



RADIO TEST REPORT

Report No.: STS2003218W02

Issued for

Bowei Technology Co., Ltd

2F, Building No. 6C, 1658, Gumei Rd., Xuhui District,
Shanghai, China

Product Name:	Wi-Fi 6 MESH AP
Brand Name:	AZORES
Model Name:	AX1500
Series Model:	N/A
FCC ID:	2AVWB-AX1500
Test Standard:	FCC Part 15.407

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TEST RESULT CERTIFICATION

Applicant's Name..... : Bowei Technology Co., Ltd
 Address : 2F, Building No. 6C, 1658, Gumei Rd., Xuhui District, Shanghai, China
Manufacture's Name..... : TDG Technology Co., Ltd
 Address : No.1 Yatai Road, Jiaxing City, Zhejiang Province, P.R.C.

Product Description

Product Name..... : Wi-Fi 6 MESH AP
 Brand Name : **AZORES**
 Model Name : AX1500
 Series Model..... : N/A

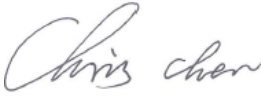
Test Standards..... : FCC Part15.407

Test Procedure..... ANSI C63.10-2013


This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test..... :
 Date of receipt of test item : 16 Mar. 2020
 Date (s) of performance of tests..... : 16 Mar. 2020 ~ 30 Mar. 2020
 Date of Issue..... : 01 Apr. 2020
 Test Result..... : **Pass**

Testing Engineer : 

 (Chris Chen)

Technical Manager : 

 (Sean she)

Authorized Signatory : 

 (Vita Li)





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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	01 Apr. 2020	STS2003218W02	ALL	Initial Issue





1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

§ 15.407, KDB 789033 D02 General U-NII Test Procedures New Rules v02r01

FCC Part 15.407		
FCC standard	Test Item	Results
15.207	AC Conducted Emission	PASS
§ 15.407 (2) (26 dB) / § 15.407 (e) (6 dB) / § 15.407 (a) (99%)	26dB/6dB & 99% Bandwidth	PASS
15.407(a) (1).(2).(3).(4).(5)	Maximum Conducted Output Power	PASS
15.407(b) & 15.209	Radiated Emission And (bandedge Emissions) Measurement	PASS
15.407(b)7	Conducted Emission And (bandedge Emissions) Measurement	PASS
15.407(a) (1).(2).(3).(4).(5)	Power Spectral Density	PASS
15.407(c)	Automatically Discontinue Transmission	PASS
15.203/15.204	Antenna Requirement	PASS

NOTE:

- (1) 'N/A' denotes test is not applicable in this Test Report.
- (2) All tests are according to ANSI C63.10-2013.



1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded 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	RF output power, conducted	$\pm 0.68\text{dB}$
2	Unwanted Emissions, conducted	$\pm 2.988\text{dB}$
3	All emissions, radiated 30-1GHz	$\pm 6.7\text{dB}$
4	All emissions, radiated 1G-6GHz	$\pm 5.5\text{dB}$
5	All emissions, radiated >6G	$\pm 5.8\text{dB}$
6	Conducted Emission (9KHz-150KHz)	$\pm 4.43\text{dB}$
7	Conducted Emission (150KHz-30MHz)	$\pm 5\text{dB}$

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Wi-Fi 6 MESH AP				
Trade Name	AZORES				
Model Name	AX1500				
Series Model	N/A				
Model Difference	N/A				
Product Description	The EUT is a Wi-Fi 6 MESH AP				
	<table border="1"> <tr> <td>Operation Frequency:</td> <td>IEEE 802.11a/ n(HT20)/ac(VHT20)/ax(VHT20): 5.180GHz-5.240GHz IEEE 802.11n(HT40)/ac(VHT40)/ax(VHT40): 5.190GHz-5.230GHz IEEE 802.11ac(VHT80)/802.11ax(VHT80): 5.210GHz</td> </tr> <tr> <td></td> <td>IEEE 802.11a/ n(HT20)/ac(VHT20)/ax(VHT20): 5.745GHz-5.825GHz IEEE 802.11n(HT40)/ac(VHT40)/ax(VHT40): 5.755GHz-5.795GHz IEEE 802.11ac(VHT80)/802.11ax(VHT80): 5.775GHz</td> </tr> </table>	Operation Frequency:	IEEE 802.11a/ n(HT20)/ac(VHT20)/ax(VHT20): 5.180GHz-5.240GHz IEEE 802.11n(HT40)/ac(VHT40)/ax(VHT40): 5.190GHz-5.230GHz IEEE 802.11ac(VHT80)/802.11ax(VHT80): 5.210GHz		IEEE 802.11a/ n(HT20)/ac(VHT20)/ax(VHT20): 5.745GHz-5.825GHz IEEE 802.11n(HT40)/ac(VHT40)/ax(VHT40): 5.755GHz-5.795GHz IEEE 802.11ac(VHT80)/802.11ax(VHT80): 5.775GHz
	Operation Frequency:	IEEE 802.11a/ n(HT20)/ac(VHT20)/ax(VHT20): 5.180GHz-5.240GHz IEEE 802.11n(HT40)/ac(VHT40)/ax(VHT40): 5.190GHz-5.230GHz IEEE 802.11ac(VHT80)/802.11ax(VHT80): 5.210GHz			
		IEEE 802.11a/ n(HT20)/ac(VHT20)/ax(VHT20): 5.745GHz-5.825GHz IEEE 802.11n(HT40)/ac(VHT40)/ax(VHT40): 5.755GHz-5.795GHz IEEE 802.11ac(VHT80)/802.11ax(VHT80): 5.775GHz			
	Modulation Type:	802.11a(OFDM): BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM): BPSK,QPSK,16-QAM,64-QAM 802.11ac(OFDM): BPSK,QPSK,16-QAM,64-QAM,256-QAM 802.11ax(OFDM, OFDMA): BPSK,QPSK,16-QAM,64-QAM,256-QAM,1024QAM			
Antenna Designation:	See Note 2				
Max.Output Power(Conducted):	11.18dBm				
More details of EUT technical specification, please refer to the User Manual.					
Test Channel	Please refer to the Note 2.				
Adapter	Input: AC 100-240V,50/60Hz,0.6A MAX Output: DC 12V 1A				
Hardware version number	V4.0				
Software version number	V1.0.0				
Connecting I/O Port(s)	Please refer to the Note 1.				

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



1. Operation Frequency of channel

5.180GHz-5.240GHz		5.745GHz-5.825GHz	
Channel	Frequency	Channel	Frequency
36	5180	149	5745
38	5190	151	5755
40	5200	153	5765
42	5210	157	5785
44	5220	159	5795
46	5230	161	5805
48	5240	165	5825

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Carrier Frequency Channel

5GHz:

For 802.11a/n(HT20) /ac (VHT20) /ax (VHT20)

Channel	Freq.(MHz)	Channel	Freq.(MHz)
36	5180	149	5745
40	5200	157	5785
48	5240	165	5825

For 802.11n(HT40) /ac (VHT40) /ax (VHT40)

Channel	Freq.(MHz)	Channel	Freq.(MHz)
38	5190	151	5755
46	5230	159	5795

For 802.11ac (VHT80) /802.11ax (VHT80)

Channel	Freq.(MHz)	Channel	Freq.(MHz)
42	5210	155	5775

2. KDB 662911 D01 Multiple Transmitter Output v02r01

2) Directional Gain Calculations for In-Band Measurements

a) Basic methodology with NANT transmit antennas, each with the same directional gain GANT dBi, being driven by NANT transmitter outputs of equal power. Directional gain is to be computed as follows:

(i) If any transmit signals are correlated with each other,
Directional gain = GANT + 10 log(NANT) dBi

(ii) If all transmit signals are completely uncorrelated with each other,
Directional gain = GANT

Antenna A gain : 4.5dBi

Antenna B gain : 4.5dBi

Directional gain= 4.5+10log2=7.51dBi

Ant	Brand	Model Name	Ant Type	Connector	Gain (dBi)	NOTE
A	AZORES	AX1500	FPC	N/A	Ant A gain : 4.5dBi Ant B gain : 4.5dBi MIMO gain=7.51dBi	WLAN Ant



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.

Worst Mode	Description	Data Rate
Mode 1	TX IEEE 802.11a HT20 CH36&CH40&CH48	6 Mbps
Mode 2	TX IEEE 802.11a HT20 CH149&CH157&CH165	6 Mbps
Mode 3	TX IEEE 802.11n HT20 CH36&CH40&CH48	MCS 0
Mode 4	TX IEEE 802.11ac VHT20 CH36&CH40&CH48	NSS1 MCS0
Mode 5	TX IEEE 802.11ax VHT20 CH36&CH40&CH48	NSS1 MCS0
Mode 6	TX IEEE 802.11n HT20 CH149&CH157&CH165	MCS 0
Mode 7	TX IEEE 802.11ac VHT20 CH149&CH157&CH165	NSS1 MCS0
Mode 8	TX IEEE 802.11ax VHT20 CH149&CH157&CH165	NSS1 MCS0
Mode 9	TX IEEE 802.11n HT40 CH38&CH46	MCS 0
Mode 10	TX IEEE 802.11ac VHT40 CH38&CH46	NSS1 MCS0
Mode 11	TX IEEE 802.11ax VHT40 CH38&CH46	NSS1 MCS0
Mode 12	TX IEEE 802.11n HT40 CH151&CH159	MCS 0
Mode 13	TX IEEE 802.11ac VHT40 CH151&CH159	NSS1 MCS0
Mode 14	TX IEEE 802.11ax VHT40 CH151&CH159	NSS1 MCS0
Mode 15	TX IEEE 802.11ac VHT80 CH42	NSS1 MCS0
Mode 16	TX IEEE 802.11ax VHT80 CH42	NSS1 MCS0
Mode 17	TX IEEE 802.11ac VHT80 CH155	NSS1 MCS0
Mode 18	TX IEEE 802.11ax VHT80 CH155	NSS1 MCS0

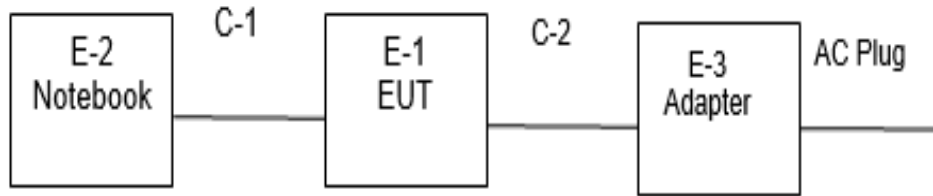
- Note: (1) The measurements are performed at the highest, middle, lowest available channels.
 (2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.
 (3) We have be tested for all avaiable U.S. voltage and frequencies(For 120V,50/60Hz and 240V, 50/60Hz) for which the device is capable of operation.

AC Conducted Emission

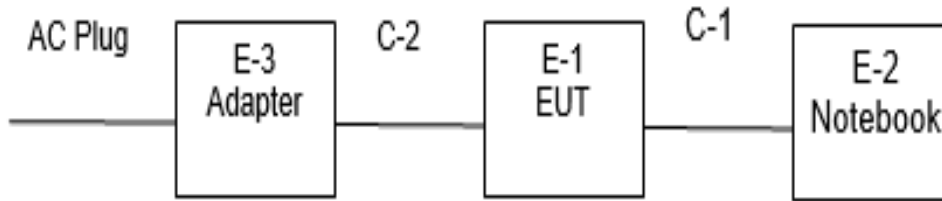
Test Case	
AC Conducted Emission	Mode 19: Keeping TX + WLAN Link

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



Conducted Emission Test





2.4 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

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.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
E-3	Adapter	RUIDE	RD1201000-C55-35MGD	N/A	N/A
C-2	DC Cable	N/A	110cm	N/A	N/A

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
E-2	Notebook	ThinkPad	N/A	N/A	N/A
C-1	USB Cable	N/A	100cm	N/A	N/A

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESCI	101427	2019.07.29	2020.07.28
Signal Analyzer	Agilent	N9020A	MY51110105	2020.03.05	2021.03.04
Active loop Antenna	ZHINAN	ZN30900C	16035	2018.03.11	2021.03.10
Bilog Antenna	TESEQ	CBL6111D	34678	2017.11.02	2020.11.01
Horn Antenna	SCHWARZBECK	BBHA 9120D(1201)	9120D-1343	2018.10.19	2021.10.18
Horn Antenna (18-40GHz)	A-INFO	LB-180400-KF	J211020657	2018.03.11	2021.03.10
Pre-mpifier (18G-40G)	SKET	LNPA_1840-50	SK2018101801	2019.10.22	2020.10.21
Spectrum Analyzer	R&S	FSV40-N	101823	2019.06.05	2020.06.04
Pre-Amplifier(0.1 M-3GHz)	EM	EM330	060665	2019.10.09	2020.10.08
Pre-Amplifier (1G-18GHz)	SKET	LNPA-01018G-4 5	SK2018080901	2019.10.12	2020.10.11
Temperature & Humidity	HH660	Mieo	N/A	2019.10.12	2020.10.11
Turn table	EM	SC100_1	60531	N/A	N/A
Antenna mast	EM	SC100	N/A	N/A	N/A
Test SW	BULUN	BL410-E/18.905			

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2019.07.29	2020.07.28
LISN	R&S	ENV216	101242	2019.10.09	2020.10.08
LISN	EMCO	3810/2NM	23625	2019.10.09	2020.10.08
Temperature & Humidity	HH660	Mieo	N/A	2019.10.12	2020.10.11
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 CE)			

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
USB RF power sensor	DARE	RPR3006W	15I00041SNO03	2019.10.09	2020.10.08
Signal Analyzer	Agilent	N9020A	MY49100060	2019.10.09	2020.10.08
Temperature & Humidity	HH660	Mieo	N/A	2019.10.12	2020.10.11
Test SW	FARAD	LZ-RF /LzRf-3A3			



