

# 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

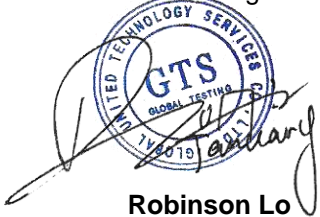
**Date of Test:** January 10-13, 2017

**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 blue stamp for GTS Global United Technology Services Co., Ltd. is visible. The stamp contains the text "GTS", "GLOBAL TESTING", and "2015". A handwritten signature in black ink is written over the stamp.

**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:

*Tiger Chen*

Date:

January 16, 2017

**Project Engineer**

Check By:

*Andy Wu*

Date:

January 16, 2017

**Reviewer**

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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<br>802.11n(HT40)/ 802.11ac(HT40) @ 5.8G Band: 5755MHz ~ 5795MHz<br>802.11ac(HT80): 5775MHz   |
| Channel numbers:       | 802.11a/802.11n(HT20)/802.11ac(HT20) @5.8G Band: 6<br>802.11n(HT40)/ 802.11ac(HT40) @ 5.8G Band: 2<br>802.11ac(HT80): 1   |
| Channel bandwidth:     | 802.11a/802.11n(HT20)/802.11ac(HT20) : 20MHz<br>802.11n(HT40)/802.11ac(HT40) : 40MHz<br>802.11ac(HT80): 80MHz   |
| Modulation technology: | 802.11a/802.11n(H20)/802.11n(H40)/802.11ac(HT20)/802.11ac(HT40) /802.11ac(HT80):<br>Orthogonal Frequency Division Multiplexing (OFDM)   |
| Antenna Type:          | PCB Antenna   |
| Antenna gain:          | 2.0dBi  |
| Power supply:          | Quick Charger:<br>Model:A68-502000<br>Input: AC 100-240V, 50/60Hz, 0.35A<br>Output: DC 5V, 2A<br>or<br>DC 3.7V 6000mAh Li-ion Battery for TM101W635L and GK-MER1027<br>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<br>802.11n(HT20)<br>802.11ac(HT20) | 802.11n(HT40)<br>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&gt;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

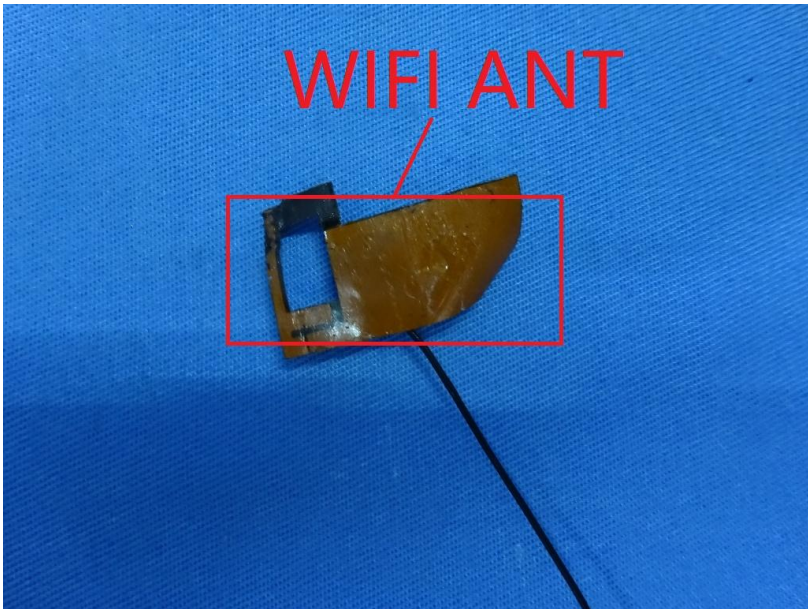
| Radiated Emission: |                                       |                             |                       |               |                     |                         |
|--------------------|---------------------------------------|-----------------------------|-----------------------|---------------|---------------------|-------------------------|
| 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

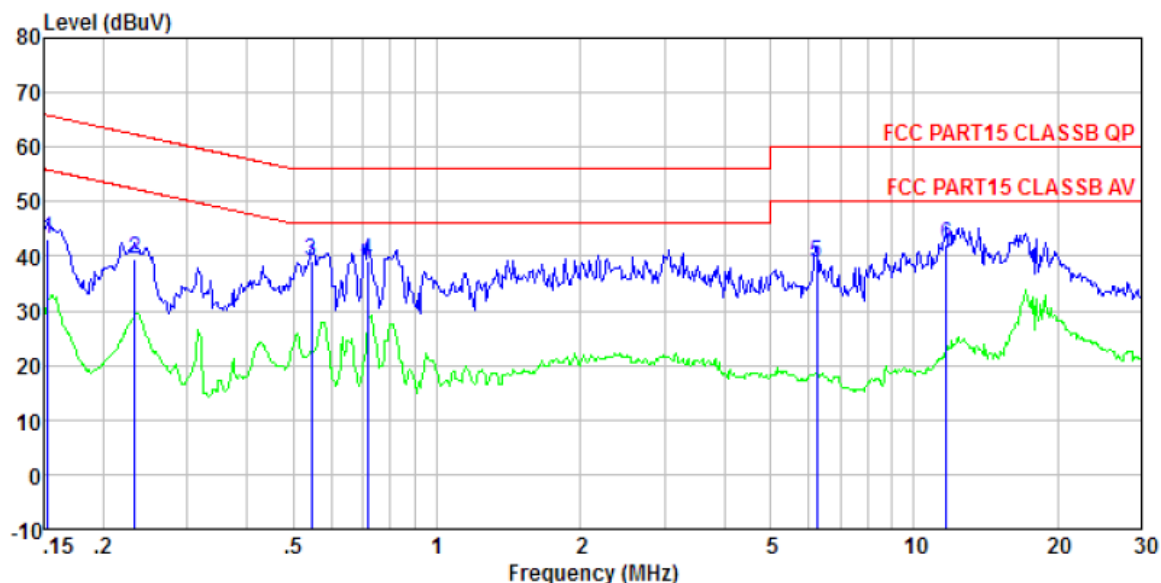
| Standard requirement:   | FCC Part15 C Section 15.203 |
|---|-----------------------------|
| <p>15.203 requirement:</p> <p><i>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently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

