

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

FCC ID: 2AHYK-TM101W638L

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.407:2016

Date of sample receipt: January 10, 2017

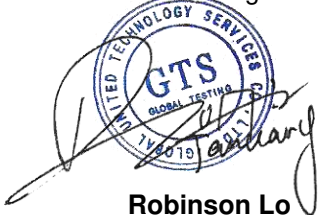
Date of Test: January 10-13, 2017

Date of report issued: January 16, 2017

Test Result : PASS *

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

Authorized Signature:

A circular logo for GTS (Global United Technology Services Co., Ltd.) is visible. The logo contains the text "GTS", "GLOBAL TESTING", and "2015". A handwritten signature, "Robinson Lo", is written across the logo.

Robinson Lo

Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the GTS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

Version No.	Date	Description
00	January 16, 2017	Original

Prepared By:

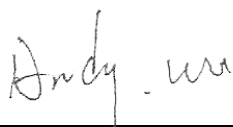


Project Engineer

Date:

January 16, 2017

Check By:



Reviewer

Date:

January 16, 2017

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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
Conducted Peak Output Power	15.407(a)(3)	Pass
Channel Bandwidth	15.407(e)	Pass
Power Spectral Density	15.407(a)(3)	Pass
Band Edge	15.407(b)(4)	Pass
Spurious Emission	15.205/15.209/15.407(b)(4)	Pass

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

4.1 Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	9kHz ~ 30MHz	$\pm 4.34\text{dB}$	(1)
Radiated Emission	30MHz ~ 1000MHz	$\pm 4.24\text{dB}$	(1)
Radiated Emission	1GHz ~ 40GHz	$\pm 4.68\text{dB}$	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	$\pm 3.45\text{dB}$	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			

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
Operation Frequency:	802.11a/802.11n(HT20)/802.11ac(HT20) @5.8G Band: 5745MHz ~ 5825MHz 802.11n(HT40)/ 802.11ac(HT40) @ 5.8G Band: 5755MHz ~ 5795MHz 802.11ac(HT80): 5775MHz
Channel numbers:	802.11a/802.11n(HT20)/802.11ac(HT20) @5.8G Band: 6 802.11n(HT40)/ 802.11ac(HT40) @ 5.8G Band: 2 802.11ac(HT80): 1
Channel bandwidth:	802.11a/802.11n(HT20)/802.11ac(HT20) : 20MHz 802.11n(HT40)/802.11ac(HT40) : 40MHz 802.11ac(HT80): 80MHz
Modulation technology:	802.11a/802.11n(H20)/802.11n(H40)/802.11ac(HT20)/802.11ac(HT40) /802.11ac(HT80): Orthogonal Frequency Division Multiplexing (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

Operation Frequency each of channel @ 5.8G Band							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745MHz	153	5765MHz	155	5775MHz	157	5785MHz
161	5805MHz	165	5825MHz				

Note:

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

Test channel	Frequency (MHz)		
	5.8G Band		
	802.11a 802.11n(HT20) 802.11ac(HT20)	802.11n(HT40) 802.11ac(HT40)	802.11ac(HT80)
Lowest channel	5745	5755	
Middle channel	5785		5775
Highest channel	5825	5795	

5.3 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode
<i>Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, the duty cycle>98%, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.</i>	

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:

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

Mode	Data rate
802.11a	6Mbps
802.11n(HT20)	6.5Mbps
802.11n(HT40)	13Mbps
802.11ac(HT20)	6.5Mbps
802.11ac(HT40)	13.5Mbps
802.11ac(HT80)	29.3Mbps

5.4 Description of Support Units

None.

5.5 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.

5.6 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

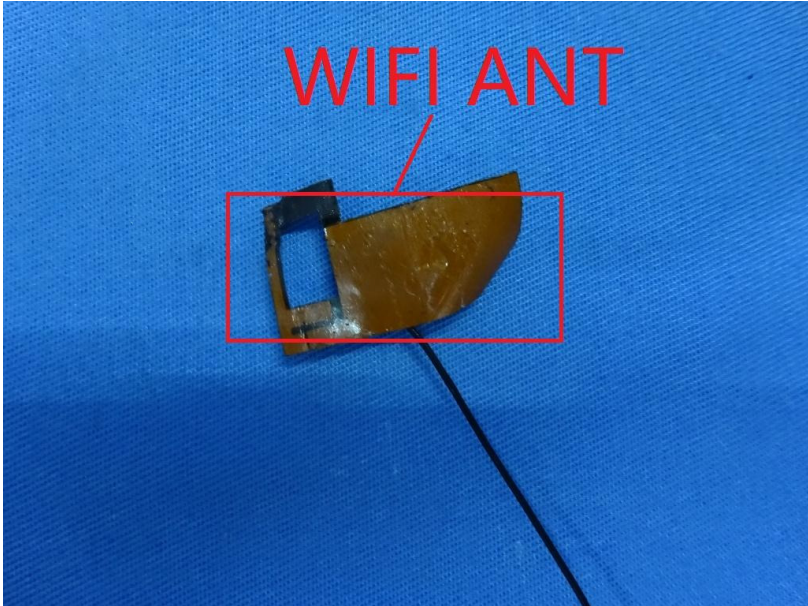
6 Test Instruments list

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. 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

7 Test results and Measurement Data

7.1 Antenna requirement

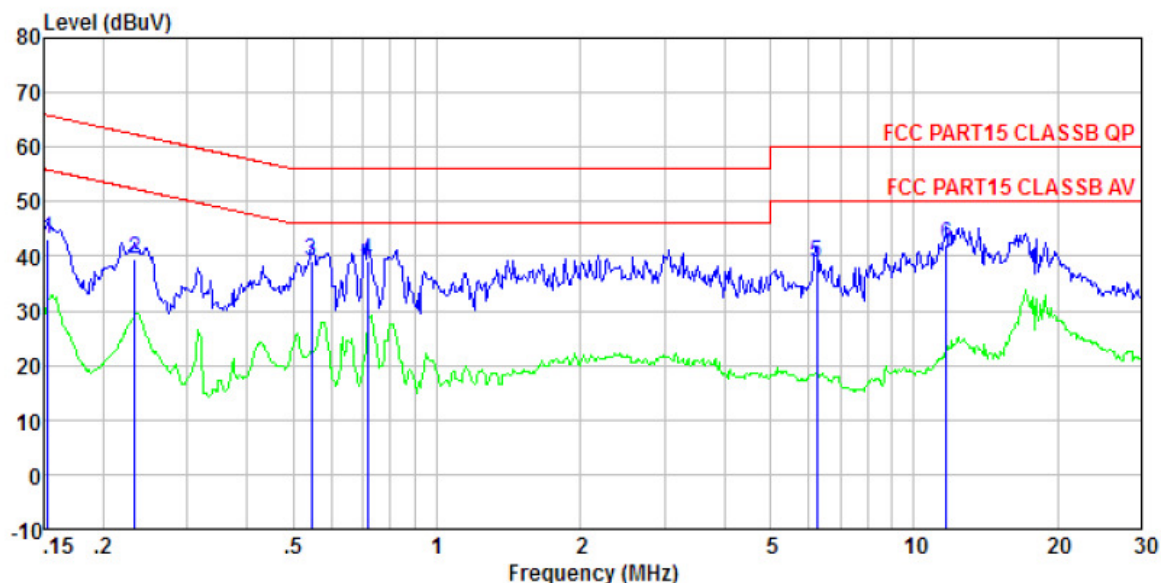
Standard requirement:	FCC Part15 C Section 15.203
<i>15.203 requirement:</i> <i>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a 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.</i>	
E.U.T Antenna:	
<i>The antenna is Integral antenna. The best case gain of the antenna is 2.0Bi.</i> 	

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, Sweep time=auto														
Limit:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>5-30</td><td>60</td><td>50</td></tr></table> * Decreases with the logarithm of the frequency.	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
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													
Test setup:	Reference Plane Test table/Insulation plane <i>Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</i>														
Test procedure:	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. 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 Instruments:	Refer to section 6.0 for details														
Test mode:	Refer to section 5.3 for details														
Test results:	Pass														

Measurement data

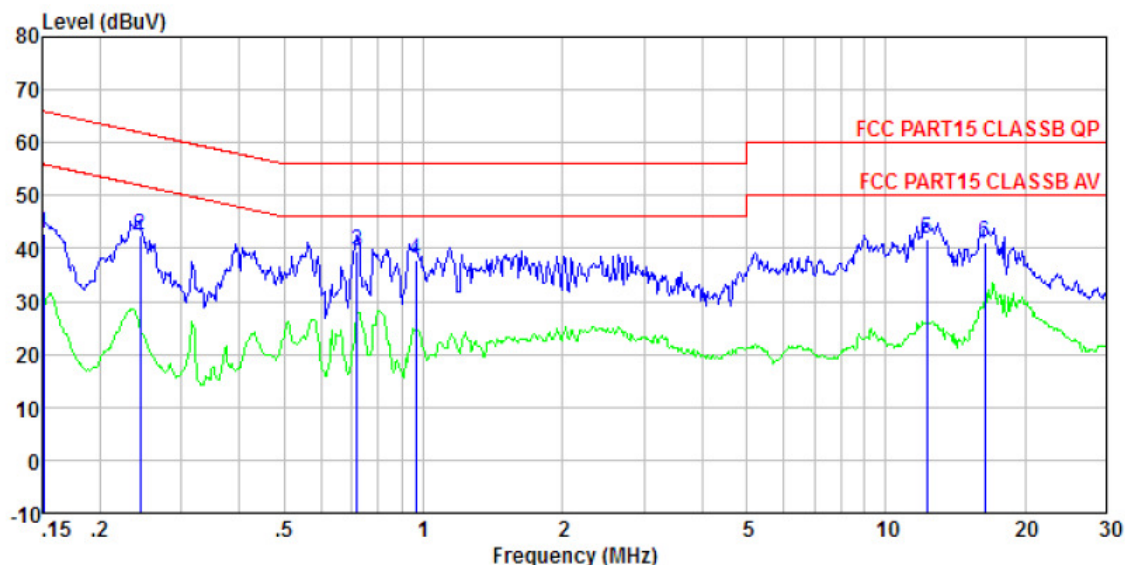
Line:



Site : Shielded room
 Condition : FCC PART15 CLASSB QP LISN-2016 LINE
 Job No. : 0003
 Test mode : WiFi(5.8G) 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	0.153	42.54	0.42	0.12	43.08	65.82	-22.74	QP
2	0.233	39.02	0.43	0.12	39.57	62.35	-22.78	QP
3	0.546	38.66	0.34	0.11	39.11	56.00	-16.89	QP
4	0.716	38.71	0.28	0.13	39.12	56.00	-16.88	QP
5	6.252	38.44	0.21	0.16	38.81	60.00	-21.19	QP
6	11.683	41.88	0.22	0.20	42.30	60.00	-17.70	QP

Neutral:



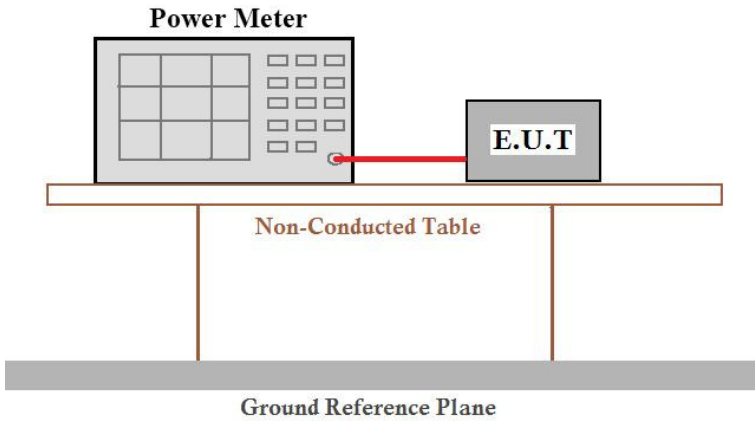
Site : Shielded room
Condition : FCC PART15 CLASSB QP LISN-2016 NEUTRAL
Job No. : 0003
Test mode : WiFi (5.8G) mode
Test Engineer: Boy

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.151	42.44	0.41	0.12	42.97	65.96	-22.99	QP
2	0.244	42.07	0.42	0.11	42.60	61.95	-19.35	QP
3	0.720	39.24	0.24	0.13	39.61	56.00	-16.39	QP
4	0.963	37.49	0.21	0.13	37.83	56.00	-18.17	QP
5	12.253	41.37	0.22	0.20	41.79	60.00	-18.21	QP
6	16.398	40.53	0.25	0.22	41.00	60.00	-19.00	QP

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
4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

7.3 Conducted Peak Output Power

Test Requirement:	FCC Part15 E Section 15.407(a)(3)
Test Method:	ANSI C63.10:2013 and KDB789033 D02 General UNII Test Procedures New Rules v01
Limit:	30dBm
Test setup:	 The diagram illustrates the test setup. A Power Meter is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Power Meter and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

5.8G Band

Test CH	Peak Output Power (dBm)	Limit(dBm)	Result
	802.11a (HT20)		
Lowest	8.72	30	Pass
Middle	9.89		
Highest	11.88		

Test CH	Peak Output Power (dBm)	Limit(dBm)	Result
	802.11n (HT20)		
Lowest	9.22	30	Pass
Middle	9.92		
Highest	10.11		

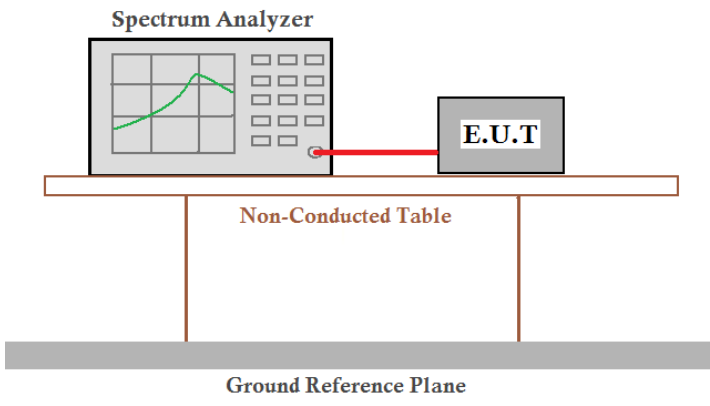
Test CH	Peak Output Power (dBm)	Limit(dBm)	Result
	802.11ac (HT20)		
Lowest	8.87	30	Pass
Middle	9.89		
Highest	10.13		

Test CH	Peak Output Power (dBm)	Limit(dBm)	Result
	802.11n (HT40)		
Lowest	8.93	30	Pass
Highest	11.52		

Test CH	Peak Output Power (dBm)	Limit(dBm)	Result
	802.11ac (HT40)		
Lowest	8.88	30	Pass
Highest	10.35		

Test CH	Peak Output Power (dBm)	Limit(dBm)	Result
	802.11ac (HT80)		
Middle	10.07	30	

7.4 Channel Bandwidth

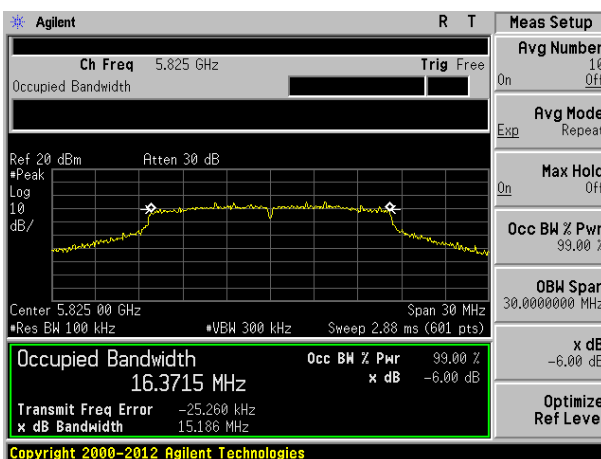
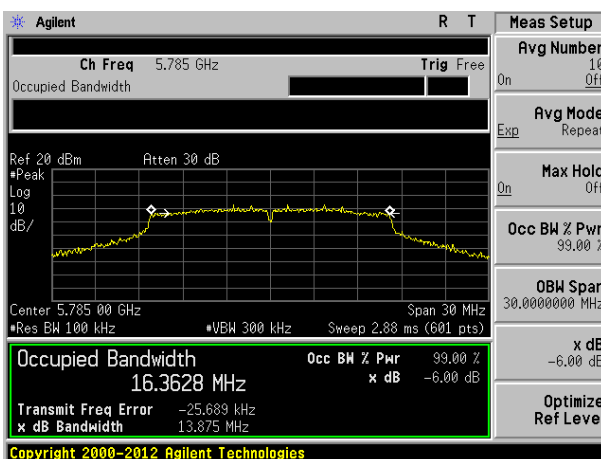
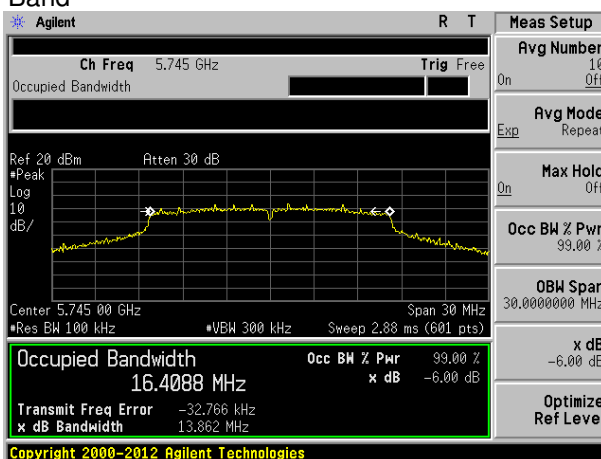
Test Requirement:	FCC Part15 E Section 15.407(e)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v01
Limit:	>500KHz
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

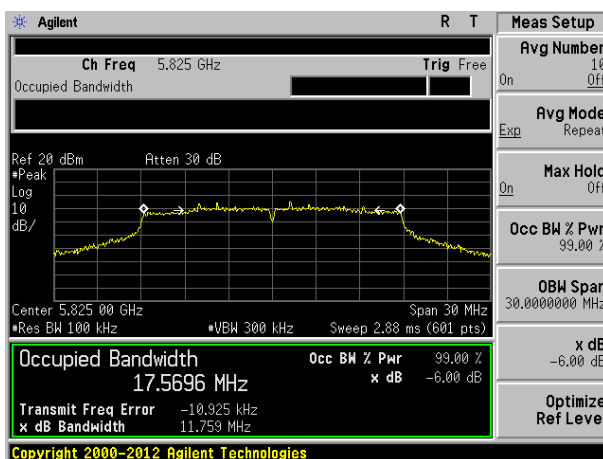
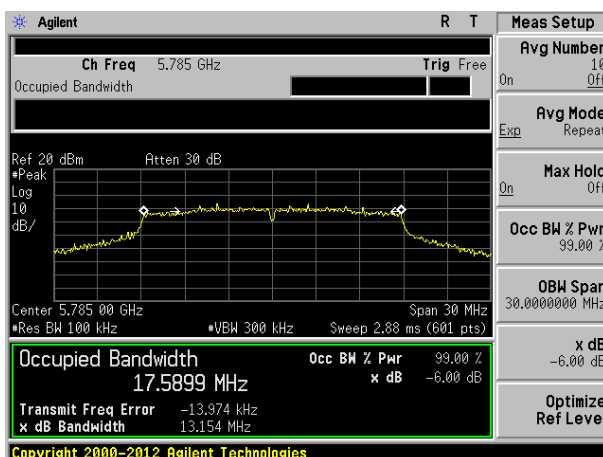
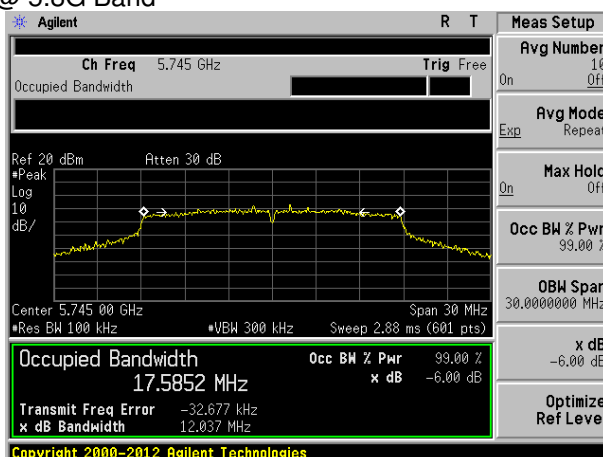
5.8G Band								
Test CH	Channel Bandwidth (MHz)						Limit (KHz)	Result
	802.11a	802.11n(H T20)	802.11ac(HT20)	802.11n(H T40)	802.11ac(HT40)	802.11ac(HT80)		
Lowest	13.862	12.037	13.241	35.164	33.851	N/A	>500	Pass
Middle	13.875	13.154	12.607	N/A	N/A	75.045		
Highest	15.186	11.759	13.235	33.920	33.836	N/A		

Test plot as follows:

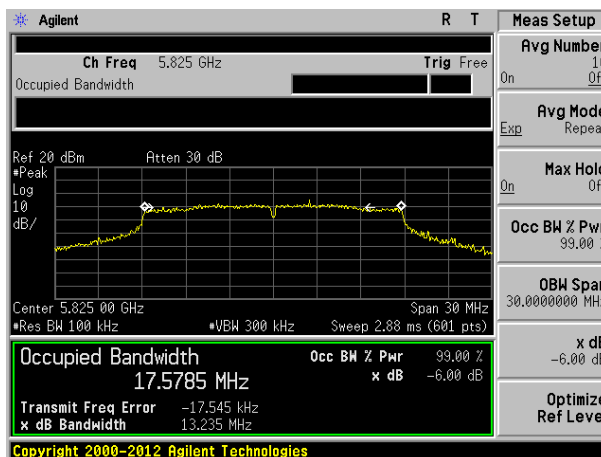
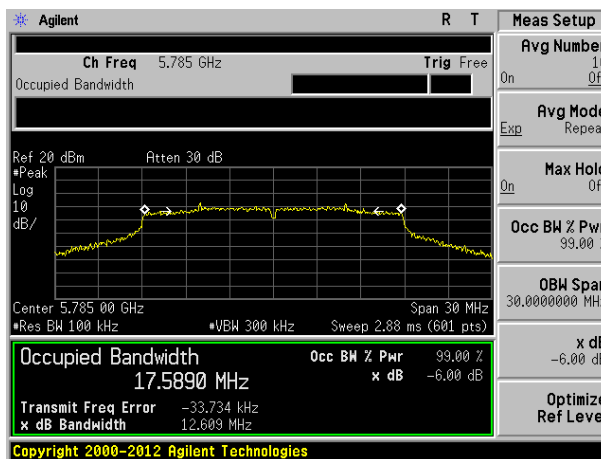
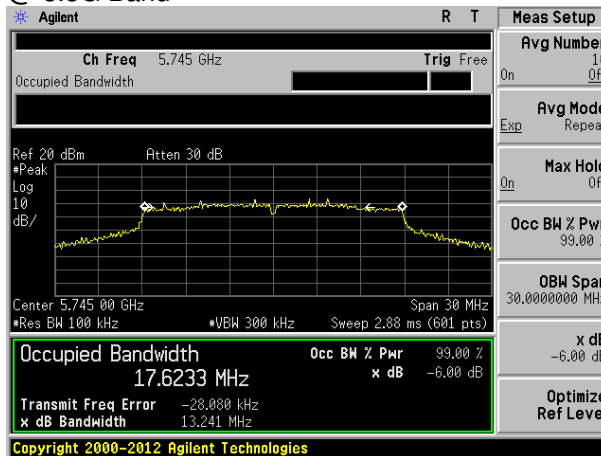
Test mode: 802.11a @ 5.8G Band



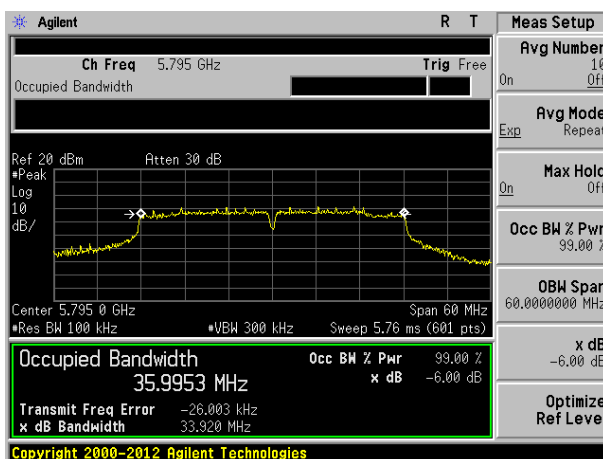
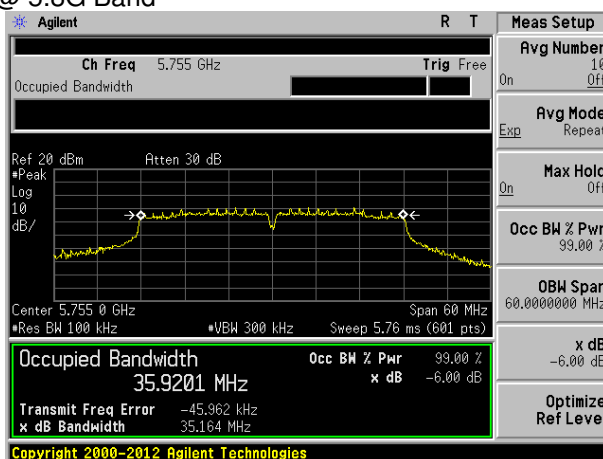
Test mode: 802.11n(HT20) @ 5.8G Band



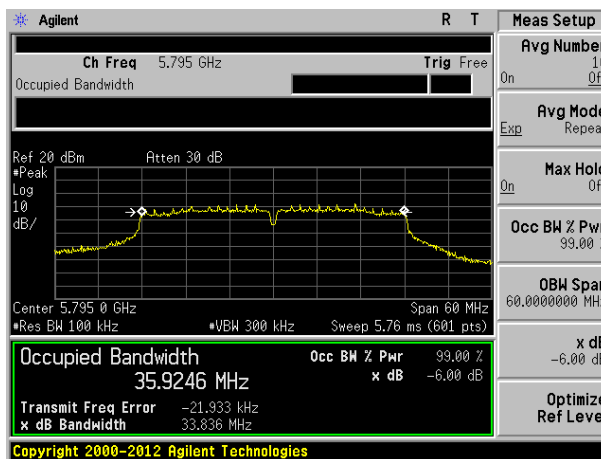
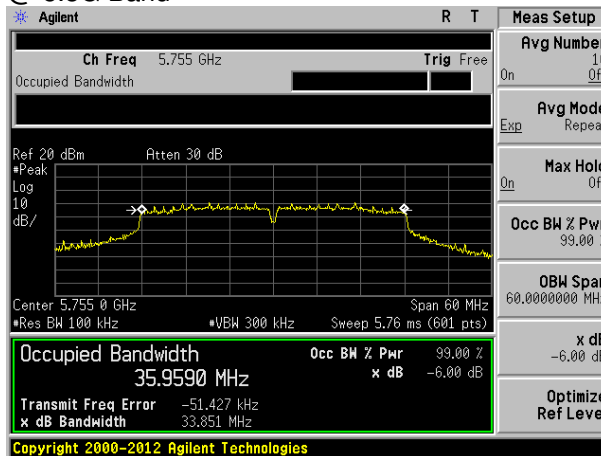
Test mode: 802.11ac(HT20) @ 5.8G Band



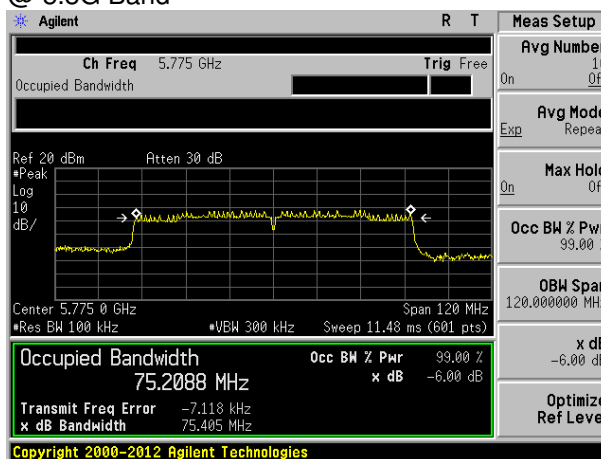
Test mode: 802.11n(HT40) @ 5.8G Band



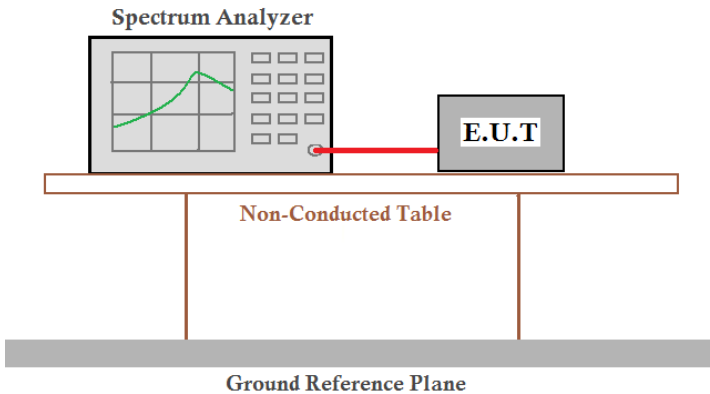
Test mode: 802.11ac(HT40) @ 5.8G Band



Test mode: 802.11ac(HT80) @ 5.8G Band



7.5 Power Spectral Density

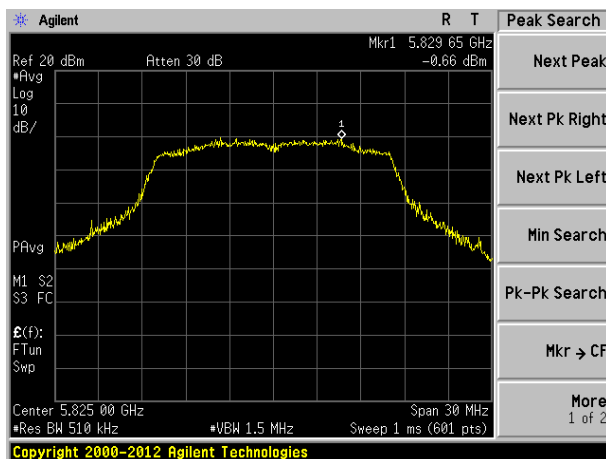
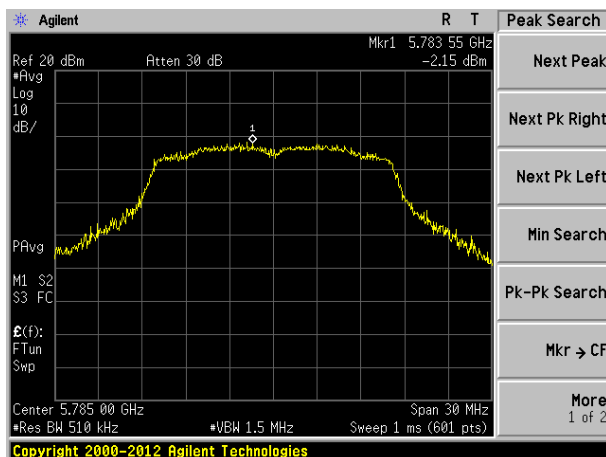
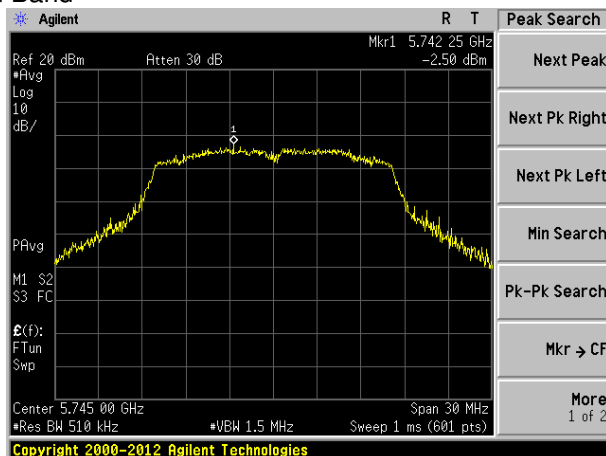
Test Requirement:	FCC Part15 E Section 15.407(a)(3)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v01
Limit:	30dBm
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

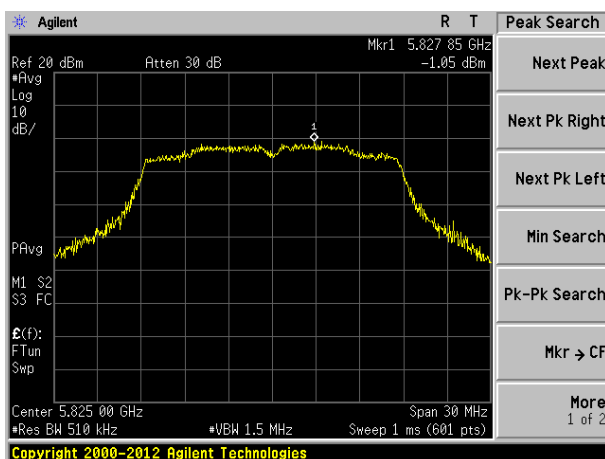
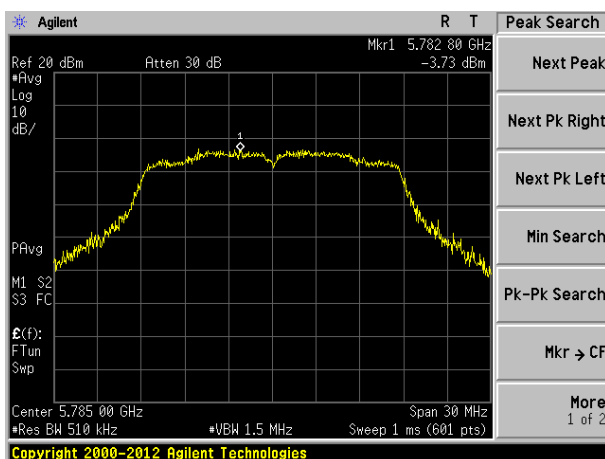
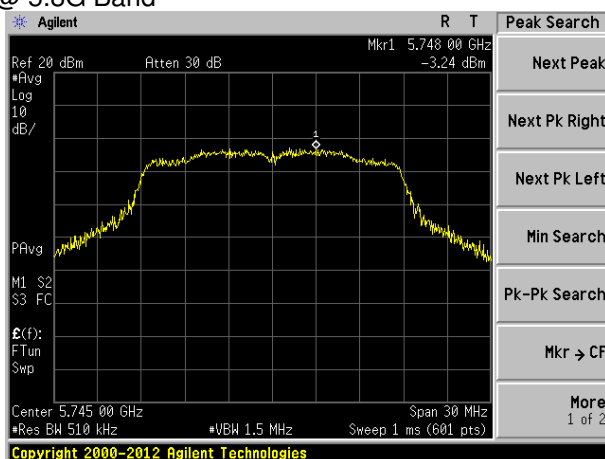
Test mode	Channel	Measured PSD (dBm)	Limit (dBm)	Result
802.11a (HT20)	Lowest	-2.50	30	Pass
	Middle	-2.15		
	Highest	-0.66		
802.11n (HT20)	Lowest	-3.24		
	Middle	-3.73		
	Highest	-1.05		
802.11ac(HT20)	Lowest	-2.61		
	Middle	-3.45		
	Highest	-2.04		
802.11n (HT40)	Lowest	-5.58		
	Highest	-5.44		
802.11ac(HT40)	Lowest	-5.19		
	Highest	-4.86		
802.11ac(HT80)	Middle	-9.95		

Test plot as follows:

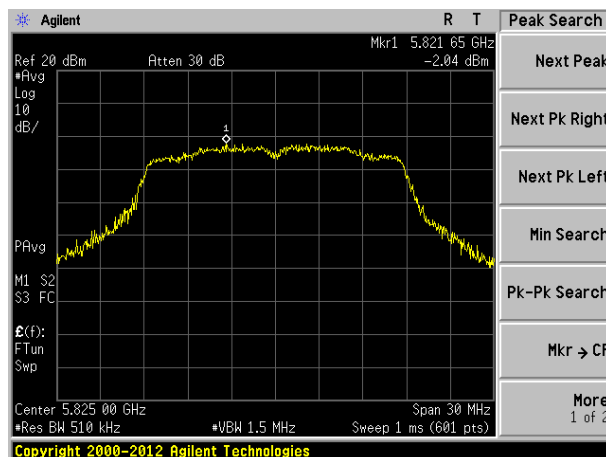
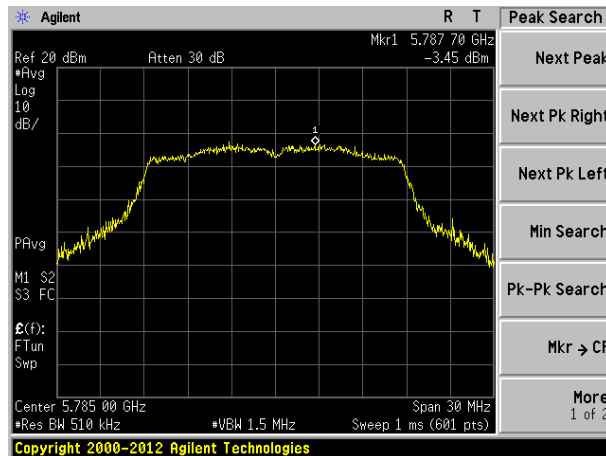
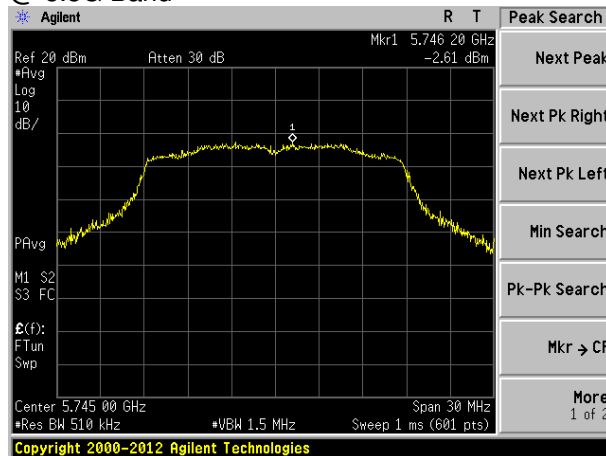
Test mode: 802.11a @ 5.8G Band



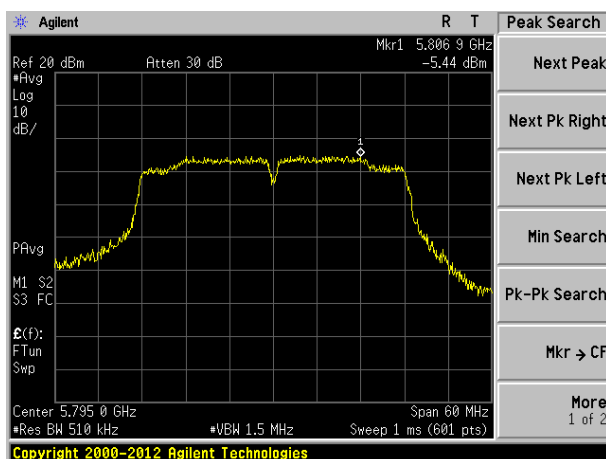
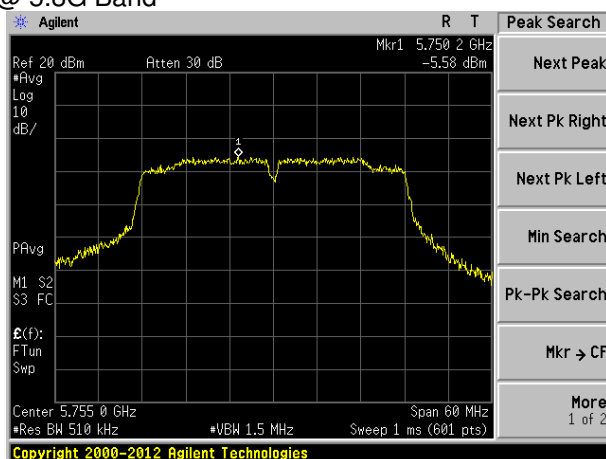
Test mode: 802.11n(HT20) @ 5.8G Band



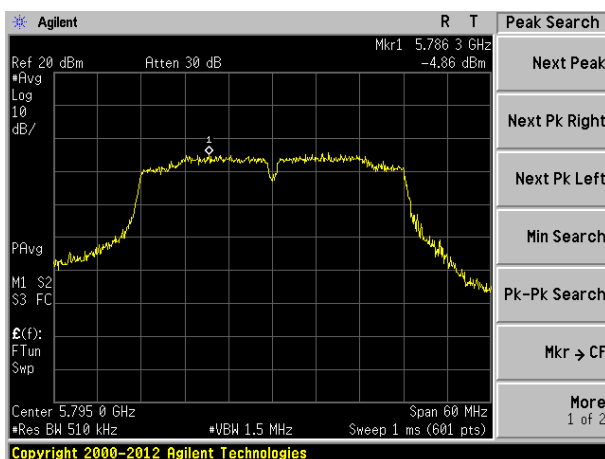
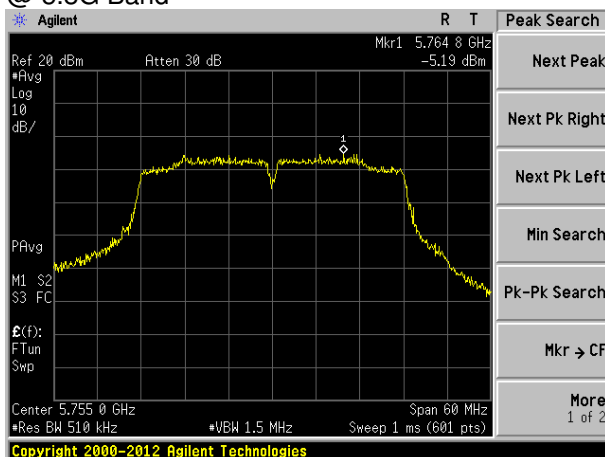
Test mode: 802.11ac(HT20) @ 5.8G Band



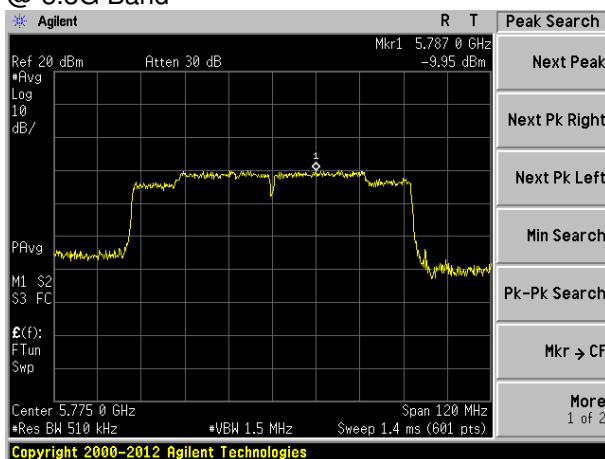
Test mode: 802.11n(HT40) @ 5.8G Band



Test mode: 802.11ac(HT40) @ 5.8G Band

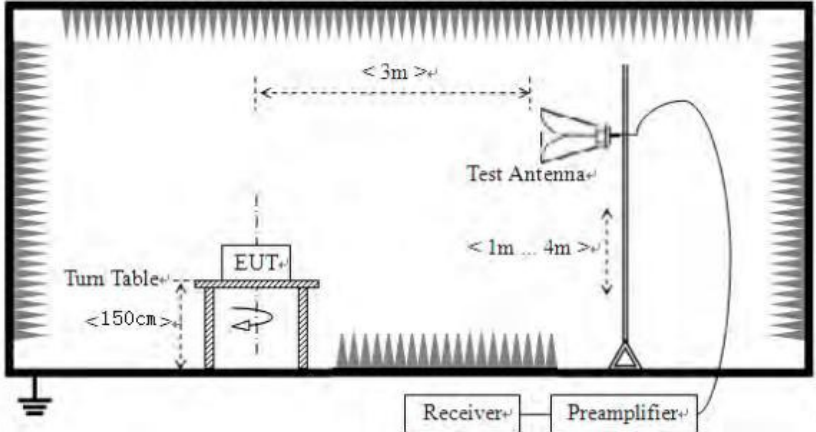


Test mode: 802.11ac(HT80) @ 5.8G Band



7.6 Band edges

7.6.1 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.10: 2013				
Test Frequency Range:	30MHz to 40GHz, only worse case is reported				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	3MHz	RMS
Limit:	All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.				
Test setup:					
Test Procedure:	1. The EUT was placed on the top of a rotating table 1.5 meters 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 rota 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. 7. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement data:

Remark: The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.

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:

$$E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2;$$

For example, if EIRP = -27dBm

$$E[\text{dBuV/m}] = -27 + 95.2 = 68.2\text{dBuV/m}.$$

Test mode:		802.11a(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
5725.00	43.52	32.53	9.83	32.29	53.59	68.20	-14.61	Horizontal
5725.00	43.16	32.53	9.83	32.29	53.23	68.20	-14.97	Vertical
RMS 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
5725.00	33.17	32.53	9.83	32.29	43.24	54.00	-10.76	Horizontal
5725.00	33.24	32.53	9.83	32.29	43.31	54.00	-10.69	Vertical
Test mode:		802.11a(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
5850.00	40.16	32.70	9.99	32.22	50.63	68.20	-17.57	Horizontal
5850.00	43.81	32.70	9.99	32.22	54.28	68.20	-13.92	Vertical
RMS 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
5850.00	31.90	32.70	9.99	32.22	42.37	54.00	-11.63	Horizontal
5850.00	33.52	32.70	9.99	32.22	43.99	54.00	-10.01	Vertical

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
5725.00	40.01	32.53	9.83	32.29	50.08	68.20	-18.12	Horizontal
5725.00	45.89	32.53	9.83	32.29	55.96	68.20	-12.24	Vertical
RMS 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
5725.00	31.12	32.53	9.83	32.29	41.19	54.00	-12.81	Horizontal
5725.00	35.01	32.53	9.83	32.29	45.08	54.00	-8.92	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
5850.00	42.73	32.70	9.99	32.22	53.20	68.20	-15.00	Horizontal
5850.00	41.84	32.70	9.99	32.22	52.31	68.20	-15.89	Vertical
RMS 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
5850.00	31.23	32.70	9.99	32.22	41.70	54.00	-12.30	Horizontal
5850.00	31.70	32.70	9.99	32.22	42.17	54.00	-11.83	Vertical

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
5725.00	42.46	32.53	9.83	32.29	52.53	68.20	-15.67	Horizontal
5725.00	44.26	32.53	9.83	32.29	54.33	68.20	-13.87	Vertical
RMS 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
5725.00	34.84	32.53	9.83	32.29	44.91	54.00	-9.09	Horizontal
5725.00	31.88	32.53	9.83	32.29	41.95	54.00	-12.05	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
5850.00	41.85	32.70	9.99	32.22	52.32	68.20	-15.88	Horizontal
5850.00	42.91	32.70	9.99	32.22	53.38	68.20	-14.82	Vertical
RMS 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
5850.00	31.08	32.70	9.99	32.22	41.55	54.00	-12.45	Horizontal
5850.00	30.11	32.70	9.99	32.22	40.58	54.00	-13.42	Vertical

Test mode:		802.11n(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
5725.00	44.99	32.53	9.83	32.29	55.06	68.20	-13.14	Horizontal
5725.00	45.06	32.53	9.83	32.29	55.13	68.20	-13.07	Vertical
RMS 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
5725.00	32.94	32.53	9.83	32.29	43.01	54.00	-10.99	Horizontal
5725.00	35.16	32.53	9.83	32.29	45.23	54.00	-8.77	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
5850.00	41.30	32.70	9.99	32.22	51.77	68.20	-16.43	Horizontal
5850.00	40.35	32.70	9.99	32.22	50.82	68.20	-17.38	Vertical
RMS 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
5850.00	32.53	32.70	9.99	32.22	43.00	54.00	-11.00	Horizontal
5850.00	34.46	32.70	9.99	32.22	44.93	54.00	-9.07	Vertical

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
5725.00	43.59	32.53	9.83	32.29	53.66	68.20	-14.54	Horizontal
5725.00	40.50	32.53	9.83	32.29	50.57	68.20	-17.63	Vertical
RMS 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
5725.00	35.54	32.53	9.83	32.29	45.61	54.00	-8.39	Horizontal
5725.00	31.90	32.53	9.83	32.29	41.97	54.00	-12.03	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
5850.00	44.46	32.70	9.99	32.22	54.93	68.20	-13.27	Horizontal
5850.00	45.62	32.70	9.99	32.22	56.09	68.20	-12.11	Vertical
RMS 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
5850.00	33.91	32.70	9.99	32.22	44.38	54.00	-9.62	Horizontal
5850.00	34.32	32.70	9.99	32.22	44.79	54.00	-9.21	Vertical

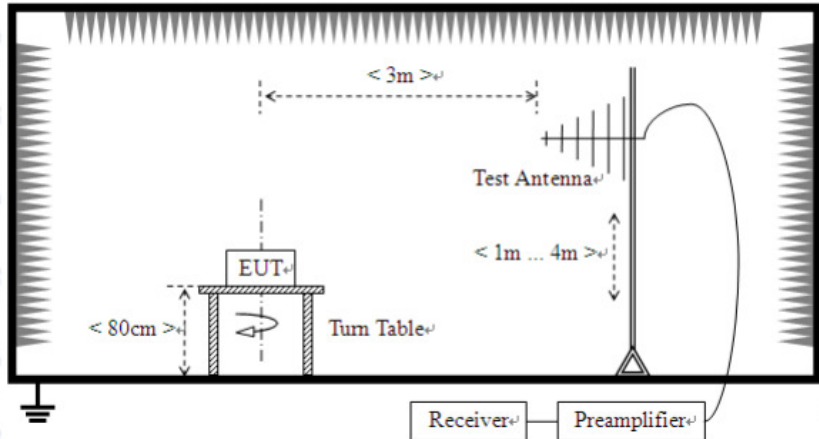
Test mode:		802.11ac(HT80)			Test channel:		Middle	
Peak value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	45.08	32.53	9.83	32.29	55.15	68.20	-13.05	Horizontal
5725.00	42.89	32.53	9.83	32.29	52.96	68.20	-15.24	Vertical
5850.00	43.32	32.53	9.83	32.29	53.39	68.20	-14.81	Horizontal
5850.00	40.21	32.53	9.83	32.29	50.28	68.20	-17.92	Vertical
RMS 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
5725.00	32.96	32.53	9.83	32.29	43.03	54.00	-10.97	Horizontal
5725.00	31.09	32.53	9.83	32.29	41.16	54.00	-12.84	Vertical
5850.00	31.16	32.70	9.99	32.22	41.63	54.00	-12.37	Horizontal
5850.00	34.95	32.70	9.99	32.22	45.42	54.00	-8.58	Vertical

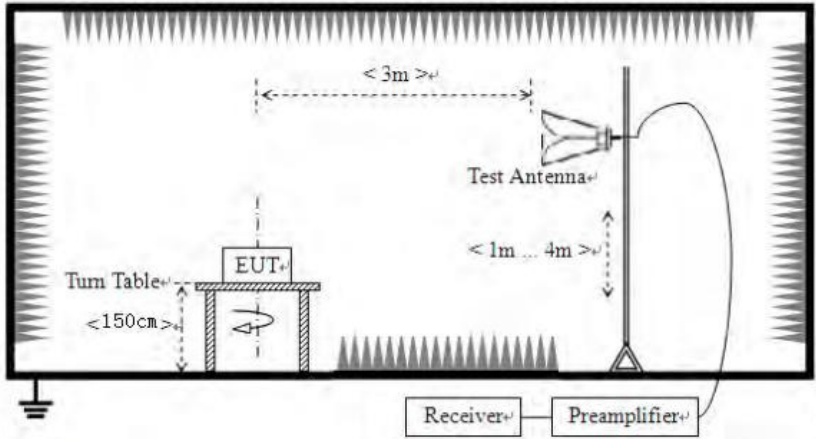
Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

7.7 Spurious Emission

7.7.1 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209, Part 15E Section 15.407(b)(4)				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	30MHz to 40GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		Peak	1MHz	3MHz	RMS Value
Limit:	Frequency		Limit (dBuV/m @3m)		Remark
	30MHz-88MHz		40.0		Quasi-peak Value
	88MHz-216MHz		43.5		Quasi-peak Value
	216MHz-960MHz		46.0		Quasi-peak Value
	Above 960MHz		54.0		Quasi-peak Value
	Above 1000MHz		74.0		Peak Value
	Above 1000MHz		54.0		Average Value
Test setup:	Below 1GHz				
					
	Above 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 rota 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. 7. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

■ Below 1GHz

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
36.51	50.29	14.73	0.62	30.06	35.58	40.00	-4.42	Vertical
71.83	52.44	10.32	0.96	29.84	33.88	40.00	-6.12	Vertical
239.99	50.23	14.09	2.07	29.56	36.83	46.00	-9.17	Vertical
287.99	51.76	14.84	2.31	29.92	38.99	46.00	-7.01	Vertical
383.93	49.51	16.68	2.78	29.57	39.40	46.00	-6.60	Vertical
499.43	46.08	18.58	3.30	29.30	38.66	46.00	-7.34	Vertical
60.28	50.90	14.69	0.86	29.92	36.53	40.00	-3.47	Horizontal
76.78	47.44	10.08	1.00	29.82	28.70	40.00	-11.30	Horizontal
96.10	48.80	14.90	1.16	29.72	35.14	43.50	-8.36	Horizontal
153.74	54.57	10.42	1.59	29.39	37.19	43.50	-6.31	Horizontal
191.75	54.52	12.56	1.80	29.23	39.65	43.50	-3.85	Horizontal
268.49	53.91	14.34	2.21	29.79	40.67	46.00	-5.33	Horizontal

Above 1GHz:

802.11a(HT20) 5745MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11490.00	31.44	39.85	14.98	34.6	51.67	74	-22.33	Vertical
17235.00	33.59	45.51	18.98	33.95	64.13	74	-9.87	Vertical
11490.00	31.92	39.85	14.98	34.6	52.15	74	-21.85	Horizontal
17235.00	33.99	45.51	18.98	33.95	64.53	74	-9.47	Horizontal
11490.00	20.77	39.85	14.98	34.6	41.00	54	-13.00	Vertical
17235.00	20.45	45.51	18.98	33.95	50.99	54	-3.01	Vertical
11490.00	18.53	39.85	14.98	34.6	38.76	54	-15.24	Horizontal
17235.00	19.89	45.51	18.98	33.95	50.43	54	-3.57	Horizontal

802.11a(HT20) 5785MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11570.00	35.00	39.76	14.99	34.75	55.00	74	-19.00	Vertical
17355.00	31.86	46.19	18.98	34.45	62.58	74	-11.42	Vertical
11570.00	35.38	39.76	14.99	34.75	55.38	74	-18.62	Horizontal
17355.00	31.82	46.19	18.98	34.45	62.54	74	-11.46	Horizontal
11570.00	20.25	39.76	14.99	34.75	40.25	54	-13.75	Vertical
17355.00	17.47	46.19	18.98	34.45	48.19	54	-5.81	Vertical
11570.00	18.31	39.76	14.99	34.75	38.31	54	-15.69	Horizontal
17355.00	19.96	46.19	18.98	34.45	50.68	54	-3.32	Horizontal

802.11a(HT20) 5825MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11650.00	34.86	39.61	14.99	34.86	54.60	74	-19.40	Vertical
17475.00	33.43	46.78	18.97	34.95	64.23	74	-9.77	Vertical
11650.00	34.53	39.61	14.99	34.86	54.27	74	-19.73	Horizontal
17475.00	35.82	46.78	18.97	34.95	66.62	74	-7.38	Horizontal
11650.00	18.67	39.61	14.99	34.86	38.41	54	-15.59	Vertical
17475.00	17.26	46.78	18.97	34.95	48.06	54	-5.94	Vertical
11650.00	19.33	39.61	14.99	34.86	39.07	54	-14.93	Horizontal
17475.00	17.47	46.78	18.97	34.95	48.27	54	-5.73	Horizontal

802.11n(HT20) 5745MHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11490.00	34.76	39.85	14.98	34.6	54.99	74	-19.01	Vertical
17235.00	33.60	45.51	18.98	33.95	64.14	74	-9.86	Vertical
11490.00	31.91	39.85	14.98	34.6	52.14	74	-21.86	Horizontal
17235.00	33.29	45.51	18.98	33.95	63.83	74	-10.17	Horizontal
11490.00	19.09	39.85	14.98	34.6	39.32	54	-14.68	Vertical
17235.00	19.55	45.51	18.98	33.95	50.09	54	-3.91	Vertical
11490.00	18.24	39.85	14.98	34.6	38.47	54	-15.53	Horizontal
17235.00	17.91	45.51	18.98	33.95	48.45	54	-5.55	Horizontal

802.11n(HT20) 5785MHz

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
11570.00	34.26	39.76	14.99	34.75	54.26	74	-19.74	Vertical
17355.00	32.28	46.19	18.98	34.45	63.00	74	-11.00	Vertical
11570.00	33.75	39.76	14.99	34.75	53.75	74	-20.25	Horizontal
17355.00	31.70	46.19	18.98	34.45	62.42	74	-11.58	Horizontal
11570.00	19.74	39.76	14.99	34.75	39.74	54	-14.26	Vertical
17355.00	18.32	46.19	18.98	34.45	49.04	54	-4.96	Vertical
11570.00	17.46	39.76	14.99	34.75	37.46	54	-16.54	Horizontal
17355.00	18.52	46.19	18.98	34.45	49.24	54	-4.76	Horizontal

802.11n(HT20) 5825MHz

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
11650.00	33.05	39.61	14.99	34.86	52.79	74	-21.21	Vertical
17475.00	33.93	46.78	18.97	34.95	64.73	74	-9.27	Vertical
11650.00	34.04	39.61	14.99	34.86	53.78	74	-20.22	Horizontal
17475.00	32.32	46.78	18.97	34.95	63.12	74	-10.88	Horizontal
11650.00	18.23	39.61	14.99	34.86	37.97	54	-16.03	Vertical
17475.00	17.45	46.78	18.97	34.95	48.25	54	-5.75	Vertical
11650.00	17.14	39.61	14.99	34.86	36.88	54	-17.12	Horizontal
17475.00	17.77	46.78	18.97	34.95	48.57	54	-5.43	Horizontal

802.11ac(HT20) 5745MHz

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
11490.00	31.18	39.85	14.98	34.6	51.41	74	-22.59	Vertical
17235.00	34.39	45.51	18.98	33.95	64.93	74	-9.07	Vertical
11490.00	34.82	39.85	14.98	34.6	55.05	74	-18.95	Horizontal
17235.00	33.11	45.51	18.98	33.95	63.65	74	-10.35	Horizontal
11490.00	19.15	39.85	14.98	34.6	39.38	54	-14.62	Vertical
17235.00	19.93	45.51	18.98	33.95	50.47	54	-3.53	Vertical
11490.00	17.53	39.85	14.98	34.6	37.76	54	-16.24	Horizontal
17235.00	18.57	45.51	18.98	33.95	49.11	54	-4.89	Horizontal

802.11ac(HT20) 5785MHz

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
11570.00	35.57	39.76	14.99	34.75	55.57	74	-18.43	Vertical
17355.00	30.83	46.19	18.98	34.45	61.55	74	-12.45	Vertical
11570.00	33.36	39.76	14.99	34.75	53.36	74	-20.64	Horizontal
17355.00	34.95	46.19	18.98	34.45	65.67	74	-8.33	Horizontal
11570.00	20.99	39.76	14.99	34.75	40.99	54	-13.01	Vertical
17355.00	18.09	46.19	18.98	34.45	48.81	54	-5.19	Vertical
11570.00	17.20	39.76	14.99	34.75	37.20	54	-16.80	Horizontal
17355.00	19.71	46.19	18.98	34.45	50.43	54	-3.57	Horizontal

802.11ac(HT20) 5825MHz

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
11650.00	35.89	39.61	14.99	34.86	55.63	74	-18.37	Vertical
17475.00	32.17	46.78	18.97	34.95	62.97	74	-11.03	Vertical
11650.00	33.00	39.61	14.99	34.86	52.74	74	-21.26	Horizontal
17475.00	31.11	46.78	18.97	34.95	61.91	74	-12.09	Horizontal
11650.00	18.37	39.61	14.99	34.86	38.11	54	-15.89	Vertical
17475.00	19.89	46.78	18.97	34.95	50.69	54	-3.31	Vertical
11650.00	20.45	39.61	14.99	34.86	40.19	54	-13.81	Horizontal
17475.00	19.54	46.78	18.97	34.95	50.34	54	-3.66	Horizontal

802.11n(HT40) 5755MHz

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
11510.00	34.58	39.85	14.98	34.63	54.78	74	-19.22	Vertical
17265.00	30.78	45.51	18.98	34.09	61.18	74	-12.82	Vertical
11510.00	34.48	39.85	14.98	34.63	54.68	74	-19.32	Horizontal
17265.00	30.42	45.51	18.98	34.09	60.82	74	-13.18	Horizontal
11510.00	19.73	39.85	14.98	34.63	39.93	54	-14.07	Vertical
17265.00	18.35	45.51	18.98	34.09	48.75	54	-5.25	Vertical
11510.00	18.01	39.85	14.98	34.63	38.21	54	-15.79	Horizontal
17265.00	20.19	45.51	18.98	34.09	50.59	54	-3.41	Horizontal

802.11n(HT40) 5795MHz

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
11590.00	32.27	39.71	14.99	34.78	52.19	74	-21.81	Vertical
17385.00	32.41	46.49	18.98	34.59	63.29	74	-10.71	Vertical
11590.00	35.91	39.71	14.99	34.78	55.83	74	-18.17	Horizontal
17385.00	30.94	46.49	18.98	34.59	61.82	74	-12.18	Horizontal
11590.00	17.09	39.71	14.99	34.78	37.01	54	-16.99	Vertical
17385.00	17.20	46.49	18.98	34.59	48.08	54	-5.92	Vertical
11590.00	18.94	39.71	14.99	34.78	38.86	54	-15.14	Horizontal
17385.00	18.00	46.49	18.98	34.59	48.88	54	-5.12	Horizontal

802.11ac(HT40) 5755MHz

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
11510.00	35.21	39.85	14.98	34.63	55.41	74	-18.59	Vertical
17265.00	32.57	45.51	18.98	34.09	62.97	74	-11.03	Vertical
11510.00	35.69	39.85	14.98	34.63	55.89	74	-18.11	Horizontal
17265.00	33.35	45.51	18.98	34.09	63.75	74	-10.25	Horizontal
11510.00	17.27	39.85	14.98	34.63	37.47	54	-16.53	Vertical
17265.00	18.01	45.51	18.98	34.09	48.41	54	-5.59	Vertical
11510.00	20.59	39.85	14.98	34.63	40.79	54	-13.21	Horizontal
17265.00	17.75	45.51	18.98	34.09	48.15	54	-5.85	Horizontal

802.11ac(HT40) 5795MHz

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
11590.00	34.42	39.71	14.99	34.78	54.34	74	-19.66	Vertical
17385.00	30.67	46.49	18.98	34.59	61.55	74	-12.45	Vertical
11590.00	35.09	39.71	14.99	34.78	50.01	74	-18.99	Horizontal
17385.00	30.38	46.49	18.98	34.59	61.26	74	-12.74	Horizontal
11590.00	25.08	39.71	14.99	34.78	45.00	54	-9.00	Vertical
17385.00	19.67	46.49	18.98	34.59	51.55	54	-3.45	Vertical
11590.00	25.98	39.71	14.99	34.78	49.90	54	-8.10	Horizontal
17385.00	18.84	46.49	18.98	34.59	51.72	54	-4.28	Horizontal

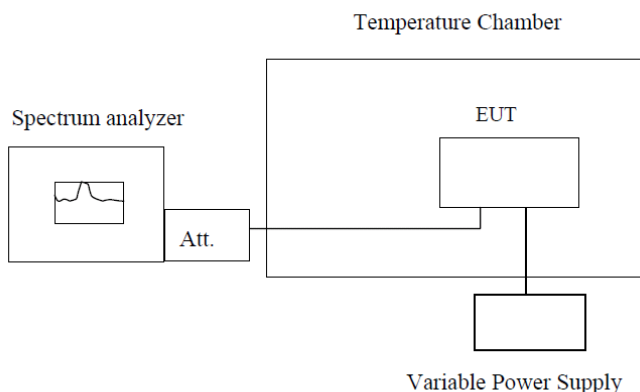
802.11ac(HT80) 5775MHz

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
11550.00	35.28	39.76	14.98	34.72	55.30	74	-18.70	Vertical
17325.00	31.94	46.19	18.98	34.31	62.80	74	-11.20	Vertical
11550.00	35.45	39.76	14.98	34.72	53.47	74	-18.53	Horizontal
17325.00	32.78	46.19	18.98	34.31	65.64	74	-10.36	Horizontal
11550.00	28.30	39.76	14.98	34.72	48.32	54	-5.68	Vertical
17325.00	19.37	46.19	18.98	34.31	50.23	54	-3.77	Vertical
11550.00	25.80	39.76	14.98	34.72	45.82	54	-8.18	Horizontal
17325.00	18.98	46.19	18.98	34.31	49.84	54	-4.16	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.

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

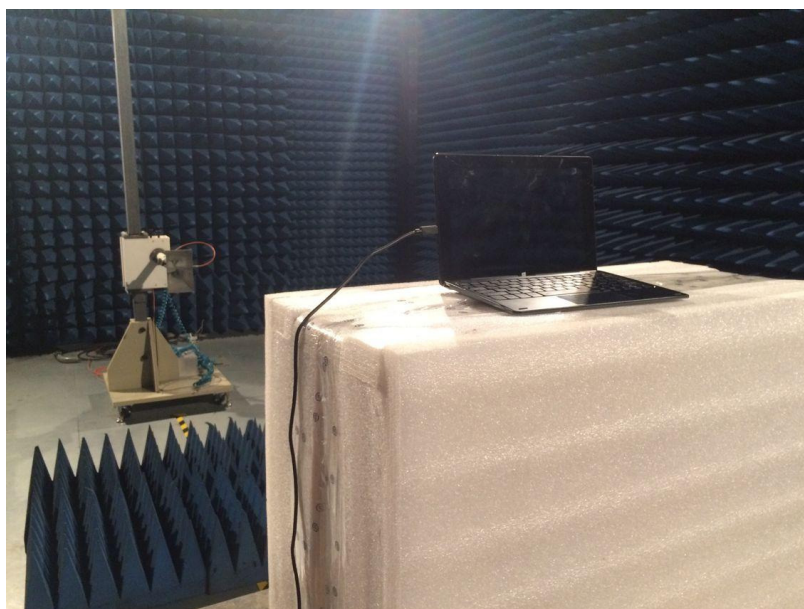
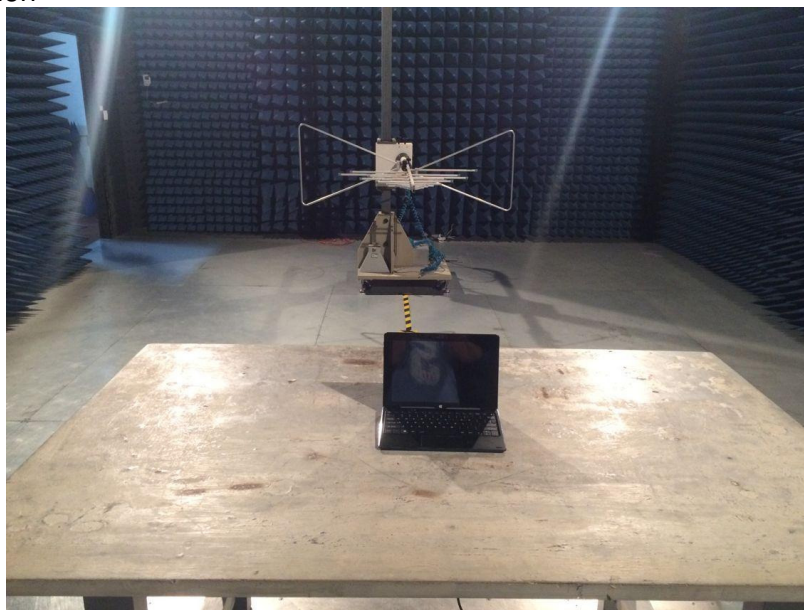
Measurement data:

Frequency stability versus Temp.					
Power Supply: DC 3.7V					
Temp. (°C)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
-30	5745	5746.6219	5742.7991	5744.1919	5746.3187
	5785	5786.7605	5784.0631	5784.0362	5785.4040
	5825	5825.3175	5824.4566	5824.4206	5825.0999
-20	5745	5745.9900	5744.8768	5744.2749	5745.2766
	5785	5785.9406	5784.1197	5784.6012	5785.4381
	5825	5825.7406	5824.6014	5824.4517	5825.0328
-10	5745	5745.8794	5744.0510	5744.9149	5745.1961
	5785	5785.5381	5784.0615	5784.3190	5785.8923
	5825	5825.9918	5824.0952	5824.6506	5825.1095
0	5745	5745.5177	5744.6749	5744.6569	5745.8575
	5785	5785.7363	5784.9707	5784.2302	5785.0016
	5825	5825.2832	5824.5286	5824.5841	5825.4018
10	5745	5745.6031	5744.8874	5744.4925	5745.3318
	5785	5785.3017	5784.1809	5784.0413	5785.1598
	5825	5825.0624	5824.4468	5824.4758	5825.9061
20	5745	5745.2524	5744.5808	5744.0093	5745.2117
	5785	5785.9619	5784.2638	5784.3581	5785.6485
	5825	5825.0119	5824.7212	5824.6311	5825.7793
30	5745	5745.6899	5744.5481	5744.7002	5745.2286
	5785	5785.6801	5784.6160	5784.6765	5785.7716
	5825	5825.9674	5824.7350	5824.0895	5825.1277
40	5745	5745.2072	5744.3710	5744.4636	5745.5607
	5785	5785.9607	5784.0357	5784.8532	5785.2336
	5825	5825.2801	5824.4411	5824.3960	5825.7163
50	5745	5745.5414	5744.6776	5744.0309	5745.2675
	5785	5785.7691	5784.9856	5784.8828	5785.5669
	5825	5825.2306	5824.2152	5824.6881	5825.1660
Frequency stability versus Voltage					
Temperature: 25°C					
Power Supply (VDC)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
3.3	5745	5746.5014	5745.3093	5742.6745	5743.5095
	5785	5785.6009	5785.0262	5784.7516	5783.9085
	5825	5825.6362	5825.2830	5824.5035	5823.0503
3.7	5745	5745.0572	5745.2584	5744.0572	5743.9416
	5785	5785.5240	5785.7454	5784.9756	5784.6174
	5825	5825.3379	5825.1665	5824.7631	5824.9744
4.1	5745	5745.3882	5745.5426	5744.7889	5744.4086
	5785	5785.8361	5785.9629	5784.6750	5784.8338
	5825	5825.1710	5825.5863	5824.6682	5824.3227

Note: The worst case is FL=5742.6745MHz, FH=5825.9918MHz

8 Test Setup Photo

Radiated Emission



Conducted Emission



9 EUT Constructional Details

Reference to the test report No. GTS201611000003E01

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