3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

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

FREQUENCY (MHz)	Class B (dBuV)		Standard
	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	56.00	46.00	CISPR
5.0 -30.0	60.00	50.00	CISPR

0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -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

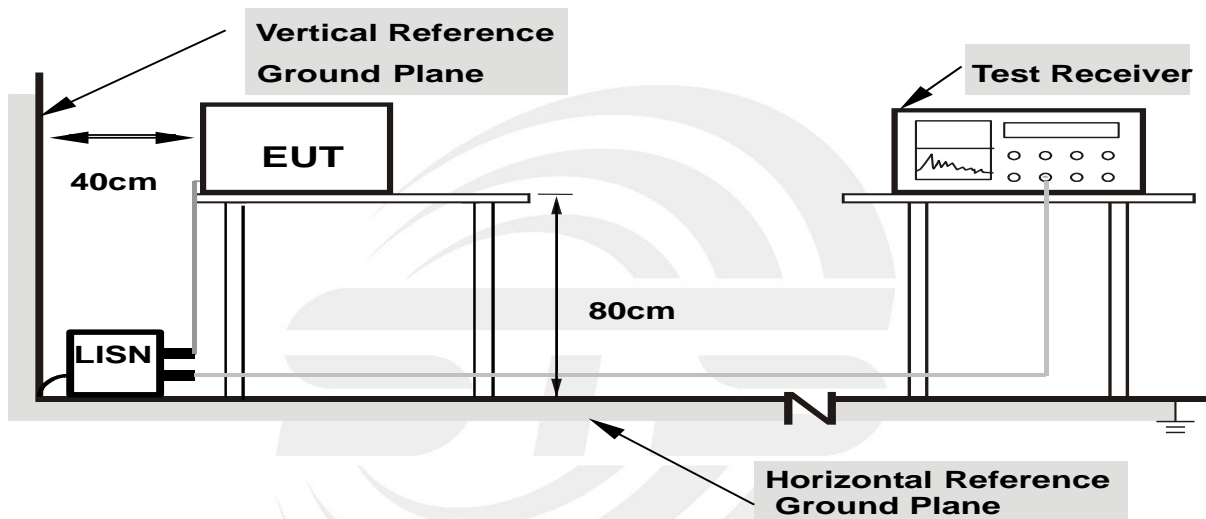
3.1.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the 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



- Note: 1.Support units were connected to second LISN.**
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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.



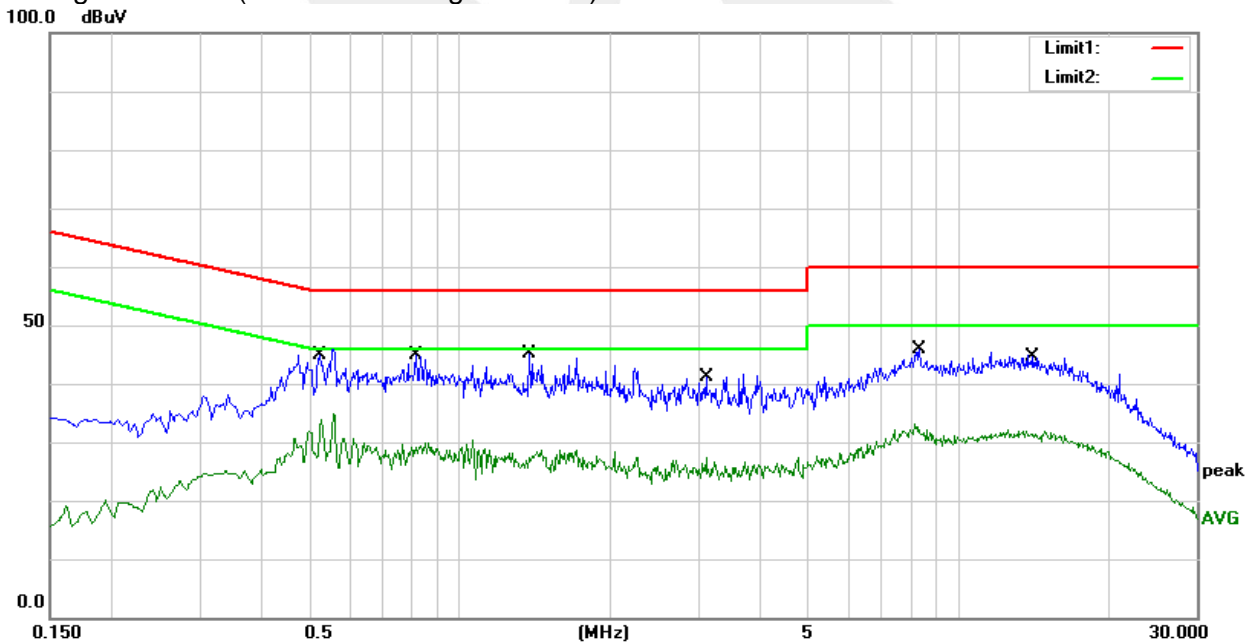
3.1.6 TEST RESULTS

Temperature:	26.2(C)	Relative Humidity:	54%RH
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode :	Mode 19		

No.	Frequency (MHz)	Reading (dBUV)	Correct Factor(dB)	Result (dBUV)	Limit (dBUV)	Margin (dB)	Remark
1	0.5220	24.53	20.46	44.99	56.00	-11.01	QP
2	0.5220	14.31	20.46	34.77	46.00	-11.23	AVG
3	0.8140	24.66	20.22	44.88	56.00	-11.12	QP
4	0.8140	9.76	20.22	29.98	46.00	-16.02	AVG
5	1.3780	24.91	20.12	45.03	56.00	-10.97	QP
6	1.3780	8.48	20.12	28.60	46.00	-17.40	AVG
7	3.1220	21.09	19.97	41.06	56.00	-14.94	QP
8	3.1220	7.36	19.97	27.33	46.00	-18.67	AVG
9	8.3300	25.98	20.01	45.99	60.00	-14.01	QP
10	8.3300	13.13	20.01	33.14	50.00	-16.86	AVG
11	14.0660	24.60	20.00	44.60	60.00	-15.40	QP
12	14.0660	12.09	20.00	32.09	50.00	-17.91	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result = Reading + Factor) – Limit



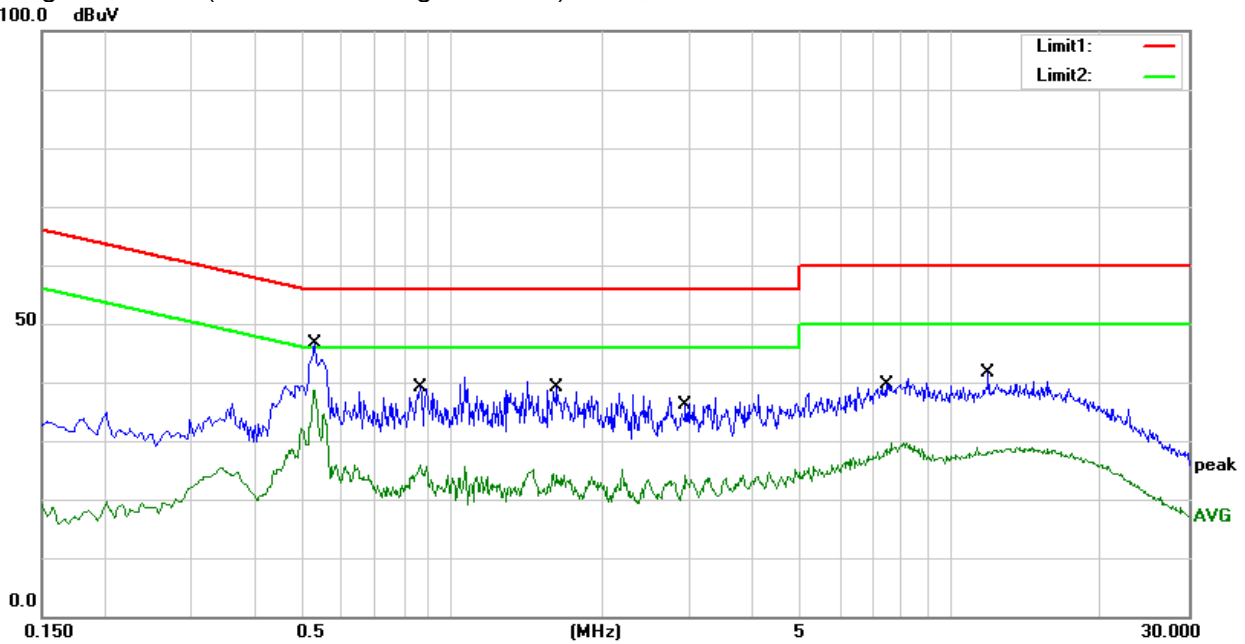


Temperature:	26.2(C)	Relative Humidity:	54%RH
Test Voltage	AC 120V/60Hz	Phase:	N
Test Mode	Mode 19		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.5300	26.11	20.44	46.55	56.00	-9.45	QP
2	0.5300	18.25	20.44	38.69	46.00	-7.31	AVG
3	0.8620	18.89	20.20	39.09	56.00	-16.91	QP
4	0.8620	5.78	20.20	25.98	46.00	-20.02	AVG
5	1.6260	18.92	20.10	39.02	56.00	-16.98	QP
6	1.6260	4.94	20.10	25.04	46.00	-20.96	AVG
7	2.9460	17.29	19.99	37.28	56.00	-18.72	QP
8	2.9460	4.24	19.99	24.23	46.00	-21.77	AVG
9	7.4180	19.81	19.93	39.74	60.00	-20.26	QP
10	7.4180	9.73	19.93	29.66	50.00	-20.34	AVG
11	11.9220	21.54	20.08	41.62	60.00	-18.38	QP
12	11.9220	8.84	20.08	28.92	50.00	-21.08	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)–Limit



3.2 RADIATED EMISSION AND (BANDEDGE) MEASUREMENT

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

In case the emission fall within the restricted band specified on 15.407(b)7& 15.205/209(a), then the (a); limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (microvolts/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)	Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	68.2	54

Notes:

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

LIMITS OF RESTRICTED FREQUENCY BANDS

FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (GHz)
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			



Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier harmonic (Peak/AV)
RB / VB (emission in restricted band)	1 MHz / 1 MHz, AV=1 MHz /3 MHz

For Band edge

Spectrum Parameter	Setting
Detector	Peak
RB / VB (emission in restricted band)	1 MHz / 1 MHz, AV=1 MHz /3 MHz

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	90kHz~110kHz / RB 200Hz for QP
Start ~ Stop Frequency	110kHz~490kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	490kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

- The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- The EUT was placed on the top of a rotating table 0.8 meters(above 1GHz is 1.5 m) above the ground at a 3 meter anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment shall be 0.8 m(above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. Horizontal and vertical polarizations of the antenna are set to make the measurement.
- 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.
- 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.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

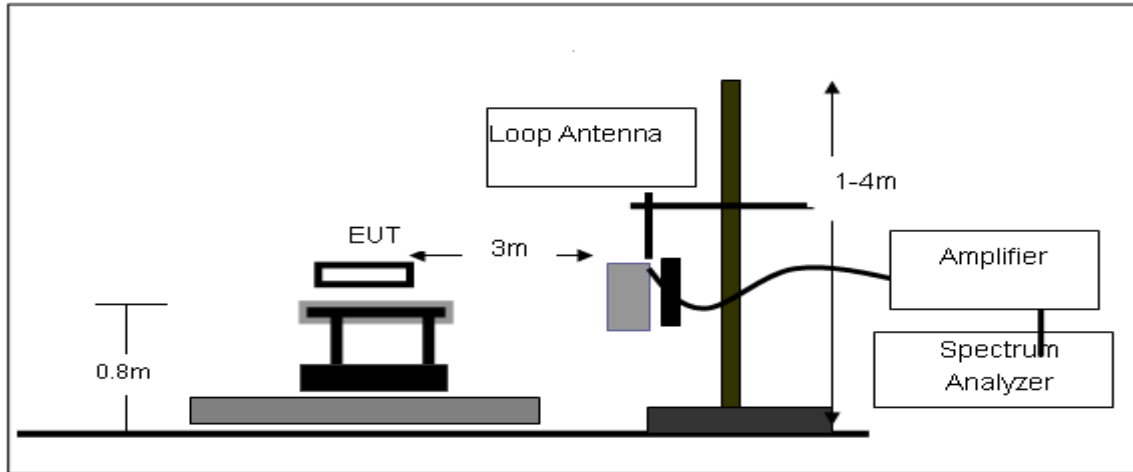
Both horizontal and vertical antenna polarities were tested and performed test to three orthogonal axis. The worst case emissions were reported

3.2.2 DEVIATION FROM TEST STANDARD

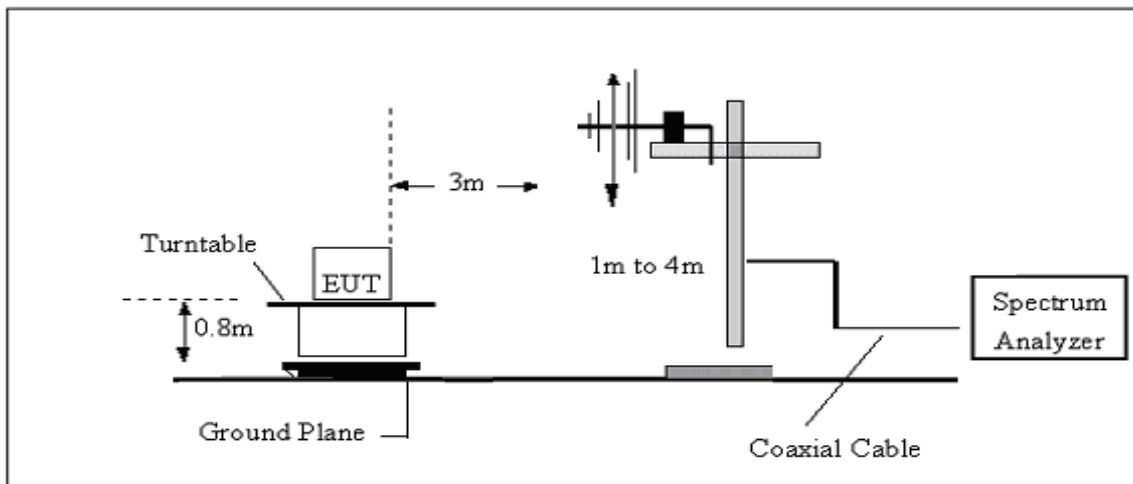
No deviation

3.2.3 TEST SETUP

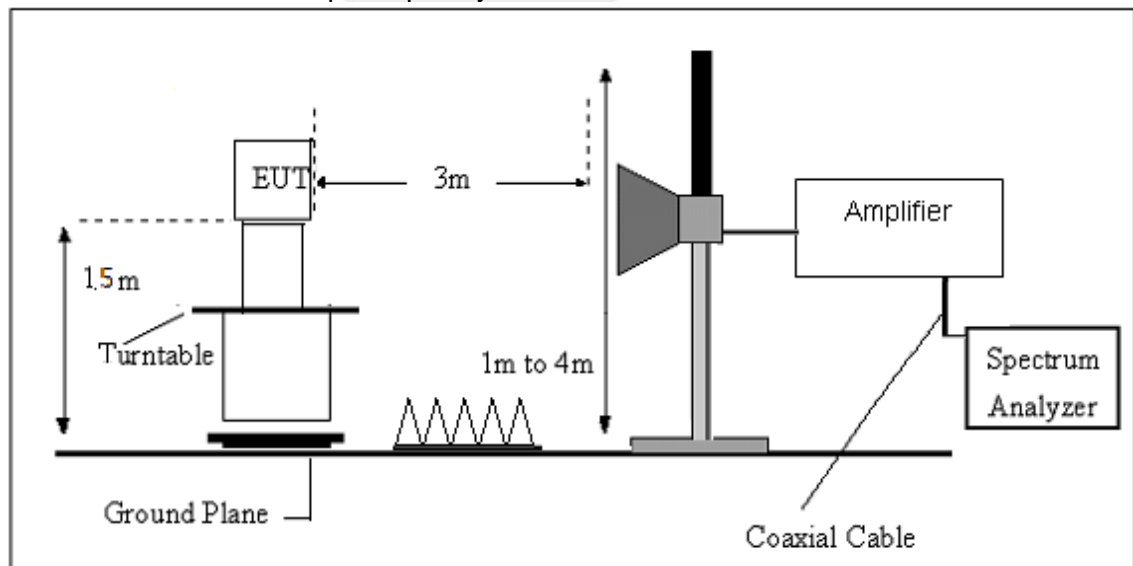
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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





3.2.4 EUT OPERATING 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.

3.2.5 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where

FS = Field Strength

CL = Cable Attenuation Factor (Cable Loss)

RA = Reading Amplitude

AG = Amplifier Gain

AF = Antenna Factor

For example

Frequency (MHz)	FS (dB μ V/m)	RA (dB μ V/m)	AF (dB)	CL (dB)	AG (dB)	Factor (dB)
300	40	58.1	12.2	1.6	31.9	-18.1

$$\text{Factor} = \text{AF} + \text{CL} - \text{AG}$$



**3.2.6 TEST RESULTS (Between 9KHz – 30 MHz)**

Temperature:	23.9(C)	Relative Humidity:	51%
Test Voltage:	AC 120V/60Hz	Polarization :	--
Test Mode:	TX Mode		

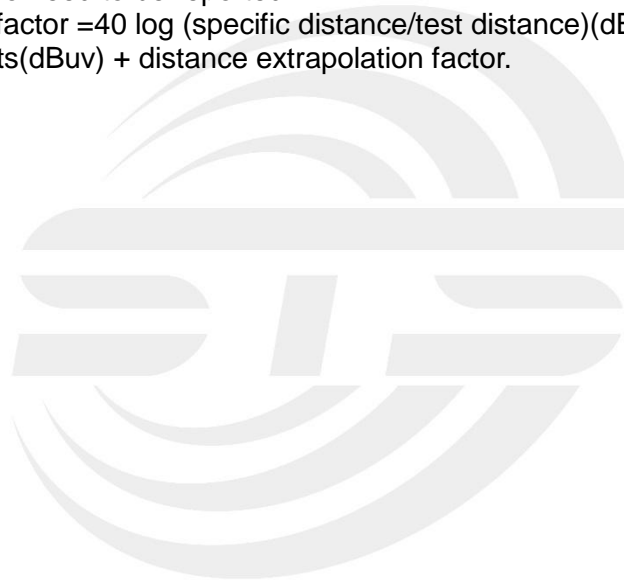
Freq. (MHz)	Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	State P/F
--	--	--	--	PASS
--	--	--	--	PASS

Note:

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

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

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





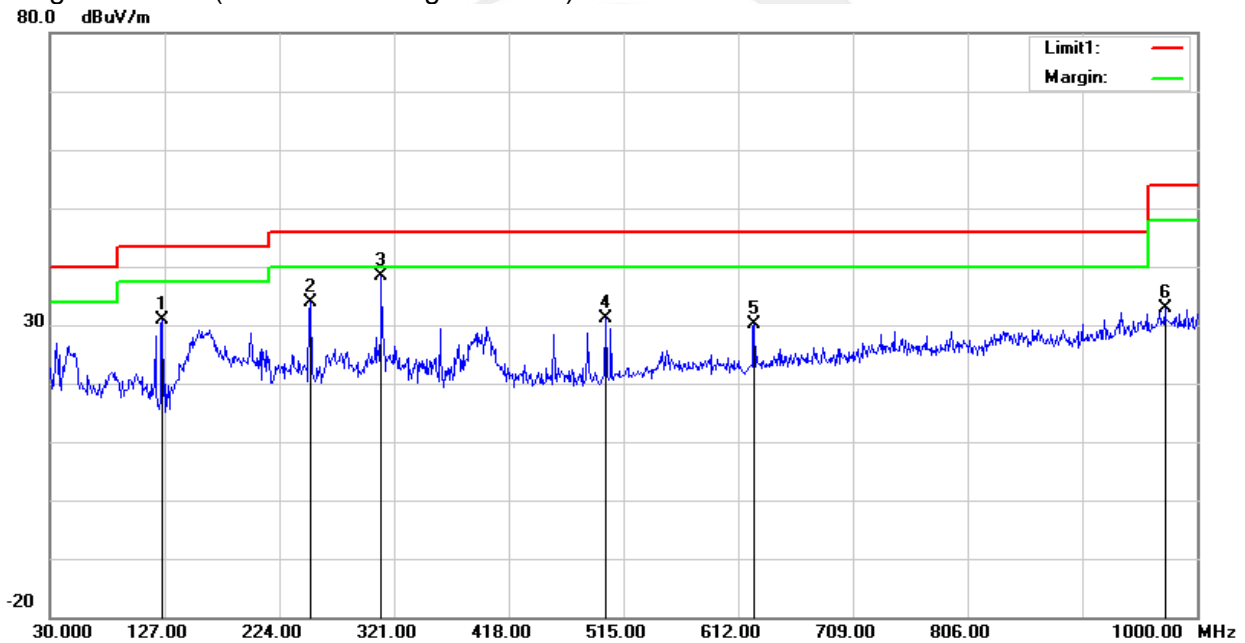
3.2.7 TEST RESULTS (Between 30MHz – 1GHz)

Temperature	23.9(C)	Relative Humidity:	51%
Test Voltage	AC 120V/60Hz	Polarization:	Horizontal
Test Mode	Mode 1~18(Mode 6 worst mode)		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	125.0600	49.21	-18.22	30.99	43.50	-12.51	QP
2	250.1900	49.87	-16.10	33.77	46.00	-12.23	QP
3	310.3300	52.72	-14.45	38.27	46.00	-7.73	QP
4	500.4500	39.10	-8.01	31.09	46.00	-14.91	QP
5	625.5800	35.41	-5.25	30.16	46.00	-15.84	QP
6	972.8400	30.58	2.19	32.77	54.00	-21.23	QP

Remark:

1. Margin = Result (Result =Reading + Factor)–Limit



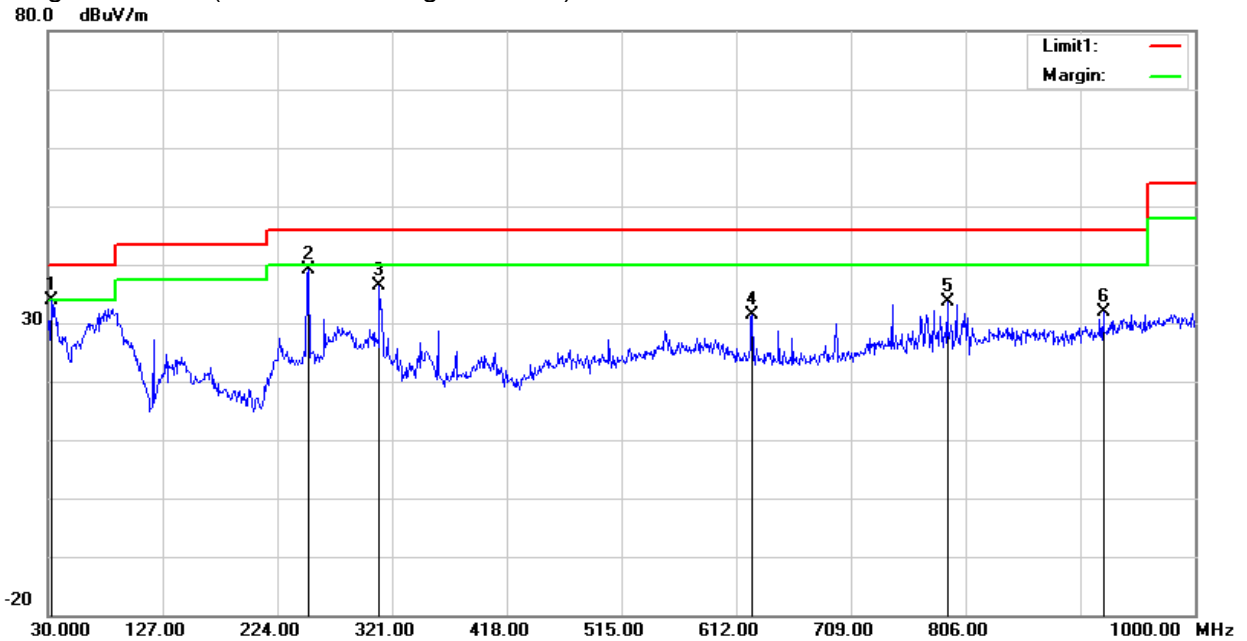


Temperature	23.9(C)	Relative Humidity:	51%
Test Voltage	AC 120V/60Hz	Polarization:	Vertical
Test Mode	Mode 1~18(Mode 6 worst mode)		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	32.9100	48.11	-14.33	33.78	40.00	-6.22	QP
2	250.1900	55.34	-16.10	39.24	46.00	-6.76	QP
3	310.3300	50.81	-14.45	36.36	46.00	-9.64	QP
4	625.5800	36.55	-5.25	31.30	46.00	-14.70	QP
5	790.4800	35.55	-1.97	33.58	46.00	-12.42	QP
6	922.4000	31.70	0.12	31.82	46.00	-14.18	QP

Remark:

1. Margin = Result (Result = Reading + Factor)–Limit





3.2.8 TEST RESULTS (Above 1000 MHz)

Band I 5150-5250MHz

Frequency (MHz)	Reading (dBuV)	Amplifier (dB)	Loss (dB)	Antenna Factor (dB/m)	Orrected Factor (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
Low Channel (802.11a/ 5180 MHz)										
3245.64	45.09	44.70	6.70	28.20	-9.80	35.29	68.20	-32.91	Pk	Vertical
3245.64	41.08	44.70	6.70	28.20	-9.80	31.28	54.00	-22.72	AV	Vertical
3262.36	44.64	44.70	6.70	28.20	-9.80	34.84	68.20	-33.36	Pk	Horizontal
3262.36	40.86	44.70	6.70	28.20	-9.80	31.06	54.00	-22.94	AV	Horizontal
3990.31	39.47	44.20	7.90	29.70	-6.60	32.87	68.20	-35.33	Pk	Vertical
3990.31	36.69	44.20	7.90	29.70	-6.60	30.09	54.00	-23.91	AV	Vertical
3999.18	39.54	44.20	7.90	29.70	-6.60	32.94	68.20	-35.26	Pk	Horizontal
3999.18	36.77	44.20	7.90	29.70	-6.60	30.17	54.00	-23.83	AV	Horizontal
7226.91	37.35	43.50	11.40	35.50	3.40	40.75	68.20	-27.45	Pk	Vertical
7226.91	34.57	43.50	11.40	35.50	3.40	37.97	54.00	-16.03	AV	Vertical
7225.75	37.05	43.50	11.40	35.50	3.40	40.45	68.20	-27.75	Pk	Horizontal
7225.75	34.86	43.50	11.40	35.50	3.40	38.26	54.00	-15.74	AV	Horizontal
10360.33	39.25	44.50	13.80	38.80	8.10	47.35	68.20	-20.85	Pk	Vertical
10360.33	37.10	44.50	13.80	38.80	8.10	45.20	54.00	-8.80	AV	Vertical
10360.07	39.42	44.50	13.80	38.80	8.10	47.52	68.20	-20.68	Pk	Horizontal
10360.07	35.97	44.50	13.80	38.80	8.10	44.07	54.00	-9.93	AV	Horizontal
11029.77	33.94	43.60	14.30	39.50	10.20	44.14	68.20	-24.06	Pk	Vertical
11029.77	31.08	43.60	14.30	39.50	10.20	41.28	54.00	-12.72	AV	Vertical
11033.27	33.14	43.60	14.30	39.50	10.20	43.34	68.20	-24.86	Pk	Horizontal
11033.27	30.10	43.60	14.30	39.50	10.20	40.30	54.00	-13.70	AV	Horizontal
13281.24	31.85	42.60	15.90	38.90	12.20	44.05	68.20	-24.15	Pk	Vertical
13281.24	29.94	42.60	15.90	38.90	12.20	42.14	54.00	-11.86	AV	Vertical
13282.62	32.13	42.60	15.90	38.90	12.20	44.33	68.20	-23.87	Pk	Horizontal
13282.62	28.61	42.60	15.90	38.90	12.20	40.81	54.00	-13.19	AV	Horizontal
Mid Channel (802.11a/ 5200 MHz)										
3265.26	44.61	44.70	6.70	28.20	-9.80	34.81	68.20	-33.39	Pk	Vertical
3265.26	41.71	44.70	6.70	28.20	-9.80	31.91	54.00	-22.09	AV	Vertical
3258.56	44.22	44.70	6.70	28.20	-9.80	34.42	68.20	-33.78	Pk	Horizontal
3258.56	41.80	44.70	6.70	28.20	-9.80	32.00	54.00	-22.00	AV	Horizontal
3987.73	39.88	44.20	7.90	29.70	-6.60	33.28	68.20	-34.92	Pk	Vertical
3987.73	37.12	44.20	7.90	29.70	-6.60	30.52	54.00	-23.48	AV	Vertical
3991.27	39.04	44.20	7.90	29.70	-6.60	32.44	68.20	-35.76	Pk	Horizontal
3991.27	36.84	44.20	7.90	29.70	-6.60	30.24	54.00	-23.76	AV	Horizontal
7220.80	36.51	43.50	11.40	35.50	3.40	39.91	68.20	-28.29	Pk	Vertical
7220.80	33.77	43.50	11.40	35.50	3.40	37.17	54.00	-16.83	AV	Vertical
7233.70	37.16	43.50	11.40	35.50	3.40	40.56	68.20	-27.64	Pk	Horizontal
7233.70	34.71	43.50	11.40	35.50	3.40	38.11	54.00	-15.89	AV	Horizontal
10399.99	39.22	44.50	13.80	38.80	8.10	47.32	68.20	-20.88	Pk	Vertical
10399.99	36.64	44.50	13.80	38.80	8.10	44.74	54.00	-9.26	AV	Vertical
10400.18	39.41	44.50	13.80	38.80	8.10	47.51	68.20	-20.69	Pk	Horizontal
10400.18	36.18	44.50	13.80	38.80	8.10	44.28	54.00	-9.72	AV	Horizontal
11024.08	33.62	43.60	14.30	39.50	10.20	43.82	68.20	-24.38	Pk	Vertical
11024.08	30.12	43.60	14.30	39.50	10.20	40.32	54.00	-13.68	AV	Vertical
11028.07	33.98	43.60	14.30	39.50	10.20	44.18	68.20	-24.02	Pk	Horizontal
11028.07	29.89	43.60	14.30	39.50	10.20	40.09	54.00	-13.91	AV	Horizontal
13298.78	31.76	42.60	15.90	38.90	12.20	43.96	68.20	-24.24	Pk	Vertical
13298.78	29.69	42.60	15.90	38.90	12.20	41.89	54.00	-12.11	AV	Vertical
13290.36	31.98	42.60	15.90	38.90	12.20	44.18	68.20	-24.02	Pk	Horizontal
13290.36	29.17	42.60	15.90	38.90	12.20	41.37	54.00	-12.63	AV	Horizontal



High Channel (802.11a/ 5240 MHz)										
3250.38	44.80	44.70	6.70	28.20	-9.80	35.00	68.20	-33.20	Pk	Vertical
3250.38	40.88	44.70	6.70	28.20	-9.80	31.08	54.00	-22.92	AV	Vertical
3260.85	44.37	44.70	6.70	28.20	-9.80	34.57	68.20	-33.63	Pk	Horizontal
3260.85	42.16	44.70	6.70	28.20	-9.80	32.36	54.00	-21.64	AV	Horizontal
3982.29	39.76	44.20	7.90	29.70	-6.60	33.16	68.20	-35.04	Pk	Vertical
3982.29	36.44	44.20	7.90	29.70	-6.60	29.84	54.00	-24.16	AV	Vertical
3981.98	39.77	44.20	7.90	29.70	-6.60	33.17	68.20	-35.03	Pk	Horizontal
3981.98	36.17	44.20	7.90	29.70	-6.60	29.57	54.00	-24.43	AV	Horizontal
7231.75	36.52	43.50	11.40	35.50	3.40	39.92	68.20	-28.28	Pk	Vertical
7231.75	33.46	43.50	11.40	35.50	3.40	36.86	54.00	-17.14	AV	Vertical
7216.93	37.66	43.50	11.40	35.50	3.40	41.06	68.20	-27.14	Pk	Horizontal
7216.93	34.03	43.50	11.40	35.50	3.40	37.43	54.00	-16.57	AV	Horizontal
10480.38	39.82	44.50	13.80	38.80	8.10	47.92	68.20	-20.28	Pk	Vertical
10480.38	36.55	44.50	13.80	38.80	8.10	44.65	54.00	-9.35	AV	Vertical
10480.09	39.33	44.50	13.80	38.80	8.10	47.43	68.20	-20.77	Pk	Horizontal
10480.09	36.99	44.50	13.80	38.80	8.10	45.09	54.00	-8.91	AV	Horizontal
11020.65	33.66	43.60	14.30	39.50	10.20	43.86	68.20	-24.34	Pk	Vertical
11020.65	30.85	43.60	14.30	39.50	10.20	41.05	54.00	-12.95	AV	Vertical
11021.69	33.78	43.60	14.30	39.50	10.20	43.98	68.20	-24.22	Pk	Horizontal
11021.69	29.72	43.60	14.30	39.50	10.20	39.92	54.00	-14.08	AV	Horizontal
13290.56	31.59	42.60	15.90	38.90	12.20	43.79	68.20	-24.41	Pk	Vertical
13290.56	29.78	42.60	15.90	38.90	12.20	41.98	54.00	-12.02	AV	Vertical
13292.43	31.81	42.60	15.90	38.90	12.20	44.01	68.20	-24.19	Pk	Horizontal
13292.43	28.54	42.60	15.90	38.90	12.20	40.74	54.00	-13.26	AV	Horizontal

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- Scan with 802.11a,802.11n (HT-20),802.11n (HT-40), 802.11ac (VHT-20),802.11ac (VHT-40), 802.11ac (VHT-80), 802.11ax (VHT-20),802.11ax (VHT-40), 802.11ax (VHT-80) the worst case is 802.11a.
- The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.
- Pre-scan both the SISO and MIMO mode, only the worst-case results were reported.



Band IV(5.725-5.850) GHz

Frequency (MHz)	Reading	Amplifier	Loss	Antenna Factor	Orrected Factor	Emission Level	Limit (dBuV/m)	Margin	Detector	Comment
	(dBuV)	(dB)	(dB)	(dB/m)	(dB)	(dBuV/m)		(dB)		
Low Channel (802.11n(HT20)/ 5745MHz)										
3263.85	44.87	44.70	6.70	28.20	-9.80	35.07	68.20	-33.13	Pk	Vertical
3263.85	42.08	44.70	6.70	28.20	-9.80	32.28	54.00	-21.72	AV	Vertical
3264.58	44.52	44.70	6.70	28.20	-9.80	34.72	68.20	-33.48	Pk	Horizontal
3264.58	41.91	44.70	6.70	28.20	-9.80	32.11	54.00	-21.89	AV	Horizontal
3980.86	39.76	44.20	7.90	29.70	-6.60	33.16	68.20	-35.04	Pk	Vertical
3980.86	36.56	44.20	7.90	29.70	-6.60	29.96	54.00	-24.04	AV	Vertical
3983.88	39.71	44.20	7.90	29.70	-6.60	33.11	68.20	-35.09	Pk	Horizontal
3983.88	36.42	44.20	7.90	29.70	-6.60	29.82	54.00	-24.18	AV	Horizontal
7235.25	37.50	43.50	11.40	35.50	3.40	40.90	68.20	-27.30	Pk	Vertical
7235.25	34.85	43.50	11.40	35.50	3.40	38.25	54.00	-15.75	AV	Vertical
7233.13	37.73	43.50	11.40	35.50	3.40	41.13	68.20	-27.07	Pk	Horizontal
7233.13	33.97	43.50	11.40	35.50	3.40	37.37	54.00	-16.63	AV	Horizontal
10360.27	40.11	44.50	13.80	38.80	8.10	48.21	68.20	-19.99	Pk	Vertical
10360.27	37.01	44.50	13.80	38.80	8.10	45.11	54.00	-8.89	AV	Vertical
10360.20	39.42	44.50	13.80	38.80	8.10	47.52	68.20	-20.68	Pk	Horizontal
10360.20	36.83	44.50	13.80	38.80	8.10	44.93	54.00	-9.07	AV	Horizontal
11022.37	34.02	43.60	14.30	39.50	10.20	44.22	68.20	-23.98	Pk	Vertical
11022.37	30.28	43.60	14.30	39.50	10.20	40.48	54.00	-13.52	AV	Vertical
11024.84	33.01	43.60	14.30	39.50	10.20	43.21	68.20	-24.99	Pk	Horizontal
11024.84	30.51	43.60	14.30	39.50	10.20	40.71	54.00	-13.29	AV	Horizontal
13296.90	32.91	42.60	15.90	38.90	12.20	45.11	68.20	-23.09	Pk	Vertical
13296.90	29.22	42.60	15.90	38.90	12.20	41.42	54.00	-12.58	AV	Vertical
13296.22	32.36	42.60	15.90	38.90	12.20	44.56	68.20	-23.64	Pk	Horizontal
13296.22	29.37	42.60	15.90	38.90	12.20	41.57	54.00	-12.43	AV	Horizontal
Mid Channel (802.11n(HT20)/ 5785MHz)										
3260.28	44.82	44.70	6.70	28.20	-9.80	35.02	68.20	-33.18	Pk	Vertical
3260.28	41.43	44.70	6.70	28.20	-9.80	31.63	54.00	-22.37	AV	Vertical
3260.99	44.04	44.70	6.70	28.20	-9.80	34.24	68.20	-33.96	Pk	Horizontal
3260.99	41.65	44.70	6.70	28.20	-9.80	31.85	54.00	-22.15	AV	Horizontal
3981.36	39.20	44.20	7.90	29.70	-6.60	32.60	68.20	-35.60	Pk	Vertical
3981.36	36.98	44.20	7.90	29.70	-6.60	30.38	54.00	-23.62	AV	Vertical
3995.45	39.12	44.20	7.90	29.70	-6.60	32.52	68.20	-35.68	Pk	Horizontal
3995.45	36.45	44.20	7.90	29.70	-6.60	29.85	54.00	-24.15	AV	Horizontal
7232.15	36.62	43.50	11.40	35.50	3.40	40.02	68.20	-28.18	Pk	Vertical
7232.15	34.70	43.50	11.40	35.50	3.40	38.10	54.00	-15.90	AV	Vertical
7232.41	36.99	43.50	11.40	35.50	3.40	40.39	68.20	-27.81	Pk	Horizontal
7232.41	34.85	43.50	11.40	35.50	3.40	38.25	54.00	-15.75	AV	Horizontal
10400.32	39.59	44.50	13.80	38.80	8.10	47.69	68.20	-20.51	Pk	Vertical
10400.32	36.43	44.50	13.80	38.80	8.10	44.53	54.00	-9.47	AV	Vertical
10400.03	40.11	44.50	13.80	38.80	8.10	48.21	68.20	-19.99	Pk	Horizontal
10400.03	36.13	44.50	13.80	38.80	8.10	44.23	54.00	-9.77	AV	Horizontal
11025.94	34.10	43.60	14.30	39.50	10.20	44.30	68.20	-23.90	Pk	Vertical
11025.94	29.93	43.60	14.30	39.50	10.20	40.13	54.00	-13.87	AV	Vertical
11033.30	33.23	43.60	14.30	39.50	10.20	43.43	68.20	-24.77	Pk	Horizontal
11033.30	30.19	43.60	14.30	39.50	10.20	40.39	54.00	-13.61	AV	Horizontal
13298.42	32.43	42.60	15.90	38.90	12.20	44.63	68.20	-23.57	Pk	Vertical
13298.42	29.72	42.60	15.90	38.90	12.20	41.92	54.00	-12.08	AV	Vertical
13297.26	32.47	42.60	15.90	38.90	12.20	44.67	68.20	-23.53	Pk	Horizontal
13297.26	29.35	42.60	15.90	38.90	12.20	41.55	54.00	-12.45	AV	Horizontal