## 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> <p>* Decreases with the logarithm of the frequency.</p>   | 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:           | <div><p style="text-align: center;"><b>Reference Plane</b></p><p style="text-align: center;">Test table/Insulation plane</p><p><i>Remark:<br/>E.U.T: Equipment Under Test<br/>LISN: Line Impedance Stabilization Network<br/>Test table height=0.8m</i></p></div>  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test procedure:       | <ol style="list-style-type: none"><li>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.</li><li>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).</li><li>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.</li></ol> |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test Instruments:     | Refer to section 6.0 for details   |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test mode:            | Refer to section 5.3 for details   |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test results:         | Pass   |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |

## Measurement data

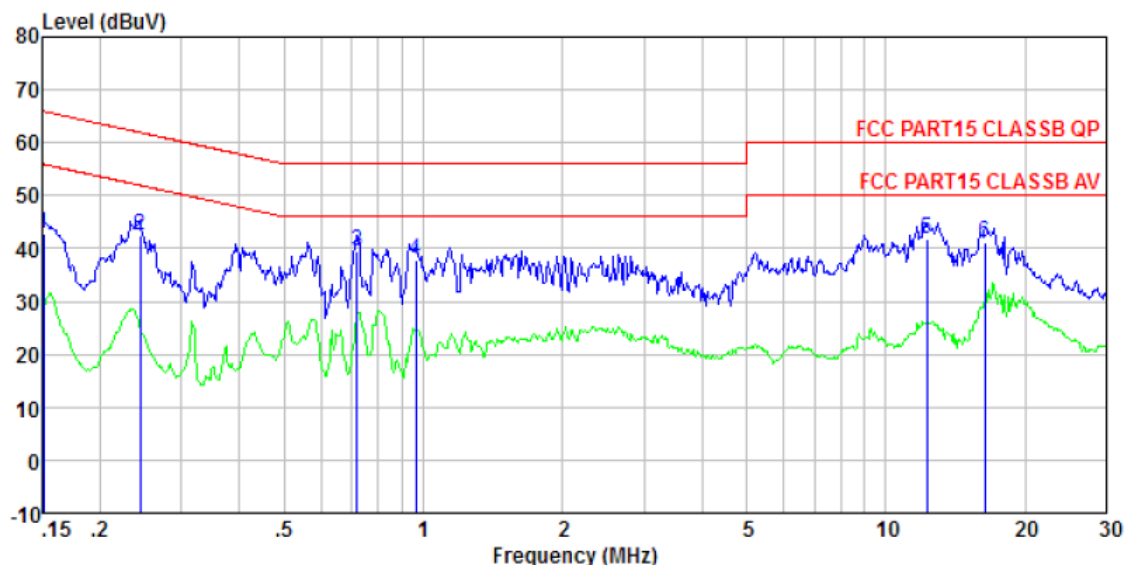
Line:



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:



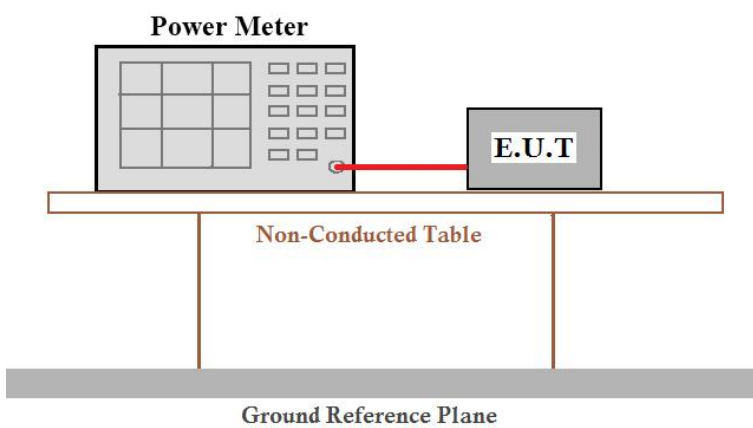
Site : Shielded room  
Condition : FCC PART15 CLASSB QP LISN-2016 NEUTRAL  
Job No. : 0003  
Test mode : WiFi (5.8G) mode  
Test Engineer: Boy

|   | 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:       |  <p>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.</p> |
| 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                   |            |        |

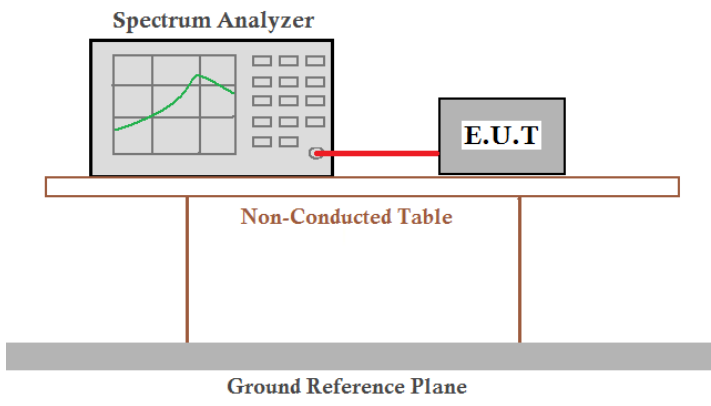
| Test CH | Peak Output Power (dBm) | Limit(dBm) | Result |
|---------|-------------------------|------------|--------|
|         | 802.11ac (HT20)         |            |        |
| Lowest  | 8.87                    | 30         | Pass   |
| Middle  | 9.89                    |            |        |
|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

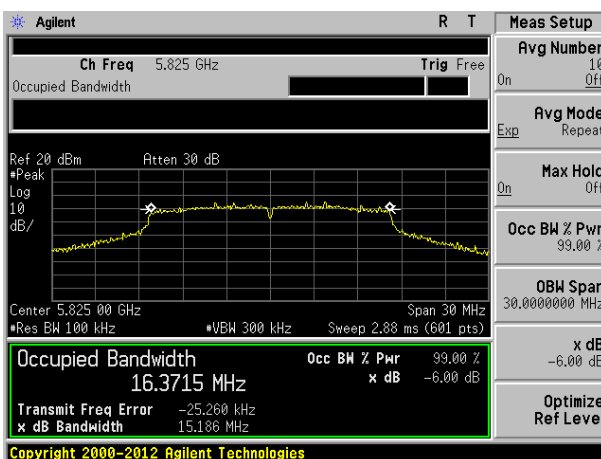
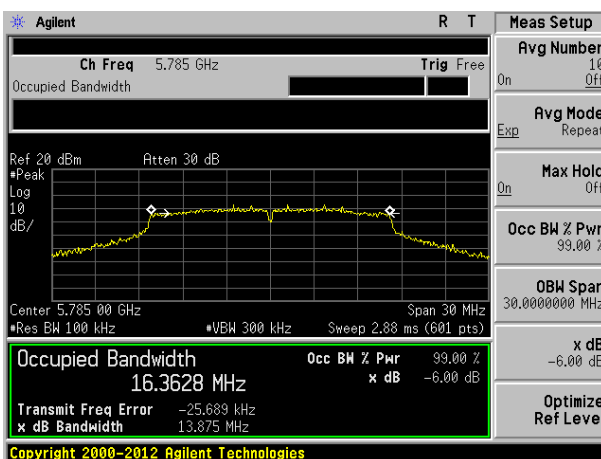
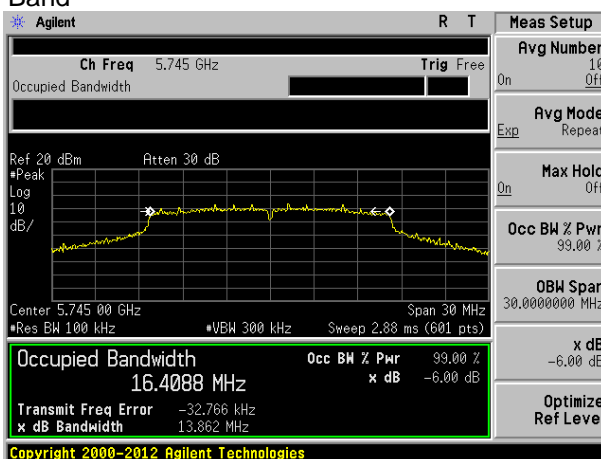
|                   |   |
|-------------------|---|
| Test Requirement: | FCC Part15 E Section 15.407(e)  |
| Test Method:      | KDB789033 D02 General UNII Test Procedures New Rules v01  |
| Limit:            | >500KHz   |
| Test setup:       |  <p>The diagram illustrates the test setup. A Spectrum 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. Below the table is a Ground Reference Plane.</p> |
| 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            |             |        |

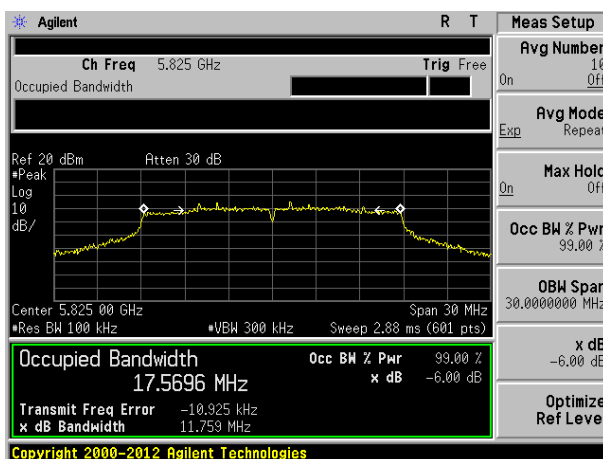
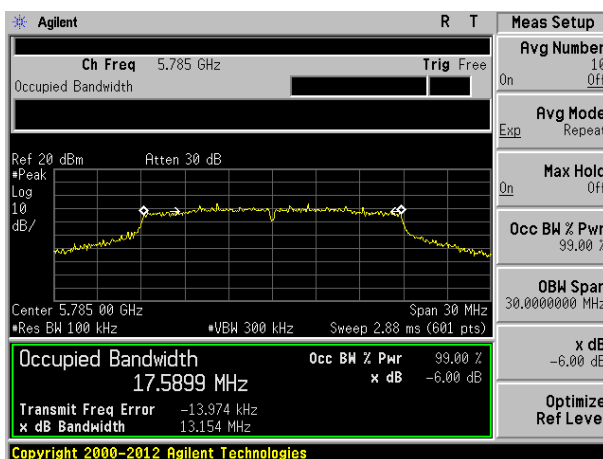
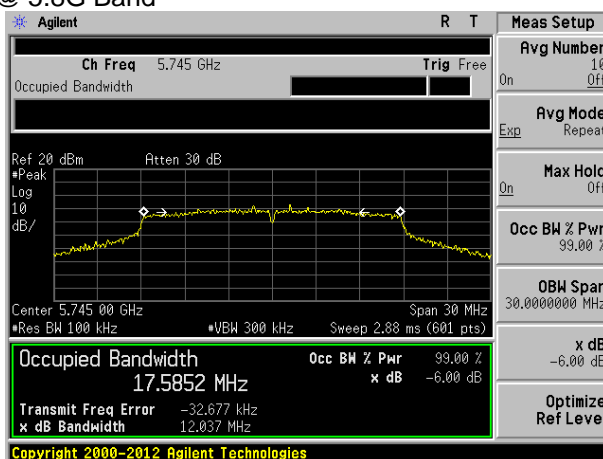
Test plot as follows:

Test mode: 802.11a @ 5.8G Band

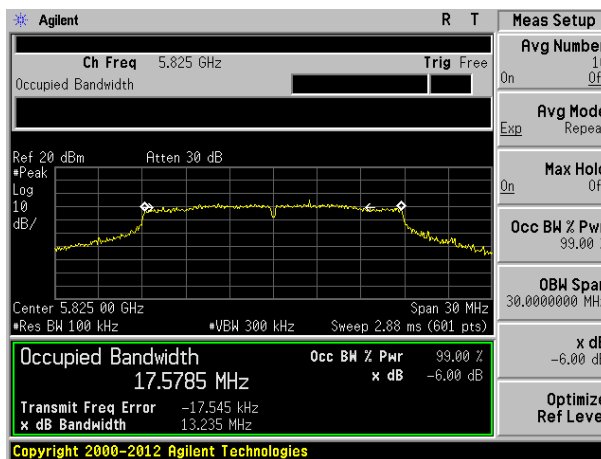
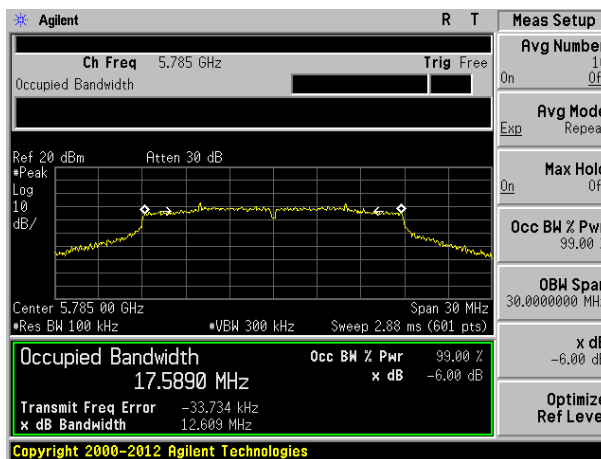
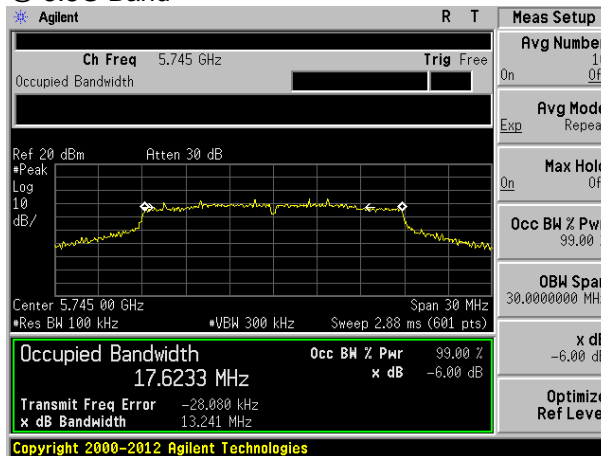




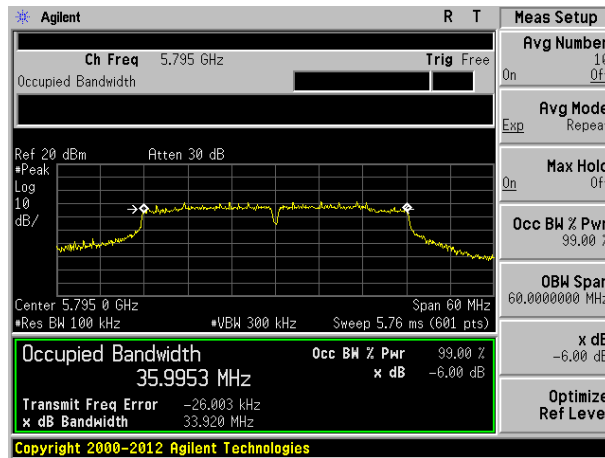
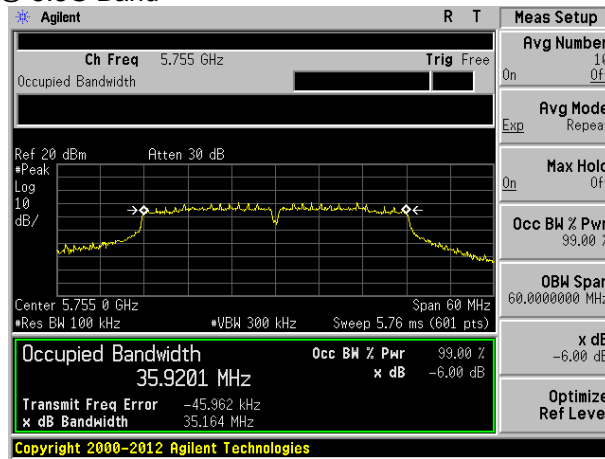
Test mode: 802.11n(HT20) @ 5.8G Band



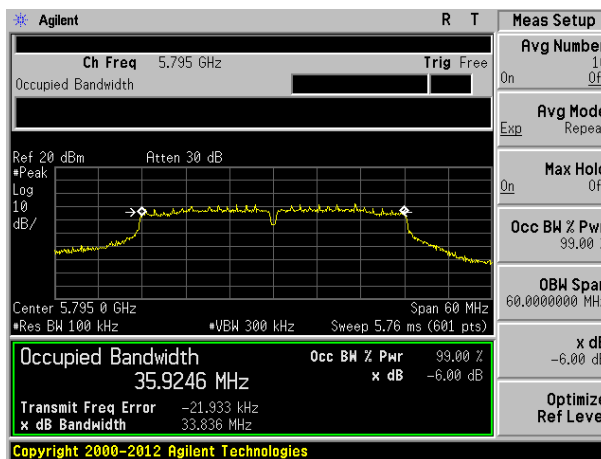
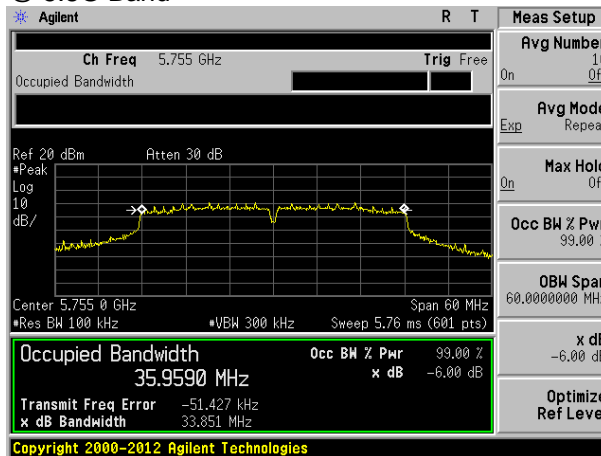
Test mode: 802.11ac(HT20) @ 5.8G Band



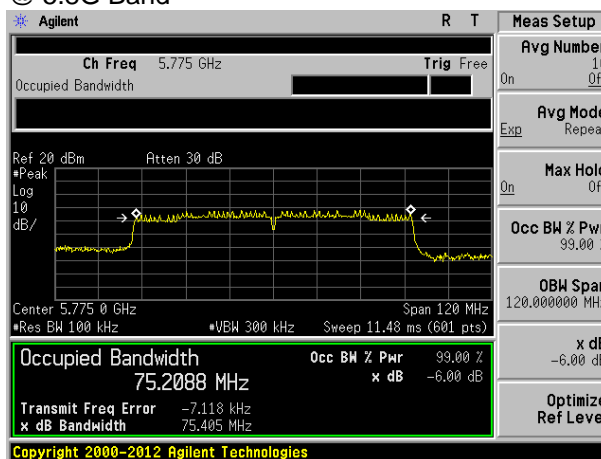
Test mode: 802.11n(HT40) @ 5.8G Band



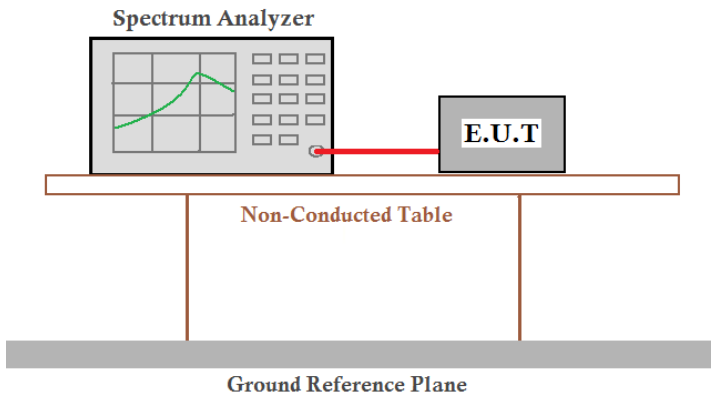
Test mode: 802.11ac(HT40) @ 5.8G Band



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



## 7.5 Power Spectral Density

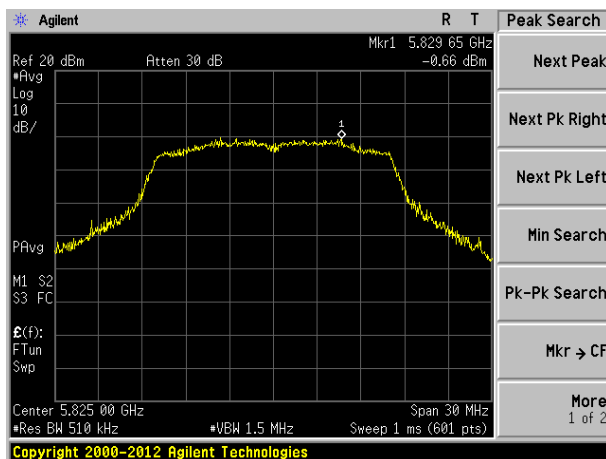
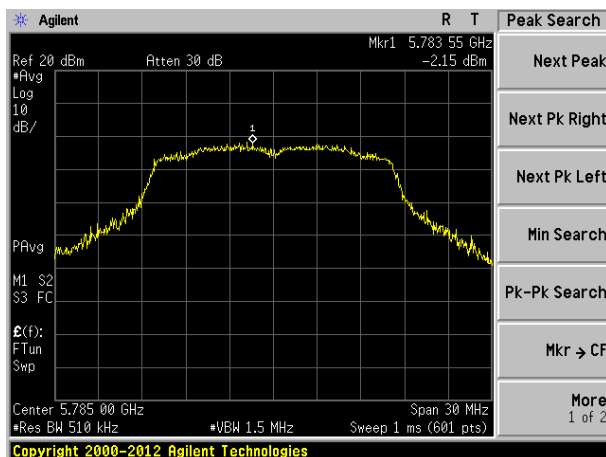
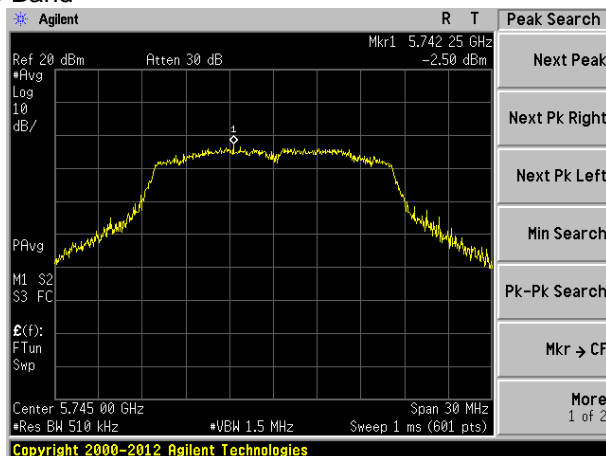
|                   |  |
|-------------------|--|
| Test Requirement: | FCC Part15 E Section 15.407(a)(3)  |
| Test Method:      | KDB789033 D02 General UNII Test Procedures New Rules v01   |
| Limit:            | 30dBm  |
| Test setup:       |  <p>The diagram illustrates the test setup. A Spectrum Analyzer 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.</p> |
| Test Instruments: | Refer to section 6.0 for details   |
| Test mode:        | Refer to section 5.3 for details   |
| Test results:     | Pass   |

## Measurement Data

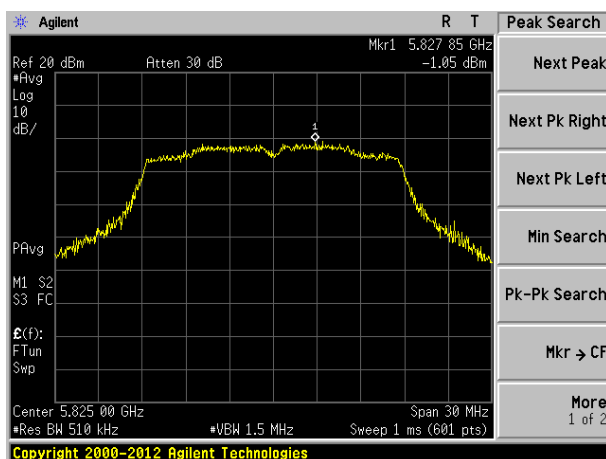
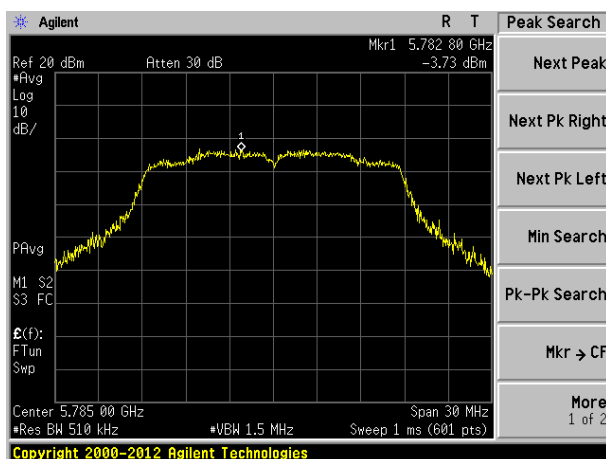
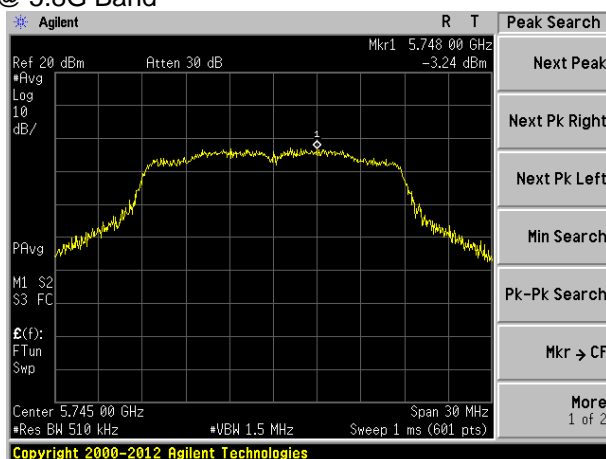
| Test mode             | Channel | Measured PSD (dBm) | Limit (dBm) | Result |
|-----------------------|---------|--------------------|-------------|--------|
| <b>802.11a (HT20)</b> | Lowest  | -2.50              | 30          | Pass   |
|                       | Middle  | -2.15              |    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

## Test plot as follows:

Test mode: 802.11a @ 5.8G Band

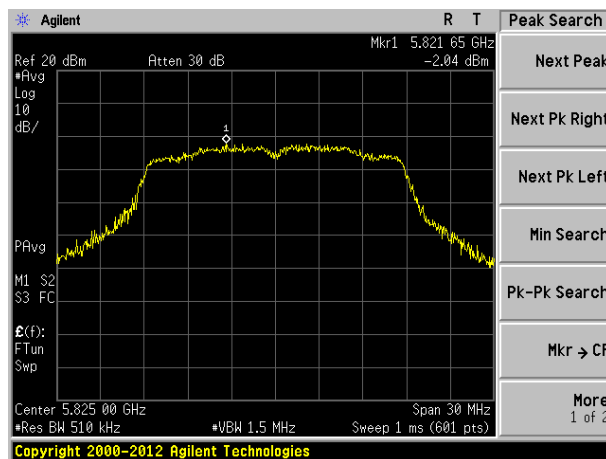
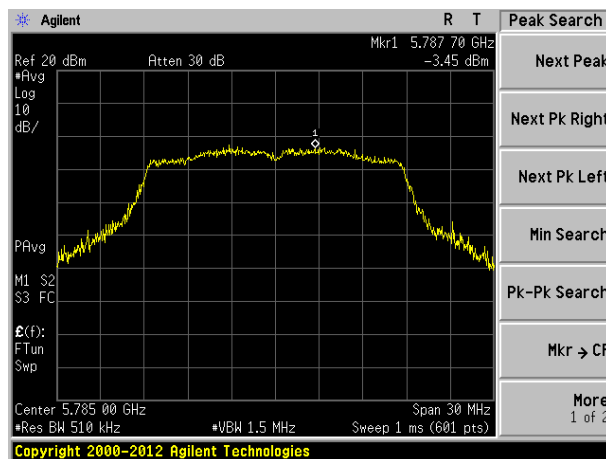
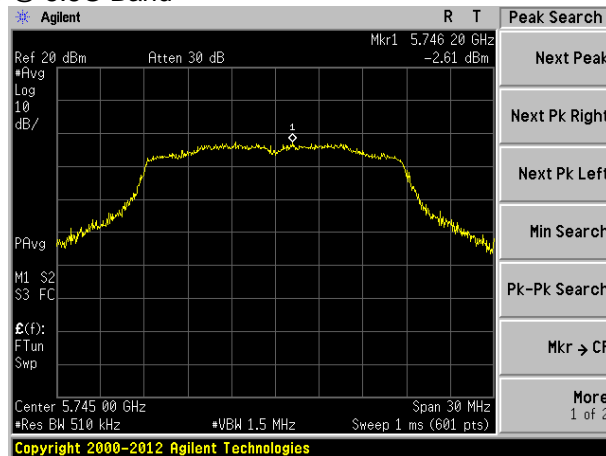


Test mode: 802.11n(HT20) @ 5.8G Band

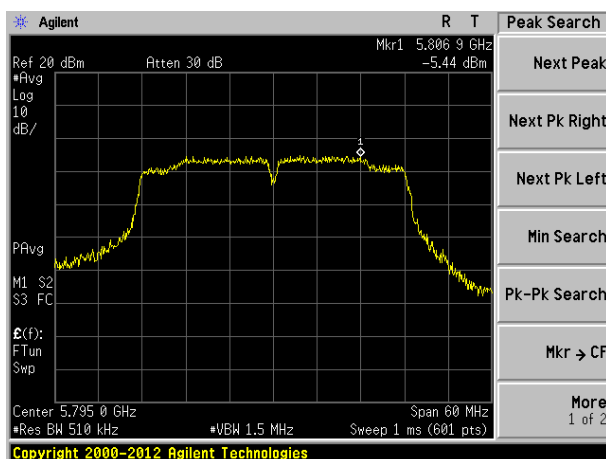
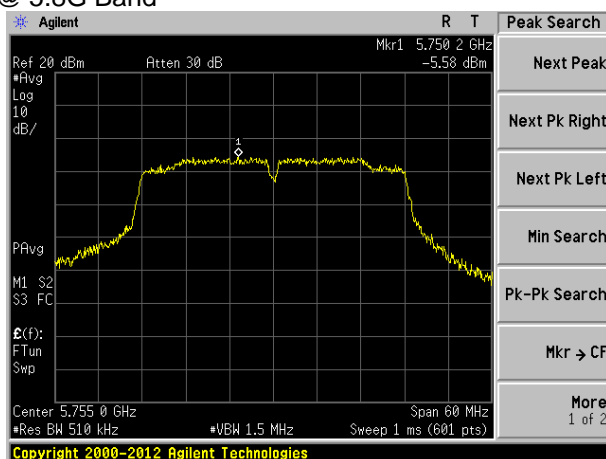




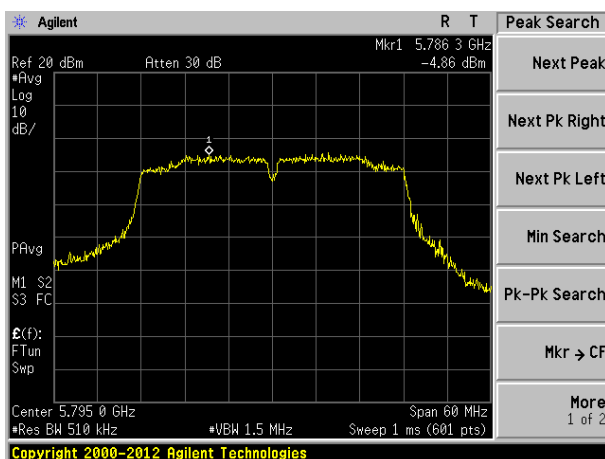
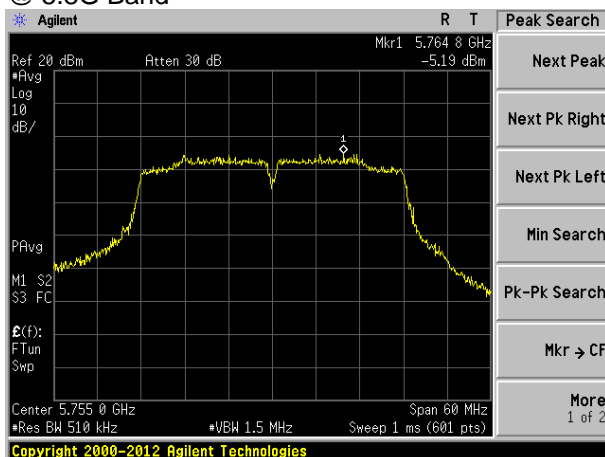
Test mode: 802.11ac(HT20) @ 5.8G Band



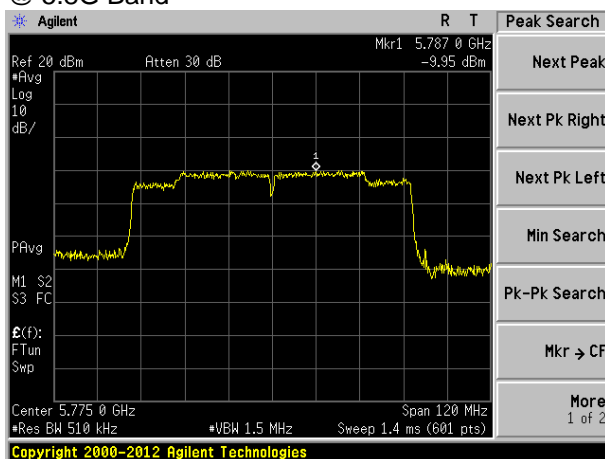
Test mode: 802.11n(HT40) @ 5.8G Band



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

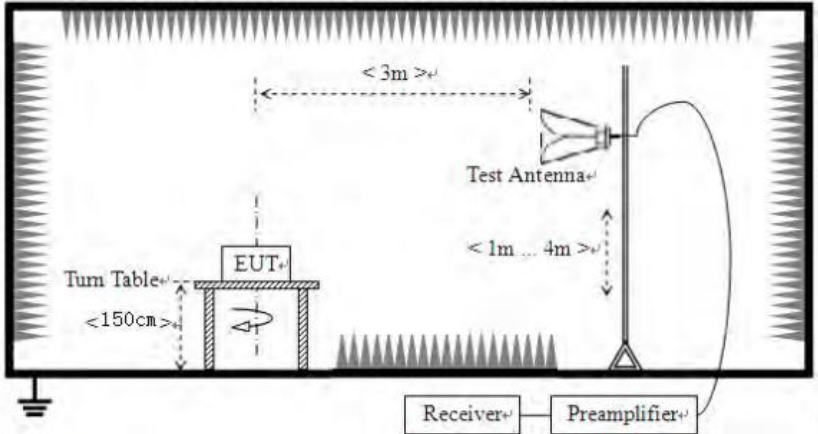


Test mode: 802.11ac(HT80) @ 5.8G Band



## 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:       | <ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>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</li> </ol> |          |      |      |       |

|                   |  |
|-------------------|--|
|                   | <p>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.</p> <p>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.</p> |
| 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) | Preamplifier 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) | Preamplifier 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) | Preamplifier 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) | Preamplifier 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     |

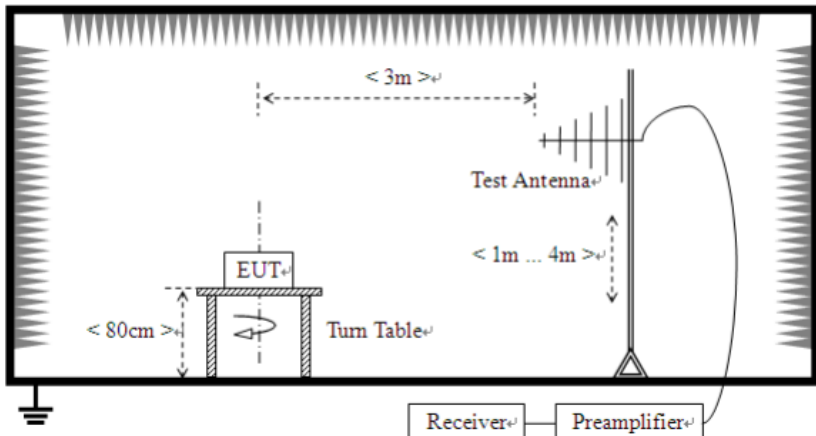
|                 |                   |                       |                 |                    |                |                     |                 |              |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 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     |

