FCC REPORT

Applicant:	SHENZHEN GIEC DIGITAL CO., LTD
Address of Applicant:	No.1 Building,Factory,No.7 District,Dayang Development Areas,FuYongStreet,Baoan,Shenzhen,China
Equipment Under Test (EUT)	
Product Name:	Tablet PC
Model No.:	TM101W635L, GK-MER1027, TM101W638L,GK-MEV1027
FCC ID:	2AHYKTM1011
Applicable standards:	FCC CFR Title 47 Part 15 Subpart E Section 15.407:2015
Date of sample receipt:	November 01, 2016
Date of Test:	November 02-17, 2016
Date of report issue:	November 18, 2016
Test Result :	PASS *

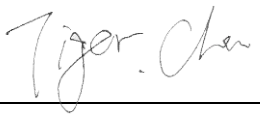
* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

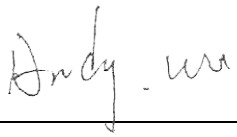
Robinson Lo
Laboratory Manager

2 Version

Version No.	Date	Description
00	*November 18, 2016*	*Original*

Prepared By:  ***Date:*** *November 18, 2016*

Project Engineer

Check By:  ***Date:*** *November 18, 2016*

Reviewer

3 Contents

Page

4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	PASS
AC Power Line Conducted Emission	15.207	PASS
Peak 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	15.205	PASS
Frequency Stability	15.407(f)	PASS

Remark:

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

Fail: The EUT does not comply with the essential requirements in the standard.

4.1 Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	9kHz ~ 30MHz	± 4.34dB	(1)
Radiated Emission	30MHz ~ 1000MHz	± 4.24dB	(1)
Radiated Emission	1GHz ~ 40GHz	± 4.68dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	± 3.45dB	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			
Remark: Test according to ANSI C63.10:2013 and ANSI C63.4:2014			

5 General Information

5.1 Client Information

Applicant:	SHENZHEN GIEC DIGITAL CO., LTD
Address of Applicant:	No.1 Building,Factory,No.7 District,Dayang Development Areas,FuYongStreet,Baoan,Shenzhen,China
Manufacturer:	SHENZHEN GIEC DIGITAL CO., LTD
Address of Manufacturer Factory:	No.1 Building,Factory,No.7 District,Dayang Development Areas,FuYongStreet,Baoan,Shenzhen,China

5.2 General Description of EUT

Product Name:	Tablet PC
Model No.:	TM101W635L, GK-MER1027, TM101W638L,GK-MEV1027
Test Model:	TM101W635L
Remark: All above models are identical in the same PCB layout, interior structure and electrical circuits. The only difference is the model name and battery capacity for commercial purpose.	
Operation Frequency:	802.11a/802.11n(HT20)/802.11ac(HT20): 5180MHz ~ 5240MHz; 802.11n(HT40)/ 802.11ac(HT40): 5190MHz ~ 5230MHz 802.11ac(HT80): 5210MHz
Channel numbers:	802.11a/802.11n(HT20)/802.11ac(HT20): 4; 802.11n(HT40)/ 802.11ac(HT40): 2 802.11ac(HT80): 1
Channel separation:	802.11a/802.11n(HT20)/802.11ac(HT20): 20MHz; 802.11n(HT40)/ 802.11ac(HT40): 40MHz 802.11ac(HT80): 80MHz
Modulation technology:	OFDM
Antenna Type:	PCB Antenna
Antenna gain:	2.0dBi
Power supply:	Quick Charger: Model:A68-502000 Input: AC 100-240V, 50/60Hz, 0.35A Output: DC 5V, 2A or DC 3.7V 6000mAh Li-ion Battery for TM101W635L and GK-MER1027 DC 3.7V 6800mAh Li-ion Battery for TM101W638L and GK-MEV1027

5.3 Test mode

Transmitting mode	Keep the EUT in transmitting with modulation. EUT was test with 98% duty cycle at its maximum power control level.
Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, the duty cycle is 98% and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.	

5.4 Test Facility

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

● **FCC —Registration No.: 600491**

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. Registration 600491, June 22, 2016.

● **Industry Canada (IC) —Registration No.: 9079A-2**

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 with Registration No.: 9079A-2, August 15, 2016.

5.5 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.
Address: No. 301-309, 3/F., Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China
Tel: 0755-27798480
Fax: 0755-27798960

5.6 Description of Support Units

None.

5.7 Deviation from Standards

None.

5.8 Abnormalities from Standard Conditions

None.

5.9 Other Information Requested by the Customer

None.

5.10 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. 03 2015	July. 02 2020
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	June. 29 2016	June. 28 2017
4	Spectrum analyzer	Agilent	E4447A	GTS516	June. 29 2016	June. 28 2017
5	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 29 2016	June. 28 2017
6	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 29 2016	June. 28 2017
7	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	June. 29 2016	June. 28 2017
8	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 29 2016	June. 28 2017
9	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
10	Coaxial Cable	GTS	N/A	GTS213	June. 29 2016	June. 28 2017
11	Coaxial Cable	GTS	N/A	GTS211	June. 29 2016	June. 28 2017
12	Coaxial cable	GTS	N/A	GTS210	June. 29 2016	June. 28 2017
13	Coaxial Cable	GTS	N/A	GTS212	June. 29 2016	June. 28 2017
14	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 29 2016	June. 28 2017
15	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	June. 29 2016	June. 28 2017
16	Amplifier (18-40GHz)	MITEQ	AMF-6F-18004000-29-8P	GTS534	June. 29 2016	June. 28 2017
17	Band filter	Amindeon	82346	GTS219	June. 29 2016	June. 28 2017
18	Constant temperature and humidity box	Oregon Scientific	BA-888	GTS248	June. 29 2016	June. 28 2017
19	D.C. Power Supply	Instek	PS-3030	GTS232	June. 29 2016	June. 28 2017
20	Universal radio communication tester	Rohde & Schwarz	CMU200	GTS235	June. 29 2016	June. 28 2017
21	Splitter	Agilent	11636B	GTS237	June. 29 2016	June. 28 2017
22	Power Meter	Anritsu	ML2495A	GTS540	June. 29 2016	June. 28 2017
23	Power Sensor	Anritsu	MA2411B	GTS541	June. 29 2016	June. 28 2017

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 16 2014	May 15 2019
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June 29 2016	June 28 2017
3	Pulse Limiter	R&S	ESH3-Z2	GTS224	June 29 2016	June 28 2017
4	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June 29 2016	June 28 2017
5	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	June 29 2016	June 28 2017
6	Coaxial Cable	GTS	N/A	GTS227	June 29 2016	June 28 2017
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Thermo meter	KTJ	TA328	GTS233	June 29 2016	June 28 2017

General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Barometer	ChangChun	DYM3	GTS257	June 29 2016	June 28 2017

5 Test results and Measurement Data

5.1 Antenna requirement:

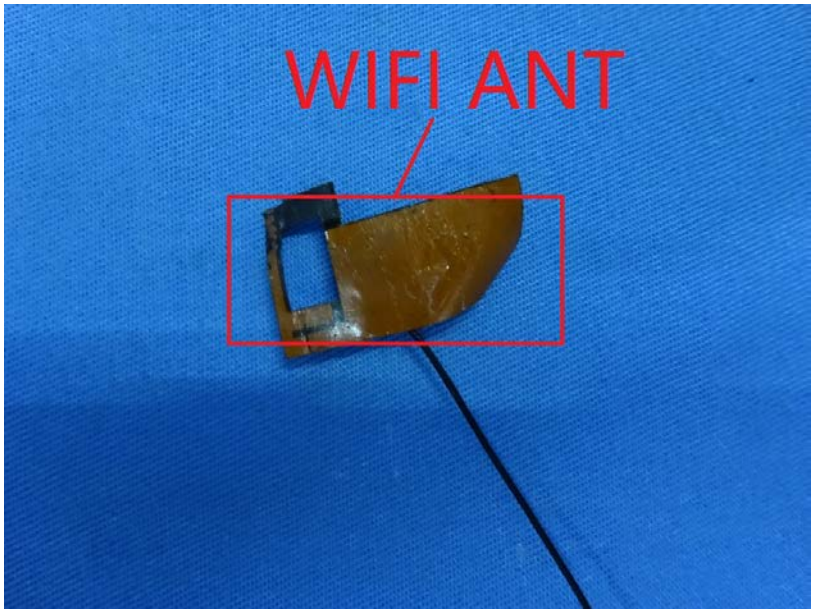
Standard requirement:	FCC Part15 C Section 15.203

15.203 requirement:

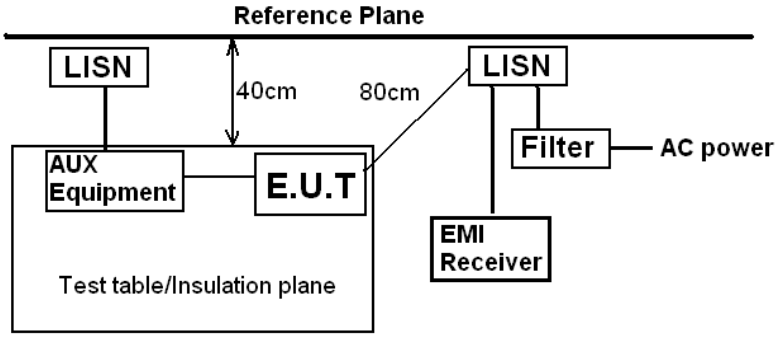
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit 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 PCB antenna. The best case gain of the antenna is 2.0Bi.