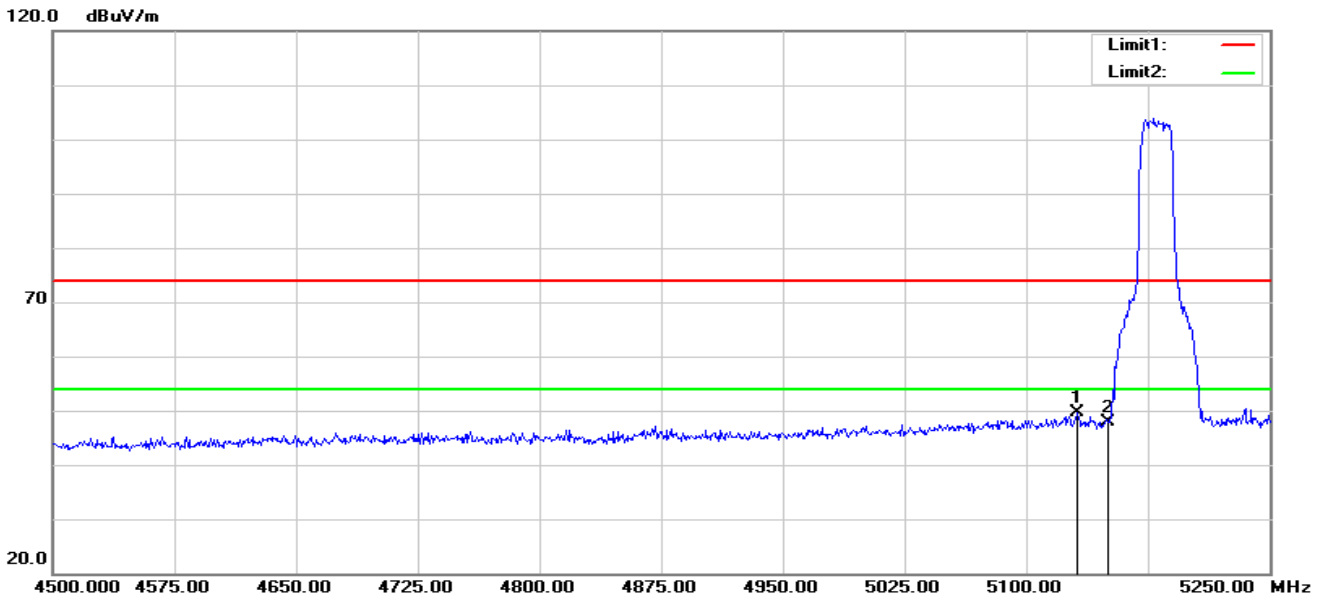
High Channel (802.11n(HT20)/ 5825 MHz)										
3264.26	44.36	44.70	6.70	28.20	-9.80	34.56	68.20	-33.64	Pk	Vertical
3264.26	41.16	44.70	6.70	28.20	-9.80	31.36	54.00	-22.64	AV	Vertical
3262.32	44.11	44.70	6.70	28.20	-9.80	34.31	68.20	-33.89	Pk	Horizontal
3262.32	41.71	44.70	6.70	28.20	-9.80	31.91	54.00	-22.09	AV	Horizontal
3997.21	39.65	44.20	7.90	29.70	-6.60	33.05	68.20	-35.15	Pk	Vertical
3997.21	36.06	44.20	7.90	29.70	-6.60	29.46	54.00	-24.54	AV	Vertical
3984.42	39.68	44.20	7.90	29.70	-6.60	33.08	68.20	-35.12	Pk	Horizontal
3984.42	36.99	44.20	7.90	29.70	-6.60	30.39	54.00	-23.61	AV	Horizontal
7229.51	36.84	43.50	11.40	35.50	3.40	40.24	68.20	-27.96	Pk	Vertical
7229.51	33.48	43.50	11.40	35.50	3.40	36.88	54.00	-17.12	AV	Vertical
7216.59	37.09	43.50	11.40	35.50	3.40	40.49	68.20	-27.71	Pk	Horizontal
7216.59	34.37	43.50	11.40	35.50	3.40	37.77	54.00	-16.23	AV	Horizontal
10479.99	39.96	44.50	13.80	38.80	8.10	48.06	68.20	-20.14	Pk	Vertical
10479.99	36.07	44.50	13.80	38.80	8.10	44.17	54.00	-9.83	AV	Vertical
10480.36	39.28	44.50	13.80	38.80	8.10	47.38	68.20	-20.82	Pk	Horizontal
10480.36	35.67	44.50	13.80	38.80	8.10	43.77	54.00	-10.23	AV	Horizontal
11033.30	34.02	43.60	14.30	39.50	10.20	44.22	68.20	-23.98	Pk	Vertical
11033.30	30.99	43.60	14.30	39.50	10.20	41.19	54.00	-12.81	AV	Vertical
11021.85	33.73	43.60	14.30	39.50	10.20	43.93	68.20	-24.27	Pk	Horizontal
11021.85	29.80	43.60	14.30	39.50	10.20	40.00	54.00	-14.00	AV	Horizontal
13292.73	31.84	42.60	15.90	38.90	12.20	44.04	68.20	-24.16	Pk	Vertical
13292.73	29.72	42.60	15.90	38.90	12.20	41.92	54.00	-12.08	AV	Vertical
13286.12	32.96	42.60	15.90	38.90	12.20	45.16	68.20	-23.04	Pk	Horizontal
13286.12	29.44	42.60	15.90	38.90	12.20	41.64	54.00	-12.36	AV	Horizontal

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- Scan with 802.11a,802.11n (HT-20),802.11n (HT-40), 802.11ac (VHT-20),802.11ac (VHT-40), 802.11ac (VHT-80), 802.11ax (VHT-20),802.11ax (VHT-40), 802.11ax (VHT-80) the worst case is 802.11n (HT-20).
- The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.
- Pre-scan both the SISO and MIMO mode, only the worst-case results were reported.

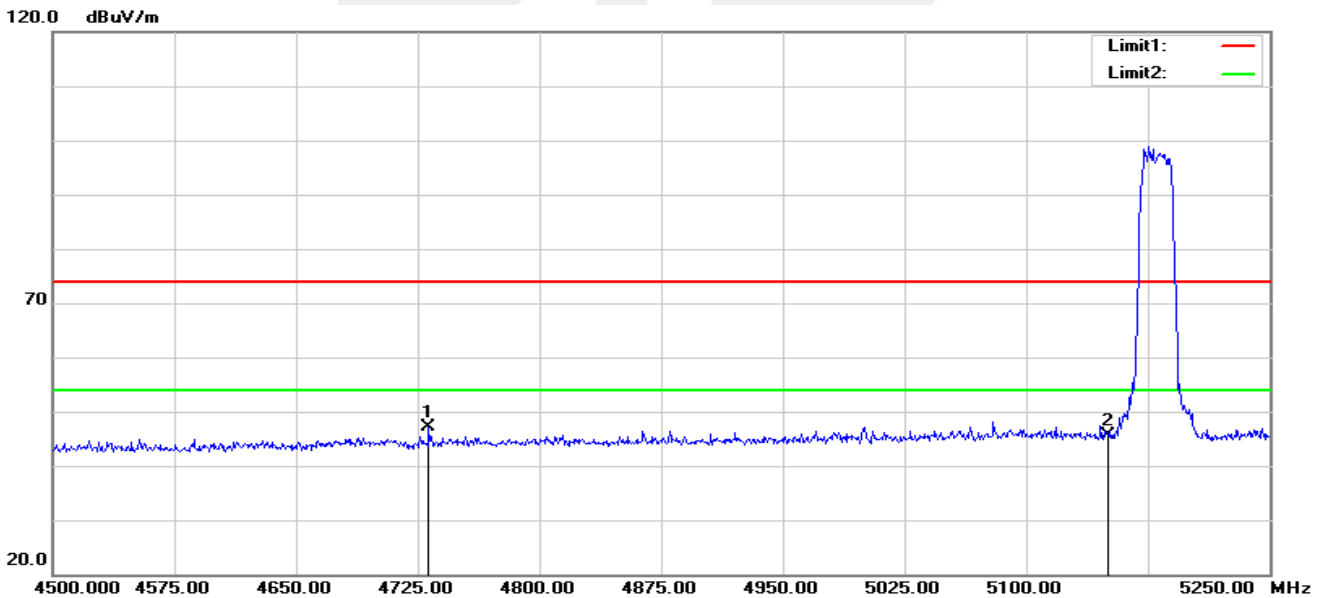
3.2.9 Band Edge
Band I 5150-5250MHz

802.11ac (VHT-20) Low
Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5131.500	55.26	-5.73	49.53	74.00	-24.47	peak
2	5150.000	53.49	-5.73	47.76	74.00	-26.24	peak

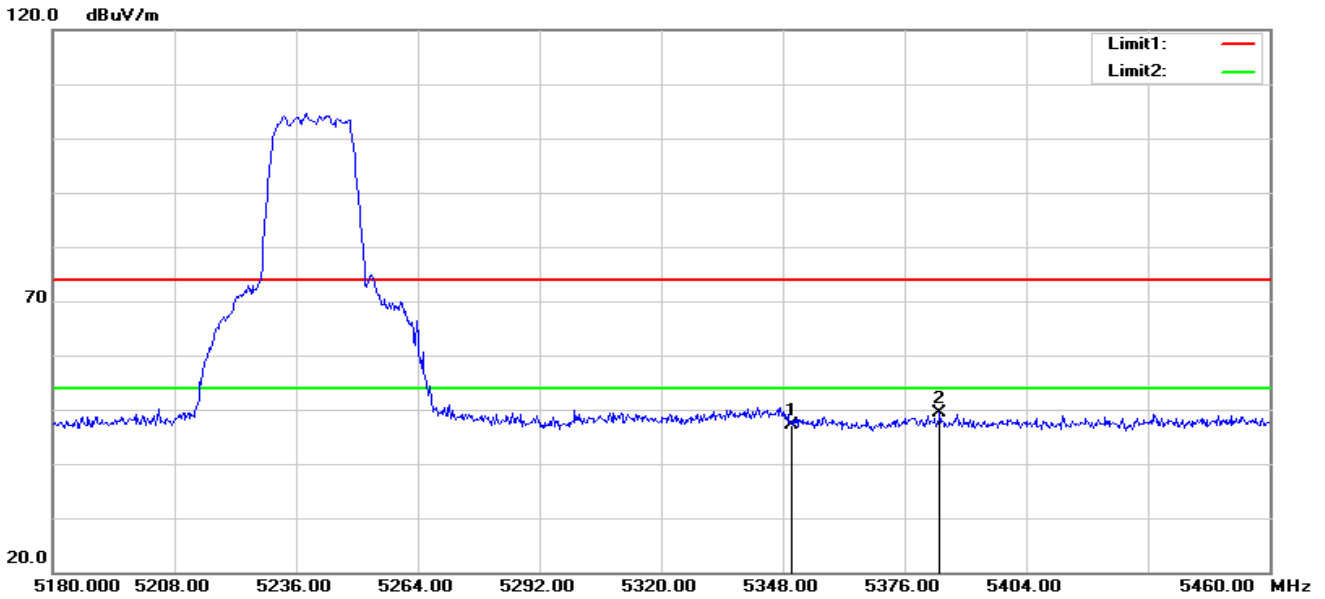
Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4731.750	54.55	-7.32	47.23	74.00	-26.77	peak
2	5150.000	51.48	-5.73	45.75	74.00	-28.25	peak

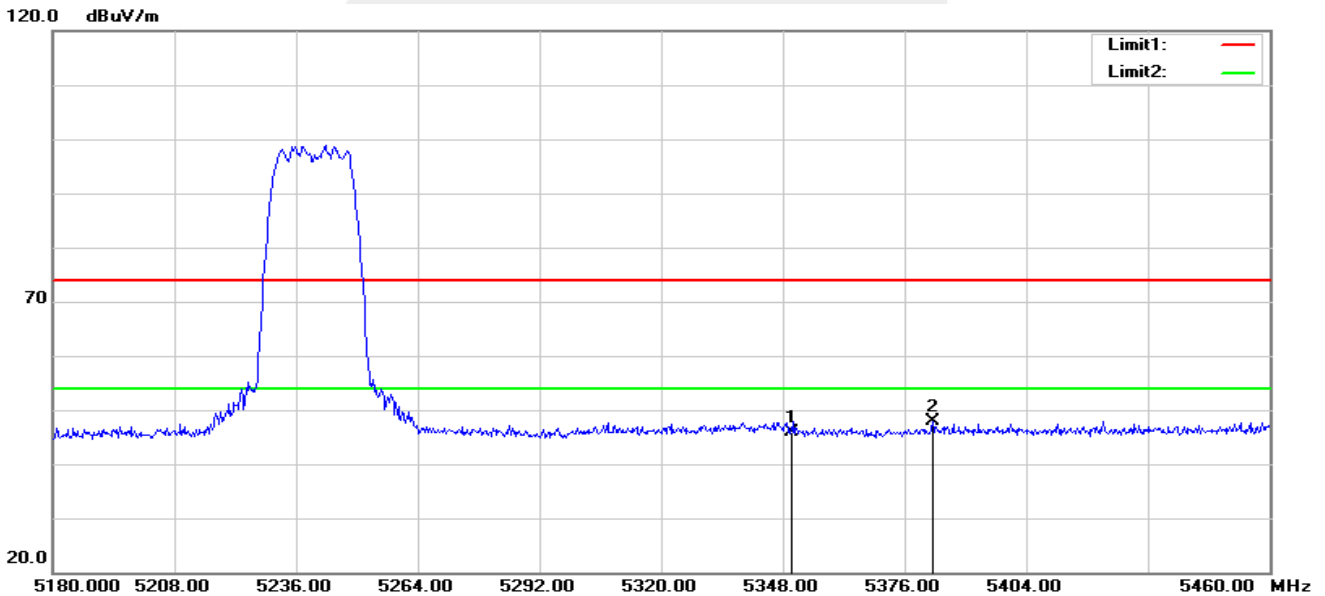


802.11ac (VHT-20) High Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	52.37	-5.23	47.14	74.00	-26.86	peak
2	5384.120	54.54	-5.24	49.30	74.00	-24.70	peak

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	51.21	-5.23	45.98	74.00	-28.02	peak
2	5382.440	53.24	-5.24	48.00	74.00	-26.00	peak

Note: 1.802.11a,802.11n (HT-20),802.11n (HT-40), 802.11ac (VHT-20),802.11ac (VHT-40), 802.11ac (VHT-80), 802.11ax (VHT-20),802.11ax (VHT-40), 802.11ax (VHT-80) all has been tested, the worst case is 802.11ac (VHT-20),only shown the worst case.

2. Pre-scan both the SISO and MIMO mode, only the worst-case results were reported.

Band IV(5.725-5.85 GHz)

Note: The main frequency is too far away from the restricted band and does not require testing.