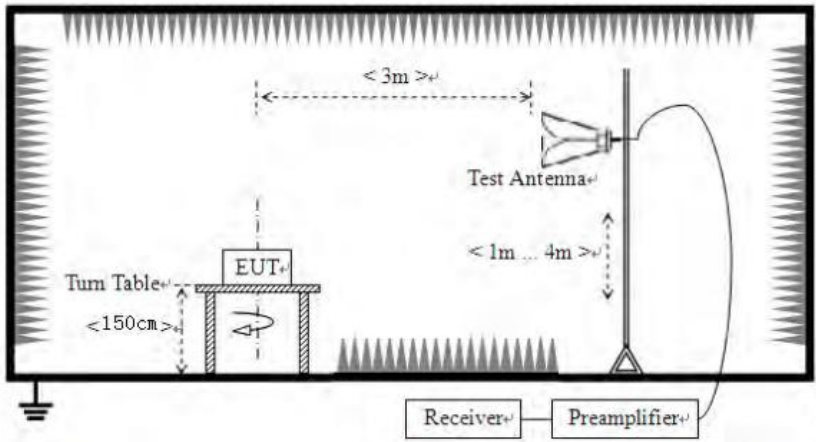
**Remark:**

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  |            |                    |        |                  |
|                       | <div></div> |            |                    |        |                  |
|                       | Above 1GHz  |            |                    |        |                  |

|                   |  |
|-------------------|--|
|                   |    |
| Test Procedure:   | <ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>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.</li> <li>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.</li> </ol> |
| 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) | Preamplifier 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   |

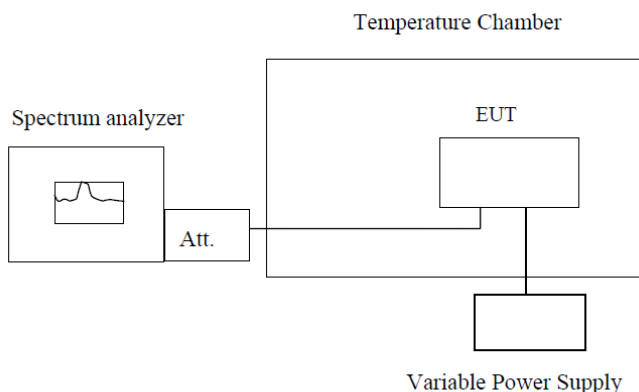
## 802.11ac(HT80) 5775MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier 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- Preamplifier 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:       |  <p><b>Note :</b> Measurement setup for testing on Antenna connector</p>   |
| Test Instruments: | Refer to section 5.10 for details   |
| Test mode:        | Refer to section 5.3 for details  |
| Test results:     | Pass  |

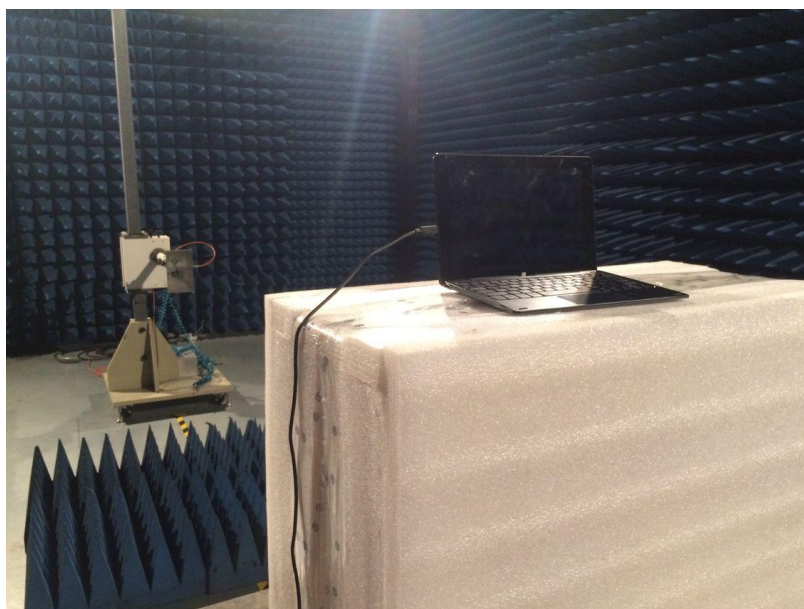
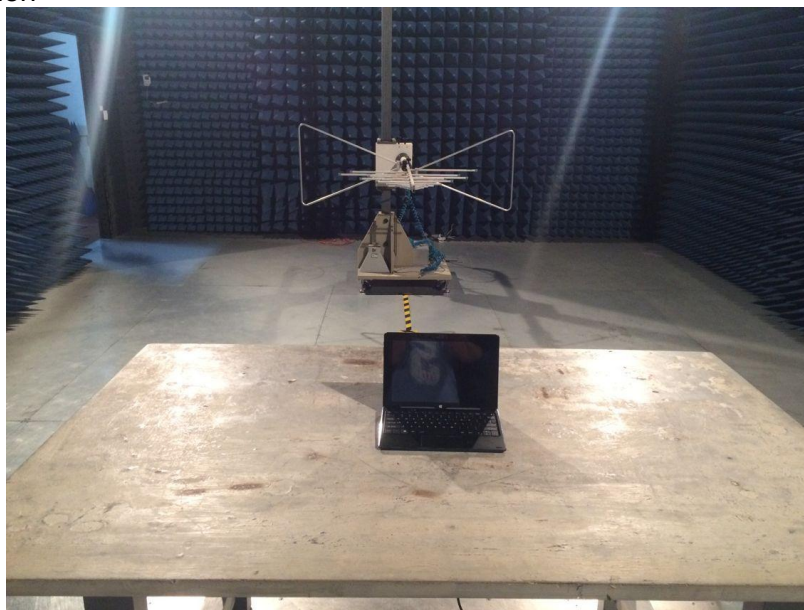
### Measurement data:

| Frequency stability versus Temp.   |                                 |   |   |   |  |
|------------------------------------|---------------------------------|---|---|---|--|
| Power Supply: DC 3.7V              |                                 |   |   |   |  |
| Temp.<br>(°C)                      | Operating<br>Frequency<br>(MHz) | 0 minute<br>Measured<br>Frequency (MHz) | 2 minute<br>Measured<br>Frequency (MHz) | 5 minute<br>Measured<br>Frequency (MHz) | 10 minute<br>Measured<br>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                            | <b>5825.9918</b>                        | 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<br>Supply<br>(VDC)           | Operating<br>Frequency<br>(MHz) | 0 minute<br>Measured<br>Frequency (MHz) | 2 minute<br>Measured<br>Frequency (MHz) | 5 minute<br>Measured<br>Frequency (MHz) | 10 minute<br>Measured<br>Frequency (MHz) |
| 3.3                                | 5745                            | 5746.5014                               | 5745.3093                               | <b>5742.6745</b>                        | 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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