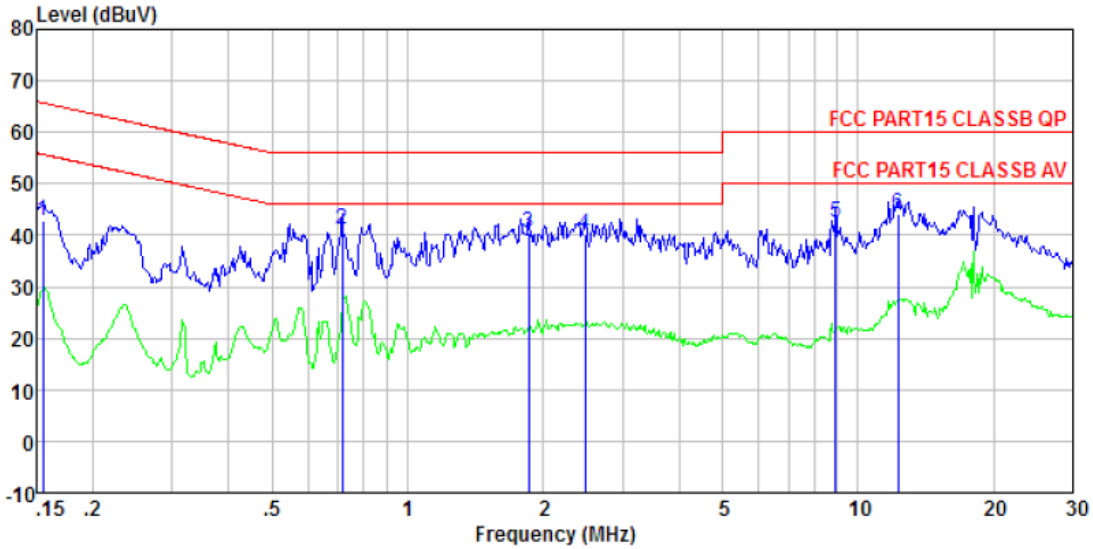
5.2 Conducted Emissions

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 5.10 for details
Test mode:	Refer to section 5.3 for details. All of list mode were tested, Only the data of worst case is reported.
Test results:	Pass

Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

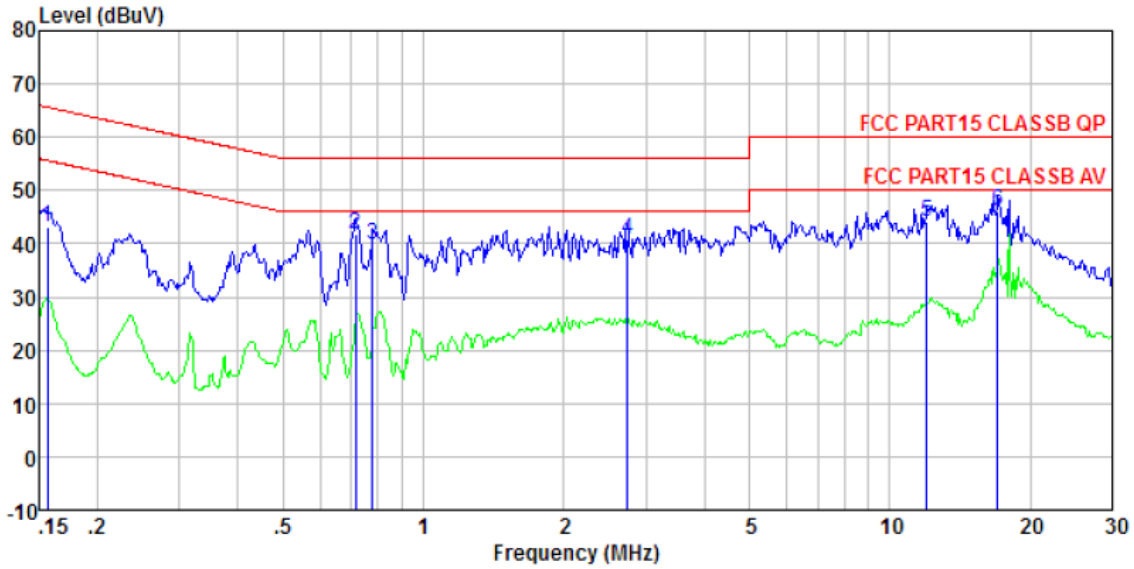
Line:



Site : Shielded room
Condition : FCC PART15 CLASSB QP LISN-2016 LINE
Job No. : 0003
Test mode : WiFi(5G) mode
Test Engineer: Boy

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.155	42.38	0.42	0.12	42.92	65.74	-22.82	QP
2	0.716	40.76	0.28	0.13	41.17	56.00	-14.83	QP
3	1.858	40.21	0.20	0.14	40.55	56.00	-15.45	QP
4	2.474	39.83	0.20	0.15	40.18	56.00	-15.82	QP
5	8.916	42.00	0.22	0.19	42.41	60.00	-17.59	QP
6	12.253	43.56	0.22	0.20	43.98	60.00	-16.02	QP

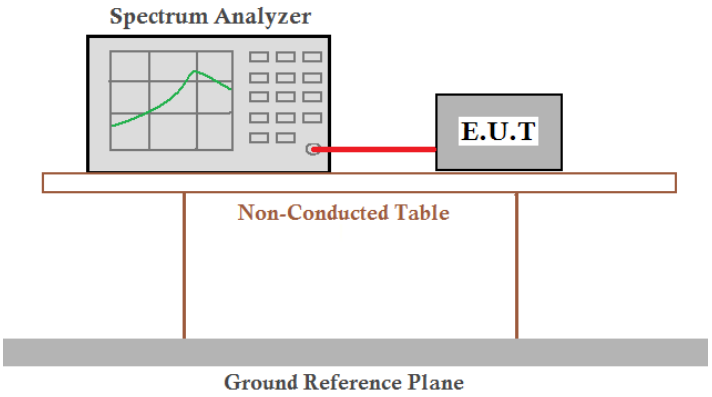
Neutral:



Site : Shielded room
Condition : FCC PART15 CLASSB QP LISN-2016 NEUTRAL
Job No. : 0003
Test mode : WiFi(5G) mode
Test Engineer: Boy

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.156	42.69	0.41	0.12	43.22	65.65	-22.43	QP
2	0.716	41.41	0.24	0.13	41.78	56.00	-14.22	QP
3	0.779	39.41	0.23	0.13	39.77	56.00	-16.23	QP
4	2.736	40.59	0.20	0.15	40.94	56.00	-15.06	QP
5	11.996	43.70	0.22	0.20	44.12	60.00	-15.88	QP
6	17.018	45.50	0.26	0.22	45.98	60.00	-14.02	QP

5.3 Emission Bandwidth and 99% Occupied Bandwidth

Test Requirement:	FCC Part15 E Section 15.407
Test Method:	KDB 789033 D02 General UNII Test Procedures New Rules v01
Limit:	N/A
Test setup:	
Test procedure:	According to KDB 789033 D02 General UNII Test Procedures New Rules v01.
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

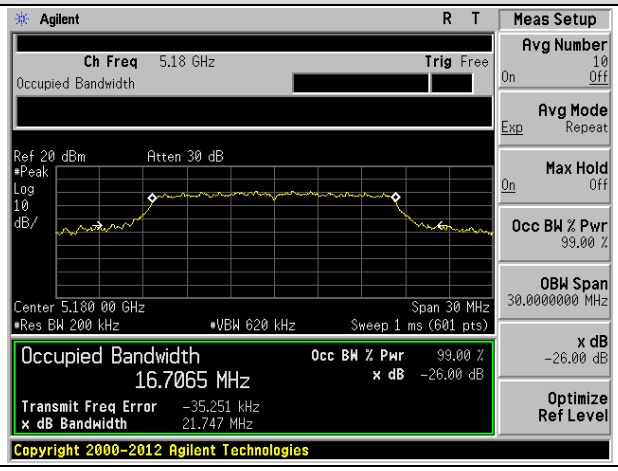
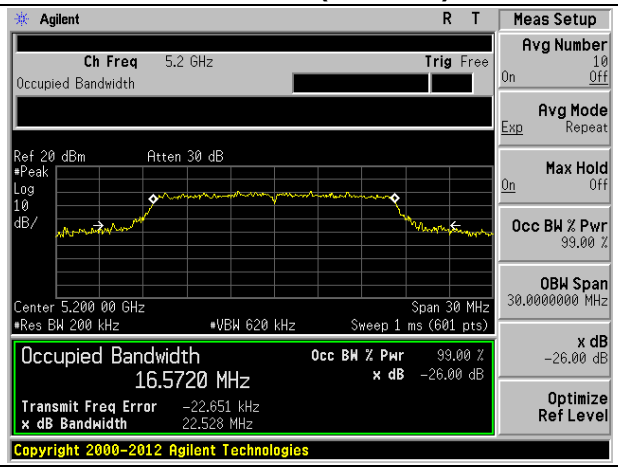
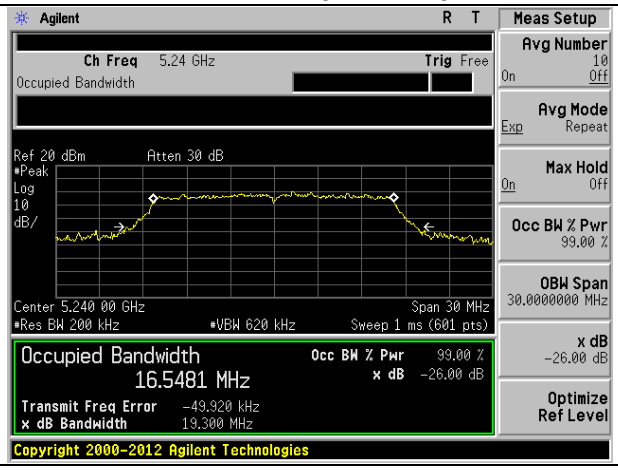
Measurement Data:

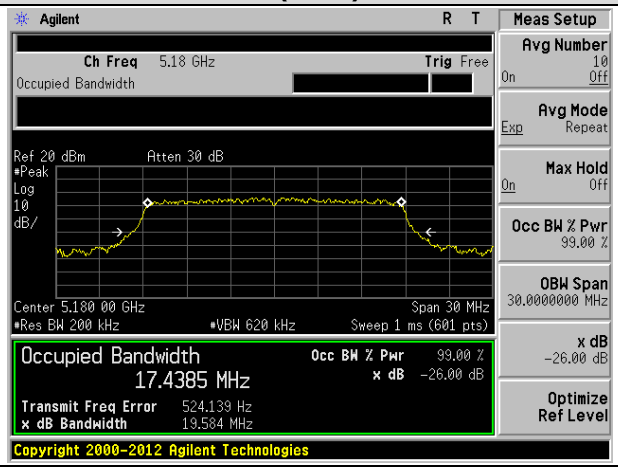
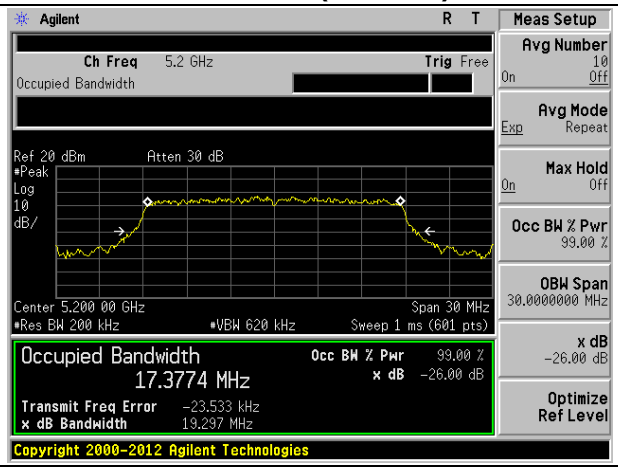
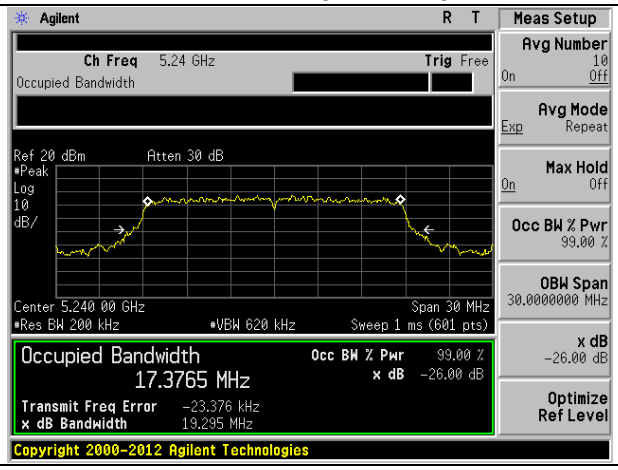
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)			26dB Occupied Bandwidth (MHz)		
		802.11a	802.11n(HT 20)	802.11ac(HT20)	802.11a	802.11n(HT 20)	802.11ac(HT20)
36	5180.00	16.7065	17.4385	17.4072	21.747	19.584	19.460
40	5200.00	16.5720	17.3774	17.3842	22.528	19.297	19.101
48	5240.00	16.5481	17.3765	17.3999	19.300	19.295	19.399

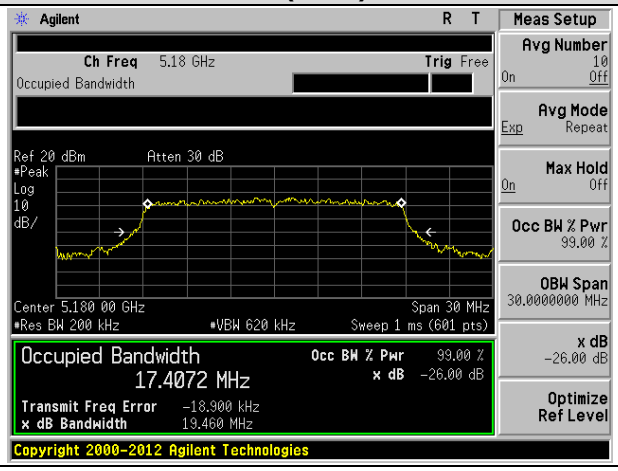
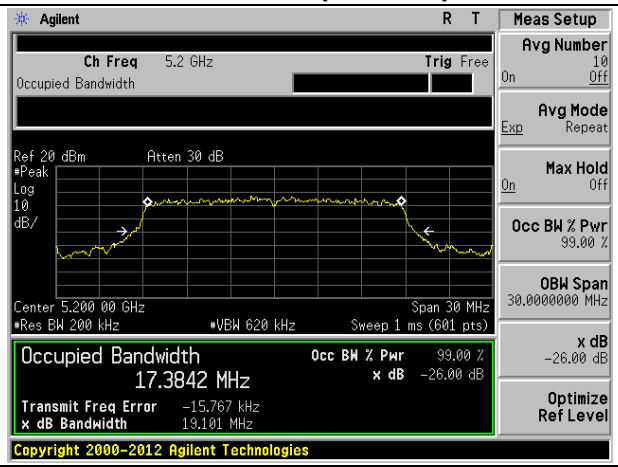
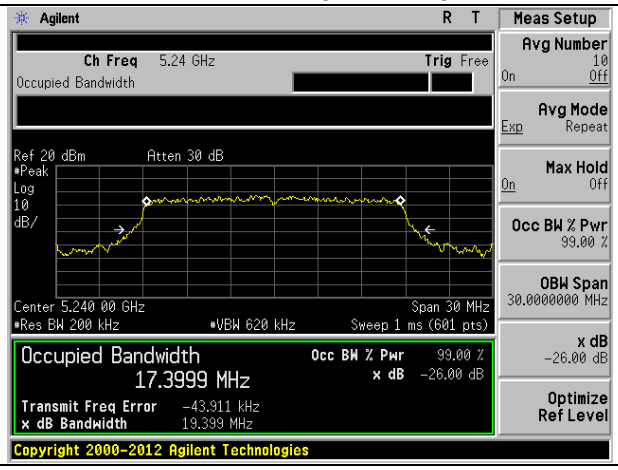
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)		26dB Occupied Bandwidth (MHz)	
		802.11n(HT40)	802.11ac(HT40)	802.11n(HT40)	802.11ac(HT40)
38	5190.00	36.0018	35.9952	39.030	39.335
46	5230.00	36.0120	36.0334	39.628	38.929

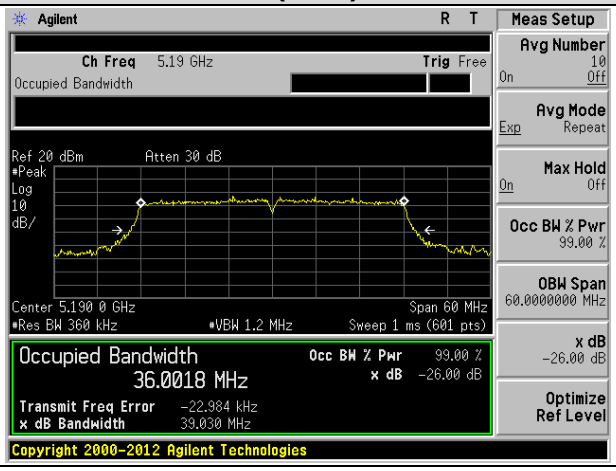
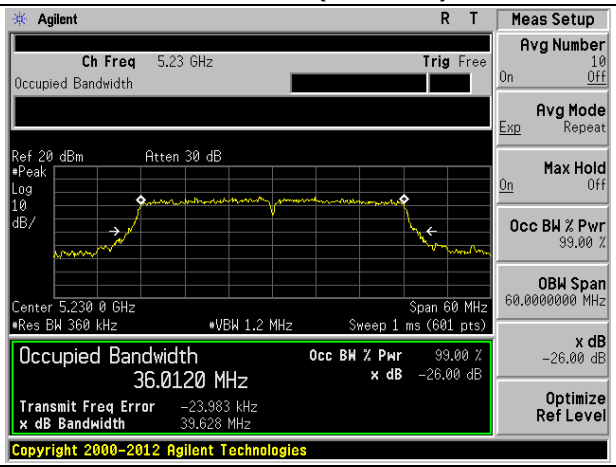
CH. No.	Frequency (MHz)	99% Occupied Bandwidth (MHz)	26dB Occupied Bandwidth (MHz)
		802.11ac(HT80)	802.11ac(HT80)
42	5210.00	74.9667	79.983

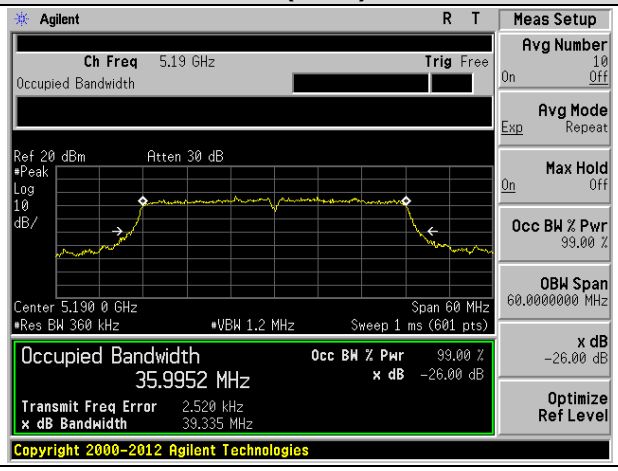
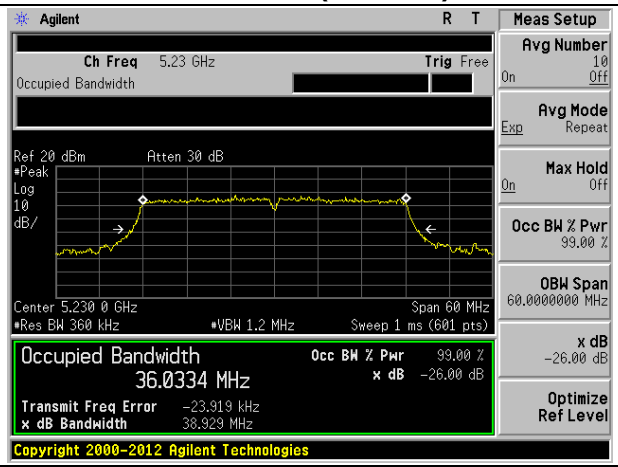
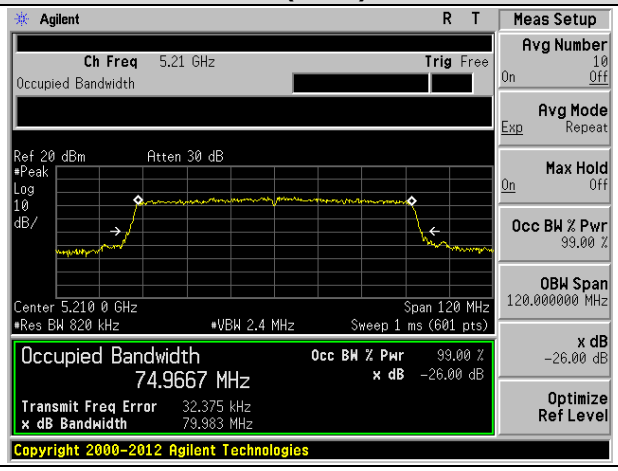
Test plots as followed:

802.11a mode

Channel 36 (5180MHz)

Channel 40 (5200MHz)

Channel 48 (5240MHz)

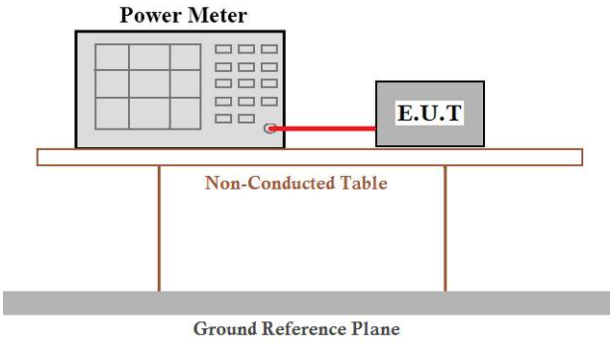
802.11n(HT20) mode

Channel 36 (5180MHz)

Channel 40 (5200MHz)

Channel 48 (5240MHz)

802.11ac(HT20) mode

Channel 36 (5180MHz)

Channel 40 (5200MHz)

Channel 48 (5240MHz)

802.11n(HT40) mode

Channel 38 (5190MHz)

Channel 46 (5230MHz)

802.11ac(HT40) mode

Channel 38 (5190MHz)

Channel 46 (5230MHz)
802.11ac(HT80) mode

Channel 40 (5210MHz)

5.4 Peak Transmit Power

Test Requirement:	FCC Part15 E Section 15.407
Test Method:	KDB 789033 D02 General UNII Test Procedures New Rules v01
Limit:	24dBm
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 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

Note: Output Power = Measured Power + Duty Factor

Duty Factor = 10 log (1/Duty Cycle)

802.11a(HT20) mode						
CH No.	Frequency (MHz)	Measured Power (dBm)			Limit (dBm)	Result
		Measured	Dutycycle Factor	Total Output Power (dBm)		
36	5180.00	7.97	0.08	8.05	24	Pass
40	5200.00	7.94	0.08	8.02	24	Pass
48	5240.00	7.89	0.08	7.97	24	Pass

802.11n(HT20) mode						
CH No.	Frequency (MHz)	Measured Power (dBm)			Limit (dBm)	Result
		Measured	Dutycycle Factor	Total Output Power (dBm)		
36	5180.00	7.86	0.08	7.94	24	Pass
40	5200.00	8.02	0.08	8.10	24	Pass
48	5240.00	7.64	0.08	7.72	24	Pass

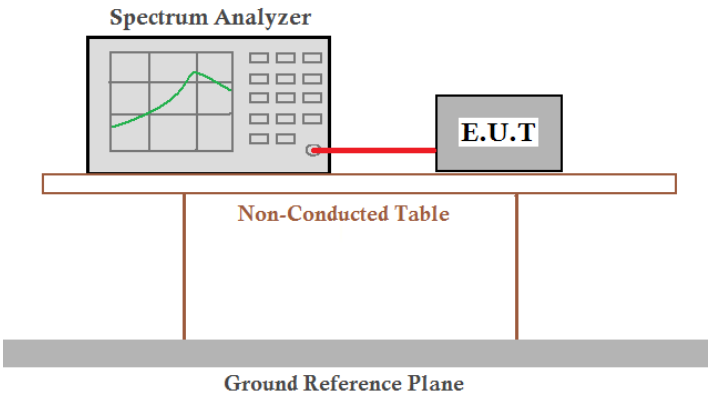
802.11ac(HT20) mode						
CH No.	Frequency (MHz)	Measured Power (dBm)			Limit (dBm)	Result
		Measured	Dutycycle Factor	Total Output Power (dBm)		
36	5180.00	7.91	0.08	7.99	24	Pass
40	5200.00	7.63	0.08	7.71	24	Pass
48	5240.00	7.88	0.08	7.96	24	Pass

802.11n(HT40) mode						
CH No.	Frequency (MHz)	Measured Power (dBm)			Limit (dBm)	Result
		Measured	Dutycycle Factor	Total Output Power (dBm)		
38	5190.00	7.64	0.08	7.72	24	Pass
46	5230.00	7.86	0.08	7.94	24	Pass

802.11ac(HT40) mode						
CH No.	Frequency (MHz)	Measured Power (dBm)			Limit (dBm)	Result
		Measured	Dutycycle Factor	Total Output Power (dBm)		
38	5190.00	7.43	0.08	7.51	24	Pass
46	5230.00	7.75	0.08	7.83	24	Pass

802.11ac(HT80) mode						
CH No.	Frequency (MHz)	Measured Power (dBm)			Limit (dBm)	Result
		Measured	Dutycycle Factor	Total Output Power (dBm)		
42	5210.00	6.32	0.08	6.40	24	Pass

5.5 Peak Power Spectral Density

Test Requirement:	FCC Part15 E Section 15.407
Test Method:	ANSI C63.10:2013 and KDB 789033 D02 General UNII Test Procedures New Rules v01
Limit:	11dBm/MHz
Test setup:	
Test procedure:	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 PPSD.
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

802.11a mode					
Channel No.	Frequency (MHz)	Measured PPSD (dBm/MHz)	Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
36	5180.00	0.59	0.67	11.00	Pass
40	5200.00	0.64	0.72	11.00	Pass
48	5240.00	0.44	0.52	11.00	Pass

802.11n(HT20) mode					
Channel No.	Frequency (MHz)	Measured PPSD (dBm/MHz)	Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
36	5180.00	-0.89	-0.81	11.00	Pass
40	5200.00	-1.24	-1.16	11.00	Pass
48	5240.00	-0.89	-0.81	11.00	Pass

802.11ac(HT20) mode					
Channel No.	Frequency (MHz)	Measured PPSD (dBm/MHz)	Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
36	5180.00	-1.06	-0.98	11.00	Pass
40	5200.00	-0.79	-0.71	11.00	Pass
48	5240.00	-0.94	-0.86	11.00	Pass

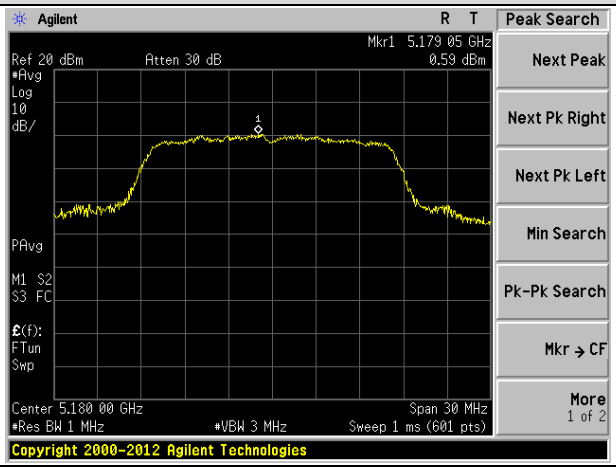
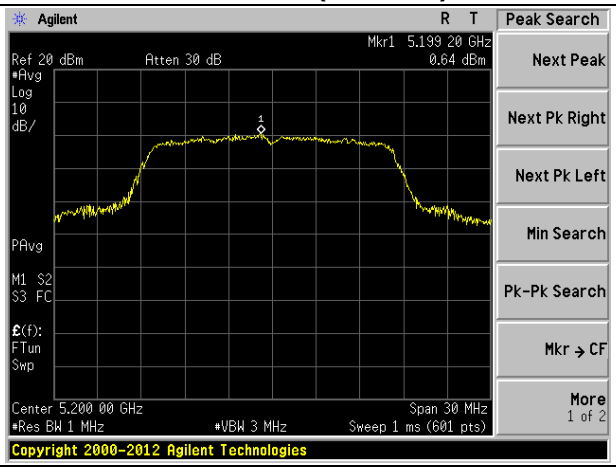
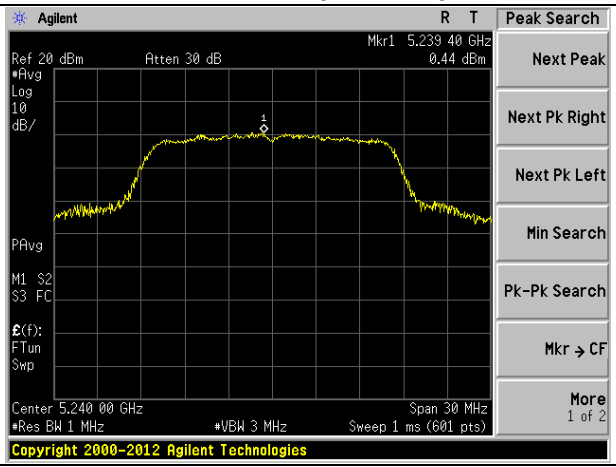
802.11n(HT40) mode					
Channel No.	Frequency (MHz)	Measured PPSD (dBm/MHz)	Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
38	5190.00	-3.90	-3.82	11.00	Pass
46	5230.00	-4.26	-4.18	11.00	Pass

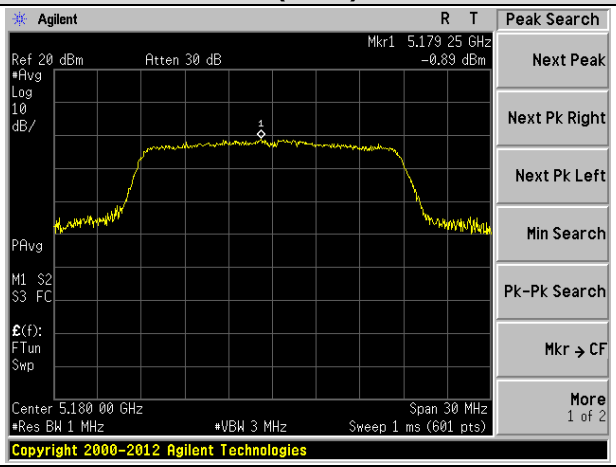
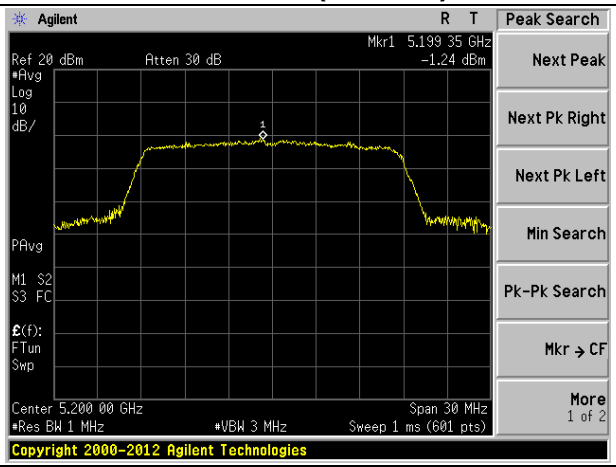
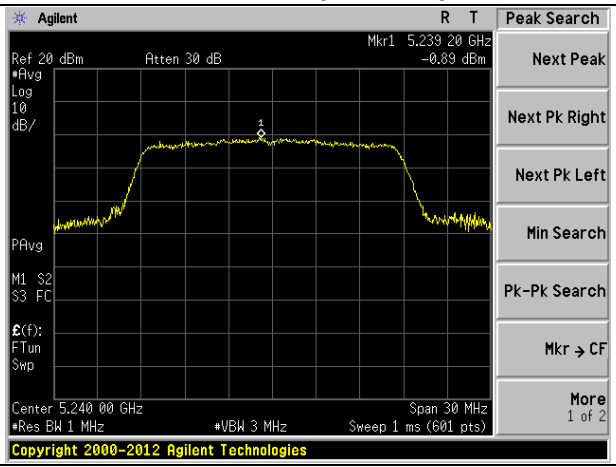
802.11ac(HT40) mode					
Channel No.	Frequency (MHz)	Measured PPSD (dBm/MHz)	Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
38	5190.00	-4.03	-3.95	11.00	Pass
46	5230.00	-4.18	-4.10	11.00	Pass

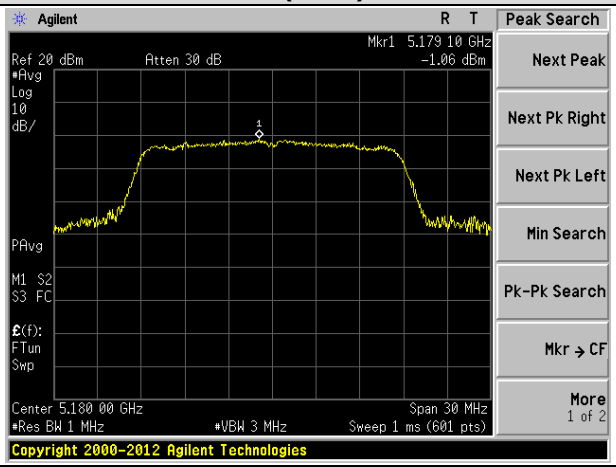
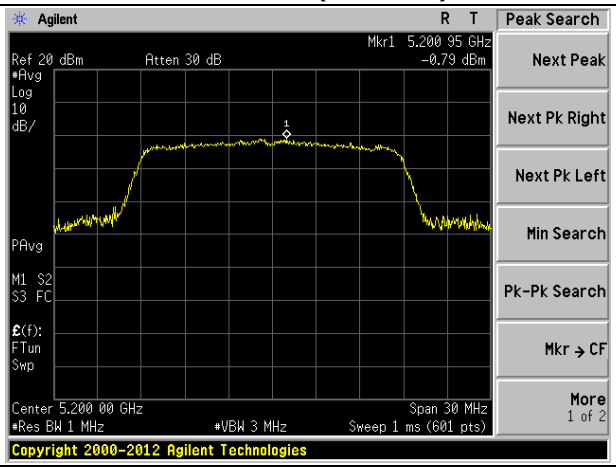
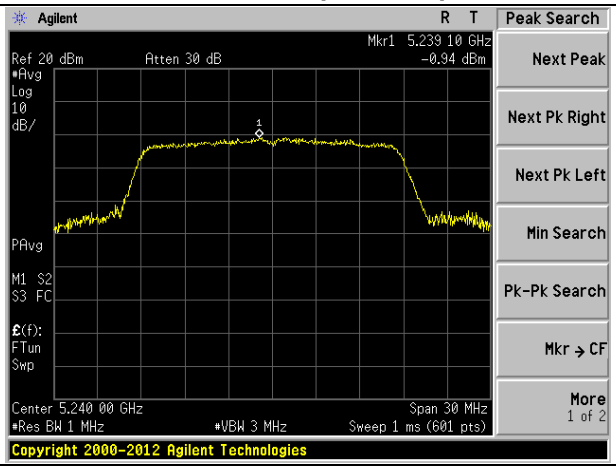
802.11ac(HT80) mode					
Channel No.	Frequency (MHz)	Measured PPSD (dBm/MHz)	Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
42	5210	-6.13	-6.05	11.00	Pass

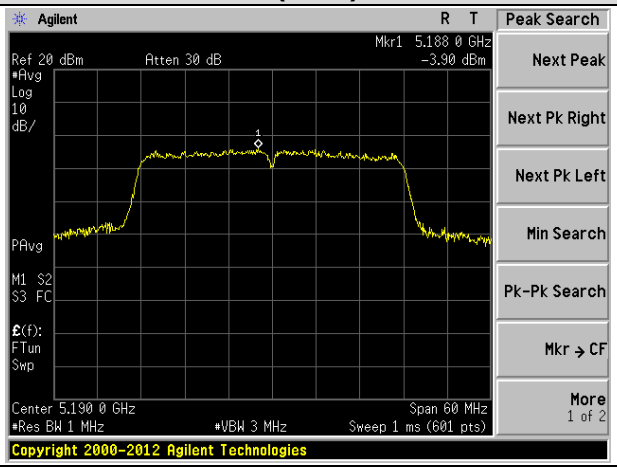
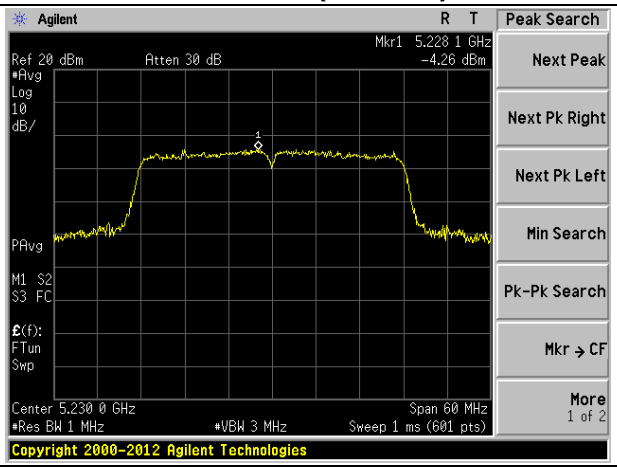
Note: Total PPSD = Measured PPSD + dutycycle factor 0.08

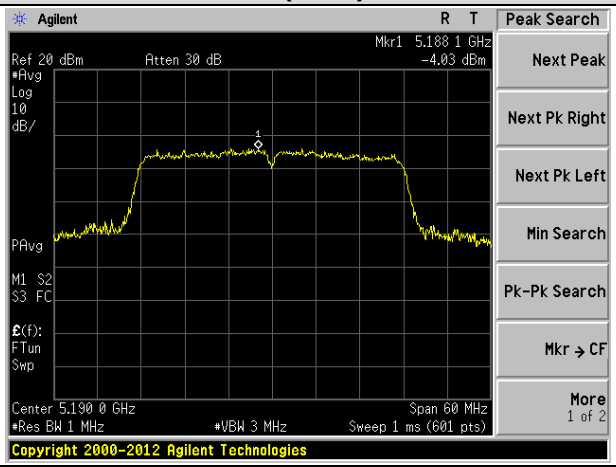
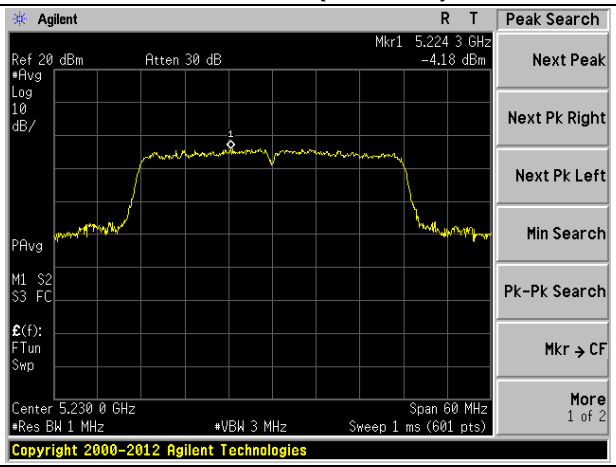
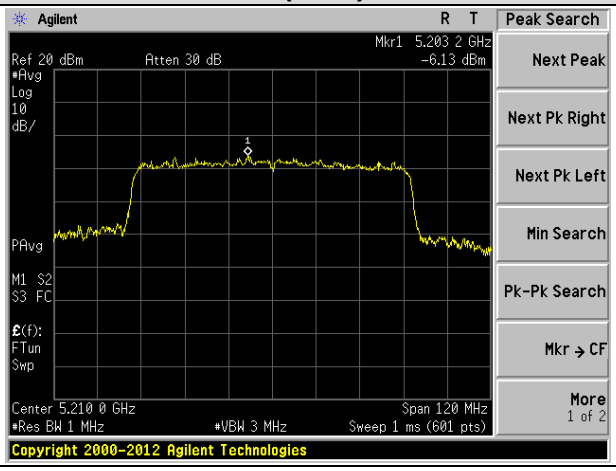
Test plots as followed:

802.11a mode

Channel 36 (5180MHz)

Channel 40 (5200MHz)

Channel 48 (5240MHz)

802.11n(HT20) mode

Channel 36 (5180MHz)

Channel 40 (5200MHz)

Channel 48 (5240MHz)

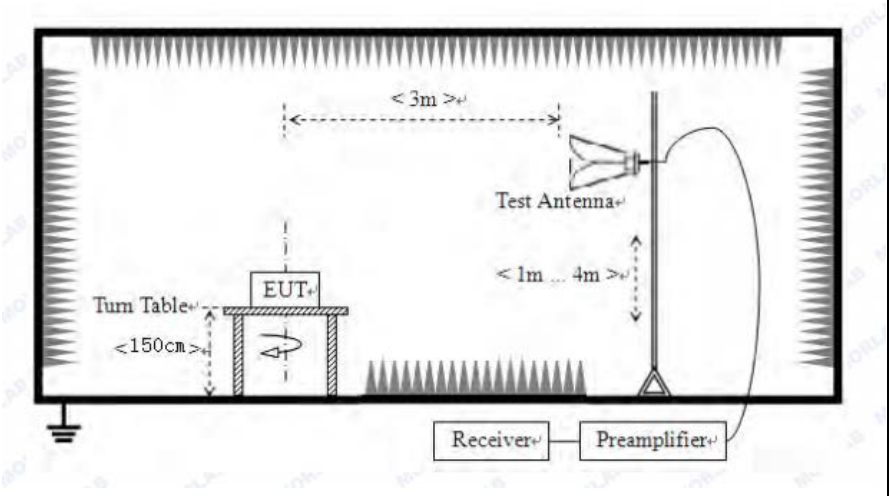
802.11ac(HT20) mode

Channel 36 (5180MHz)

Channel 40 (5200MHz)

Channel 48 (5240MHz)

802.11n(HT40) mode

Channel 38 (5190MHz)

Channel 46 (5230MHz)

802.11ac(HT40) mode

Channel 38 (5190MHz)

Channel 46 (5230MHz)
802.11ac(HT80) mode

Channel 42 (5210MHz)

5.6 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>RMS</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>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 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.</td></tr>
<tr><td>Test setup:</td><td>Above 1GHz</td></tr>
</table>

	
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Remark:

According to KDB 789033 D02V01 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:

Test mode:	802.11a	Test channel:	Lowest

Peak value:

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
5150.00	40.47	32.07	8.99	32.26	49.27	68.20	-18.93	Horizontal
5150.00	40.32	32.07	8.99	32.26	49.12	68.20	-19.08	Vertical

Average value:

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
5150.00	31.84	32.07	8.99	32.26	40.64	54.00	-13.36	Horizontal
5150.00	34.64	32.07	8.99	32.26	43.44	54.00	-10.56	Vertical

Test mode:	802.11a	Test channel:	Highest

Peak value:

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
5350.00	45.42	31.75	9.29	37.20	49.26	68.20	-18.94	Horizontal
5350.00	45.71	31.75	9.29	37.20	49.55	68.20	-18.65	Vertical

Average value:

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
5350.00	33.70	31.75	9.29	37.20	37.54	54.00	-16.46	Horizontal
5350.00	33.95	31.75	9.29	37.20	37.79	54.00	-16.21	Vertical

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

Test mode:	802.11n(HT20)	Test channel:	Lowest

Peak value:

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
5150.00	41.92	32.07	8.99	32.26	50.72	68.20	-17.48	Horizontal
5150.00	42.14	32.07	8.99	32.26	50.94	68.20	-17.26	Vertical

Average value:

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
5150.00	33.97	32.07	8.99	32.26	42.77	54.00	-11.23	Horizontal
5150.00	32.85	32.07	8.99	32.26	44.65	54.00	-12.35	Vertical

Test mode:	802.11n(HT20)	Test channel:	Highest

Peak value:

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
5350.00	41.34	31.75	9.29	37.20	45.18	68.20	-23.02	Horizontal
5350.00	42.01	31.75	9.29	37.20	45.85	68.20	-22.35	Vertical

Average value:

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
5350.00	35.64	31.75	9.29	37.20	39.48	54.00	-14.52	Horizontal
5350.00	30.57	31.75	9.29	37.20	34.41	54.00	-19.59	Vertical

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

Test mode:	802.11ac(HT20)	Test channel:	Lowest

Peak value:

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
5150.00	42.24	32.07	8.99	32.26	51.04	68.20	-17.16	Horizontal
5150.00	43.00	32.07	8.99	32.26	51.80	68.20	-16.40	Vertical

Average value:

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
5150.00	31.52	32.07	8.99	32.26	40.32	54.00	-13.68	Horizontal
5150.00	30.94	32.07	8.99	32.26	39.74	54.00	-14.26	Vertical

Test mode:	802.11ac(HT20)	Test channel:	Highest

Peak value:

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
5350.00	42.11	31.75	9.29	37.20	45.95	68.20	-22.25	Horizontal
5350.00	44.24	31.75	9.29	37.20	48.08	68.20	-20.12	Vertical

Average value:

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
5350.00	34.68	31.75	9.29	37.20	38.52	54.00	-15.48	Horizontal
5350.00	35.02	31.75	9.29	37.20	38.86	54.00	-15.14	Vertical

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

Test mode:	802.11n(HT40)	Test channel:	Lowest

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Polarization	
5150.00	30.26	32.07	8.99	32.26	39.06	54.00	Horizontal	
5150.00	30.41	32.07	8.99	32.26	39.21	54.00	Vertical	

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Polarization	
5150.00	34.11	32.07	8.99	32.26	42.91	68.20	Horizontal	
5150.00	32.37	32.07	8.99	32.26	41.17	68.20	Vertical	

Test mode:	802.11n(HT40)	Test channel:	Highest

Peak value:

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
5350.00	42.29	31.75	9.29	37.20	46.13	68.20	-22.07	Horizontal
5350.00	43.45	31.75	9.29	37.20	47.29	68.20	-20.91	Vertical

Average value:

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
5350.00	35.48	31.75	9.29	37.20	39.32	54.00	-14.68	Horizontal
5350.00	31.86	31.75	9.29	37.20	35.70	54.00	-18.30	Vertical

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

Test mode:	802.11ac(HT40)	Test channel:	Lowest

Peak value:

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
5150.00	31.48	32.07	8.99	32.26	40.28	68.20	-27.92	Horizontal
5150.00	33.93	32.07	8.99	32.26	42.73	68.20	-25.47	Vertical

Test mode:	802.11ac(HT40)	Test channel:	Highest

Peak value:

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
5350.00	43.07	31.75	9.29	37.20	46.91	68.20	-21.29	Horizontal
5350.00	42.37	31.75	9.29	37.20	46.21	68.20	-21.99	Vertical

Average value:

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
5350.00	30.82	31.75	9.29	37.20	34.66	54.00	-19.34	Horizontal
5350.00	30.51	31.75	9.29	37.20	34.35	54.00	-19.65	Vertical

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor .

Test mode:	802.11ac(HT80)	Test channel:	Middle

Peak value:

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
5150.00	31.33	32.07	8.99	32.26	40.13	68.20	-28.07	Horizontal
5150.00	34.46	32.07	8.99	32.26	43.26	68.20	-24.94	Vertical

Average value:

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
5350.00	33.70	31.75	9.29	37.20	37.54	54.00	-16.46	Horizontal
5350.00	34.64	31.75	9.29	37.20	38.48	54.00	-15.52	Vertical

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

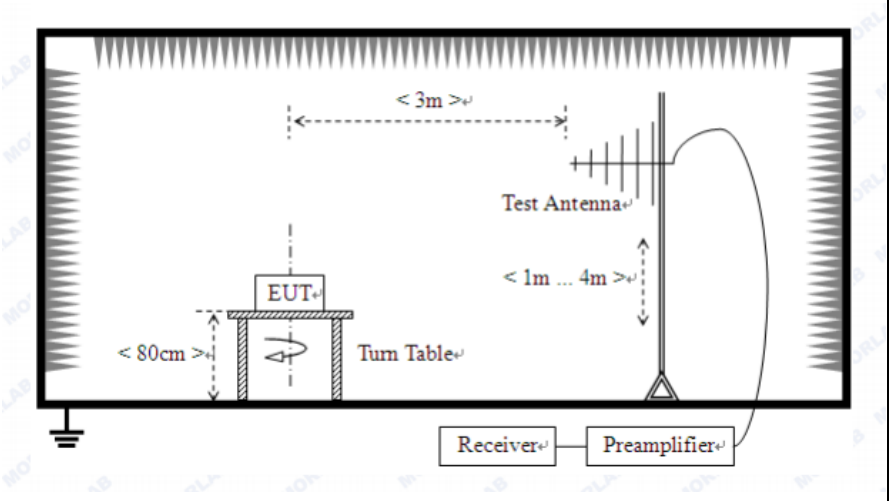
5.7 Radiated Emission

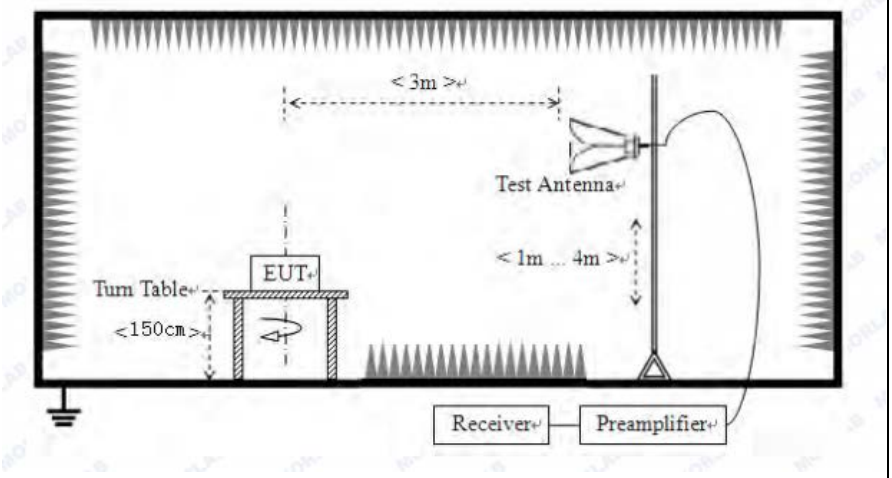
<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test Frequency Range:</td><td>30MHz to 40GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m (Semi-Anechoic Chamber)</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Value</td></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>RMS</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></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>74.0</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Test Procedure:</td><td>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.</td></tr>
</table>

	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:	Below 1GHz

<table>
<tr><td></td><td> 

Above 1GHz

</td></tr>
<tr><td>Test Instruments:</td><td>Refer to section 5.10 for details</td></tr>
<tr><td>Test mode:</td><td>Refer to section 5.3 for details</td></tr>
<tr><td>Test results:</td><td>Pass</td></tr>
</table>

Measurement Data:

Below 1GHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	QP Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
51.48	45.99	15.19	0.79	29.99	31.98	40.00	-8.02	Vertical
127.22	47.14	11.32	1.41	29.53	30.34	43.50	-13.16	Vertical
256.52	52.44	14.06	2.16	29.70	38.96	46.00	-7.04	Vertical
428.02	47.69	17.51	2.99	29.44	38.75	46.00	-7.25	Vertical
599.32	41.41	20.45	3.72	29.30	36.28	46.00	-9.72	Vertical
768.75	42.42	21.68	4.35	29.20	39.25	46.00	-6.75	Vertical
209.31	43.17	12.87	1.89	29.29	28.64	43.50	-14.86	Horizontal
341.98	44.52	16.15	2.58	29.77	33.48	46.00	-12.52	Horizontal
389.36	49.17	16.83	2.80	29.55	39.25	46.00	-6.75	Horizontal
465.60	45.79	17.71	3.16	29.37	37.29	46.00	-8.71	Horizontal
560.69	45.03	19.77	3.56	29.30	39.06	46.00	-6.94	Horizontal
684.75	42.52	20.75	4.04	29.21	38.10	46.00	-7.90	Horizontal

Above 1GHz:

802.11a(HT20) 5180MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	PK Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360	27.15	39.67	14.62	32.65	48.79	74	-25.21	Vertical
15540	27.54	38.6	17.66	34.46	49.34	74	-24.66	Vertical
10360	27.15	39.67	14.62	32.65	48.79	74	-25.21	Horizontal
15540	27.54	38.6	17.66	34.46	49.34	74	-24.66	Horizontal

802.11a(HT20) 5200MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	PK Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400	26.02	39.75	14.63	32.71	47.69	74	-26.31	Vertical
15600	26.79	38.33	17.67	34.17	48.62	74	-25.38	Vertical
10400	26.08	39.75	14.63	32.71	47.75	74	-26.25	Horizontal
15600	28.46	38.33	17.67	34.17	50.29	74	-23.71	Horizontal

802.11a(HT20) 5240MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	PK Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480	27.98	39.82	14.68	32.86	49.62	74	-24.38	Vertical
15720	28.24	38.09	17.73	33.66	50.40	74	-23.60	Vertical
10480	27.63	39.82	14.68	32.86	49.27	74	-24.73	Horizontal
15720	26.79	38.09	17.73	33.66	48.95	74	-25.05	Horizontal

802.11n(HT20) 5180MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	PK Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360	27.88	39.67	14.62	32.65	49.52	74	-24.48	Vertical
15540	26.22	38.60	17.66	34.46	48.02	74	-25.98	Vertical
10360	27.80	39.67	14.62	32.65	49.44	74	-24.56	Horizontal
15540	26.29	38.60	17.66	34.46	48.09	74	-25.91	Horizontal

802.11n(HT20) 5200MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	PK Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400	27.26	39.75	14.63	32.71	48.93	74	-25.07	Vertical
15600	28.93	38.33	17.67	34.17	50.76	74	-23.24	Vertical
10400	26.03	39.75	14.63	32.71	47.70	74	-26.30	Horizontal
15600	28.66	38.33	17.67	34.17	50.49	74	-23.51	Horizontal

802.11n(HT20) 5240MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	PK Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480	27.98	39.82	14.68	32.86	49.62	74	-24.38	Vertical
15720	27.55	38.09	17.73	33.66	49.71	74	-24.29	Vertical
10480	28.19	39.82	14.68	32.86	49.83	74	-24.17	Horizontal
15720	27.60	38.09	17.73	33.66	49.76	74	-24.24	Horizontal

802.11ac(HT20) 5180MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	PK Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360	27.13	39.67	14.62	32.65	48.77	74	-25.23	Vertical
15540	26.38	38.60	17.66	34.46	48.18	74	-25.82	Vertical
10360	26.21	39.67	14.62	32.65	47.85	74	-26.15	Horizontal
15540	28.63	38.60	17.66	34.46	50.43	74	-23.57	Horizontal