4. CONDUCTED SPURIOUS EMISSIONS AND BANDEDGE

4.1 LIMIT

Undesirable emission limits. Except as shown in paragraph (b)(7) 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 5.15-5.25 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.
- (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 5.47-5.725 GHz 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 in the 5.725-5.85 GHz band:
 - (i) 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 10 dBm/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.

4.2 TEST PROCEDURE

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	30 MHz to 10th carrier harmonic
RB / VB (emission in restricted band)	1000 KHz/3000 KHz
Trace-Mode:	Max hold

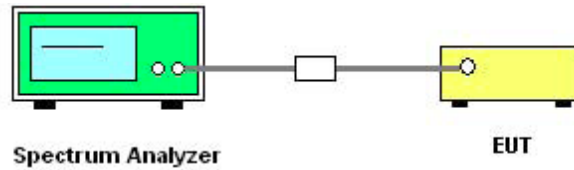
For Band edge

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Lower Band Edge: 5700 to 5725 MHz Upper Band Edge: 5850 to 5870 MHz
RB / VB (emission in restricted band)	1000 KHz/3000 KHz
Trace-Mode:	Max hold

4.3 DEVIATION FROM STANDARD

No deviation.

4.4 TEST SETUP



The EUT which is powered by the Battery, is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 1000 kHz. In order to make an accurate measurement, set the span greater than RBW.

4.5 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.

4.6 TEST RESULTS

Data See Attachment A.





5. POWER SPECTRAL DENSITY TEST

5.1 LIMIT

1. For mobile and portable 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.
2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, 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.
3. For the band 5.725-5.850 GHz, the peak power spectral density shall not exceed 30 dBm in any 500KHz band. If transmitting antenna directional gain is greater than 6 dBi, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.2 TEST PROCEDURE

1. The setting follows Method SA-1 of FCC KDB D02 General UNII Test Procedures New Rules v01r03.

For devices operating in the band, the rules specify a measurement bandwidth of 500 kHz.

Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used.

The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, "provided that the measured power is integrated over the full reference bandwidth" to show the total power over the specified measurement bandwidth (*i.e.*, 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

- a) Set $RBW \geq 1/T$, where T is defined in section II.B.I.a).
- b) Set $VBW \geq 3 RBW$.
- c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10 \log (500\text{kHz}/RBW)$ to the measured result, whereas $RBW (< 500 \text{ kHz})$ is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
- d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10 \log (1\text{MHz}/RBW)$ to the measured result, whereas $RBW (< 1 \text{ MHz})$ 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 $RBW=100 \text{ KHZ}$ is available on nearly all spectrum analyzers.



5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.





5.6 TEST RESULTS

5150-5250MHz									
Frequency	Ant_A Power Density(dBm)	Ant_B Power Density(dBm)	Ant_A Duty cycle factor	Ant_B Duty cycle factor	Ant_A Power Density(dBm)	Ant_B Power Density(dBm)	Power Density Total(dBm)	Limit	Result
802.11a									
5180	4.514	2.843	0.17	0.17	4.688	3.017	--	11	PASS
5200	3.248	3.212	0.17	0.17	3.422	3.386	--	11	PASS
5240	3.215	3.087	0.17	0.17	3.389	3.261	--	11	PASS
802.11n20									
5180	1.055	0.193	0.16	0.16	1.219	0.357	3.820	9.49	PASS
5200	0.589	0.523	0.16	0.16	0.753	0.687	3.731	9.49	PASS
5240	0.281	0.533	0.16	0.16	0.445	0.697	3.583	9.49	PASS
802.11n40									
5190	-1.014	-2.357	0.38	0.38	-0.637	-1.980	1.753	9.49	PASS
5230	-3.395	-2.912	0.38	0.38	-3.018	-2.535	0.240	9.49	PASS
802.11ac20									
5180	0.298	0.162	0.03	0.03	0.331	0.195	3.274	9.49	PASS
5200	0.421	0.223	0.03	0.03	0.454	0.256	3.367	9.49	PASS
5240	1.668	-0.446	0.03	0.03	1.701	-0.413	3.782	9.49	PASS
802.11ax20									
5180	1.471	0.876	0.04	0.04	1.511	0.916	4.234	9.49	PASS
5200	1.510	0.350	0.04	0.04	1.550	0.390	4.019	9.49	PASS
5240	1.270	0.218	0.04	0.04	1.310	0.258	3.826	9.49	PASS
802.11ac40									
5190	-1.316	-5.019	0.07	0.07	-1.246	-4.949	0.296	9.49	PASS
5230	-5.367	-5.407	0.07	0.07	-5.297	-5.337	-2.307	9.49	PASS
802.11ax40									
5190	-1.237	-2.801	0.08	0.08	-1.157	-2.721	1.141	9.49	PASS
5230	-5.184	-5.622	0.08	0.08	-5.104	-5.542	-2.307	9.49	PASS
802.11ac80									
5290	-6.813	-1.173	0.28	0.28	-6.533	-0.893	0.155	9.49	PASS
802.11ax80									
5290	-3.771	-7.010	0.28	0.28	-3.491	-6.730	-1.805	9.49	PASS

Note: The MIMO antenna gain is 7.51dBm, which is larger than 6dBi, the limit will be reduced by 1.51dBm, and the MIMO mode limit is 9.49dBm.



5725-5850MHz									
Frequency	Ant_A Power Density(dBm)	Ant_B Power Density(dBm)	Ant_A Duty cycle factor	Ant_B Duty cycle factor	Ant_A Power Density(dBm)	Ant_B Power Density(dBm)	Power Density Total(dBm)	Limit	Result
802.11a									
5745	4.590	4.849	0.18	0.18	4.770	5.029	--	30	PASS
5785	5.240	5.179	0.18	0.18	5.420	5.359	--	30	PASS
5825	5.270	5.207	0.18	0.18	5.450	5.387	--	30	PASS
802.11n20									
5745	3.391	2.525	0.18	0.18	3.571	2.705	6.170	28.49	PASS
5785	3.550	2.705	0.18	0.18	3.730	2.885	6.338	28.49	PASS
5825	4.146	2.727	0.18	0.18	4.326	2.907	6.684	28.49	PASS
802.11ax20									
5745	3.250	3.843	0.03	0.03	3.280	3.873	6.597	28.49	PASS
5785	3.540	5.675	0.03	0.03	3.570	5.705	7.778	28.49	PASS
5825	3.482	3.362	0.03	0.03	3.512	3.392	6.463	28.49	PASS
802.11n40									
5755	1.565	0.954	0.39	0.39	1.955	1.344	4.671	28.49	PASS
5795	1.712	1.152	0.39	0.39	2.102	1.542	4.841	28.49	PASS
802.11ac20									
5745	3.112	2.529	0.03	0.03	3.142	2.559	5.871	28.49	PASS
5785	3.597	2.612	0.03	0.03	3.627	2.642	6.173	28.49	PASS
5825	3.516	3.281	0.03	0.03	3.546	3.311	6.440	28.49	PASS
802.11ac40									
5755	1.370	1.124	0.09	0.09	1.460	1.214	4.349	28.49	PASS
5795	1.516	1.184	0.09	0.09	1.606	1.274	4.453	28.49	PASS
802.11ax40									
5755	1.033	0.575	0.07	0.07	1.103	0.645	3.890	28.49	PASS
5795	1.391	0.572	0.07	0.07	1.461	0.642	4.081	28.49	PASS
802.11ac80									
5775	-2.854	-4.030	0.22	0.22	-2.634	-3.810	-0.172	28.49	PASS
802.11ax80									
5775	-3.132	-4.457	0.20	0.20	-2.932	-4.257	-0.534	28.49	PASS

Note: 1. The MIMO antenna gain is 7.51dBm, which is larger than 6dBi, the limit will be reduced by 1.51dBm, and the MIMO mode limit is 28.49Bm.
 2. Test plots see Attachment B.

6. BANDWIDTH MEASUREMENT

6.1 EMISSION BANDWIDTH (EBW) 26 BANDWID PROCEDURES / LIMIT

The following procedure shall be used for measuring 26 bandwidth.

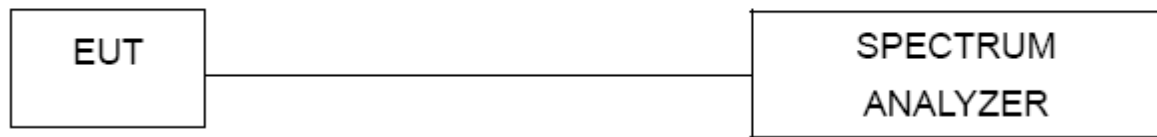
6.1.1 TEST PROCEDURE

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW \geq RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Measure the maximum width of the emission that is 26 dB down from the peak 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%.

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 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



6.1.5 TEST RESULTS

Note: Antenna A Power > Antenna B Power, Both antenna A and B have been test, Only show the worst data of Antenna A.

Frequency (MHz)	26dB Bandwidth (MHz)	Pass/Fail
802.11a		
5180	21.09	Pass
5200	21.03	Pass
5240	21.11	Pass
802.11n(HT20)		
5180	21.51	Pass
5200	21.40	Pass
5240	21.33	Pass
802.11n(HT40)		
5190	39.87	Pass
5230	39.75	Pass
802.11ac(VHT20)		
5180	21.32	Pass
5200	21.41	Pass
5240	21.40	Pass
802.11ac(VHT40)		
5190	39.75	Pass
5230	39.81	Pass
802.11ax(VHT20)		
5180	21.31	Pass
5200	21.37	Pass
5240	21.39	Pass
802.11ax(VHT40)		
5190	39.89	Pass
5230	39.82	Pass
802.11ac(VHT80)		
5210	81.23	Pass
802.11ax(VHT80)		
5210	80.57	Pass



Frequency (MHz)	26dB Bandwidth (MHz)	Pass/Fail
802.11a		
5745	20.91	Pass
5785	20.88	Pass
5825	20.91	Pass
802.11n(HT20)		
5745	21.38	Pass
5785	21.52	Pass
5825	21.51	Pass
802.11n(HT40)		
5755	39.88	Pass
5795	39.72	Pass
802.11ac(VHT20)		
5745	21.29	Pass
5785	21.45	Pass
5825	21.29	Pass
802.11ac(VHT40)		
5755	39.79	Pass
5795	39.88	Pass
802.11ax(VHT20)		
5745	21.30	Pass
5785	21.16	Pass
5825	21.42	Pass
802.11ax(VHT40)		
5755	39.87	Pass
5795	39.89	Pass
802.11ac(VHT80)		
5775	81.06	Pass
802.11ax(VHT80)		
5775	81.38	Pass

Test plots see Attachment C



6.2 OCCUPIED BANDWIDTH (99%) TEST APPLIED PROCEDURES / LIMIT

The following procedure shall be used for measuring (99 %) power bandwidth

6.2.1 TEST PROCEDURE

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures v02r01.

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 $\geq 3 \cdot$ 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.

6.2.2 DEVIATION FROM STANDARD

No deviation.

6.2.3 TEST SETUP



6.2.4 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.

**6.2.5 TEST RESULTS**

Note: Antenna A Power > Antenna B Power, Both antenna A and B have been test, Only show the worst data of Antenna A.

Frequency (MHz)	99% Bandwidth (MHz)	Pass/Fail
802.11a		
5180	16.666	Pass
5200	16.649	Pass
5240	16.633	Pass
802.11n(HT20)		
5180	17.854	Pass
5200	17.830	Pass
5240	17.848	Pass
802.11n(HT40)		
5190	36.284	Pass
5230	36.297	Pass
802.11ac(VHT20)		
5180	17.800	Pass
5200	17.815	Pass
5240	17.807	Pass
802.11ac(VHT40)		
5190	36.247	Pass
5230	36.289	Pass
802.11ax(VHT20)		
5180	17.841	Pass
5200	17.838	Pass
5240	17.833	Pass
802.11ax(VHT40)		
5190	36.334	Pass
5230	36.319	Pass
802.11ac(VHT80)		
5210	75.703	Pass
802.11ax(VHT80)		
5210	76.810	Pass



Frequency (MHz)	99% Bandwidth (MHz)	Pass/Fail
802.11a		
5745	16.608	Pass
5785	16.599	Pass
5825	16.590	Pass
802.11n(HT20)		
5745	17.832	Pass
5785	17.848	Pass
5825	17.863	Pass
802.11n(HT40)		
5755	36.259	Pass
5795	36.272	Pass
802.11ac(VHT20)		
5745	17.799	Pass
5785	17.805	Pass
5825	17.797	Pass
802.11ac(VHT40)		
5755	36.259	Pass
5795	36.277	Pass
802.11ax(VHT20)		
5745	17.749	Pass
5785	18.040	Pass
5825	17.853	Pass
802.11ax(VHT40)		
5755	36.324	Pass
5795	36.308	Pass
802.11ac(VHT80)		
5775	75.755	Pass
802.11ax(VHT80)		
5775	75.779	Pass

Test plots See Attachment C

6.3 MINIMUM EMISSION BANDWIDTH(6 DB) PROCEDURES / LIMIT

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.725-5.85 GHz. The following procedure shall be used for measuring this bandwidth

6.3.1 TEST PROCEDURE

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures v02r01.
 - a) Set RBW = 100 kHz.
 - b) Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
 - c) Detector = Peak.
 - d) Trace mode = max hold.
 - e) Sweep = auto couple.
 - f) Allow the trace to stabilize.
 - g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.3.2 DEVIATION FROM STANDARD

No deviation.

6.3.3 TEST SETUP



6.3.4 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.

**6.3.5 TEST RESULTS**

Note: Antenna A Power > Antenna B Power, Both antenna A and B have been test, Only show the worst data of Antenna A.

