

# TEST REPORT

**Applicant:** Shenzhen Dangs Science and Technology Co., Ltd

**Address of Applicant:** 901, GDC Building, Gaoxin Mid 3rd Road, Maling Community, Yuehai Sub-district, Nanshan District, Shenzhen, China

**Manufacturer:** Shenzhen Dangs Science and Technology Co., Ltd

**Address of Manufacturer:** 901, GDC Building, Gaoxin Mid 3rd Road, Maling Community, Yuehai Sub-district, Nanshan District, Shenzhen, China

**Factory:** Dong Guan Jvin Electronic Co.,LTD

**Address of Factory:** Room 501, 7th Floor, Building 2, No. 381, Daxing Road, Yangwu, Dalingshan Town, Dongguan City, Guangdong Province, China

**Equipment Under Test (EUT)**

**Product Name:** Smart Projector

**Model No.:** N1, N\*\*\*\*\*(" can be 0-9, A-Z, a-z, or blank for the marketing purpose, only different model designations on the marking plate for different markets.No safety concern).

**Trade Mark:** 

**FCC ID:** 2AV2J-ECPN1

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart E Section 15.407

**Date of sample receipt:** September 13, 2022

**Date of Test:** September 14, 2022-October 20, 2022

**Date of report issued:** October 20, 2022

**Test Result :** PASS \*

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

Authorized Signature:



**Robinson Luo**

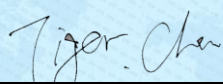
**Laboratory Manager**

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

## 2 Version

| Version No. | Date             | Description |
|-------------|------------------|-------------|
| 00          | October 20, 2022 | Original    |
|             |                  |             |
|             |                  |             |
|             |                  |             |
|             |                  |             |

Prepared By:

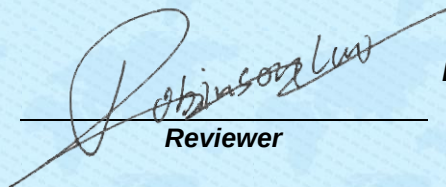


Project Engineer

Date:

October 20, 2022

Check By:



Reviewer

Date:

October 20, 2022

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## 4 Test Summary

| Test Item                                    | