Report No.: GTSL2023010007F04

TEST REPORT

Applicant:	Acer India Pvt Ltd.
Address of Applicant:	Embassy Heights 6th Floor, No.13,Magrath Road, (Next to Hosmat Hospital), Bangalore, India
Manufacturer:	Acer India Pvt Ltd.
Address of Manufacturer:	Embassy Heights 6th Floor, No.13,Magrath Road, (Next to Hosmat Hospital), Bangalore, India

Equipment Under Test (EUT)

Product Name:	Tablet
Model No.:	Acer One 10 T9-1212L
Trade Mark:	ACER
FCC ID:	2AMY3ONE10T9-1212L
Applicable standards:	FCC CFR Title 47 Part 15 Subpart E Section 15.407
Date of sample receipt:	November 8, 2022
Date of Test:	November 8, 2022~January 9, 2023
Date of report issue:	January 9, 2023
Test Result :	PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Luo
Laboratory Manager

2 Version

Version No.	Date	Description
00	*2023-1-9*	*Original*

Prepared By: ***Date:*** ***2023-1-9***

Project Engineer

Check By: ***Date:*** ***2023-1-9***

Reviewer

3 Contents

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	PASS
AC Power Line Conducted Emission	15.207	PASS
Average Transmit Power	15.407(a)(1)	PASS
Power Spectral Density	15.407(a)(1)	PASS
Undesirable Emission	15.407(b)(6), 15.205/15.209	PASS
Radiated Emission	15.205/15.209	PASS
Band Edge	15.407(b)(1)	PASS
Frequency Stability	15.407(g)	PASS

Remark:

Pass: The EUT complies with the essential requirements in the standard.

4.1 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	1×10^{-7}
2	Duty cycle	0.37%
3	Occupied Bandwidth	3%
4	RF conducted power	0.75dB
5	RF power density	3dB
6	Conducted Spurious emissions	2.58dB
7	AC Power Line Conducted Emission	3.44dB (0.15MHz ~ 30MHz)
8	Radiated Spurious emission test	3.1dB (9kHz-30MHz)
		3.8039dB (30MHz-200MHz)
		3.9679dB (200MHz-1GHz)
		4.29dB (1GHz-18GHz)
		3.30dB (18GHz-40GHz)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.		

5 General Information

5.1 General Description of EUT

<table>
<tr><td>Product Name:</td><td>Tablet</td></tr>
<tr><td>Model No.:</td><td>Acer One 10 T9-1212L</td></tr>
<tr><td>Serial No.:</td><td>N/A</td></tr>
<tr><td>Hardware Version:</td><td>R200</td></tr>
<tr><td>Software Version:</td><td>M300Y.WH.211.S0..G.2022120521.C951232A9AD.USERDEBUG</td></tr>
<tr><td>Test sample(s) ID:</td><td>GTS2023010007-01</td></tr>
<tr><td>Sample(s) Status:</td><td>Engineer sample</td></tr>
<tr><td>Operation Frequency:</td><td>
<table>
<tr><th>Band</th><th>Mode</th><th>Frequency Range(MHz)</th><th>Number of channels</th></tr>
<tr><td rowspan="4">U-NII Band I</td><td>IEEE 802.11a</td><td>5180-5240</td><td>4</td></tr>
<tr><td>IEEE 802.11n/ac 20MHz</td><td>5180-5240</td><td>4</td></tr>
<tr><td>IEEE 802.11n/ac 40MHz</td><td>5190-5230</td><td>2</td></tr>
<tr><td>IEEE 802.11ac 80MHz</td><td>5210</td><td>1</td></tr>
<tr><td rowspan="4">U-NII Band II-2A</td><td>IEEE 802.11a</td><td>5260-5320</td><td>4</td></tr>
<tr><td>IEEE 802.11n/ac 20MHz</td><td>5260-5320</td><td>4</td></tr>
<tr><td>IEEE 802.11n/ac 40MHz</td><td>5270-5310</td><td>2</td></tr>
<tr><td>IEEE 802.11ac 80MHz</td><td>5290</td><td>1</td></tr>
</table>
</td></tr>
<tr><td>Modulation technology:</td><td>OFDM</td></tr>
<tr><td>Antenna Type:</td><td>FPC antenna</td></tr>
<tr><td>Antenna gain:</td><td>Band I: 0.72dBi
Band II-2A: 0.95dBi</td></tr>
<tr><td>Power supply:</td><td>DC 9V, 2A</td></tr>
<tr><td>Adapter Information:</td><td>Model: BPS-PN18A
Input: AC 100-240V~, 50/60Hz, 800mA (Max)
Output: USB-A: 5V 3A, 9V 2A, 12V 1.5A</td></tr>
</table>

Channel list for 802.11a/n(HT20)/ac(HT20)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	40	5200MHz	44	5220MHz	48	5240MHz
52	5260MHz	56	5280MHz	60	5300MHz	64	5320MHz

Channel list for 802.11n(HT40)/ac(HT40)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190MHz	46	5230MHz	54	5270MHz	62	5310MHz

Channel list for 802.11ac(HT80)			
Channel	Frequency	Channel	Frequency
42	5210MHz	58	5290MHz

5.2 Test mode

Transmitting mode	Keep the EUT in transmitting with modulation..

Remark: 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.

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Pre-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	Data rate
802.11a/n/ac(HT20)	6/6.5 Mbps
802.11n/ac(HT40)	13.5 Mbps
802.11ac(HT80)	29.3 Mbps

5.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC—Registration No.: 381383**

Designation Number: CN5029

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files.

● **IC —Registration No.: 9079A**

CAB identifier: CN0091

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

● **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

5.4 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.
Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, sBaoan District, Shenzhen, Guangdong, China 518102
Tel: 0755-27798480
Fax: 0755-27798960

5.5 Description of Support Units

None.

5.6 Deviation from Standards

None.

5.7 Abnormalities from Standard Conditions

Test Software	Special test command provided by manufacturer
Power level setup	16

6 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July 02, 2020	July 01, 2025
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	April 22, 2022	April 21, 2023
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	GTS640	March 21, 2022	March 20, 2023
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June 12, 2022	June 11, 2023
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June 23, 2022	June 22, 2023
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	April 22, 2022	April 21, 2023
9	Coaxial Cable	GTS	N/A	GTS211	April 22, 2022	April 21, 2023
10	Coaxial cable	GTS	N/A	GTS210	April 22, 2022	April 21, 2023
11	Coaxial Cable	GTS	N/A	GTS212	April 22, 2022	April 21, 2023
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	April 22, 2022	April 21, 2023
13	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 23, 2022	June 22, 2023
14	Band filter	Amindeon	82346	GTS219	June 23, 2022	June 22, 2023
15	Power Meter	Anritsu	ML2495A	GTS540	June 23, 2022	June 22, 2023
16	Power Sensor	Anritsu	MA2411B	GTS541	June 23, 2022	June 22, 2023
17	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	April 22, 2022	April 21, 2023
18	Splitter	Agilent	11636B	GTS237	June 23, 2022	June 22, 2023
19	Loop Antenna	ZHINAN	ZN30900A	GTS534	Nov. 29, 2022	Nov. 28, 2023
20	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	April 22, 2022	April 21, 2023
21	Breitband hornantenna	SCHWARZBECK	BBHA 9170	GTS579	Oct. 16, 2022	Oct. 15, 2023
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 16, 2022	Oct. 15, 2023
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 16, 2022	Oct. 15, 2023
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June 23, 2022	June 22, 2023
25	Amplifier(1GHz-26.5GHz)	HP	8449B	GTS601	April 22, 2022	April 21, 2023

Conducted Emission						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May 14, 2022	May 13, 2025
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 24, 2022	April 23, 2023
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June 23, 2022	June 22, 2023
4	ENV216 2-L-V-NETZNACHB.DE	ROHDE&SCHWARZ	ENV216	GTS226	April 22, 2022	April 21, 2023
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	JINCHUANG	GSP-8A	GTS639	April 28, 2022	April 27, 2023
8	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	April 15, 2022	April 14, 2023
9	ISN	SCHWARZBECK	NTFM 8158	GTS565	April 22, 2022	April 21, 2023
10	High voltage probe	SCHWARZBECK	TK9420	GTS537	April 22, 2022	April 21, 2023

RF Conducted Test:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	April 22, 2022	April 21, 2023
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 22, 2022	April 21, 2023
3	Spectrum Analyzer	Agilent	E4440A	GTS536	April 22, 2022	April 21, 2023
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	April 22, 2022	April 21, 2023
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	April 22, 2022	April 21, 2023
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	April 22, 2022	April 21, 2023
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	April 22, 2022	April 21, 2023
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	April 22, 2022	April 21, 2023

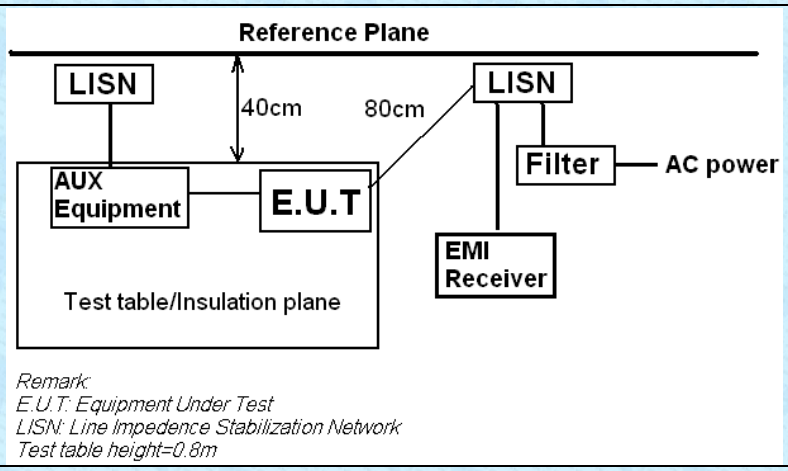
General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	April 25, 2022	April 24, 2023
2	Barometer	KUMAO	SF132	GTS647	July 26, 2022	July 25, 2023

7 Test results and Measurement Data

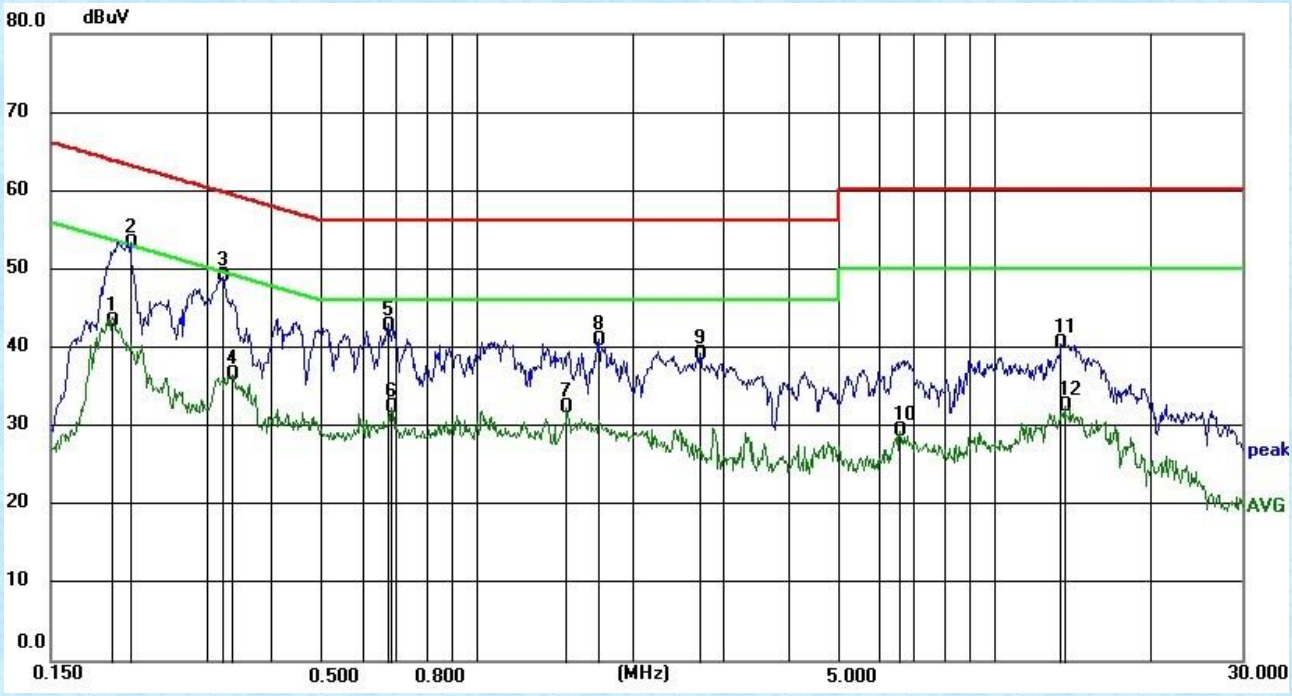
7.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement: *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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.*	
E.U.T Antenna:	
The antenna is FPC antenna, reference to the appendix II for details	

7.2 Conducted Emissions

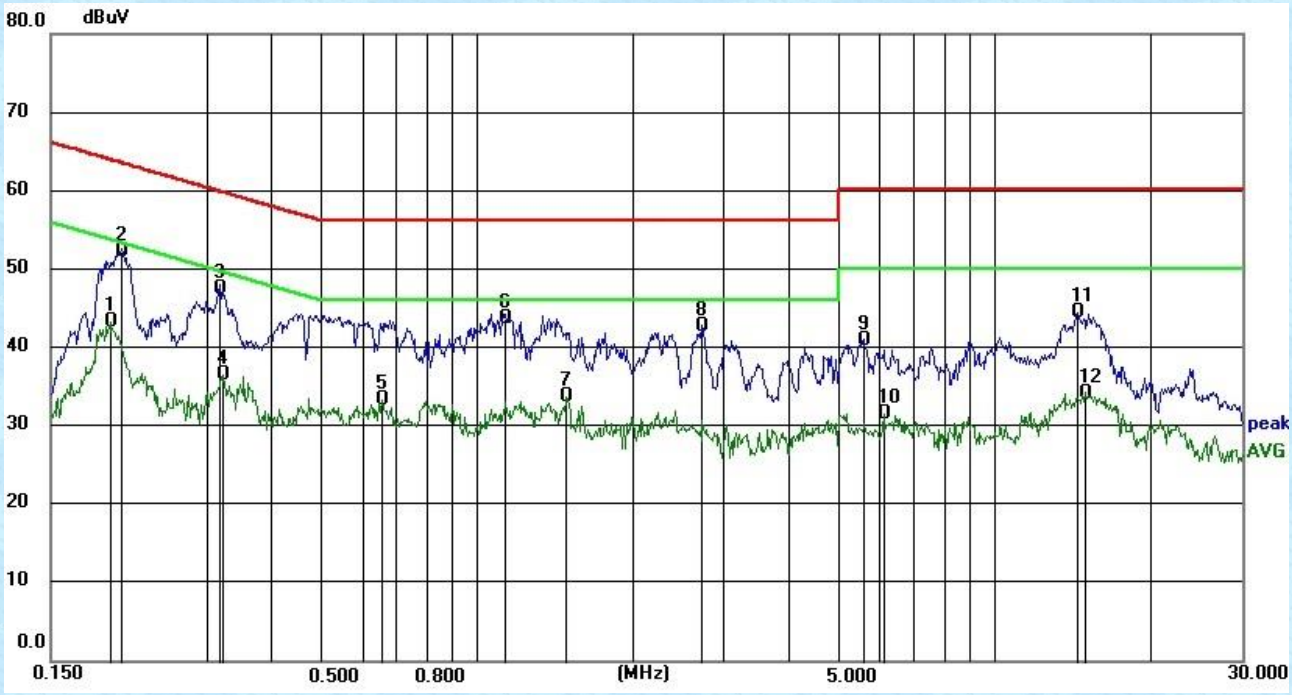
Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2013
Test Frequency Range:	150KHz to 30MHz
Class / Severity:	Class B
Receiver setup:	RBW=9KHz, VBW=30KHz
Limit:	Frequency range (MHz) / Limit (dBuV): Quasi-peak / Average 0.15-0.5: 66 to 56* / 56 to 46* 0.5-5: 56 / 46 5-30: 60 / 50 * Decreases with the logarithm of the frequency.
Test procedure	The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement.
Test setup:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.2 for details
Test environment:	Temp.: 25 °C / Humid.: 52% / Press.: 1012mbar
Test voltage:	AC 120V, 60Hz
Test results:	Pass

Line:



Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Remark
0.199	33.34	10.02	43.36	53.65	10.29	AVG
0.2139	43.29	10.02	53.31	63.05	9.74	QP
0.3229	39.01	10.03	49.04	59.63	10.59	QP
0.336	26.41	10.03	36.44	49.3	12.86	AVG
0.6743	32.71	10.07	42.78	56	13.22	QP
0.6875	22.25	10.07	32.32	46	13.68	AVG
1.4933	22.1	10.15	32.25	46	13.75	AVG
1.7157	30.63	10.17	40.8	56	15.2	QP
2.7067	28.9	10.27	39.17	56	16.83	QP
6.5834	18.64	10.66	29.3	50	20.7	AVG
13.4611	29.44	11.03	40.47	60	19.53	QP
13.7315	21.51	11.03	32.54	50	17.46	AVG

Neutral:

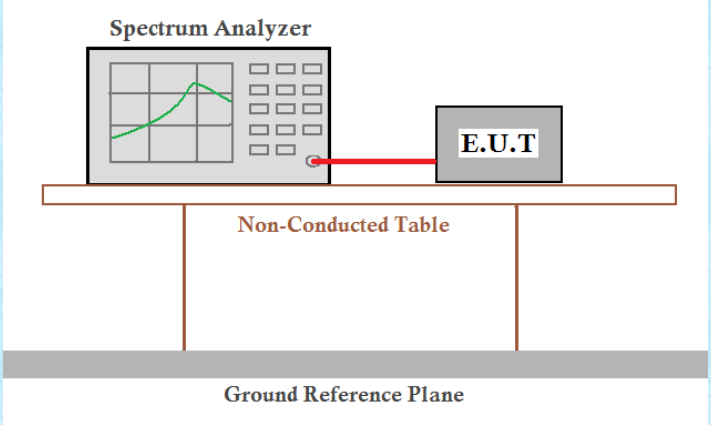


Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Remark
0.1965	33.17	10.02	43.19	53.76	10.57	AVG
0.2066	42.24	10.02	52.26	63.34	11.08	QP
0.3185	37.53	10.03	47.56	59.75	12.19	QP
0.3229	26.47	10.03	36.5	49.63	13.13	AVG
0.6592	23.24	10.07	33.31	46	12.69	AVG
1.1367	33.57	10.11	43.68	56	12.32	QP
1.4933	23.63	10.15	33.78	46	12.22	AVG
2.7246	32.32	10.27	42.59	56	13.41	QP
5.5861	30.42	10.56	40.98	60	19.02	QP
6.1368	20.92	10.61	31.53	50	18.47	AVG
14.4595	33.4	11.04	44.44	60	15.56	QP
14.9068	23.13	11.04	34.17	50	15.83	AVG

Notes:

1. *An initial pre-scan was performed on the line and neutral lines with peak detector.*
2. *Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.*
3. *Final Level =Receiver Read level + LISN Factor + Cable Loss*

7.3 Emission Bandwidth and 99% Occupied Bandwidth

Test Requirement:	FCC Part15 E Section 15.407
Test Method:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
Limit:	N/A
Test setup:	
Test procedure:	According to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01.
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data:

CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)			26dB Occupied Bandwidth (MHz)		
		802.11a	802.11n(HT20)	802.11ac(HT20)	802.11a	802.11n(HT20)	802.11ac(HT20)
36	5180	16.433	17.579	17.565	19.47	19.95	20.27
40	5200	16.415	17.538	17.572	19.52	20.05	20
48	5240	16.4	17.561	17.542	19.66	20.15	19.94

CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)		26dB Occupied Bandwidth (MHz)	
		802.11n(HT40)	802.11ac(HT40)	802.11n(HT40)	802.11ac(HT40)
38	5190	36.017	35.968	41.87	40.46
46	5230	35.903	35.902	41.19	40.06

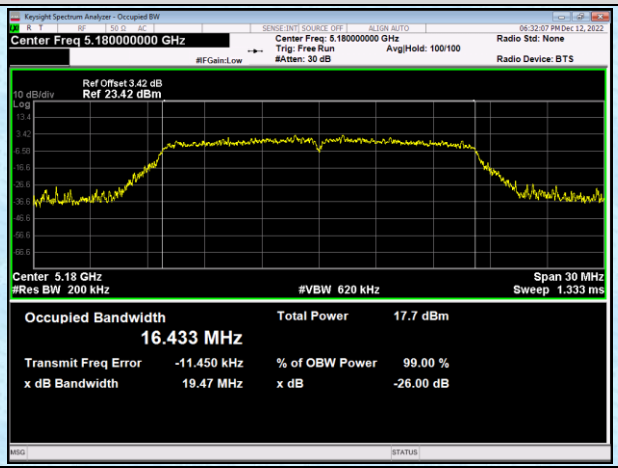
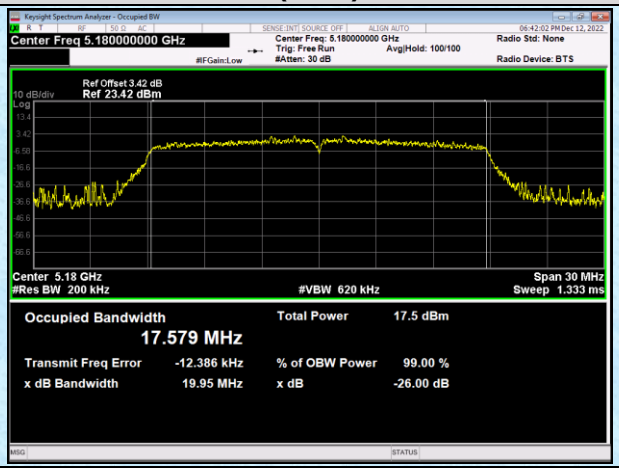
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)	26dB Occupied Bandwidth (MHz)
		802.11ac(HT80)	802.11ac(HT80)
42	5210	75.289	80.64

CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)			26dB Occupied Bandwidth (MHz)		
		802.11a	802.11n(HT20)	802.11ac(HT20)	802.11a	802.11n(HT20)	802.11ac(HT20)
52	5260	16.413	17.555	17.566	19.57	20.19	20.06
60	5300	16.422	17.569	17.548	19.85	20.89	20.03
64	5320	16.459	17.598	17.555	19.92	20.64	19.97

CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)		26dB Occupied Bandwidth (MHz)	
		802.11n(HT40)	802.11ac(HT40)	802.11n(HT40)	802.11ac(HT40)
54	5270	36.12	35.992	44.40	40.32
62	5310	36.018	36.044	44.55	40.29

CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)	26dB Occupied Bandwidth (MHz)
		802.11ac(HT80)	802.11ac(HT80)
58	5290	75.371	81.09

Test plots as followed:

802.11a mode	802.11n(HT20) mode
	
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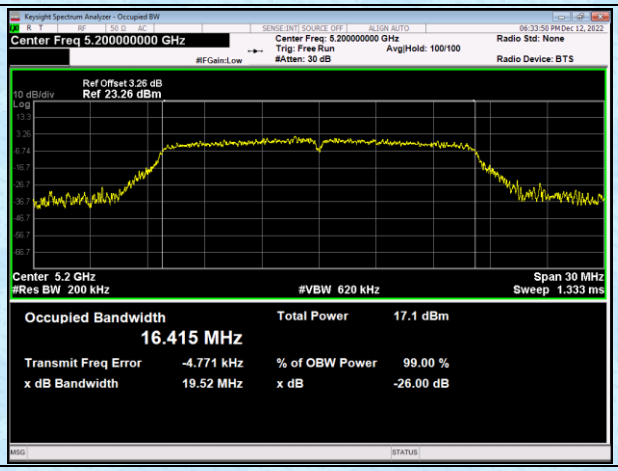	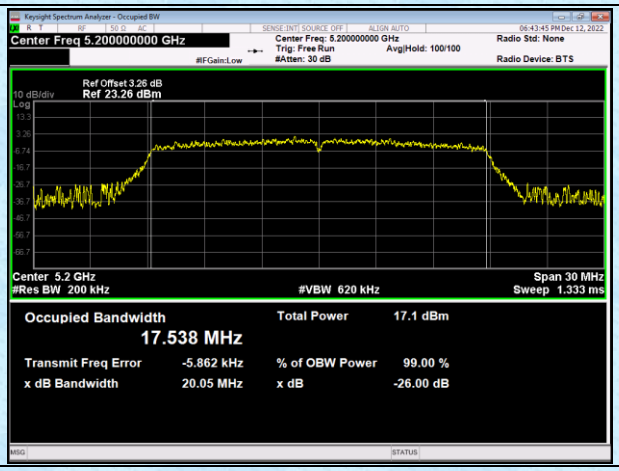
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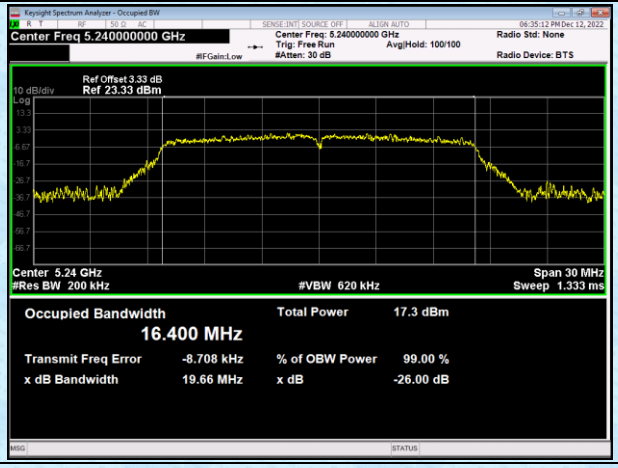
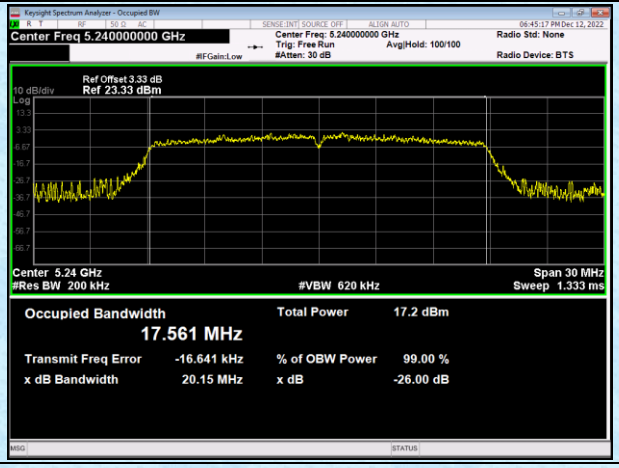
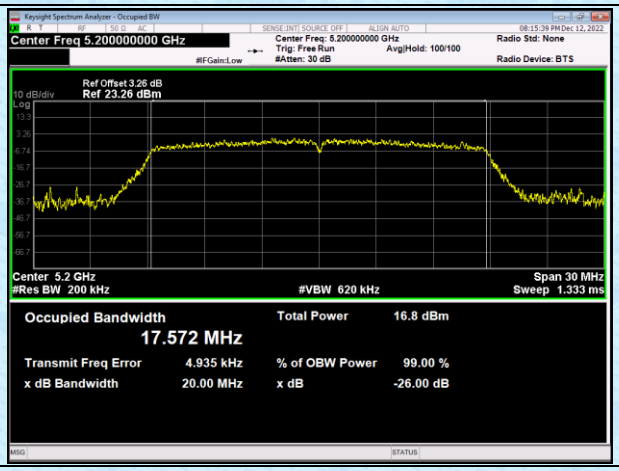
	
5240	5240

802.11ac(HT20) mode

5180

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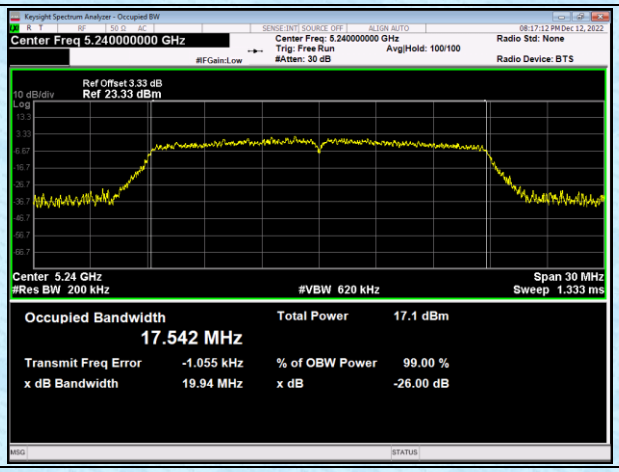
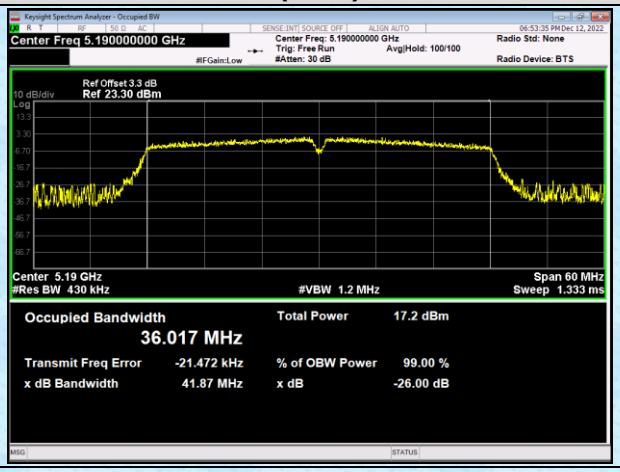
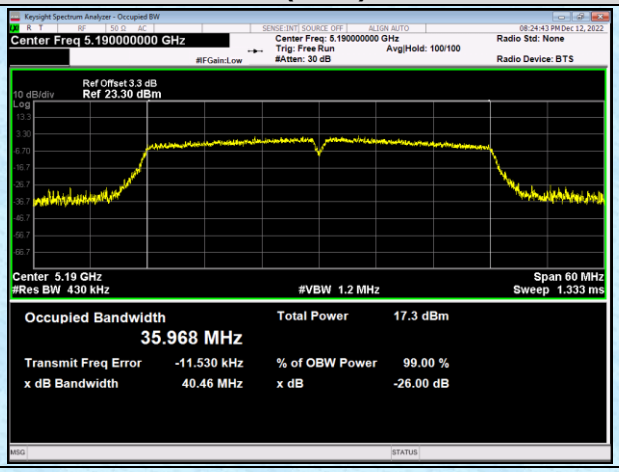
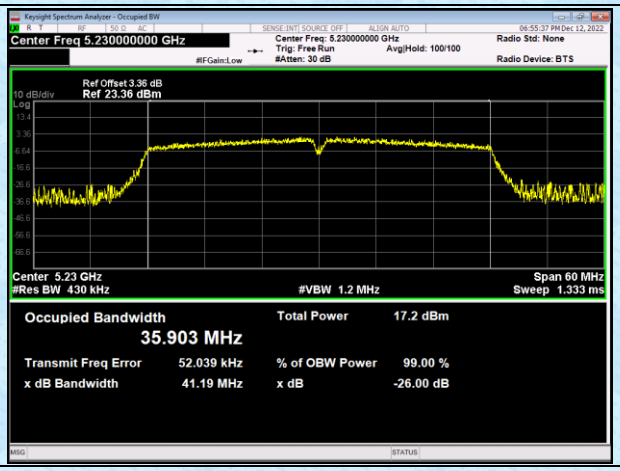
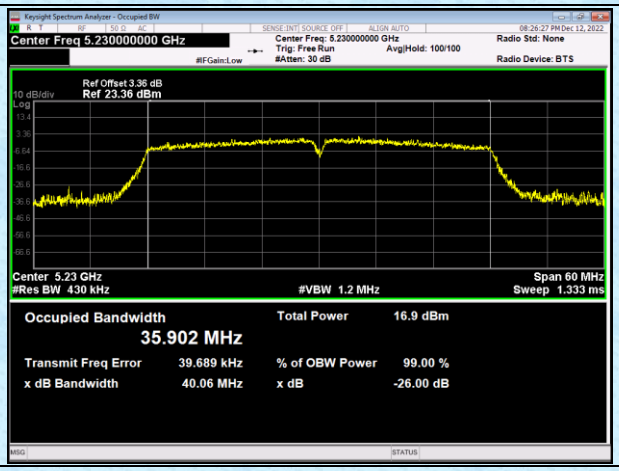
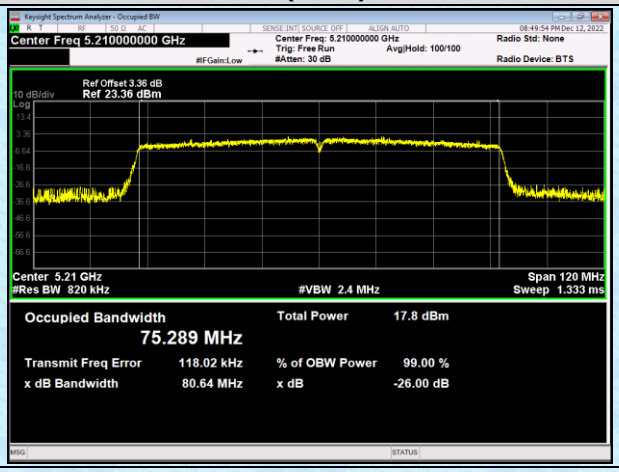
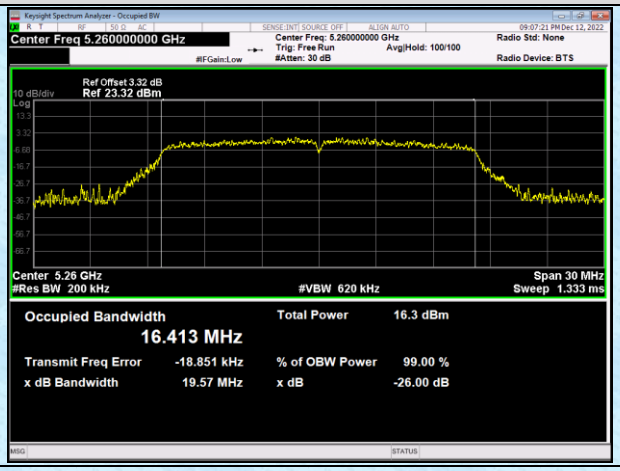
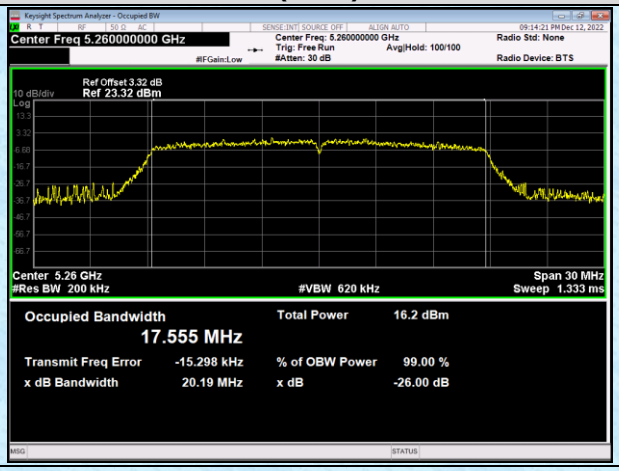
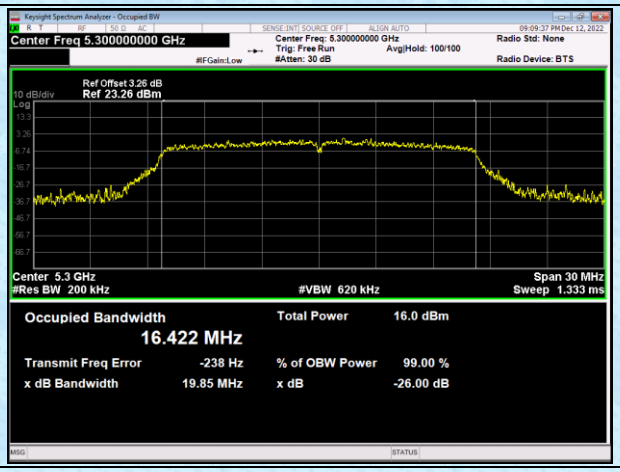
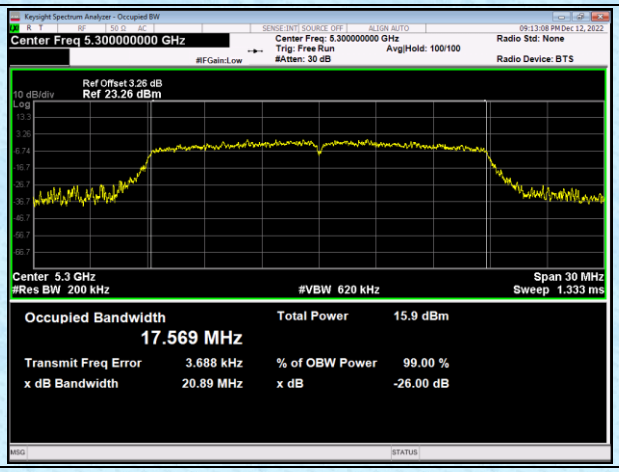
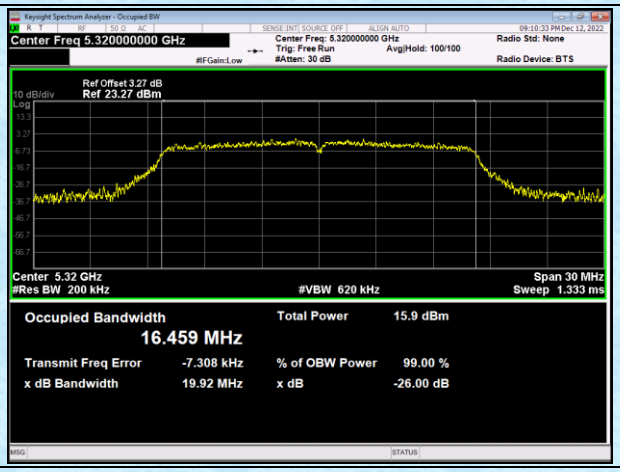
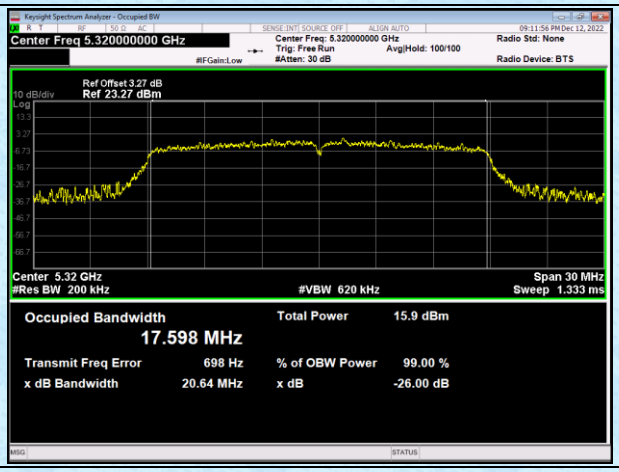

5240

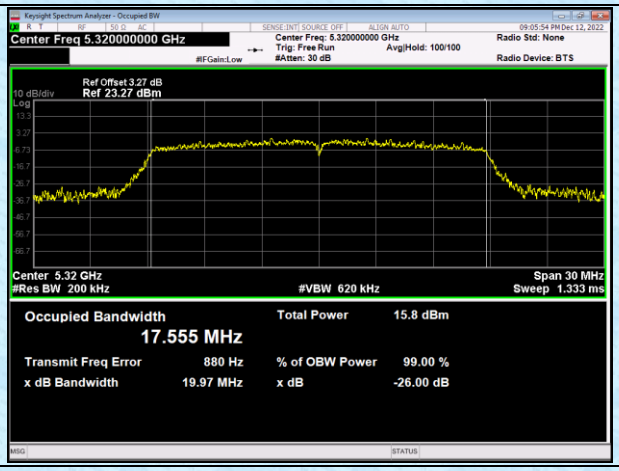
802.11n(HT40) mode	802.11ac(HT40) mode
	
5190	5190
	
5230	5230

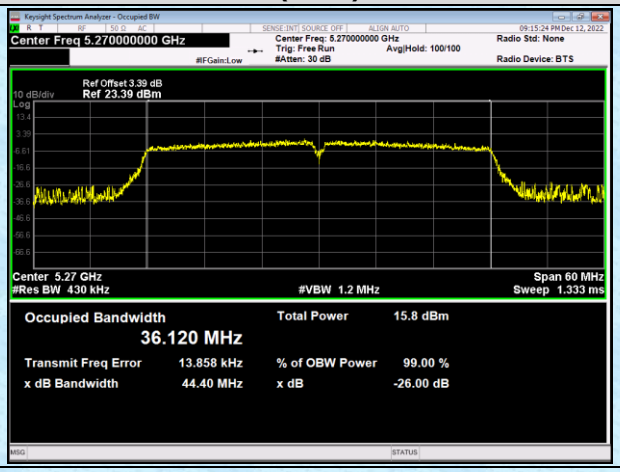
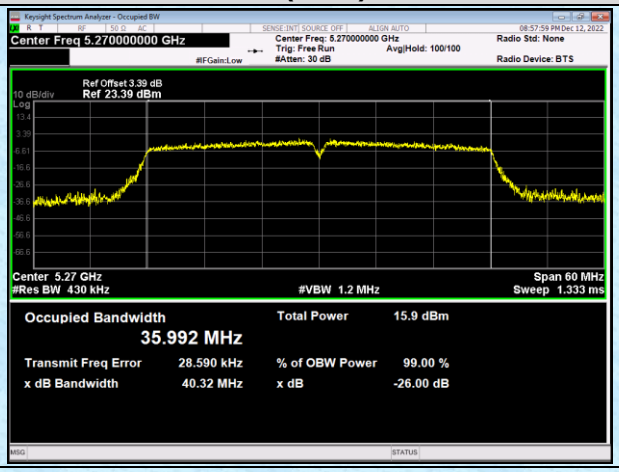
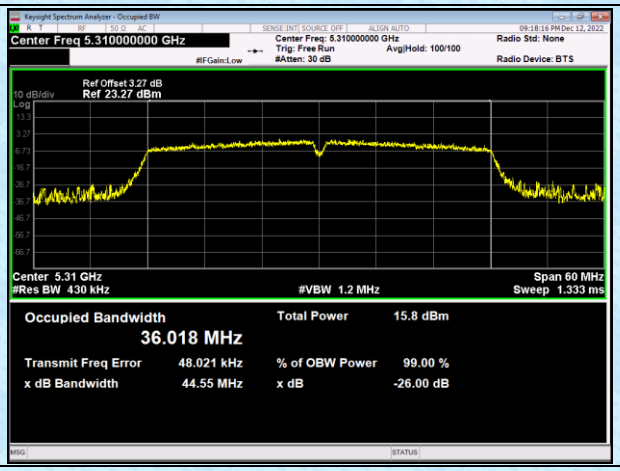
802.11ac(HT80) mode

5210

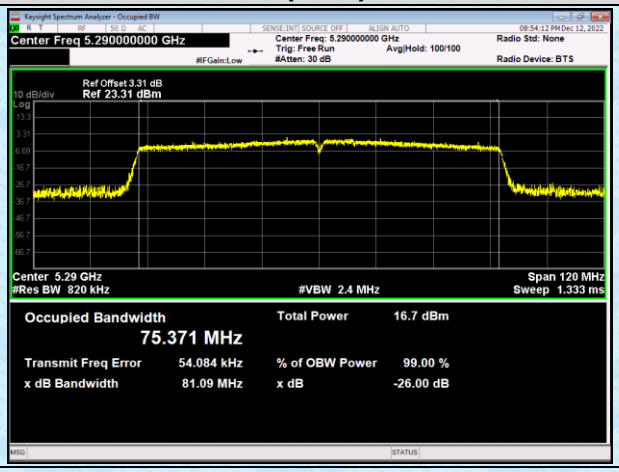
802.11a mode	802.11n(HT20) mode
	
5260	5260
	
5300	5300
	
5320	5320

802.11ac(HT20) mode

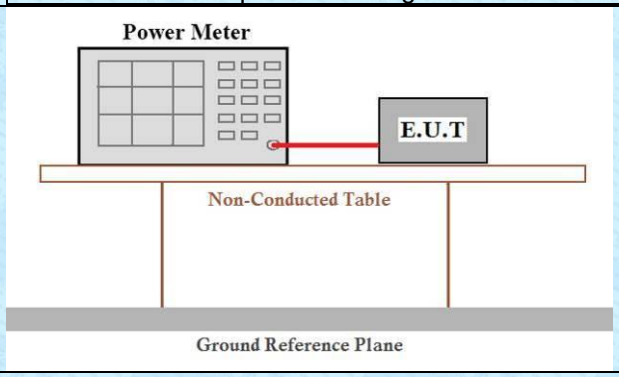
5260

5300

5320

802.11n(HT40) mode	802.11ac(HT40) mode
	
5270	5270
	
5310	5310

802.11ac(HT80) mode

5290

7.4 Average Transmit Power

Test Requirement:	FCC Part15 E Section 15.407
Test Method:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
Limit:	<table><tr><th>Frequency band (MHz)</th><th>Limit</th></tr><tr><td rowspan="2">5150-5250</td><td>≤1W(30dBm) for master device</td></tr><tr><td>≤250mW(23.98dBm) for client device</td></tr><tr><td>5250-5350</td><td>≤250mW(23.98dBm) for client device or 11dBm+10logB*</td></tr><tr><td>5470-5725</td><td>≤250mW(23.98dBm) for client device or 11dBm+10logB*</td></tr><tr><td colspan="2">Remark: *Where B is the 26dB emission bandwidth in MHz. The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.</td></tr></table>
Test setup:	
Test procedure:	**Measurement using an RF average power meter** (i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied a) The EUT is configured to transmit continuously or to transmit with a constant duty cycle. b) At all times when the EUT is transmitting, it must be transmitting at its maximum power control level. c) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five. (ii) If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in section B). (iii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter. (iv) Adjust the measurement in dBm by adding 10 log(1/x) where x is the duty cycle (e.g., 10log(1/0.25) if the duty cycle is 25 percent).
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

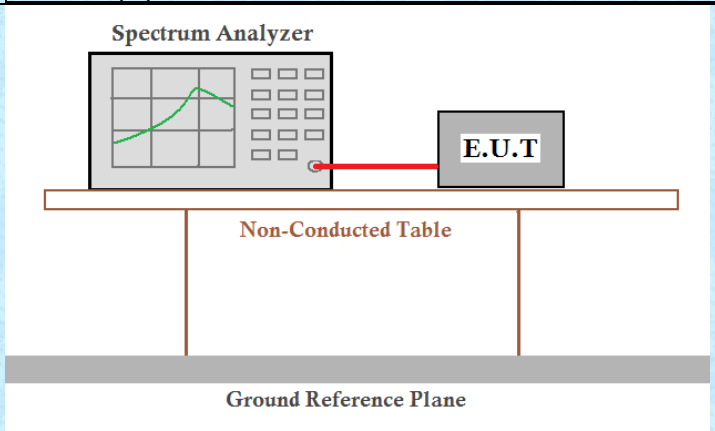
Modulation	Duty cycle	Duty Factor
802.11a	97.74%	0.1
802.11n(HT20)	97.63%	0.1
802.11n(HT40)	95.34%	0.21
802.11ac(HT20)	97.67%	0.1
802.11ac(HT40)	95.38%	0.21
802.11ac(HT80)	91.22%	0.4

802.11a mode						
CH No.	Frequency (MHz)	Measured Power (dBm)	Duty Factor	Output Power (dBm)	Limit (dBm)	Result
36	5180	9.98	0.1	10.08	23.98	Pass
40	5200	9.33	0.1	9.43	23.98	Pass
48	5240	9.04	0.1	9.14	23.98	Pass
802.11n(HT20) mode						
CH No.	Frequency (MHz)	Measured Power (dBm)	Duty Factor	Output Power (dBm)	Limit (dBm)	Result
36	5180	9.92	0.1	10.02	23.98	Pass
40	5200	9.05	0.1	9.15	23.98	Pass
48	5240	8.88	0.1	8.98	23.98	Pass
802.11ac(HT20) mode						
CH No.	Frequency (MHz)	Measured Power (dBm)	Duty Factor	Output Power (dBm)	Limit (dBm)	Result
36	5180	10.48	0.1	10.58	23.98	Pass
40	5200	9.57	0.1	9.67	23.98	Pass
48	5240	9.32	0.1	9.42	23.98	Pass
802.11n(HT40) mode						
CH No.	Frequency (MHz)	Measured Power (dBm)	Duty Factor	Output Power (dBm)	Limit (dBm)	Result
38	5190	9.31	0.21	9.52	23.98	Pass
46	5230	8.58	0.21	8.79	23.98	Pass
802.11 ac(HT40) mode						
CH No.	Frequency (MHz)	Measured Power (dBm)	Duty Factor	Output Power (dBm)	Limit (dBm)	Result
38	5190	9.84	0.21	10.05	23.98	Pass
46	5230	9.08	0.21	9.29	23.98	Pass
802.11 ac(HT80)						
CH No.	Frequency (MHz)	Measured Power (dBm)	Duty Factor	Output Power (dBm)	Limit (dBm)	Result
42	5210	9.01	0.4	9.41	23.98	Pass

802.11a mode						
CH No.	Frequency (MHz)	Measured Power (dBm)	Duty Factor	Output Power (dBm)	Limit (dBm)	Result
52	5260	9.83	0.1	9.93	23.98	Pass
60	5300	9.34	0.1	9.44	23.98	Pass
64	5320	8.38	0.1	8.48	23.98	Pass
802.11n(HT20) mode						
CH No.	Frequency (MHz)	Measured Power (dBm)	Duty Factor	Output Power (dBm)	Limit (dBm)	Result
52	5260	9.67	0.1	9.77	23.98	Pass
60	5300	9.2	0.1	9.30	23.98	Pass
64	5320	9.19	0.1	9.29	23.98	Pass
802.11ac(HT20) mode						
CH No.	Frequency (MHz)	Measured Power (dBm)	Duty Factor	Output Power (dBm)	Limit (dBm)	Result
52	5260	9.23	0.1	9.33	23.98	Pass
60	5300	9.09	0.1	9.19	23.98	Pass
64	5320	9.25	0.1	9.35	23.98	Pass
802.11n(HT40) mode						
CH No.	Frequency (MHz)	Measured Power (dBm)	Duty Factor	Output Power (dBm)	Limit (dBm)	Result
54	5270	9.49	0.21	9.70	23.98	Pass
62	5310	8.75	0.21	8.96	23.98	Pass
802.11 ac(HT40) mode						
CH No.	Frequency (MHz)	Measured Power (dBm)	Duty Factor	Output Power (dBm)	Limit (dBm)	Result
54	5270	9.53	0.21	9.74	23.98	Pass
62	5310	8.98	0.21	9.19	23.98	Pass
802.11 ac(HT80)						
CH No.	Frequency (MHz)	Measured Power (dBm)	Duty Factor	Output Power (dBm)	Limit (dBm)	Result
58	5290	9.16	0.4	9.56	23.98	Pass

Note: Output Power = Measured Power + Duty Factor
Duty Factor = 10 log (1/Duty Cycle)

7.5 Power Spectral Density

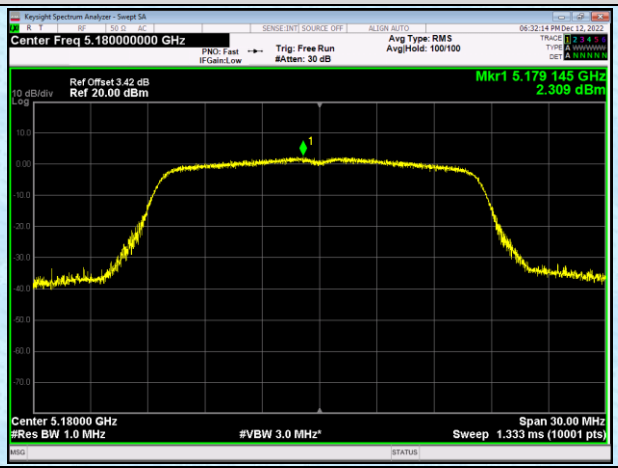
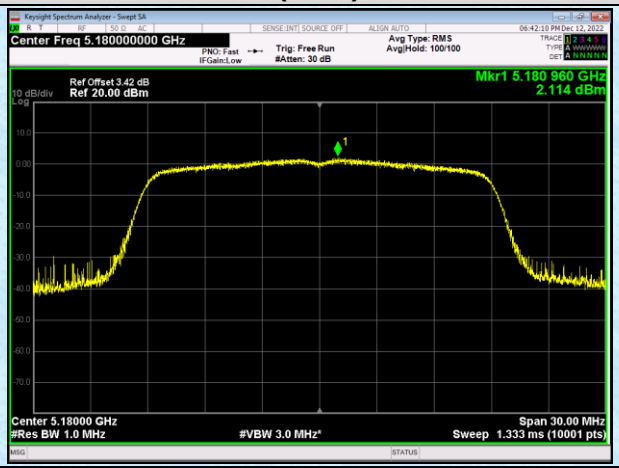
<table>
<tr><td>Test Requirement:</td><td>FCC Part15 E Section 15.407</td></tr>
<tr><td>Test Method:</td><td>KDB 789033 D02 General U-NII Test Procedures New Rules v02r01</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency band (MHz)</th><th>Limit</th></tr>
<tr><td rowspan="2">5150-5250</td><td>≤17dBm in 1MHz for master device</td></tr>
<tr><td>≤11dBm in 1MHz for client device</td></tr>
<tr><td>5250-5350</td><td>≤11dBm in 1MHz for client device</td></tr>
<tr><td>5470-5725</td><td>≤11dBm in 1MHz for client device</td></tr>
<tr><td colspan="2">Remark: The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test.</td></tr>
</table>
</td></tr>
<tr><td>Test setup:</td><td> 
</td></tr>
<tr><td>Test procedure:</td><td>1) Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, “Compute power…”.
2) Use the peak search function on the instrument to find the peak of the spectrum.
3) Make the following adjustments to the peak value of the spectrum, if applicable:
a) If Method SA-2 or SA-2 Alternative was used, add 10 log(1/x), where x is the duty cycle, to the peak of the spectrum.
b) If Method SA-3 Alternative was used and the linear mode was used in step E)2)g)(viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.
4) The result is the PSD.</td></tr>
<tr><td>Test Instruments:</td><td>Refer to section 6 for details</td></tr>
<tr><td>Test mode:</td><td>Refer to section 5.2 for details</td></tr>
<tr><td>Test results:</td><td>Pass</td></tr>
</table>

Modulation	Duty cycle	Duty Factor
802.11a	97.74%	0.1
802.11n(HT20)	97.63%	0.1
802.11n(HT40)	95.34%	0.21
802.11ac(HT20)	97.67%	0.1
802.11ac(HT40)	95.38%	0.21
802.11ac(HT80)	91.22%	0.4

802.11a mode						
CH No.	Frequency (MHz)	Measured PSD (dBm/MHz)	Duty Factor	PSD (dBm/MHz)	Limit (dBm/MHz)	Result
36	5180	2.309	0.1	2.409	11	Pass
40	5200	1.834	0.1	1.934	11	Pass
48	5240	3.731	0.1	3.831	11	Pass
802.11n(HT20) mode						
CH No.	Frequency (MHz)	Measured PSD (dBm/MHz)	Duty Factor	PSD (dBm/MHz)	Limit (dBm/MHz)	Result
36	5180	2.114	0.1	2.214	11	Pass
40	5200	1.535	0.1	1.635	11	Pass
48	5240	1.814	0.1	1.914	11	Pass
802.11ac(HT20) mode						
CH No.	Frequency (MHz)	Measured PSD (dBm/MHz)	Duty Factor	PSD (dBm/MHz)	Limit (dBm/MHz)	Result
36	5180	2.117	0.1	2.217	11	Pass
40	5200	1.521	0.1	1.621	11	Pass
48	5240	1.656	0.1	1.756	11	Pass
802.11n(HT40) mode						
CH No.	Frequency (MHz)	Measured PSD (dBm/MHz)	Duty Factor	PSD (dBm/MHz)	Limit (dBm/MHz)	Result
38	5190	-1.182	0.21	-0.972	11	Pass
46	5230	-1.007	0.21	-0.797	11	Pass
802.11 ac(HT40) mode						
CH No.	Frequency (MHz)	Measured PSD (dBm/MHz)	Duty Factor	PSD (dBm/MHz)	Limit (dBm/MHz)	Result
38	5190	-1.235	0.21	-1.025	11	Pass
46	5230	-1.368	0.21	-1.158	11	Pass
802.11 ac(HT80)						
CH No.	Frequency (MHz)	Measured PSD (dBm/MHz)	Duty Factor	PSD (dBm/MHz)	Limit (dBm/MHz)	Result
42	5210	-5.106	0.4	-4.706	11	Pass

802.11a mode						
CH No.	Frequency (MHz)	Measured PSD (dBm/MHz)	Duty Factor	PSD (dBm/MHz)	Limit (dBm/MHz)	Result
52	5260	1.118	0.1	1.218	11	Pass
60	5300	0.993	0.1	1.093	11	Pass
64	5320	0.564	0.1	0.664	11	Pass
802.11n(HT20) mode						
CH No.	Frequency (MHz)	Measured PSD (dBm/MHz)	Duty Factor	PSD (dBm/MHz)	Limit (dBm/MHz)	Result
52	5260	0.673	0.1	0.773	11	Pass
60	5300	0.396	0.1	0.496	11	Pass
64	5320	0.561	0.1	0.661	11	Pass
802.11ac(HT20) mode						
CH No.	Frequency (MHz)	Measured PSD (dBm/MHz)	Duty Factor	PSD (dBm/MHz)	Limit (dBm/MHz)	Result
52	5260	0.696	0.1	0.796	11	Pass
60	5300	0.467	0.1	0.567	11	Pass
64	5320	0.394	0.1	0.494	11	Pass
802.11n(HT40) mode						
CH No.	Frequency (MHz)	Measured PSD (dBm/MHz)	Duty Factor	PSD (dBm/MHz)	Limit (dBm/MHz)	Result
54	5270	-3.001	0.21	-2.791	11	Pass
62	5310	-2.702	0.21	-2.492	11	Pass
802.11 ac(HT40) mode						
CH No.	Frequency (MHz)	Measured PSD (dBm/MHz)	Duty Factor	PSD (dBm/MHz)	Limit (dBm/MHz)	Result
54	5270	-2.819	0.21	-2.609	11	Pass
62	5310	-2.909	0.21	-2.699	11	Pass
802.11 ac(HT80)						
CH No.	Frequency (MHz)	Measured PSD (dBm/MHz)	Duty Factor	PSD (dBm/MHz)	Limit (dBm/MHz)	Result
58	5290	-5.819	0.4	-5.419	11	Pass

Test plots as followed:

802.11a mode	802.11n(HT20) mode
	
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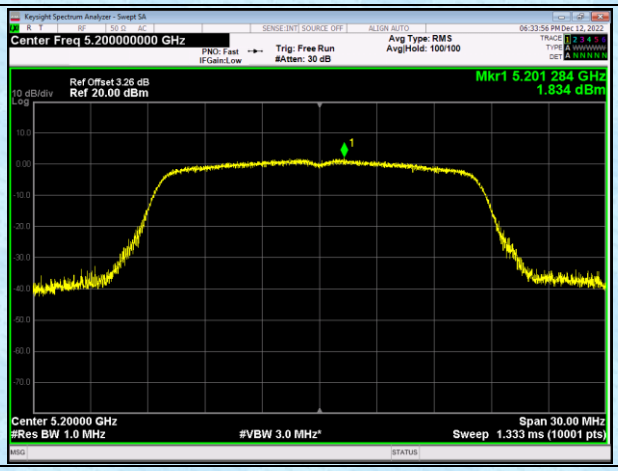
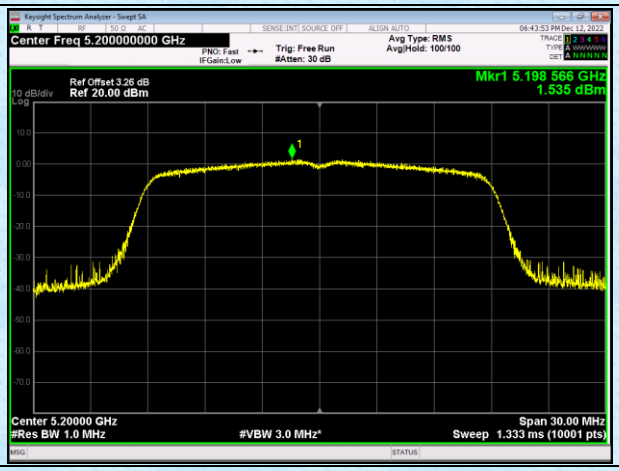
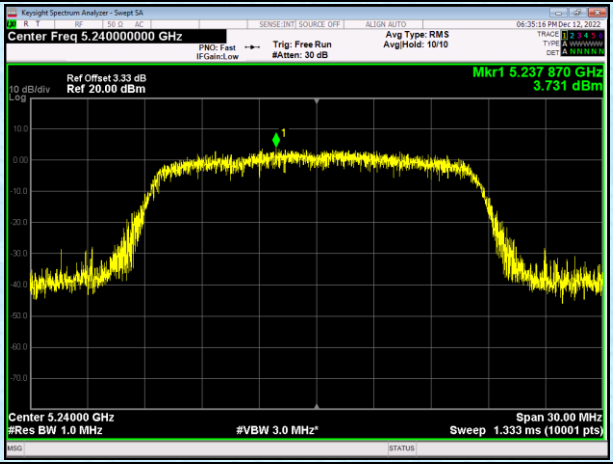
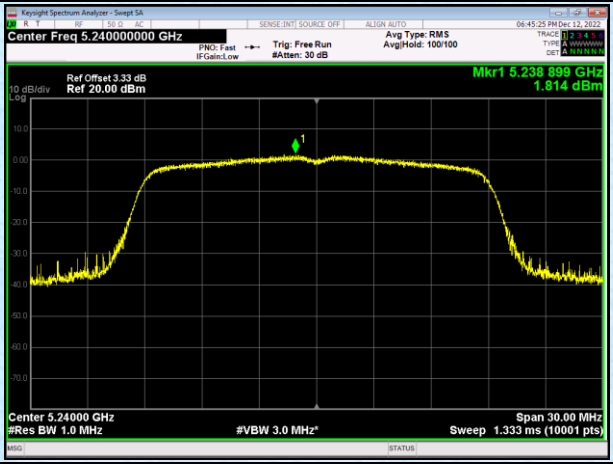
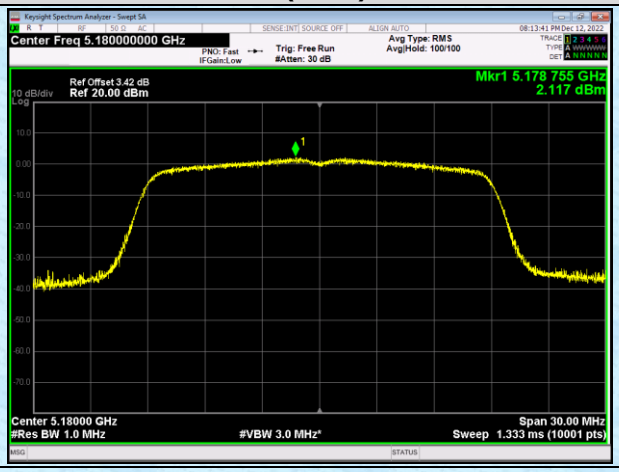
	
5200	5200
	
5240	5240

802.11ac(HT20) mode

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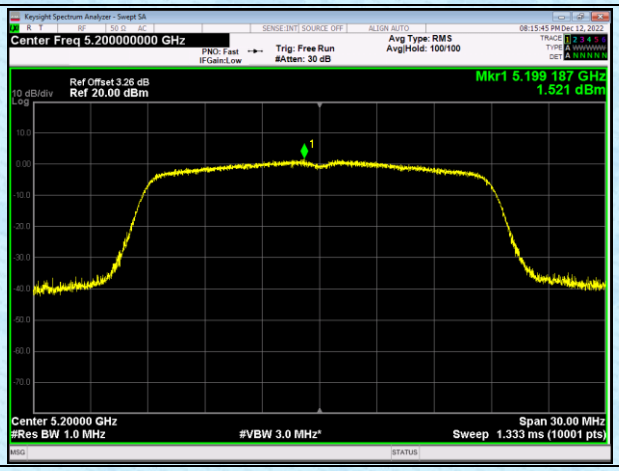
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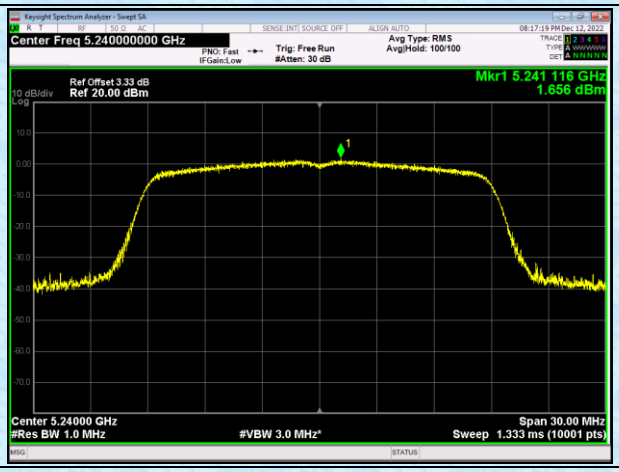
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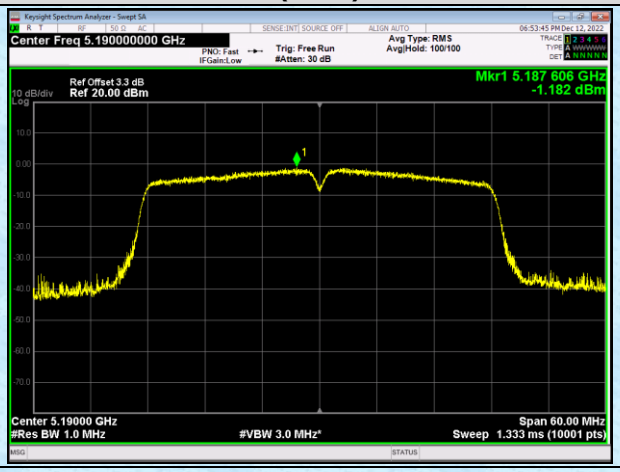
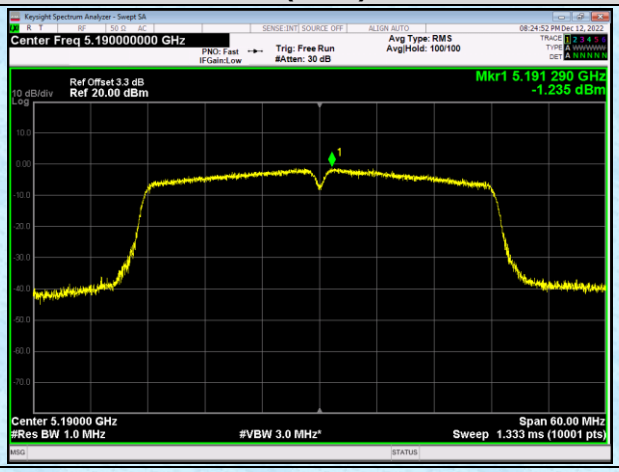
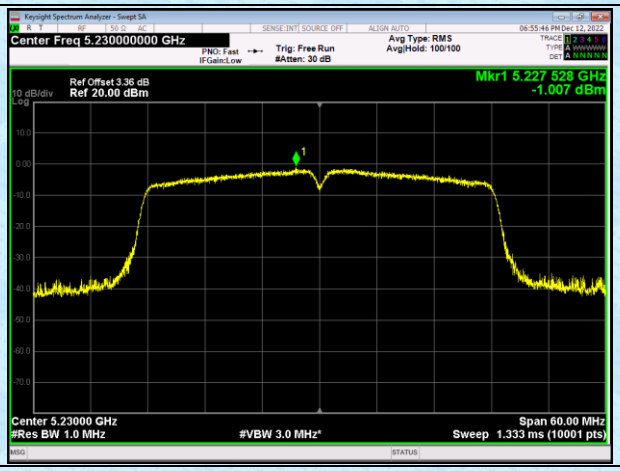
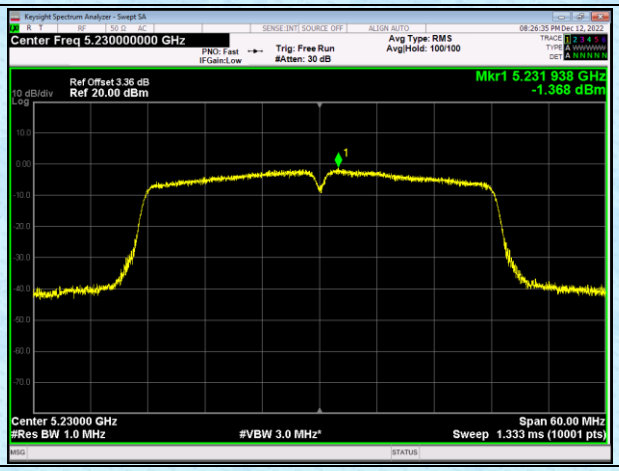
802.11n(HT40) mode	802.11ac(HT40) mode
	
5190	**5190**
	
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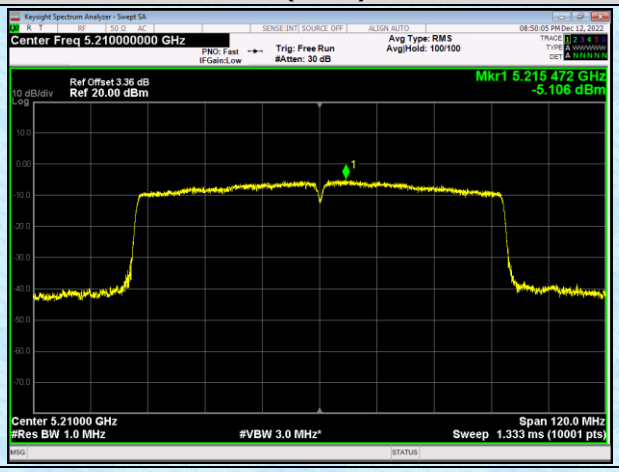
802.11ac(HT80) mode

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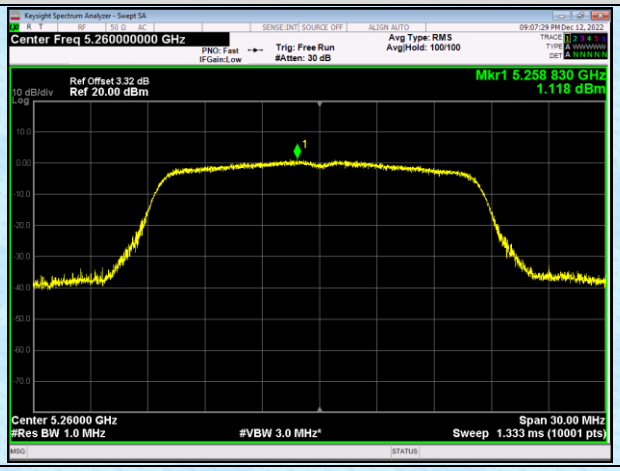
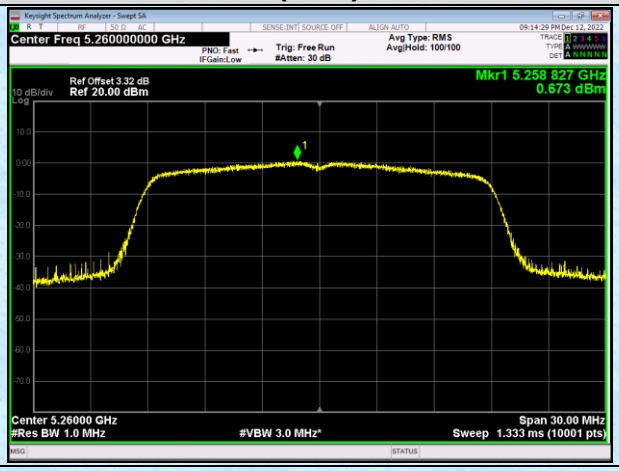
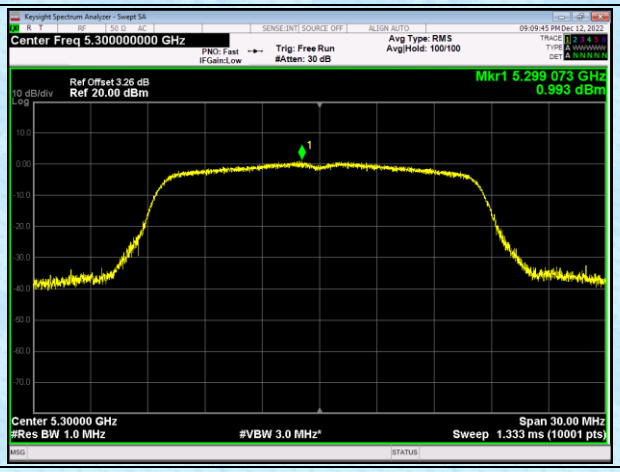
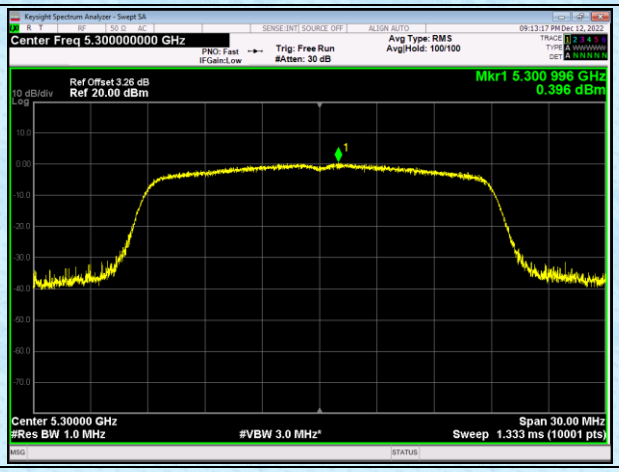
802.11a mode	802.11n(HT20) mode
	
5260	5260
	
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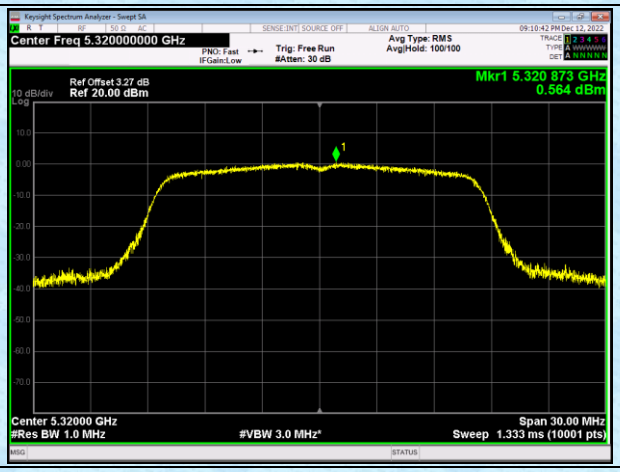	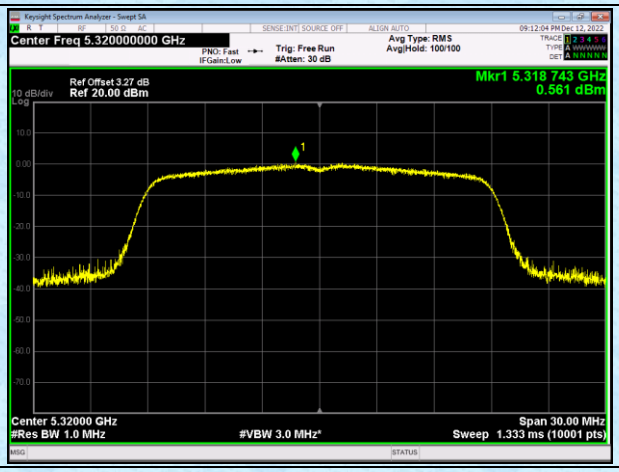
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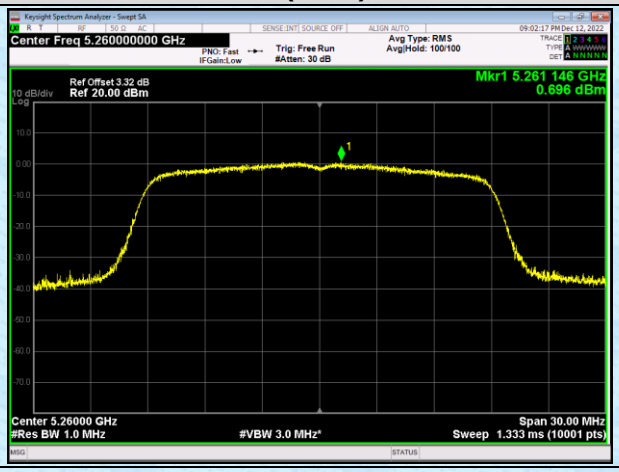
802.11ac(HT20) mode

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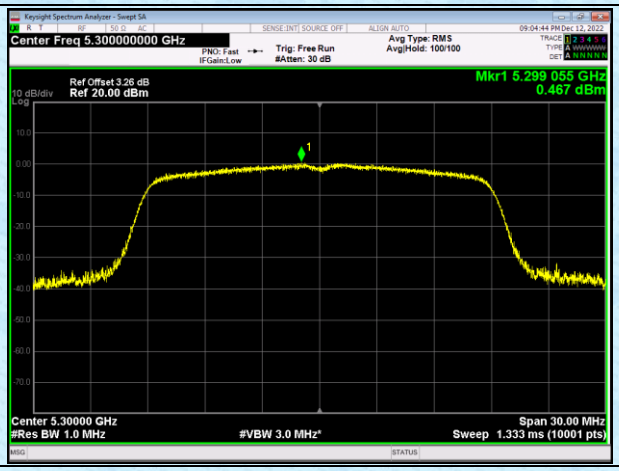
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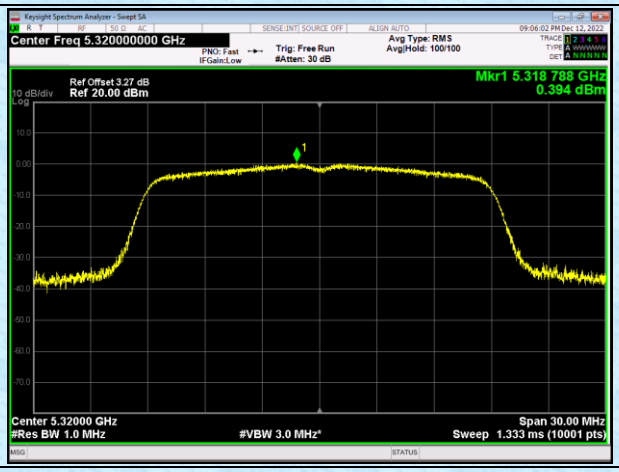
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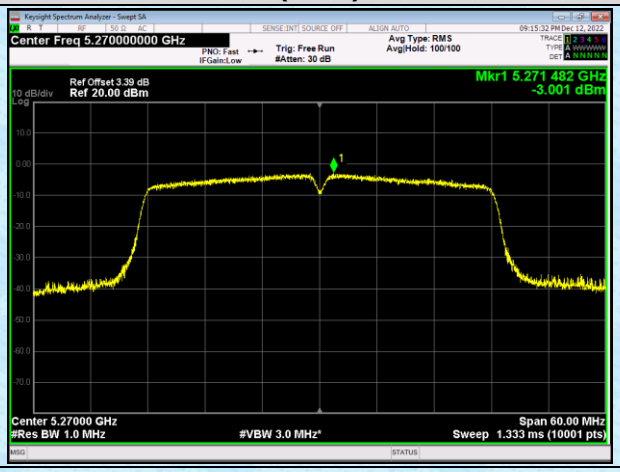
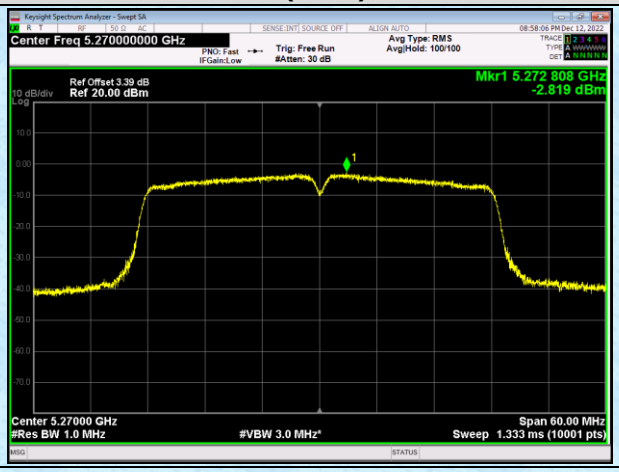
802.11n(HT40) mode	802.11ac(HT40) mode
	
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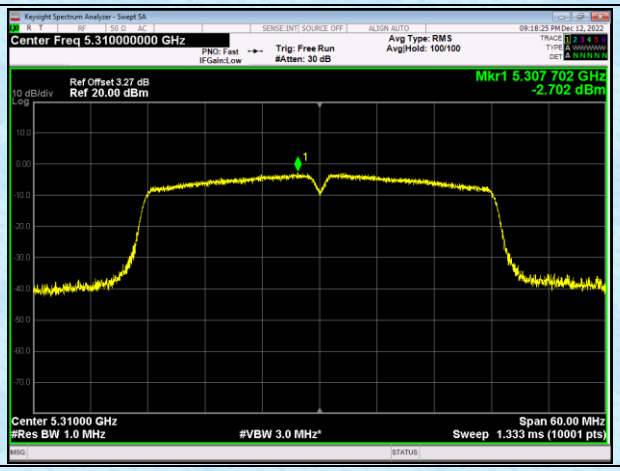
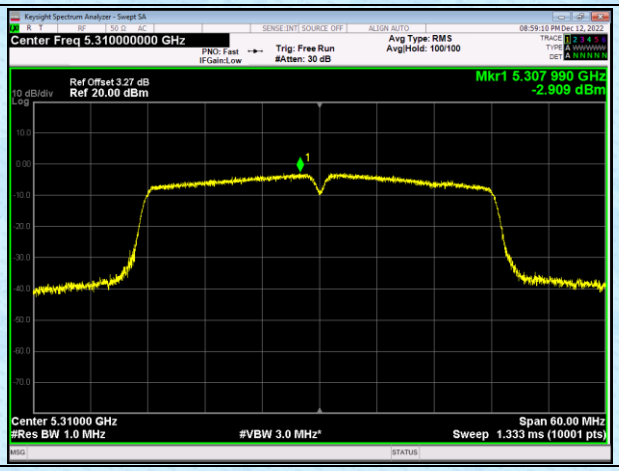
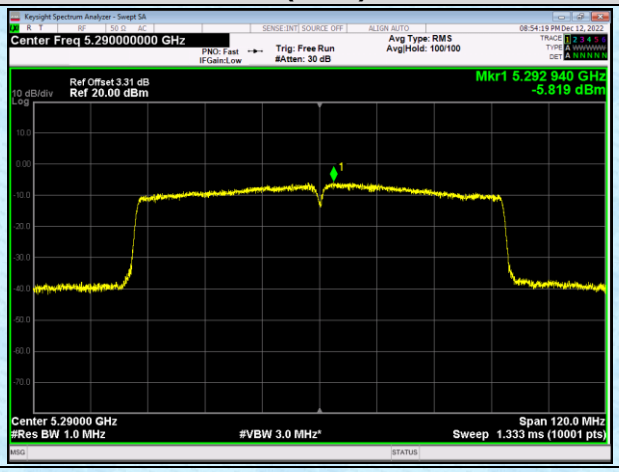
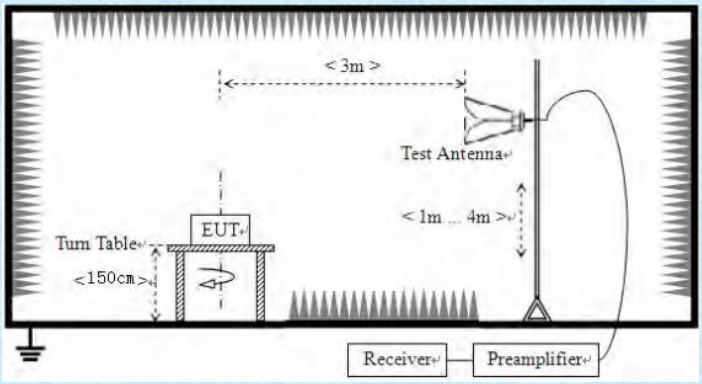
	
5310	5310

802.11ac(HT80) mode

5290

7.6 Band Edge

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 E Section 15.407 and 5.205</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m (Semi-Anechoic Chamber)</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Remark</th></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>AV</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr>
<tr><td>68.2</td><td>Peak Value</td></tr>
</table>
Undesirable emission 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 EIRP 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 EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.
(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 EIRP of −27 dBm/MHz.
</td></tr>
<tr><td>Test Procedure:</td><td>
a. The EUT was placed on the top of a rotating table 1.5 m above the ground at a 3 meter 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 and the rotable 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
</td></tr>
</table>

	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.
Test setup:	For radiated emissions above 1GHz 
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Remarks:

1. *Only the worst case Main Antenna test data.*
2. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
4. *The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.*
5. *According to KDB 789033 D02 v02r01 section G) 1) (d), for For measurements above 1000 MHz @ 3m distance, the limit of field strength is computed as follows:*
   E[dBuV/m] = EIRP[dBm] + 95.2;
   For example, if EIRP = -27dBm
   E[dBuV/m] = -27 + 95.2 = 68.2dBuV/m.

Measurement Data:

Worse case mode:		802.11a		Test Frequency:		5180MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	49.9	-3.63	46.27	68.2	-21.93	peak	H
5150	47.09	-3.63	43.46	54	-10.54	AVG	H
5150	49.26	-3.63	45.63	68.2	-22.57	peak	V
5150	43.26	-3.63	39.63	54	-14.37	AVG	V

Worse case mode:		802.11a		Test Frequency:		5240MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	47.55	-3.59	43.96	68.2	-24.24	peak	H
5350	45.44	-3.59	41.85	54	-12.15	AVG	H
5350	49.92	-3.59	46.33	68.2	-21.87	peak	V
5350	44.52	-3.59	40.93	54	-13.07	AVG	V

Worse case mode:		802.11a		Test Frequency:		5260MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	49.19	-3.63	45.56	68.2	-22.64	peak	H
5150	46.46	-3.63	42.83	54	-11.17	AVG	H
5150	48.61	-3.63	44.98	68.2	-23.22	peak	V
5150	42.42	-3.63	38.79	54	-15.21	AVG	V

Worse case mode:		802.11a		Test Frequency:		5320MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	46.56	-3.59	42.97	68.2	-25.23	peak	H
5350	44.73	-3.59	41.14	54	-12.86	AVG	H
5350	48.57	-3.59	44.98	68.2	-23.22	peak	V
5350	43.42	-3.59	39.83	54	-14.17	AVG	V

Worse case mode:		802.11n20		Test Frequency:		5180MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	49.47	-3.63	45.84	68.2	-22.36	peak	H
5150	44.83	-3.63	41.2	54	-12.8	AVG	H
5150	45.86	-3.63	42.23	68.2	-25.97	peak	V
5150	39.29	-3.63	35.66	54	-18.34	AVG	V

Worse case mode:		802.11n20		Test Frequency:		5240MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	45.91	-3.59	42.32	68.2	-25.88	peak	H
5350	45.05	-3.59	41.46	54	-12.54	AVG	H
5350	45.14	-3.59	41.55	68.2	-26.65	peak	V
5350	44.34	-3.59	40.75	54	-13.25	AVG	V

Worse case mode:		802.11n20		Test Frequency:		5260MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	49.81	-3.63	46.18	68.2	-22.02	peak	H
5150	45.34	-3.63	41.71	54	-12.29	AVG	H
5150	45.85	-3.63	42.22	68.2	-25.98	peak	V
5150	39.8	-3.63	36.17	54	-17.83	AVG	V

Worse case mode:		802.11n20		Test Frequency:		5320MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	46.36	-3.59	42.77	68.2	-25.43	peak	H
5350	44.84	-3.59	41.25	54	-12.75	AVG	H
5350	44.61	-3.59	41.02	68.2	-27.18	peak	V
5350	43.58	-3.59	39.99	54	-14.01	AVG	V

Worse case mode:		802.11n40		Test Frequency:		5190MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	48.42	-3.63	44.79	68.2	-23.41	peak	H
5150	43.29	-3.63	39.66	54	-14.34	AVG	H
5150	48.7	-3.63	45.07	68.2	-23.13	peak	V
5150	41.4	-3.63	37.77	54	-16.23	AVG	V

Worse case mode:		802.11n40		Test Frequency:		5230MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	46.94	-3.59	43.35	68.2	-24.85	peak	H
5350	40.81	-3.59	37.22	54	-16.78	AVG	H
5350	48.6	-3.59	45.01	68.2	-23.19	peak	V
5350	45.9	-3.59	42.31	54	-11.69	AVG	V

Worse case mode:		802.11n40		Test Frequency:		5270MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	48.88	-3.63	45.25	68.2	-23.57	peak	H
5150	43.74	-3.63	40.11	54	-14.36	AVG	H
5150	49.51	-3.63	45.88	68.2	-22.83	peak	V
5150	42.03	-3.63	38.4	54	-16.16	AVG	V

Worse case mode:		802.11n40		Test Frequency:		5310MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	46.92	-3.59	43.33	68.2	-24.87	peak	H
5350	41.6	-3.59	38.01	54	-15.99	AVG	H
5350	48.74	-3.59	45.15	68.2	-23.05	peak	V
5350	45.87	-3.59	42.28	54	-11.72	AVG	V

Worse case mode:		802.11ac20		Test Frequency:		5180MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	49.66	-3.63	46.03	68.2	-22.17	peak	H
5150	44.93	-3.63	41.3	54	-12.7	AVG	H
5150	45.58	-3.63	41.95	68.2	-26.25	peak	V
5150	39.49	-3.63	35.86	54	-18.14	AVG	V

Worse case mode:		802.11ac20		Test Frequency:		5240MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	45.78	-3.59	42.19	68.2	-26.01	peak	H
5350	45.05	-3.59	41.46	54	-12.54	AVG	H
5350	45.08	-3.59	41.49	68.2	-26.71	peak	V
5350	43.98	-3.59	40.39	54	-13.61	AVG	V

Worse case mode:		802.11ac20		Test Frequency:		5260MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	49.9	-3.63	46.27	68.2	-21.93	peak	H
5150	45.07	-3.63	41.44	54	-12.56	AVG	H
5150	46.16	-3.63	42.53	68.2	-25.67	peak	V
5150	39.65	-3.63	36.02	54	-17.98	AVG	V

Worse case mode:		802.11ac20		Test Frequency:		5320MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	45.95	-3.59	42.36	68.2	-25.84	peak	H
5350	45.44	-3.59	41.85	54	-12.15	AVG	H
5350	44.84	-3.59	41.25	68.2	-26.95	peak	V
5350	44.14	-3.59	40.55	54	-13.45	AVG	V

Worse case mode:		802.11ac40		Test Frequency:		5190MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	48.61	-3.63	44.98	68.2	-23.22	peak	H
5150	42.77	-3.63	39.14	54	-14.86	AVG	H
5150	49.21	-3.63	45.58	68.2	-22.62	peak	V
5150	41.36	-3.63	37.73	54	-16.27	AVG	V

Worse case mode:		802.11ac40		Test Frequency:		5230MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	47.24	-3.59	43.65	68.2	-24.55	peak	H
5350	40.69	-3.59	37.1	54	-16.9	AVG	H
5350	48.21	-3.59	44.62	68.2	-23.58	peak	V
5350	45.31	-3.59	41.72	54	-12.28	AVG	V

Worse case mode:		802.11ac40		Test Frequency:		5270MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	48.55	-3.63	44.92	68.2	-23.28	peak	H
5150	43.63	-3.63	40	54	-14	AVG	H
5150	48.52	-3.63	44.89	68.2	-23.31	peak	V
5150	41.53	-3.63	37.9	54	-16.1	AVG	V

Worse case mode:		802.11ac40		Test Frequency:		5310MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5350	47.46	-3.59	43.87	68.2	-24.33	peak	H
5350	40.87	-3.59	37.28	54	-16.72	AVG	H
5350	48.29	-3.59	44.7	68.2	-23.5	peak	V
5350	45.18	-3.59	41.59	54	-12.41	AVG	V

Worse case mode:		802.11ac(VHT80)		Test Frequency:		5210MHz	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	47.5	-3.63	43.87	68.2	-24.33	peak	H
5150	41.42	-3.63	37.79	54	-16.21	AVG	H
5150	49.22	-3.63	45.59	68.2	-22.61	peak	V
5150	42.09	-3.63	38.46	54	-15.54	AVG	V
5350	47.64	-3.59	44.05	68.2	-24.15	peak	H
5350	40.74	-3.59	37.15	54	-16.85	AVG	H
5350	49.41	-3.59	45.82	68.2	-22.38	peak	V
5350	43.66	-3.59	40.07	54	-13.93	AVG	V

Worse case mode:		802.11ac(VHT80)		Test Frequency:		5290	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
5150	47.02	-3.63	43.39	68.2	-24.81	peak	H
5150	41.68	-3.63	38.05	54	-15.95	AVG	H
5150	49.16	-3.63	45.53	68.2	-22.67	peak	V
5150	41.98	-3.63	38.35	54	-15.65	AVG	V
5350	47.58	-3.59	43.99	68.2	-24.21	peak	H
5350	40.32	-3.59	36.73	54	-17.27	AVG	H
5350	49.5	-3.59	45.91	68.2	-22.29	peak	V
5350	43.09	-3.59	39.5	54	-14.5	AVG	V

7.7 Radiated Emission

Test Requirement:	FCC Part15 C Section 15.209 and 15.205
Test Method:	ANSI C63.10:2013
Test Frequency Range:	9kHz to 40GHz
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)

Receiver setup:

Frequency	Detector	RBW	VBW	Value
9kHz-150KHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
150kHz-30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
Above 1GHz	Peak	1MHz	3MHz	Peak Value
	AV	1MHz	3MHz	Average Value

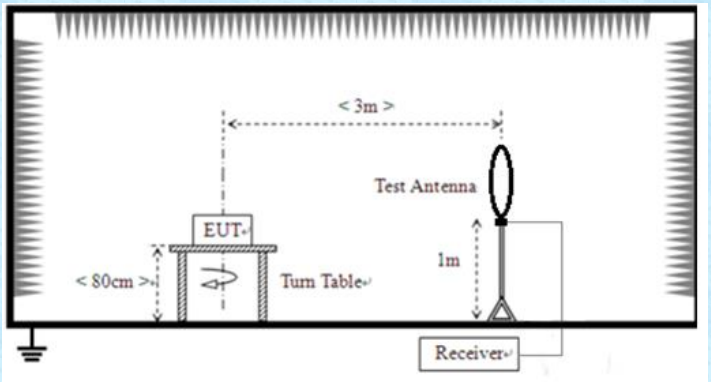
Limit:

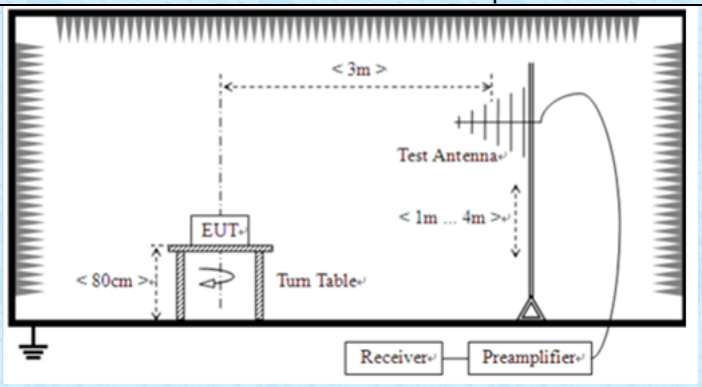
Frequency	Limit (uV/m)	Value	Measurement Distance
0.009MHz-0.490MHz	2400/F(KHz)	QP	300m
0.490MHz-1.705MHz	24000/F(KHz)	QP	300m
1.705MHz-30MHz	30	QP	30m
30MHz-88MHz	100	QP	3m
88MHz-216MHz	150	QP	
216MHz-960MHz	200	QP	
960MHz-1GHz	500	QP	
Above 1GHz	500	Average	
	5000	Peak	

Test Procedure:

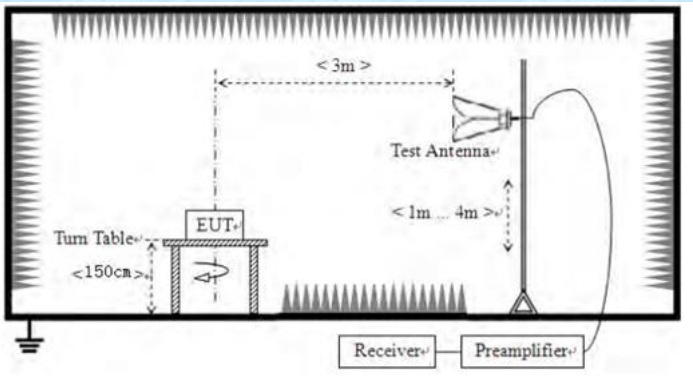
Substitution method was performed to determine the actual ERP emission levels of the EUT.
The following test procedure as below:
1>.Below 1GHz test procedure:

1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. 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.
4. 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 and the rotable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. 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.

	2>.Above 1GHz test procedure: 1. On the test site as test setup graph above,the EUT shall be placed at the 0.8m support on the turntable and in the position closest to normal use as declared by the provider. 2. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter.The output of the test antenna shall be connected to the measuring receiver. 3. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the transmitter under test. 4. The test antenna shall be raised and lowered from 1m to 4m until a maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver. 5. Repeat step 4 for test frequency with the test antenna polarized horizontally. 6. Remove the transmitter and replace it with a substitution antenna 7. Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a nonradiating cable. With the antennas at both ends vertically polarized, and with the signal generator tuned to a particular test frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output. 8. Repeat step 7 with both antennas horizontally polarized for each test frequency. 9. Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps 7 and 8 by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula: EIRP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBi) where: Pg is the generator output power into the substitution antenna.
Test setup:	For radiated emissions from 9kHz to 30MHz  For radiated emissions from 30MHz to1GHz



For radiated emissions above 1GHz



Test Instruments:	Refer to section 6 for details					
Test mode:	Refer to section 5.2 for details					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	AC 120V, 60Hz					
Test results:	Pass					

Remarks:

1. *Only the worst case Main Antenna test data.*
2. *Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.*

Measurement Data:

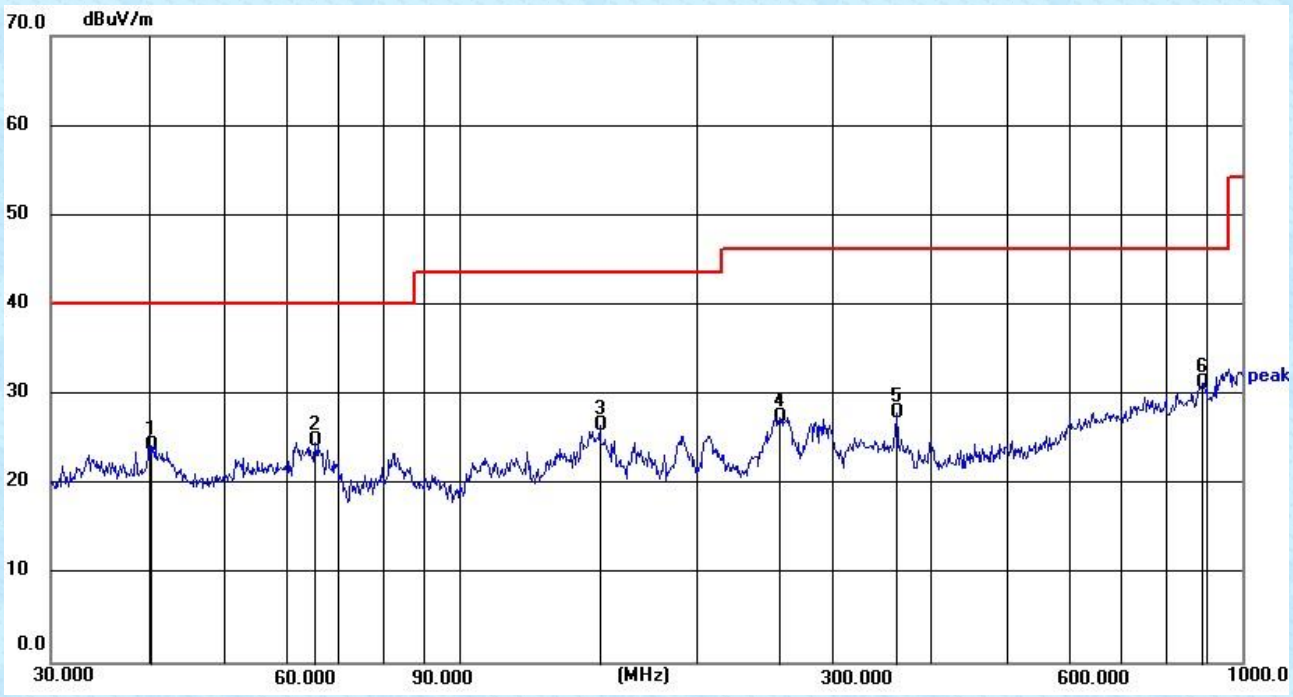
9 kHz ~ 30 MHz

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

30MHz~ 1GHz

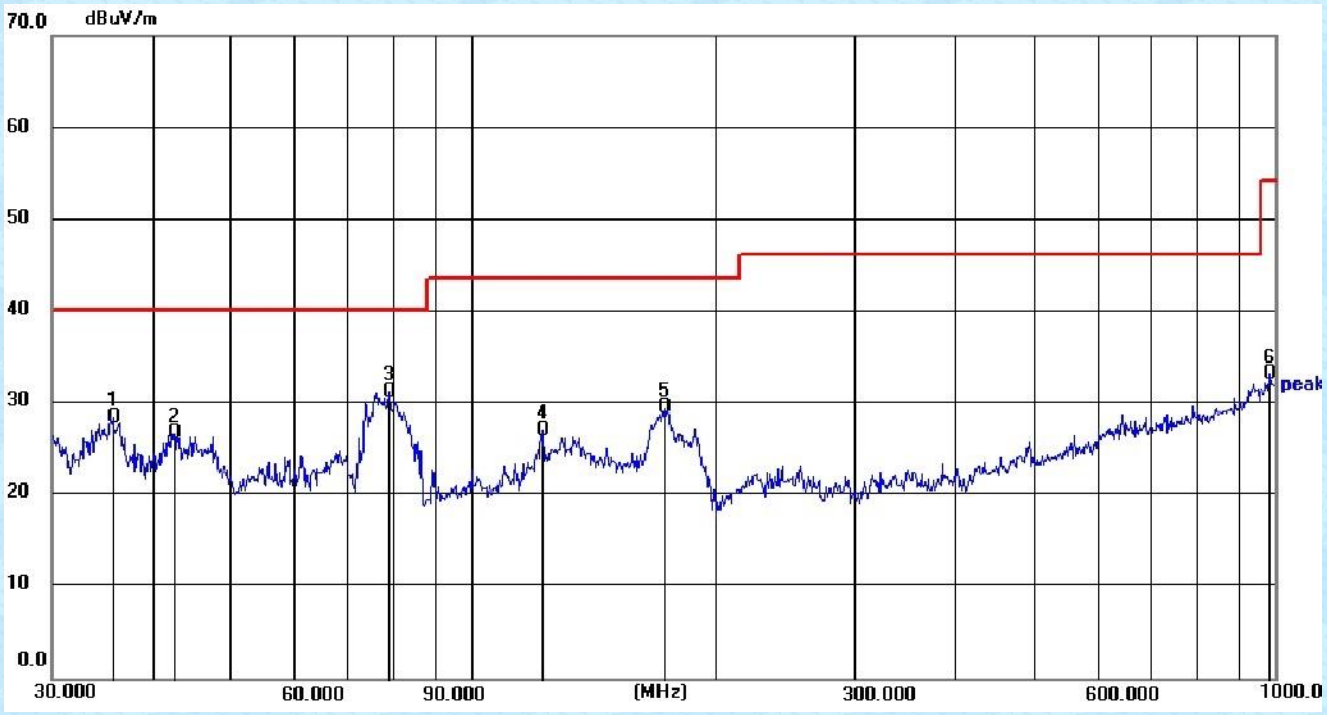
Pre-scan all test modes, found worst case at 802.11ac(HT20), and so only show the test result of 802.11ac(HT20)

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	40.2754	9.43	14.88	24.31	40.00	15.69	QP
2	65.3431	11.76	12.97	24.73	40.00	15.27	QP
3	151.0663	10.63	16.00	26.63	43.50	16.87	QP
4	256.5210	13.82	13.63	27.45	46.00	18.55	QP
5	361.7137	11.83	16.06	27.89	46.00	18.11	QP
6	887.6096	7.28	23.90	31.18	46.00	14.82	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	35.7490	15.16	13.24	28.40	40.00	11.60	QP
2	42.6000	12.44	14.24	26.68	40.00	13.32	QP
3	78.9651	20.34	10.91	31.25	40.00	8.75	QP
4	122.4038	12.96	14.19	27.15	43.50	16.35	QP
5	173.2050	14.89	14.56	29.45	43.50	14.05	QP
6	986.0715	8.54	24.69	33.23	54.00	20.77	QP

Above 1GHz:

802.11a					Test Frequency: 5180MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360	33.99	38.96	8.27	35.64	45.58	68.2	-22.62	Vertical
15540	33.33	38.4	10.57	35.35	46.95	68.2	-21.25	Vertical
10360	35.03	38.96	8.27	35.64	46.62	68.2	-21.58	Horizontal
15540	27.16	38.4	10.57	35.35	40.78	68.2	-27.42	Horizontal
10360	29.22	38.96	8.27	35.64	40.81	54	-13.19	Vertical
15540	26.44	38.4	10.57	35.35	40.06	54	-13.94	Vertical
10360	24.21	38.96	8.27	35.64	35.8	54	-18.2	Horizontal
15540	24.77	38.4	10.57	35.35	38.39	54	-15.61	Horizontal

802.11a					Test Frequency: 5200MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400	37.78	39.01	8.29	35.67	49.41	68.2	-18.79	Vertical
15600	31.41	38.3	10.62	35.36	44.97	68.2	-23.23	Vertical
10400	32.78	39.01	8.29	35.67	44.41	68.2	-23.79	Horizontal
15600	34.54	38.3	10.62	35.36	48.1	68.2	-20.1	Horizontal
10400	31.31	39.01	8.29	35.67	42.94	54	-11.06	Vertical
15600	28.52	38.3	10.62	35.36	42.08	54	-11.92	Vertical
10400	28.33	39.01	8.29	35.67	39.96	54	-14.04	Horizontal
15600	22.56	38.3	10.62	35.36	36.12	54	-17.88	Horizontal

802.11a					Test Frequency: 5240MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480	31.76	39.15	8.32	35.78	43.45	68.2	-24.75	Vertical
15720	31.58	38	10.72	35.37	44.93	68.2	-23.27	Vertical
10480	32.56	39.15	8.32	35.78	44.25	68.2	-23.95	Horizontal
15720	27.28	38	10.72	35.37	40.63	68.2	-27.57	Horizontal
10480	28.94	39.15	8.32	35.78	40.63	54	-13.37	Vertical
15720	28.76	38	10.72	35.37	42.11	54	-11.89	Vertical
10480	26.18	39.15	8.32	35.78	37.87	54	-16.13	Horizontal
15720	26.12	38	10.72	35.37	39.47	54	-14.53	Horizontal

802.11n(HT20)					Test Frequency: 5180MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360	34.41	38.96	8.27	35.64	46	68.2	-22.2	Vertical
15540	33.03	38.4	10.57	35.35	46.65	68.2	-21.55	Vertical
10360	33.8	38.96	8.27	35.64	45.39	68.2	-22.81	Horizontal
15540	28.3	38.4	10.57	35.35	41.92	68.2	-26.28	Horizontal
10360	29	38.96	8.27	35.64	40.59	54	-13.41	Vertical
15540	26.43	38.4	10.57	35.35	40.05	54	-13.95	Vertical
10360	24.45	38.96	8.27	35.64	36.04	54	-17.96	Horizontal
15540	24.94	38.4	10.57	35.35	38.56	54	-15.44	Horizontal

802.11n(HT20)					Test Frequency: 5200MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400	37.98	39.01	8.29	35.67	49.61	68.2	-18.59	Vertical
15600	32.01	38.3	10.62	35.36	45.57	68.2	-22.63	Vertical
10400	33.55	39.01	8.29	35.67	45.18	68.2	-23.02	Horizontal
15600	34.19	38.3	10.62	35.36	47.75	68.2	-20.45	Horizontal
10400	30.72	39.01	8.29	35.67	42.35	54	-11.65	Vertical
15600	29.41	38.3	10.62	35.36	42.97	54	-11.03	Vertical
10400	28.11	39.01	8.29	35.67	39.74	54	-14.26	Horizontal
15600	23.23	38.3	10.62	35.36	36.79	54	-17.21	Horizontal

802.11n(HT20)					Test Frequency: 5240MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480	33.4	39.15	8.32	35.78	45.09	68.2	-23.11	Vertical
15720	32.07	38	10.72	35.37	45.42	68.2	-22.78	Vertical
10480	31.31	39.15	8.32	35.78	43	68.2	-25.2	Horizontal
15720	28.1	38	10.72	35.37	41.45	68.2	-26.75	Horizontal
10480	29.02	39.15	8.32	35.78	40.71	54	-13.29	Vertical
15720	28.5	38	10.72	35.37	41.85	54	-12.15	Vertical
10480	25.72	39.15	8.32	35.78	37.41	54	-16.59	Horizontal
15720	26.41	38	10.72	35.37	39.76	54	-14.24	Horizontal

802.11n(HT40)					Test Frequency: 5190MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380	33.99	39.01	8.28	35.67	45.61	68.2	-22.59	Vertical
15570	31.46	38.3	10.6	35.36	45	68.2	-23.2	Vertical
10380	30.82	39.01	8.28	35.67	42.44	68.2	-25.76	Horizontal
15570	28.98	38.3	10.6	35.36	42.52	68.2	-25.68	Horizontal
10380	25.85	39.01	8.28	35.67	37.47	54	-16.53	Vertical
15570	26.99	38.3	10.6	35.36	40.53	54	-13.47	Vertical
10380	25.54	39.01	8.28	35.67	37.16	54	-16.84	Horizontal
15570	24.22	38.3	10.6	35.36	37.76	54	-16.24	Horizontal

802.11n(HT40)					Test Frequency: 5230MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460	32.74	39.11	8.31	35.75	44.41	68.2	-23.79	Vertical
15690	28.79	38.1	10.7	35.37	42.22	68.2	-25.98	Vertical
10460	30.87	39.11	8.31	35.75	42.54	68.2	-25.66	Horizontal
15690	30.41	38.1	10.7	35.37	43.84	68.2	-24.36	Horizontal
10460	25.1	39.11	8.31	35.75	36.77	54	-17.23	Vertical
15690	24.88	38.1	10.7	35.37	38.31	54	-15.69	Vertical
10460	25.98	39.11	8.31	35.75	37.65	54	-16.35	Horizontal
15690	24.68	38.1	10.7	35.37	38.11	54	-15.89	Horizontal

802.11ac(VHT20)					Test Frequency: 5180MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360	33.95	38.96	8.27	35.64	45.54	68.2	-22.66	Vertical
15540	33.2	38.4	10.57	35.35	46.82	68.2	-21.38	Vertical
10360	34.39	38.96	8.27	35.64	45.98	68.2	-22.22	Horizontal
15540	27.63	38.4	10.57	35.35	41.25	68.2	-26.95	Horizontal
10360	28.68	38.96	8.27	35.64	40.27	54	-13.73	Vertical
15540	25.79	38.4	10.57	35.35	39.41	54	-14.59	Vertical
10360	23.87	38.96	8.27	35.64	35.46	54	-18.54	Horizontal
15540	24.23	38.4	10.57	35.35	37.85	54	-16.15	Horizontal

802.11ac(VHT20)					Test Frequency: 5200MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400	34.17	39.01	8.29	35.67	45.8	68.2	-22.4	Vertical
15600	33.03	38.3	10.62	35.36	46.59	68.2	-21.61	Vertical
10400	34.51	39.01	8.29	35.67	46.14	68.2	-22.06	Horizontal
15600	27.99	38.3	10.62	35.36	41.55	68.2	-26.65	Horizontal
10400	28.55	39.01	8.29	35.67	40.18	54	-13.82	Vertical
15600	26.3	38.3	10.62	35.36	39.86	54	-14.14	Vertical
10400	24.34	39.01	8.29	35.67	35.97	54	-18.03	Horizontal
15600	23.87	38.3	10.62	35.36	37.43	54	-16.57	Horizontal

802.11ac(VHT20)					Test Frequency: 5240MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480	37.43	39.15	8.32	35.78	49.12	68.2	-19.08	Vertical
15720	31.85	38	10.72	35.37	45.2	68.2	-23	Vertical
10480	32.86	39.15	8.32	35.78	44.55	68.2	-23.65	Horizontal
15720	34.31	38	10.72	35.37	47.66	68.2	-20.54	Horizontal
10480	31.05	39.15	8.32	35.78	42.74	54	-11.26	Vertical
15720	28.81	38	10.72	35.37	42.16	54	-11.84	Vertical
10480	28.22	39.15	8.32	35.78	39.91	54	-14.09	Horizontal
15720	23.02	38	10.72	35.37	36.37	54	-17.63	Horizontal

802.11ac(VHT40)					Test Frequency: 5190MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380	32.43	39.01	8.28	35.67	44.05	68.2	-24.15	Vertical
15570	31.59	38.3	10.6	35.36	45.13	68.2	-23.07	Vertical
10380	32.05	39.01	8.28	35.67	43.67	68.2	-24.53	Horizontal
15570	27.15	38.3	10.6	35.36	40.69	68.2	-27.51	Horizontal
10380	29.35	39.01	8.28	35.67	40.97	54	-13.03	Vertical
15570	27.54	38.3	10.6	35.36	41.08	54	-12.92	Vertical
10380	24.87	39.01	8.28	35.67	36.49	54	-17.51	Horizontal
15570	25.89	38.3	10.6	35.36	39.43	54	-14.57	Horizontal

802.11ac(VHT40)					Test Frequency: 5230MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460	33.86	39.11	8.31	35.75	45.53	68.2	-22.67	Vertical
15690	31.86	38.1	10.7	35.37	45.29	68.2	-22.91	Vertical
10460	30.78	39.11	8.31	35.75	42.45	68.2	-25.75	Horizontal
15690	30.24	38.1	10.7	35.37	43.67	68.2	-24.53	Horizontal
10460	24.61	39.11	8.31	35.75	36.28	54	-17.72	Vertical
15690	27.91	38.1	10.7	35.37	41.34	54	-12.66	Vertical
10460	25.72	39.11	8.31	35.75	37.39	54	-16.61	Horizontal
15690	23.2	38.1	10.7	35.37	36.63	54	-17.37	Horizontal

802.11ac(VHT80)					Test Frequency: 5210MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10420	33.72	39.06	8.29	35.71	45.36	68.2	-22.84	Vertical
15630	28.85	38.2	10.65	35.36	42.34	68.2	-25.86	Vertical
10420	33.55	39.06	8.29	35.71	45.19	68.2	-23.01	Horizontal
15630	30.65	38.2	10.65	35.36	44.14	68.2	-24.06	Horizontal
10420	25.67	39.06	8.29	35.71	37.31	54	-16.69	Vertical
15630	24.92	38.2	10.65	35.36	38.41	54	-15.59	Vertical
10420	23.74	39.06	8.29	35.71	35.38	54	-18.62	Horizontal
15630	21.91	38.2	10.65	35.36	35.4	54	-18.6	Horizontal

802.11a					Test Frequency: 5260MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10520	34.42	39.2	8.34	35.82	46.14	68.2	-22.06	Vertical
15780	33.82	37.9	10.77	35.38	47.11	68.2	-21.09	Vertical
10520	35.36	39.2	8.34	35.82	47.08	68.2	-21.12	Horizontal
15780	28.25	37.9	10.77	35.38	41.54	68.2	-26.66	Horizontal
10520	28.39	39.2	8.34	35.82	40.11	54	-13.89	Vertical
15780	26.39	37.9	10.77	35.38	39.68	54	-14.32	Vertical
10520	23.53	39.2	8.34	35.82	35.25	54	-18.75	Horizontal
15780	24.12	37.9	10.77	35.38	37.41	54	-16.59	Horizontal

802.11a					Test Frequency: 5300MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10600	37.09	39.22	8.37	35.93	48.75	68.2	-19.45	Vertical
15900	31.56	37.6	10.87	35.39	44.64	68.2	-23.56	Vertical
10600	32.59	39.22	8.37	35.93	44.25	68.2	-23.95	Horizontal
15900	34.52	37.6	10.87	35.39	47.6	68.2	-20.6	Horizontal
10600	30.57	39.22	8.37	35.93	42.23	54	-11.77	Vertical
15900	28.76	37.6	10.87	35.39	41.84	54	-12.16	Vertical
10600	27.79	39.22	8.37	35.93	39.45	54	-14.55	Horizontal
15900	22.74	37.6	10.87	35.39	35.82	54	-18.18	Horizontal

802.11a					Test Frequency: 5320MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10640	32.75	39.22	8.38	35.96	44.39	68.2	-23.81	Vertical
15960	32.66	37.5	10.92	35.4	45.68	68.2	-22.52	Vertical
10640	32.84	39.22	8.38	35.96	44.48	68.2	-23.72	Horizontal
15960	28.4	37.5	10.92	35.4	41.42	68.2	-26.78	Horizontal
10640	28.5	39.22	8.38	35.96	40.14	54	-13.86	Vertical
15960	28.67	37.5	10.92	35.4	41.69	54	-12.31	Vertical
10640	25.46	39.22	8.38	35.96	37.1	54	-16.9	Horizontal
15960	26.26	37.5	10.92	35.4	39.28	54	-14.72	Horizontal

802.11n20					Test Frequency: 5260MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10520	34.91	39.2	8.34	35.82	46.63	68.2	-21.57	Vertical
15780	33.4	37.9	10.77	35.38	46.69	68.2	-21.51	Vertical
10520	34.64	39.2	8.34	35.82	46.36	68.2	-21.84	Horizontal
15780	29.1	37.9	10.77	35.38	42.39	68.2	-25.81	Horizontal
10520	27.89	39.2	8.34	35.82	39.61	54	-14.39	Vertical
15780	26.28	37.9	10.77	35.38	39.57	54	-14.43	Vertical
10520	23.96	39.2	8.34	35.82	35.68	54	-18.32	Horizontal
15780	24.5	37.9	10.77	35.38	37.79	54	-16.21	Horizontal

802.11n20					Test Frequency: 5300MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10600	37.25	39.22	8.37	35.93	48.91	68.2	-19.29	Vertical
15900	32.17	37.6	10.87	35.39	45.25	68.2	-22.95	Vertical
10600	33.05	39.22	8.37	35.93	44.71	68.2	-23.49	Horizontal
15900	33.88	37.6	10.87	35.39	46.96	68.2	-21.24	Horizontal
10600	29.93	39.22	8.37	35.93	41.59	54	-12.41	Vertical
15900	29.06	37.6	10.87	35.39	42.14	54	-11.86	Vertical
10600	27.44	39.22	8.37	35.93	39.1	54	-14.9	Horizontal
15900	22.81	37.6	10.87	35.39	35.89	54	-18.11	Horizontal

802.11n20					Test Frequency: 5320MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10640	33.58	39.22	8.38	35.96	45.22	68.2	-22.98	Vertical
15960	32.75	37.5	10.92	35.4	45.77	68.2	-22.43	Vertical
10640	32.31	39.22	8.38	35.96	43.95	68.2	-24.25	Horizontal
15960	29.01	37.5	10.92	35.4	42.03	68.2	-26.17	Horizontal
10640	28.79	39.22	8.38	35.96	40.43	54	-13.57	Vertical
15960	27.91	37.5	10.92	35.4	40.93	54	-13.07	Vertical
10640	25.04	39.22	8.38	35.96	36.68	54	-17.32	Horizontal
15960	25.75	37.5	10.92	35.4	38.77	54	-15.23	Horizontal

802.11n40					Test Frequency: 5270MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10540	33.92	39.21	8.34	35.85	45.62	68.2	-22.58	Vertical
15810	32.32	37.8	10.79	35.38	45.53	68.2	-22.67	Vertical
10540	31.55	39.21	8.34	35.85	43.25	68.2	-24.95	Horizontal
15810	30.19	37.8	10.79	35.38	43.4	68.2	-24.8	Horizontal
10540	26.1	39.21	8.34	35.85	37.8	54	-16.2	Vertical
15810	27.76	37.8	10.79	35.38	40.97	54	-13.03	Vertical
10540	26.22	39.21	8.34	35.85	37.92	54	-16.08	Horizontal
15810	24.82	37.8	10.79	35.38	38.03	54	-15.97	Horizontal

802.11n40					Test Frequency: 5310MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10620	33.23	39.22	8.38	35.93	44.9	68.2	-23.3	Vertical
15930	30	37.5	10.89	35.4	42.99	68.2	-25.21	Vertical
10620	31.37	39.22	8.38	35.93	43.04	68.2	-25.16	Horizontal
15930	31.57	37.5	10.89	35.4	44.56	68.2	-23.64	Horizontal
10620	25.7	39.22	8.38	35.93	37.37	54	-16.63	Vertical
15930	25.77	37.5	10.89	35.4	38.76	54	-15.24	Vertical
10620	26.86	39.22	8.38	35.93	38.53	54	-15.47	Horizontal
15930	25.74	37.5	10.89	35.4	38.73	54	-15.27	Horizontal

802.11ac20					Test Frequency: 5260MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10520	34.62	39.2	8.34	35.82	46.34	68.2	-21.86	Vertical
15780	33.61	37.9	10.77	35.38	46.9	68.2	-21.3	Vertical
10520	34.82	39.2	8.34	35.82	46.54	68.2	-21.66	Horizontal
15780	28.6	37.9	10.77	35.38	41.89	68.2	-26.31	Horizontal
10520	28.43	39.2	8.34	35.82	40.15	54	-13.85	Vertical
15780	25.65	37.9	10.77	35.38	38.94	54	-15.06	Vertical
10520	23.63	39.2	8.34	35.82	35.35	54	-18.65	Horizontal
15780	23.96	37.9	10.77	35.38	37.25	54	-16.75	Horizontal

802.11ac20					Test Frequency: 5300MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10600	37.45	39.22	8.37	35.93	49.11	68.2	-19.09	Vertical
15900	31.55	37.6	10.87	35.39	44.63	68.2	-23.57	Vertical
10600	32.8	39.22	8.37	35.93	44.46	68.2	-23.74	Horizontal
15900	34.56	37.6	10.87	35.39	47.64	68.2	-20.56	Horizontal
10600	30.79	39.22	8.37	35.93	42.45	54	-11.55	Vertical
15900	29.01	37.6	10.87	35.39	42.09	54	-11.91	Vertical
10600	27.42	39.22	8.37	35.93	39.08	54	-14.92	Horizontal
15900	23.09	37.6	10.87	35.39	36.17	54	-17.83	Horizontal

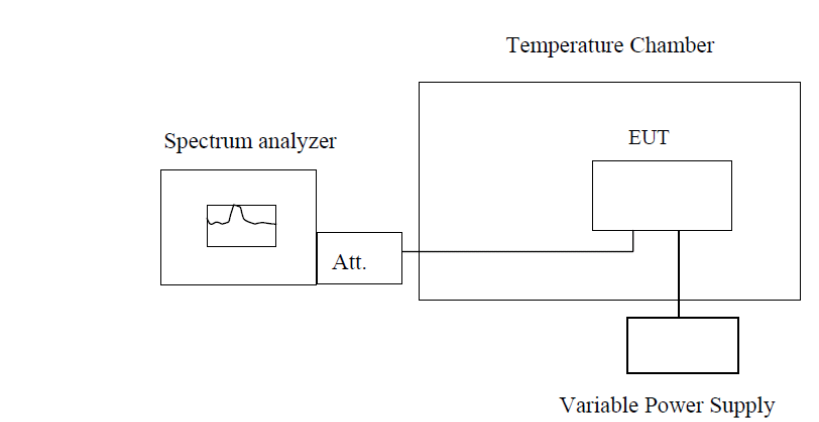
802.11ac20					Test Frequency: 5320MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10640	32.69	39.22	8.38	35.96	44.33	68.2	-23.87	Vertical
15960	32.61	37.5	10.92	35.4	45.63	68.2	-22.57	Vertical
10640	32.51	39.22	8.38	35.96	44.15	68.2	-24.05	Horizontal
15960	28.21	37.5	10.92	35.4	41.23	68.2	-26.97	Horizontal
10640	28.57	39.22	8.38	35.96	40.21	54	-13.79	Vertical
15960	28.04	37.5	10.92	35.4	41.06	54	-12.94	Vertical
10640	24.64	39.22	8.38	35.96	36.28	54	-17.72	Horizontal
15960	26.1	37.5	10.92	35.4	39.12	54	-14.88	Horizontal

802.11ac(VHT40)					Test Frequency: 5270MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10540	34.34	39.21	8.34	35.85	46.04	68.2	-22.16	Vertical
15810	32.49	37.8	10.79	35.38	45.7	68.2	-22.5	Vertical
10540	31.17	39.21	8.34	35.85	42.87	68.2	-25.33	Horizontal
15810	30.78	37.8	10.79	35.38	43.99	68.2	-24.21	Horizontal
10540	25.27	39.21	8.34	35.85	36.97	54	-17.03	Vertical
15810	28.26	37.8	10.79	35.38	41.47	54	-12.53	Vertical
10540	26.47	39.21	8.34	35.85	38.17	54	-15.83	Horizontal
15810	24.12	37.8	10.79	35.38	37.33	54	-16.67	Horizontal

802.11ac(VHT40)					Test Frequency: 5310MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10620	32.69	39.22	8.38	35.93	44.36	68.2	-23.84	Vertical
15930	29.38	37.5	10.89	35.4	42.37	68.2	-25.83	Vertical
10620	31.56	39.22	8.38	35.93	43.23	68.2	-24.97	Horizontal
15930	31.25	37.5	10.89	35.4	44.24	68.2	-23.96	Horizontal
10620	25.11	39.22	8.38	35.93	36.78	54	-17.22	Vertical
15930	26.16	37.5	10.89	35.4	39.15	54	-14.85	Vertical
10620	27.59	39.22	8.38	35.93	39.26	54	-14.74	Horizontal
15930	25.82	37.5	10.89	35.4	38.81	54	-15.19	Horizontal

802.11ac(VHT80)					Test Frequency: 5290MHz			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10580	33.96	39.21	8.36	35.89	45.64	68.2	-22.56	Vertical
15870	30.02	37.7	10.85	35.39	43.18	68.2	-25.02	Vertical
10580	33.53	39.21	8.36	35.89	45.21	68.2	-22.99	Horizontal
15870	31.41	37.7	10.85	35.39	44.57	68.2	-23.63	Horizontal
10580	26.37	39.21	8.36	35.89	38.05	54	-15.95	Vertical
15870	26.24	37.7	10.85	35.39	39.4	54	-14.6	Vertical
10580	24.12	39.21	8.36	35.89	35.8	54	-18.2	Horizontal
15870	23	37.7	10.85	35.39	36.16	54	-17.84	Horizontal

7.8 Frequency stability

Test Requirement:	FCC Part15 C Section 15.407(g)
Test Method:	ANSI C63.10:2013, FCC Part 2.1055
Limit:	Manufactures 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
Test Procedure:	The EUT was setup to ANSI C63.4, 2003; tested to 2.1055 for compliance to FCC Part 15.407(g) requirements.
Test setup:	 **Note :** Measurement setup for testing on Antenna connector
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Remark: Set the EUT transmits at un-modulation mode to test frequency stability.

Measurement data:

Frequency stability versus Temp.													
Worst Case Operating Frequency：5180MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	9	5180.0359	6.93	P	5180.0284	5.48	P	5180.0339	6.54	P	5180.0296	5.71	P
-20	9	5179.9941	-1.14	P	5179.9887	-2.18	P	5179.9863	-2.64	P	5179.9859	-2.72	P
-10	9	5179.9827	-3.34	P	5179.9792	-4.02	P	5179.9827	-3.34	P	5179.9792	-4.02	P
0	9	5180.0236	4.56	P	5180.0255	4.92	P	5180.0182	3.51	P	5180.0246	4.75	P
10	9	5179.962	-7.34	P	5179.9539	-8.9	P	5179.9636	-7.03	P	5179.9608	-7.57	P
20	9	5179.95	-9.65	P	5179.9512	-9.42	P	5179.953	-9.07	P	5179.9486	-9.92	P
30	9	5180.023	4.44	P	5180.0252	4.86	P	5180.0221	4.27	P	5180.0188	3.63	P
40	9	5179.9975	-0.48	P	5179.9963	-0.71	P	5180.0089	1.72	P	5180.0016	0.31	P
50	9	5179.98	-3.86	P	5179.9804	-3.78	P	5179.9789	-4.07	P	5179.9768	-4.48	P
Frequency stability versus Voltage.													
Worst Case Operating Frequency：5180MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	7.65	5180.0302	5.83	P	5180.0339	6.54	P	5180.0332	6.41	P	5180.0281	5.42	P
25	9	5179.9853	-2.84	P	5179.9891	-2.1	P	5179.9884	-2.24	P	5179.987	-2.51	P
25	10.35	5179.9772	-4.4	P	5179.978	-4.25	P	5179.9777	-4.31	P	5179.9752	-4.79	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5200MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	9	5200.0095	1.83	P	5200.019	3.65	P	5200.0163	3.13	P	5200.0067	1.29	P
-20	9	5199.9915	-1.63	P	5199.9865	-2.6	P	5199.9869	-2.52	P	5199.9937	-1.21	P
-10	9	5199.9825	-3.37	P	5199.9745	-4.9	P	5199.9806	-3.73	P	5199.9837	-3.13	P
0	9	5200.0208	4	P	5200.0175	3.37	P	5200.0213	4.1	P	5200.0163	3.13	P
10	9	5199.961	-7.5	P	5199.9586	-7.96	P	5199.9635	-7.02	P	5199.9629	-7.13	P
20	9	5199.9507	-9.48	P	5199.9504	-9.54	P	5199.9495	-9.71	P	5199.9524	-9.15	P
30	9	5200.0237	4.56	P	5200.0176	3.38	P	5200.0244	4.69	P	5200.0188	3.62	P
40	9	5199.9988	-0.23	P	5200.0007	0.13	P	5199.9965	-0.67	P	5200.009	1.73	P
50	9	5199.9753	-4.75	P	5199.9785	-4.13	P	5199.975	-4.81	P	5199.9754	-4.73	P
Frequency stability versus Voltage.													
Worst Case Operating Frequency：5200MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	7.65	5200.017	3.27	P	5200.0126	2.42	P	5200.0201	3.87	P	5200.0144	2.77	P
25	9	5199.991	-1.73	P	5199.9856	-2.77	P	5199.991	-1.73	P	5199.9852	-2.85	P
25	10.35	5199.9793	-3.98	P	5199.9801	-3.83	P	5199.9837	-3.13	P	5199.9821	-3.44	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5240MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	9	5240.0054	1.03	P	5240.0115	2.19	P	5240.0125	2.39	P	5240.0088	1.68	P
-20	9	5239.9871	-2.46	P	5239.9918	-1.56	P	5239.9877	-2.35	P	5239.989	-2.1	P
-10	9	5239.9834	-3.17	P	5239.9764	-4.5	P	5239.9828	-3.28	P	5239.9801	-3.8	P
0	9	5240.0172	3.28	P	5240.0201	3.84	P	5240.0163	3.11	P	5240.0222	4.24	P
10	9	5239.9544	-8.7	P	5239.9568	-8.24	P	5239.9528	-9.01	P	5239.953	-8.97	P
20	9	5239.9515	-9.26	P	5239.9506	-9.43	P	5239.9511	-9.33	P	5239.9503	-9.48	P
30	9	5240.0228	4.35	P	5240.0177	3.38	P	5240.0201	3.84	P	5240.0208	3.97	P
40	9	5240.0024	0.46	P	5240.0029	0.55	P	5239.9993	-0.13	P	5239.9949	-0.97	P
50	9	5239.9816	-3.51	P	5239.9833	-3.19	P	5239.9801	-3.8	P	5239.9798	-3.85	P
Frequency stability versus Voltage.													
Worst Case Operating Frequency：5240MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	7.65	5239.9773	-4.33	P	5239.9765	-4.48	P	5239.9745	-4.87	P	5239.9755	-4.68	P
25	9	5240.0232	4.43	P	5240.0186	3.55	P	5240.0199	3.8	P	5240.0181	3.45	P
25	10.35	5240.0081	1.55	P	5239.9972	-0.53	P	5240.0094	1.79	P	5240.0009	0.17	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5190MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	9	5190.0246	4.74	P	5190.0184	3.55	P	5190.0153	2.95	P	5190.0189	3.64	P
-20	9	5189.9948	-1	P	5189.9853	-2.83	P	5189.9927	-1.41	P	5189.9944	-1.08	P
-10	9	5189.9784	-4.16	P	5189.9827	-3.33	P	5189.9776	-4.32	P	5189.9811	-3.64	P
0	9	5190.0228	4.39	P	5190.0213	4.1	P	5190.0208	4.01	P	5190.0172	3.31	P
10	9	5189.9549	-8.69	P	5189.9626	-7.21	P	5189.9594	-7.82	P	5189.9585	-8	P
20	9	5189.949	-9.83	P	5189.9527	-9.11	P	5189.9512	-9.4	P	5189.9501	-9.61	P
30	9	5190.0248	4.78	P	5190.0243	4.68	P	5190.0205	3.95	P	5190.0235	4.53	P
40	9	5190.0102	1.97	P	5190.0087	1.68	P	5190.0078	1.5	P	5190.0072	1.39	P
50	9	5189.9835	-3.18	P	5189.9817	-3.53	P	5189.9788	-4.08	P	5189.9809	-3.68	P
Frequency stability versus Voltage.													
Worst Case Operating Frequency：5190MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	7.65	5189.9773	-4.37	P	5189.9792	-4.01	P	5189.9869	-2.52	P	5189.9811	-3.64	P
25	9	5190.0222	4.28	P	5190.0197	3.8	P	5190.0197	3.8	P	5190.0228	4.39	P
25	10.35	5190.0051	0.98	P	5190.0024	0.46	P	5190.0054	1.04	P	5189.9978	-0.42	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5230MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	9	5230.0257	4.91	P	5230.0211	4.03	P	5230.0184	3.52	P	5230.022	4.21	P
-20	9	5229.9866	-2.56	P	5229.9923	-1.47	P	5229.9848	-2.91	P	5229.9857	-2.73	P
-10	9	5229.9789	-4.03	P	5229.9769	-4.42	P	5229.9804	-3.75	P	5229.9806	-3.71	P
0	9	5230.0221	4.23	P	5230.0205	3.92	P	5230.0189	3.61	P	5230.0166	3.17	P
10	9	5229.9556	-8.49	P	5229.9562	-8.37	P	5229.9536	-8.87	P	5229.953	-8.99	P
20	9	5229.9527	-9.04	P	5229.9506	-9.45	P	5229.9515	-9.27	P	5229.9529	-9.01	P
30	9	5230.0157	3	P	5230.021	4.02	P	5230.0211	4.03	P	5230.0203	3.88	P
40	9	5229.9972	-0.54	P	5230.0005	0.1	P	5230.0089	1.7	P	5229.9979	-0.4	P
50	9	5229.9828	-3.29	P	5229.9798	-3.86	P	5229.9788	-4.05	P	5229.9834	-3.17	P
Frequency stability versus Voltage.													
Worst Case Operating Frequency：5230MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	7.65	5229.9764	-4.51	P	5229.9831	-3.23	P	5229.9884	-2.22	P	5229.9779	-4.23	P
25	9	5230.0225	4.3	P	5230.0256	4.89	P	5230.024	4.59	P	5230.0242	4.63	P
25	10.35	5229.9975	-0.48	P	5230.0074	1.41	P	5229.9968	-0.61	P	5230.0093	1.78	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5210MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	9	5210.0113	2.17	P	5210.0258	4.95	P	5210.0208	3.99	P	5210.0194	3.72	P
-20	9	5209.9876	-2.38	P	5209.9914	-1.65	P	5209.9853	-2.82	P	5209.9946	-1.04	P
-10	9	5209.9771	-4.4	P	5209.9843	-3.01	P	5209.9782	-4.18	P	5209.9807	-3.7	P
0	9	5210.0231	4.43	P	5210.0177	3.4	P	5210.0159	3.05	P	5210.0172	3.3	P
10	9	5209.9578	-8.1	P	5209.9601	-7.66	P	5209.9593	-7.81	P	5209.9548	-8.68	P
20	9	5209.9519	-9.23	P	5209.9525	-9.12	P	5209.9491	-9.77	P	5209.9486	-9.87	P
30	9	5210.0226	4.34	P	5210.0194	3.72	P	5210.0245	4.7	P	5210.0247	4.74	P
40	9	5210.0065	1.25	P	5210.009	1.73	P	5210.0054	1.04	P	5210.008	1.54	P
50	9	5209.9746	-4.88	P	5209.977	-4.41	P	5209.9806	-3.72	P	5209.9824	-3.38	P
Frequency stability versus Voltage.													
Worst Case Operating Frequency：5210MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	7.65	5209.9861	-2.67	P	5209.9821	-3.44	P	5209.978	-4.22	P	5209.976	-4.61	P
25	9	5210.0176	3.38	P	5210.0236	4.53	P	5210.023	4.41	P	5210.016	3.07	P
25	10.35	5209.9959	-0.79	P	5209.996	-0.77	P	5210.0065	1.25	P	5210.0102	1.96	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5260MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	9	5260.0353	6.71	P	5260.0271	5.15	P	5260.0287	5.46	P	5260.0311	5.91	P
-20	9	5259.9877	-2.34	P	5259.9868	-2.51	P	5259.9903	-1.84	P	5259.9934	-1.25	P
-10	9	5259.9801	-3.78	P	5259.9745	-4.85	P	5259.977	-4.37	P	5259.9792	-3.95	P
0	9	5260.021	3.99	P	5260.0244	4.64	P	5260.0245	4.66	P	5260.019	3.61	P
10	9	5259.9579	-8	P	5259.9542	-8.71	P	5259.9562	-8.33	P	5259.9612	-7.38	P
20	9	5259.9514	-9.24	P	5259.9485	-9.79	P	5259.9492	-9.66	P	5259.9497	-9.56	P
30	9	5260.0252	4.79	P	5260.0225	4.28	P	5260.0226	4.3	P	5260.0244	4.64	P
40	9	5259.9954	-0.87	P	5260.0063	1.2	P	5259.9971	-0.55	P	5259.9992	-0.15	P
50	9	5259.9805	-3.71	P	5259.9778	-4.22	P	5259.983	-3.23	P	5259.9807	-3.67	P
Frequency stability versus Voltage.													
Worst Case Operating Frequency：5260MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	7.65	5260	0	P	5260.0323	6.14	P	5260.0269	5.11	P	5260.0352	6.69	P
25	9	5259.9845	-2.95	P	5259.9886	-2.17	P	5259.9918	-1.56	P	5259.9919	-1.54	P
25	10.35	5259.9779	-4.2	P	5259.9799	-3.82	P	5259.983	-3.23	P	5259.9744	-4.87	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5300MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	9	5300.0183	3.45	P	5300.0174	3.28	P	5300.0101	1.91	P	5300.0082	1.55	P
-20	9	5299.9865	-2.55	P	5299.9844	-2.94	P	5299.9927	-1.38	P	5299.9842	-2.98	P
-10	9	5299.9811	-3.57	P	5299.9799	-3.79	P	5299.9765	-4.43	P	5299.9769	-4.36	P
0	9	5300.0259	4.89	P	5300.0258	4.87	P	5300.0254	4.79	P	5300.0231	4.36	P
10	9	5299.9569	-8.13	P	5299.9581	-7.91	P	5299.9535	-8.77	P	5299.9532	-8.83	P
20	9	5299.9507	-9.3	P	5299.9516	-9.13	P	5299.9494	-9.55	P	5299.9476	-9.89	P
30	9	5300.0197	3.72	P	5300.0242	4.57	P	5300.0262	4.94	P	5300.0223	4.21	P
40	9	5300.0101	1.91	P	5300.0047	0.89	P	5300.0053	1	P	5299.9982	-0.34	P
50	9	5299.9776	-4.23	P	5299.9803	-3.72	P	5299.9795	-3.87	P	5299.9765	-4.43	P
Frequency stability versus Voltage.													
Worst Case Operating Frequency：5300MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	7.65	5300.0159	3	P	5300.0132	2.49	P	5300.0126	2.38	P	5300.0156	2.94	P
25	9	5299.9911	-1.68	P	5299.9884	-2.19	P	5299.991	-1.7	P	5299.9897	-1.94	P
25	10.35	5299.9782	-4.11	P	5299.9807	-3.64	P	5299.9817	-3.45	P	5299.9781	-4.13	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5320MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	9	5320.0092	1.73	P	5320.016	3.01	P	5320.0089	1.67	P	5320.0104	1.95	P
-20	9	5319.9886	-2.14	P	5319.9911	-1.67	P	5319.9915	-1.6	P	5319.9941	-1.11	P
-10	9	5319.9816	-3.46	P	5319.984	-3.01	P	5319.9772	-4.29	P	5319.9753	-4.64	P
0	9	5320.0212	3.98	P	5320.0214	4.02	P	5320.0228	4.29	P	5320.0196	3.68	P
10	9	5319.9562	-8.23	P	5319.9577	-7.95	P	5319.9577	-7.95	P	5319.9611	-7.31	P
20	9	5319.9493	-9.53	P	5319.9471	-9.94	P	5319.9497	-9.45	P	5319.9497	-9.45	P
30	9	5320.0238	4.47	P	5320.0223	4.19	P	5320.0224	4.21	P	5320.0188	3.53	P
40	9	5320.0089	1.67	P	5320.0062	1.17	P	5319.9955	-0.85	P	5319.995	-0.94	P
50	9	5319.981	-3.57	P	5319.9752	-4.66	P	5319.9829	-3.21	P	5319.9741	-4.87	P
Frequency stability versus Voltage.													
Worst Case Operating Frequency：5320MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	7.65	5319.9777	-4.19	P	5319.9777	-4.19	P	5319.9741	-4.87	P	5319.9778	-4.17	P
25	9	5320.0206	3.87	P	5320.0203	3.82	P	5320.0239	4.49	P	5320.025	4.7	P
25	10.35	5320.0078	1.47	P	5320.0073	1.37	P	5319.9993	-0.13	P	5319.9961	-0.73	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5270MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	9	5270.0171	3.24	P	5270.0144	2.73	P	5270.0203	3.85	P	5270.0152	2.88	P
-20	9	5269.985	-2.85	P	5269.994	-1.14	P	5269.9845	-2.94	P	5269.9925	-1.42	P
-10	9	5269.9761	-4.54	P	5269.9822	-3.38	P	5269.9789	-4	P	5269.9765	-4.46	P
0	9	5270.0235	4.46	P	5270.0179	3.4	P	5270.0232	4.4	P	5270.0172	3.26	P
10	9	5269.963	-7.02	P	5269.9612	-7.36	P	5269.9628	-7.06	P	5269.9552	-8.5	P
20	9	5269.9503	-9.43	P	5269.9508	-9.34	P	5269.9523	-9.05	P	5269.9497	-9.54	P
30	9	5270.0173	3.28	P	5270.0201	3.81	P	5270.021	3.98	P	5270.0208	3.95	P
40	9	5270.0008	0.15	P	5270.008	1.52	P	5270.0094	1.78	P	5269.9975	-0.47	P
50	9	5269.9822	-3.38	P	5269.9774	-4.29	P	5269.9773	-4.31	P	5269.9771	-4.35	P
Frequency stability versus Voltage.													
Worst Case Operating Frequency：5270MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	7.65	5269.9762	-4.52	P	5269.988	-2.28	P	5269.9822	-3.38	P	5269.9834	-3.15	P
25	9	5270.025	4.74	P	5270.019	3.61	P	5270.0203	3.85	P	5270.021	3.98	P
25	10.35	5270.0005	0.09	P	5269.9968	-0.61	P	5270.0088	1.67	P	5270.0022	0.42	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5310MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	9	5310.0242	4.56	P	5310.0235	4.43	P	5310.0113	2.13	P	5310.0233	4.39	P
-20	9	5309.9858	-2.67	P	5309.9864	-2.56	P	5309.9877	-2.32	P	5309.9866	-2.52	P
-10	9	5309.9817	-3.45	P	5309.9768	-4.37	P	5309.9735	-4.99	P	5309.9738	-4.93	P
0	9	5310.0248	4.67	P	5310.0181	3.41	P	5310.0219	4.12	P	5310.0232	4.37	P
10	9	5309.9584	-7.83	P	5309.9569	-8.12	P	5309.9622	-7.12	P	5309.9544	-8.59	P
20	9	5309.9471	-9.96	P	5309.9488	-9.64	P	5309.9521	-9.02	P	5309.952	-9.04	P
30	9	5310.0262	4.93	P	5310.0219	4.12	P	5310.0193	3.63	P	5310.019	3.58	P
40	9	5310.009	1.69	P	5310.0009	0.17	P	5309.9949	-0.96	P	5310.0042	0.79	P
50	9	5309.9766	-4.41	P	5309.9831	-3.18	P	5309.9799	-3.79	P	5309.9781	-4.12	P
Frequency stability versus Voltage.													
Worst Case Operating Frequency：5310MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	7.65	5309.9886	-2.15	P	5309.9775	-4.24	P	5309.9798	-3.8	P	5309.9772	-4.29	P
25	9	5310.0242	4.56	P	5310.0207	3.9	P	5310.0166	3.13	P	5310.0222	4.18	P
25	10.35	5310.0081	1.53	P	5310.0003	0.06	P	5310.0001	0.02	P	5310.0019	0.36	P

Frequency stability versus Temp.													
Worst Case Operating Frequency：5290MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
-30	9	5290.0196	3.71	P	5290.0259	4.9	P	5290.0168	3.18	P	5290.0257	4.86	P
-20	9	5289.9928	-1.36	P	5289.9905	-1.8	P	5289.9918	-1.55	P	5289.9904	-1.81	P
-10	9	5289.9773	-4.29	P	5289.9813	-3.53	P	5289.9819	-3.42	P	5289.982	-3.4	P
0	9	5290.016	3.02	P	5290.0225	4.25	P	5290.0177	3.35	P	5290.0171	3.23	P
10	9	5289.9547	-8.56	P	5289.9629	-7.01	P	5289.9542	-8.66	P	5289.9555	-8.41	P
20	9	5289.9521	-9.05	P	5289.9499	-9.47	P	5289.949	-9.64	P	5289.9522	-9.04	P
30	9	5290.0252	4.76	P	5290.0221	4.18	P	5290.0196	3.71	P	5290.023	4.35	P
40	9	5289.9948	-0.98	P	5289.9991	-0.17	P	5290.0086	1.63	P	5289.9979	-0.4	P
50	9	5289.9778	-4.2	P	5289.9805	-3.69	P	5289.9781	-4.14	P	5289.9802	-3.74	P
Frequency stability versus Voltage.													
Worst Case Operating Frequency：5290MHz													
Temp. (°C)	Power Supply(VDC)	0 minute			2 minute			5 minute			10 minute		
		Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F	Measured Frequency (MHz)	Frequency Error (ppm)	P/F
25	7.65	5289.9831	-3.19	P	5289.9811	-3.57	P	5289.9821	-3.38	P	5289.9828	-3.25	P
25	9	5290.0241	4.56	P	5290.0258	4.88	P	5290.0248	4.69	P	5290.0223	4.22	P
25	10.35	5290.0056	1.06	P	5289.9954	-0.87	P	5289.9959	-0.78	P	5289.9965	-0.66	P

Note: P for PASS and F for Fail.

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** for details.

---END---