802.11ac(HT20) 5200MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	PK Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400	26.06	39.75	14.63	32.71	47.73	74	-26.27	Vertical
15600	28.95	38.33	17.67	34.17	50.78	74	-23.22	Vertical
10400	28.51	39.75	14.63	32.71	50.18	74	-23.82	Horizontal
15600	26.31	38.33	17.67	34.17	48.14	74	-25.86	Horizontal

802.11ac(HT20) 5240MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	PK Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480	27.77	39.82	14.68	32.86	49.41	74	-24.59	Vertical
15720	27.30	38.09	17.73	33.66	49.46	74	-24.54	Vertical
10480	26.39	39.82	14.68	32.86	48.03	74	-25.97	Horizontal
15720	27.90	38.09	17.73	33.66	50.06	74	-23.94	Horizontal

802.11n(HT40) 5190MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	PK Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380	27.37	39.71	14.63	32.68	49.03	74	-24.97	Vertical
15570	26.59	38.46	17.67	34.32	48.4	74	-25.6	Vertical
10380	27.37	39.71	14.63	32.68	49.03	74	-24.97	Horizontal
15570	26.59	38.46	17.67	34.32	48.4	74	-25.6	Horizontal

802.11n(HT40) 5230MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	PK Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460	28.16	39.82	14.66	32.80	49.84	74	-24.16	Vertical
15690	27.23	38.09	17.71	33.81	49.22	74	-24.78	Vertical
10460	28.16	39.82	14.66	32.80	49.84	74	-24.16	Horizontal
15690	27.23	38.09	17.71	33.81	49.22	74	-24.78	Horizontal

802.11ac(HT40) 5190MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	PK Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380	28.63	39.71	14.63	32.68	50.29	74	-23.71	Vertical
15570	28.75	38.46	17.67	34.32	50.56	74	-23.44	Vertical
10380	28.97	39.71	14.63	32.68	50.63	74	-23.37	Horizontal
15570	26.88	38.46	17.67	34.32	48.69	74	-25.31	Horizontal

802.11ac(HT40) 5230MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	PK Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460	27.77	39.82	14.66	32.80	49.45	74	-24.55	Vertical
15690	28.37	38.09	17.71	33.81	50.36	74	-23.64	Vertical
10460	28.03	39.82	14.66	32.80	49.71	74	-24.29	Horizontal
15690	27.13	38.09	17.71	33.81	49.12	74	-24.88	Horizontal

802.11ac(HT80) 5210MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	PK Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10420	28.33	39.75	14.65	32.74	49.99	74	-24.01	Vertical
15630	26.69	38.33	17.69	34.03	48.68	74	-25.32	Vertical
10420	26.95	39.75	14.65	32.74	48.61	74	-25.39	Horizontal
15630	27.62	38.33	17.69	34.03	49.61	74	-24.39	Horizontal

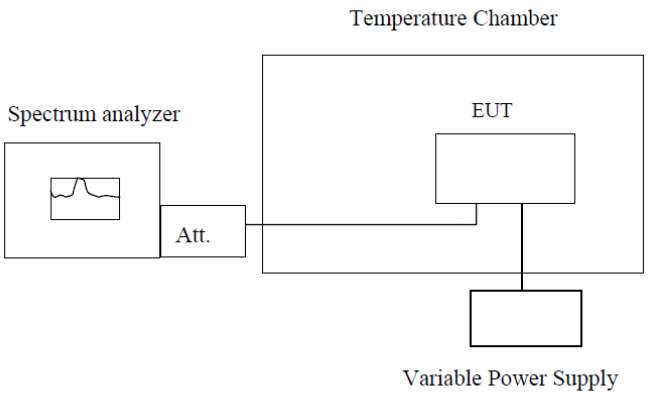
Note:

1. Level = Read Level + Antenna Factor+ Cable loss- Preamp Factor.

2. The test trace is same as the ambient noise (the test frequency range: 18GHz~40GHz), therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

5.8 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, 2014; 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 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement data:

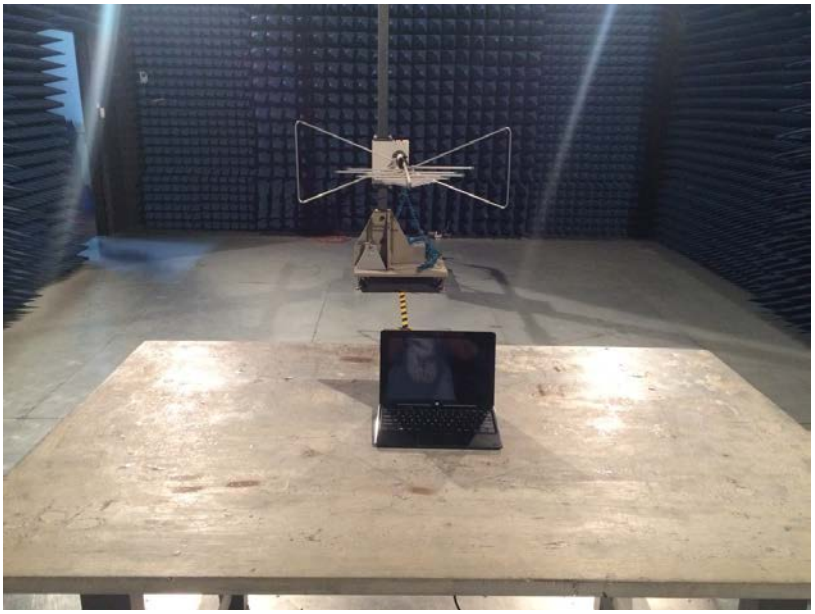
Frequency stability versus Temp.					
Power Supply: DC 3.7V					
Temp. (°C)	Operating Frequency (MHz)	0 minute	2 minute	5 minute	10 minute
		Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)
-30	5180	5178.4598	5180.2109	5183.1056	5178.8888
	5200	5199.5236	5201.1847	5201.8844	5198.0684
	5220	5219.5924	5220.3941	5220.6621	5219.3867
	5240	5239.6363	5240.2144	5240.4329	5239.5157
-20	5180	5179.8557	5180.2419	5180.2520	5179.8936
	5200	5199.3213	5200.2455	5200.7101	5199.9705
	5220	5219.9430	5220.1502	5220.3053	5219.0374
	5240	5239.5633	5240.7597	5240.2116	5239.4995
-10	5180	5179.3556	5180.5854	5180.7843	5179.8257
	5200	5199.0714	5200.6543	5200.6801	5199.8587
	5220	5219.5884	5220.2863	5220.8965	5219.2398
	5240	5239.1287	5240.7995	5240.5366	5239.1964
0	5180	5179.0296	5180.9860	5180.4184	5179.9397
	5200	5199.7747	5200.9280	5200.8696	5199.3794
	5220	5219.6622	5220.1838	5220.9260	5219.7863
	5240	5239.6085	5240.4400	5240.3153	5239.7525
10	5180	5179.9171	5180.7923	5180.9212	5179.2788
	5200	5199.9541	5200.6805	5200.3916	5199.7632
	5220	5219.3282	5220.1774	5220.1395	5219.4059
	5240	5239.5035	5240.4368	5240.7548	5239.2785
20	5180	5179.1197	5180.5567	5180.6031	5179.1041
	5200	5199.9495	5200.0633	5200.9656	5199.6521
	5220	5219.2059	5220.5033	5220.5511	5219.2513
	5240	5239.1177	5240.9682	5240.2874	5239.4708
30	5180	5179.6856	5180.8673	5180.8295	5179.3162
	5200	5199.6737	5200.2479	5200.0982	5199.3558
	5220	5219.0258	5220.5552	5220.2160	5219.0045
	5240	5239.2665	5240.8870	5240.9675	5239.8533
40	5180	5179.8709	5180.4861	5180.1379	5179.9221
	5200	5199.3209	5200.8549	5200.6331	5199.8250
	5220	5219.1258	5220.1475	5220.3930	5219.3449
	5240	5239.0030	5240.7723	5240.0451	5239.9886
50	5180	5179.8341	5180.6894	5180.5816	5179.9994
	5200	5199.8634	5200.9800	5200.2376	5199.1935
	5220	5219.5690	5220.2877	5220.5659	5219.8453
	5240	5239.4603	5240.6813	5240.4531	5239.1854

Frequency stability versus Voltage					
Temperature: 25°C					
Power Supply (VDC)	Operating Frequency (MHz)	0 minute	2 minute	5 minute	10 minute
		Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)
3.3	5180	5181.6447	5182.5787	5177.6870	5177.7868
	5200	5201.1351	5201.0413	5199.4274	5198.1417
	5220	5220.2202	5221.9268	5219.6619	5219.5622
	5240	5240.5662	5240.5908	5239.0539	5239.7773
3.7	5180	5180.3839	5180.7533	5179.3543	5179.6505
	5200	5200.6069	5200.2581	5199.8803	5199.0103
	5220	5220.7089	5220.9855	5219.0087	5219.2511
	5240	5240.6930	5240.4395	5239.1509	5239.6054
4.1	5180	5180.0950	5180.9228	5179.0016	5179.4722
	5200	5200.9959	5200.3138	5199.7859	5199.8860
	5220	5220.9920	5220.8879	5219.5577	5219.3196
	5240	5240.2805	5240.2736	5239.7609	5239.1551

Note: The worst case is FL=5177.6870MHz, FH=5240.9682MHz

6 Test Setup Photo

Radiated Emission



Conducted Emission

7 EUT Constructional Details

Reference to the test report No. GTS201611000003E01

---END---