Frequency (MHz)	6dB Bandwidth (MHz)	Pass/Fail
802.11a		
5745	16.38	Pass
5785	16.41	Pass
5825	16.37	Pass
802.11n(HT20)		
5745	17.61	Pass
5785	17.60	Pass
5825	17.58	Pass
802.11n(HT40)		
5755	36.38	Pass
5795	36.37	Pass
802.11ac(VHT20)		
5745	17.62	Pass
5785	17.59	Pass
5825	17.60	Pass
802.11ac(VHT40)		
5755	36.37	Pass
5795	36.38	Pass
802.11ax(VHT20)		
5745	17.62	Pass
5785	18.99	Pass
5825	17.61	Pass
802.11ax(VHT40)		
5755	36.40	Pass
5795	36.38	Pass
802.11ac(VHT80)		
5775	76.28	Pass
802.11ax(VHT80)		
5775	75.98	Pass

Data see Attachment D

7. MAXIMUM CONDUCTED OUTPUT POWER

7.1 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. 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 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz, If transmitting antennas of directional gain greater than 6 dBi are used.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. 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.

FCC Part15 (15.407) , Subpart E				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.407(a) (1) (iv)	Peak Output Power	0.25 watt	5150-5250	PASS
		The lesser of 250 mW or $11 \text{ dBm} + 10 \log (26 \text{ dB emission bandwidth})$	5250-5350 5470-5725	
15.407(a) (3)		1 watt	5725-5825	

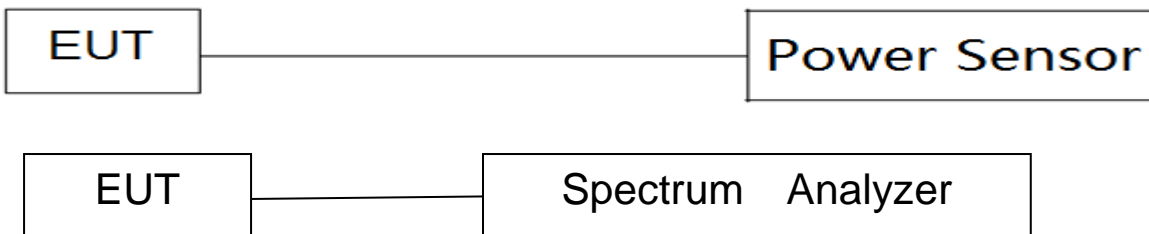
7.2 TEST PROCEDURE

The EUT was directly connected to the Power Sensor&PC

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 5 Unless otherwise a special operating condition is specified in the follows during the testing.



7.6 TEST RESULTS

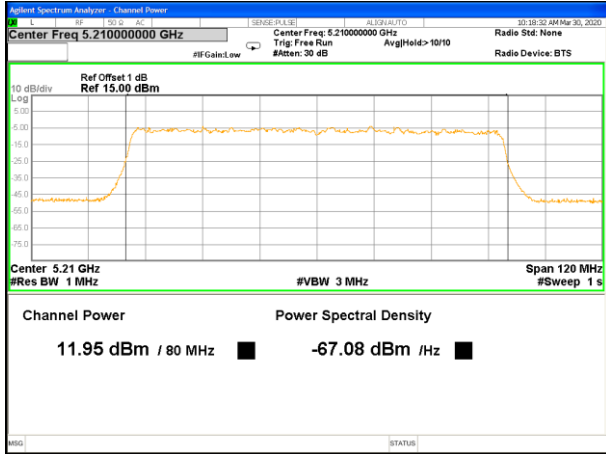
Note:

1. 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 the lesser of 0.25 W. In addition, the MIMO antenna gain is 7.51dBm, which is larger than 6dBi, the limit will be reduced by 1.51dBm, and the MIMO mode limit is 22.47dBm.
2. For the band 5.745-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1 W. In addition, the MIMO antenna gain is 7.51dBm, which is larger than 6dBi, the limit will be reduced by 1.51dBm, and the MIMO mode limit is 28.49dBm.

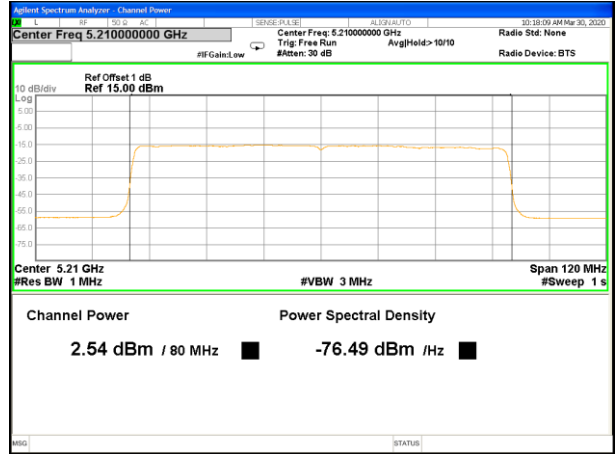
Band I (5.15-5.25GHz)									
Test Channel	Frequency (MHz)	Ant_A AV Power (dBm)	Ant_B_AV Power (dBm)	Ant_A Duty cycle factor(dB)	Ant_B Duty cycle factor(dB)	Ant_A AV Power (dBm)	Ant_B AV Power (dBm)	AV Power Total(dBm)	LIMIT (dBm)
802.11a									
36	5180	9.75	8.92	0.17	0.17	9.92	9.09	--	23.98
40	5200	9.22	8.83	0.17	0.17	9.39	9.00	--	23.98
48	5240	9.07	8.55	0.17	0.17	9.24	8.72	--	23.98
802.11n(HT20)									
36	5180	7.06	6.13	0.16	0.16	7.22	6.29	9.79	22.47
40	5200	7.09	6.02	0.16	0.16	7.25	6.18	9.76	22.47
48	5240	6.95	5.74	0.16	0.16	7.11	5.90	9.56	22.47
802.11n(HT40)									
38	5190	6.68	5.40	0.38	0.38	7.06	5.78	9.47	22.47
46	5230	6.84	5.06	0.38	0.38	7.22	5.44	9.43	22.47
802.11ac(VHT20)									
36	5180	7.18	6.23	0.03	0.03	7.21	6.26	9.77	22.47
40	5200	7.16	6.24	0.03	0.03	7.19	6.27	9.77	22.47
48	5240	6.94	6.02	0.03	0.03	6.97	6.05	9.55	22.47
802.11ac(VHT40)									
38	5190	6.48	5.86	0.07	0.07	6.55	5.93	9.26	22.47
46	5230	6.39	5.52	0.07	0.07	6.46	5.59	9.06	22.47
802.11ac(VHT80)									
42	5210	2.47	2.25	0.28	0.28	2.75	2.53	5.65	22.47
802.11ax(VHT20)									
36	5180	7.32	6.44	0.04	0.04	7.36	6.48	9.95	22.47
40	5200	7.07	6.17	0.04	0.04	7.11	6.21	9.69	22.47
48	5240	6.91	5.88	0.04	0.04	6.95	5.92	9.48	22.47
802.11ax(VHT40)									
38	5190	6.59	5.75	0.08	0.08	6.67	5.83	9.28	22.47
46	5230	6.54	5.36	0.08	0.08	6.62	5.44	9.08	22.47
802.11acx(VHT80)									
42	5210	2.47	2.16	0.28	0.28	2.75	2.44	5.61	22.47



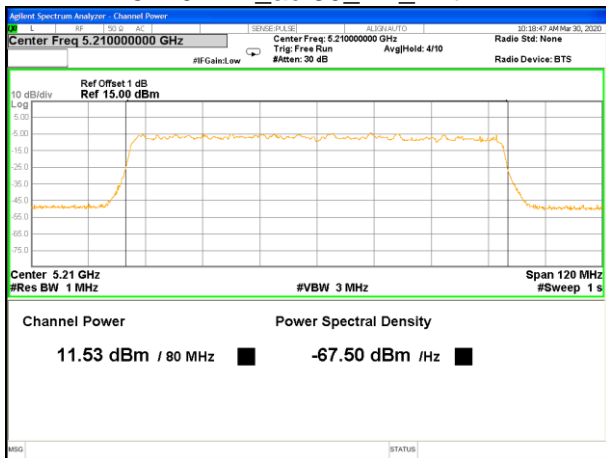
Band IV (5.725-5.85GHz)									
Test Channel	Frequency (MHz)	Ant_A AV Power (dBm)	Ant_B_AV Power (dBm)	Ant_A Duty cycle factor(dB)	Ant_B Duty cycle factor(dB)	AV Power (dBm)	AV Power B(dBm)	AV Power Total(dBm)	LIMIT (dBm)
802.11a									
149	5745	9.60	8.26	0.17	0.17	9.77	8.43	--	30
157	5785	9.69	8.73	0.17	0.17	9.86	8.90	--	30
165	5825	9.73	8.92	0.17	0.17	9.90	9.09	--	30
802.11n(HT20)									
149	5745	8.32	6.85	0.18	0.18	8.50	7.03	10.84	28.49
157	5785	8.63	7.19	0.18	0.18	8.81	7.37	11.16	28.49
165	5825	8.50	7.42	0.18	0.18	8.68	7.60	11.18	28.49
802.11n(HT40)									
151	5755	8.59	6.49	0.39	0.39	8.98	6.88	11.07	28.49
159	5795	8.47	6.77	0.39	0.39	8.86	7.16	11.10	28.49
802.11ac(VHT20)									
149	5745	8.19	6.91	0.03	0.03	8.22	6.94	10.64	28.49
157	5785	8.35	7.35	0.03	0.03	8.38	7.38	10.92	28.49
165	5825	8.47	7.56	0.03	0.03	8.50	7.59	11.08	28.49
802.11ac(VHT40)									
151	5755	8.82	6.77	0.09	0.09	8.91	6.86	11.02	28.49
159	5795	8.70	7.02	0.09	0.09	8.79	7.11	11.04	28.49
802.11ac(VHT80)									
155	5775	3.65	1.21	0.22	0.22	3.87	1.43	5.83	28.49
802.11ax20									
149	5745	8.53	7.02	0.03	0.03	8.56	7.05	10.88	28.49
157	5785	8.56	7.19	0.03	0.03	8.59	7.22	10.97	28.49
165	5825	8.46	7.58	0.03	0.03	8.49	7.61	11.08	28.49
802.11ax40									
151	5755	8.91	6.77	0.07	0.07	8.98	6.84	11.05	28.49
159	5795	8.80	7.03	0.07	0.07	8.87	7.10	11.08	28.49
802.11ax80									
155	5775	3.77	1.24	0.20	0.20	3.97	1.44	5.90	28.49



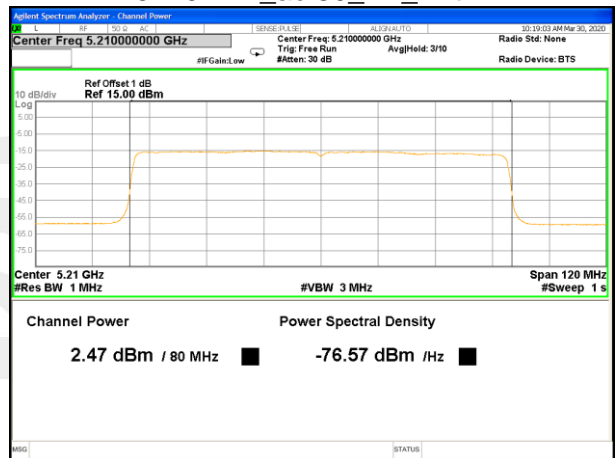
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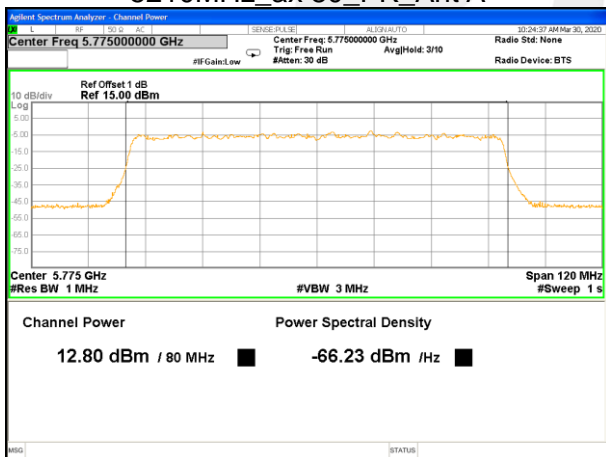
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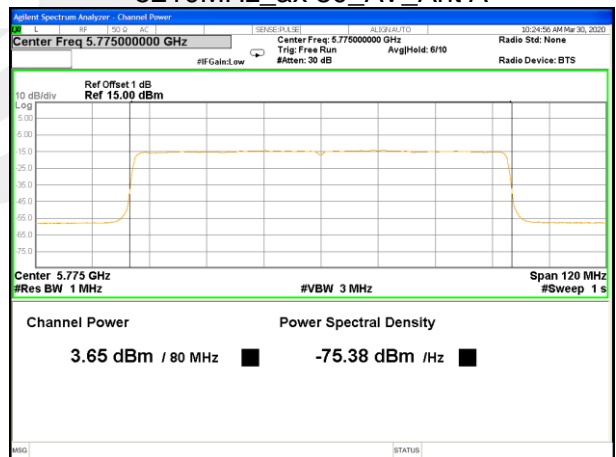
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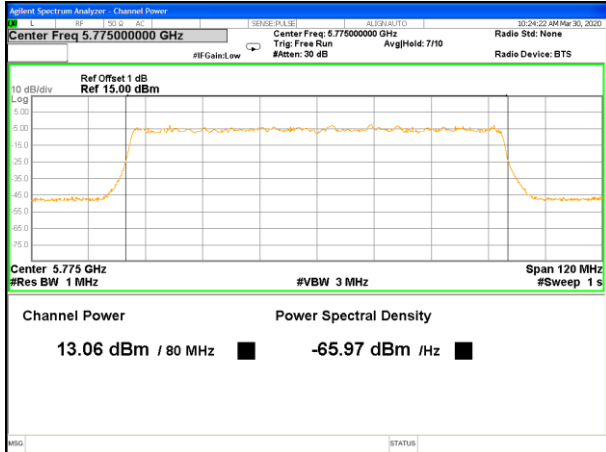
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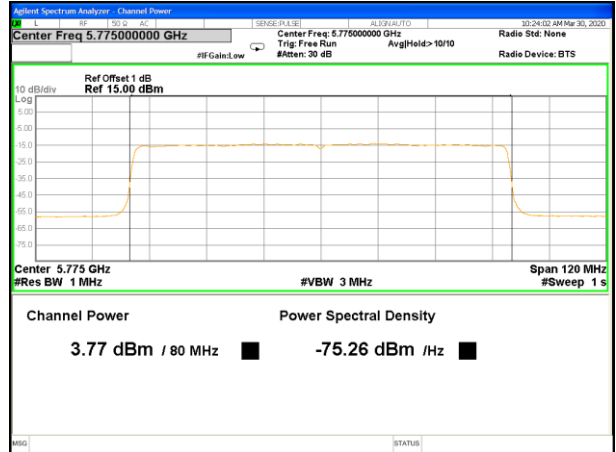
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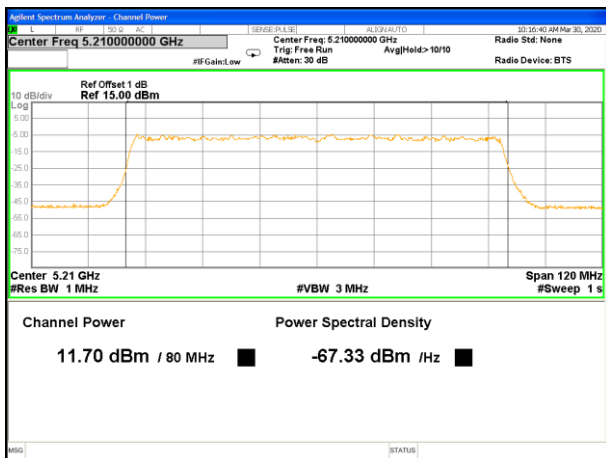
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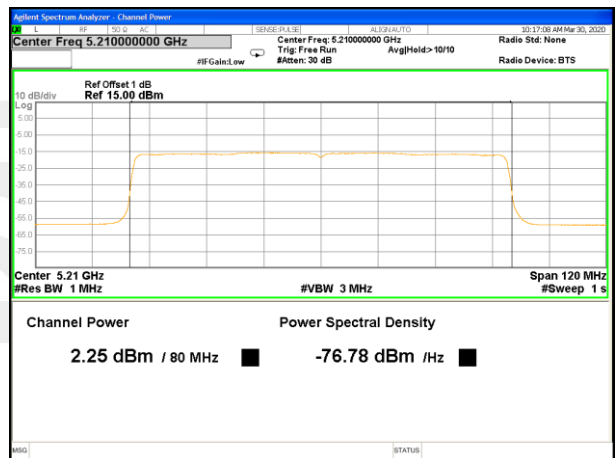
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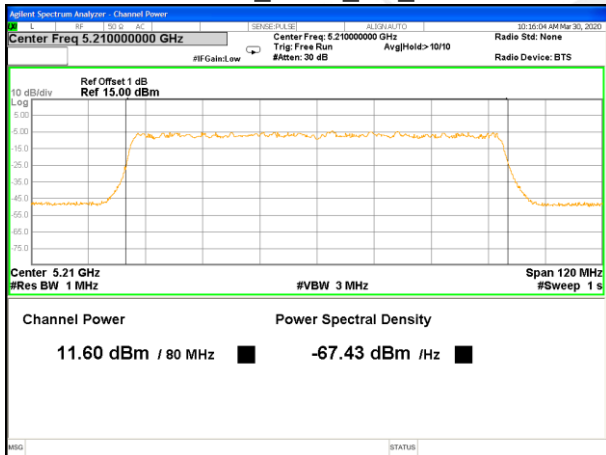
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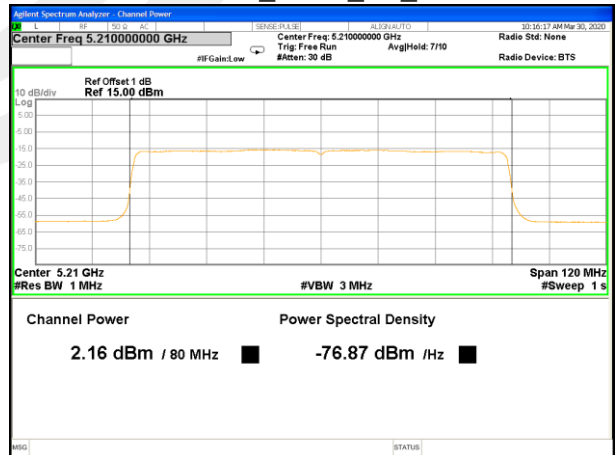
5210MHz_ac 80_PK_Ant B



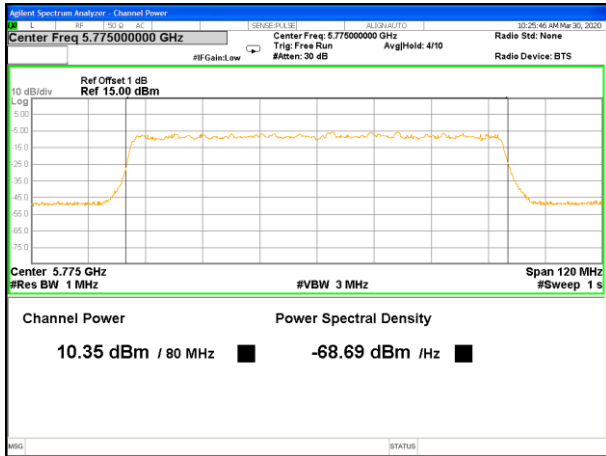
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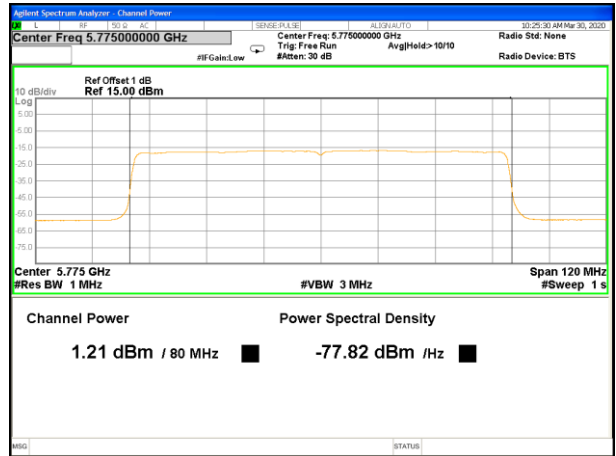
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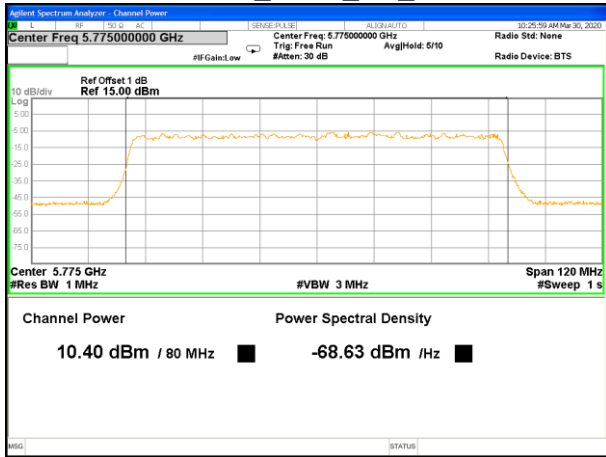
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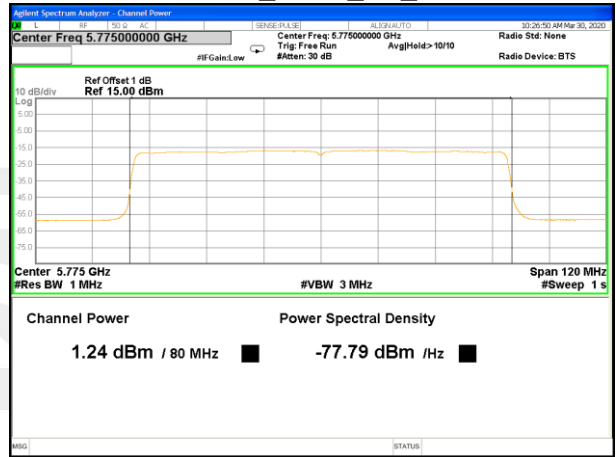
5775MHz_ac 80_PK_Ant B



5775MHz_ac 80_AV_Ant B



5775MHz_ax 80_PK_Ant B



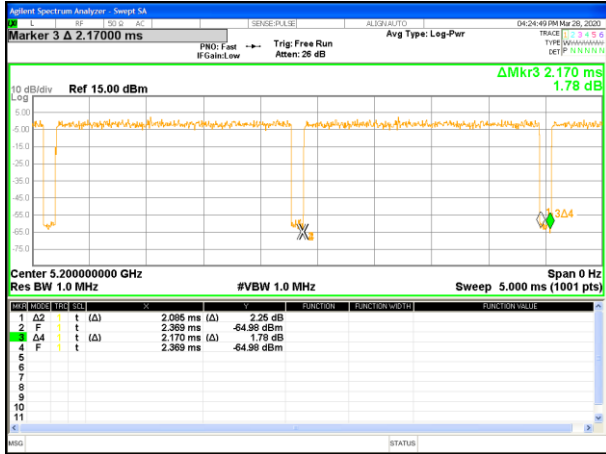
5775MHz_ax 80_AV_Ant B



Duty cycle

Band 1				
Mode	Ton(ms)	Tp(ms)	Duty cycle(%)	Duty factor(dB)
a	2.085	2.170	96.08%	0.17
n20	1.945	2.020	96.29%	0.16
n40	0.960	1.047	91.69%	0.38
ac20	1.945	1.960	99.23%	0.03
ax20	1.935	1.955	98.98%	0.04
ac40	0.969	0.984	98.48%	0.07
ax40	0.966	0.984	98.17%	0.08
ac80	0.417	0.445	93.71%	0.28
ax80	0.418	0.446	93.72%	0.28
Band 4				
Mode	Ton(ms)	Tp(ms)	Duty cycle(%)	Duty factor(dB)
a	2.100	2.185	96.11%	0.17
n20	1.935	2.015	96.03%	0.18
n40	0.954	1.044	91.38%	0.39
ac20	1.945	1.960	99.23%	0.03
ax20	1.930	1.945	99.23%	0.03
ac40	0.960	0.981	97.86%	0.09
ax40	0.792	0.804	98.51%	0.07
ac80	0.466	0.490	95.10%	0.22
ax80	0.476	0.498	95.58%	0.20





Band 1-a20



Band 1-n20



Band 1-n40



Band 1-ac20



Band 1-ac40



Band 1-ac80



Band 1-ax20



Band 1-ax40



Band 1-ax80



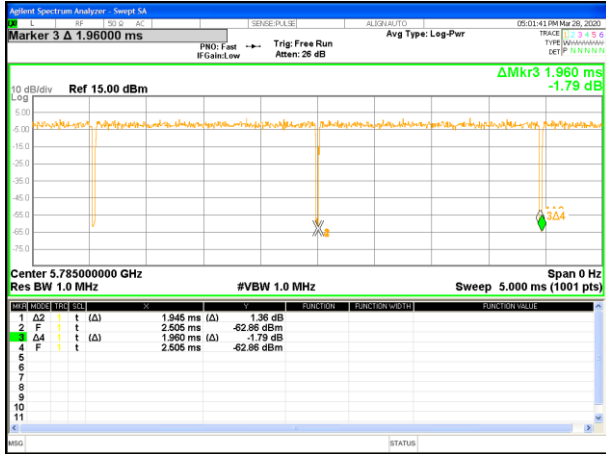
Band 4-a20



Band 4-n20



Band 4-n40



Band 4-ac20



Band 4-ac40



Band 4-ac80



Band 4-ax20



Band 4-ax40



Band 4-ax80



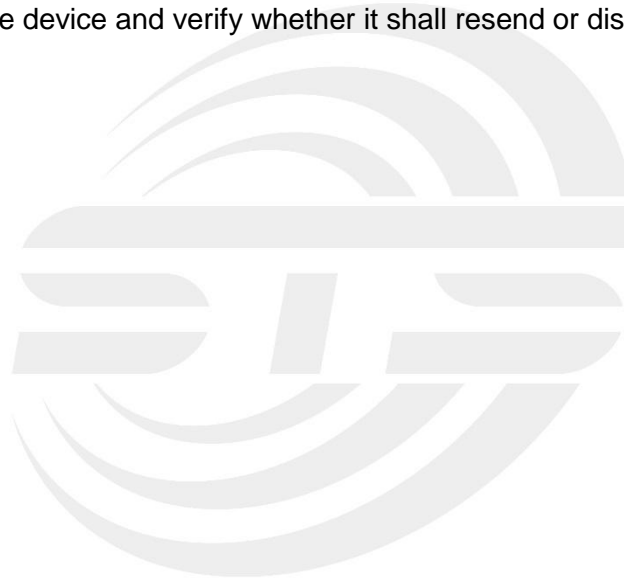
8. AUTOMATICALLY DISCONTINUE TRANSMISSION

8.1 LIMIT OF AUTOMATICALLY DISCONTINUE TRANSMISSION

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 to describe how this requirement is met.

8.2 TEST RESULT OF AUTOMATICALLY DISCONTINUE TRANSMISSION

During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.





9. ANTENNA REQUIREMENT

9.1 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.

9.2 EUT ANTENNA

The EUT antenna is FPC Antenna. It comply with the standard requirement.





APPENDIX - PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

※※※※END OF THE REPORT※※※※

