	5795.0436	5795.0429	0.0436	0.0429
12.0V	25℃	5755	5755.0240	5755.0199	0.0240	0.0199
		5795	5795.0553	5795.0519	0.0553	0.0519
13.2V	50℃	5755	5755.0452	5755.0469	0.0452	0.0469
		5795	5795.0311	5795.0320	0.0311	0.0320
10.8V		5755	5755.0343	5755.0348	0.0343	0.0348
		5795	5795.0470	5795.0473	0.0470	0.0473

Test Voltage	Test Temp.	Measured Frequency	Spectrum Frequency (MHz)	Δ Frequency (PPM)
		(MHz)	802.11ax HT20	802.11ax HT20
13.2V	-20℃	5745	5745.0336	0.0336
		5785	5785.0378	0.0378
		5825	5825.0296	0.0296
10.8V		5745	5745.0251	0.0251
		5785	5785.0323	0.0323
		5825	5825.0399	0.0399
12.0V	25℃	5745	5745.0336	0.0336
		5785	5785.0418	0.0418
		5825	5825.0200	0.0200
13.2V	50℃	5745	5745.0596	0.0596
		5785	5785.0410	0.0410
		5825	5825.0626	0.0626
10.8V		5745	5745.0445	0.0445
		5785	5785.0236	0.0236
		5825	5825.0721	0.0721

Test Voltage	Test Temp.	Measured Frequency (MHz)	Spectrum Frequency (MHz)	Δ Frequency (PPM)
			802.11ax HT40	802.11ax HT40
13.2V	-20℃	5755	5755.0557	0.0557
		5795	5795.0635	0.0635
10.8V		5755	5755.0216	0.0216
		5795	5795.0434	0.0434
12.0V	25℃	5755	5755.0238	0.0238
		5795	5795.0551	0.0551
13.2V	50℃	5755	5755.0450	0.0450
		5795	5795.0309	0.0309
10.8V		5755	5755.0341	0.0341
		5795	5795.0468	0.0468

Test Voltage	Test Temp.	Measured Frequency (MHz)	Spectrum Frequency (MHz)		Δ Frequency (PPM)	
			802.11ac HT80	802.11ax HT80	802.11ac HT80	802.11ax HT80
13.2V	-20℃	5775	5775.0548	5775.0559	0.0548	0.0559
		5775	5775.0626	5775.0638	0.0626	0.0638
10.8V		5775	5775.0207	5775.0637	0.0207	0.0637
		5775	5775.0425	5775.0418	0.0425	0.0418
12.0V	25℃	5775	5775.0229	5775.0188	0.0229	0.0188
		5775	5775.0542	5775.0508	0.0542	0.0508
13.2V	50℃	5775	5775.0441	5775.0458	0.0441	0.0458
		5775	5775.0300	5775.0309	0.0300	0.0309
10.8V		5775	5775.0332	5775.0337	0.0332	0.0337
		5775	5775.0459	5775.0462	0.0459	0.0462

9. TRANSMISSION IN THE ABSENCE OF DATA

9.1 STANDARD REQUIREMENT

According to §15.407(c)

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

9.2 TEST RESULT

No non-compliance noted:
Refer to the theory of operation.

10. ANTENNA REQUIREMENT

10.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

10.2 EUT ANTENNA

The EUT antenna is Built-in Antenna, It comply with the standard requirement.

11. TEST SETUP PHOTO

Reference to the appendix I for details.

12. EUT PHOTO

Reference to the appendix II for details.

※※※※※ END OF REPORT ※※※※※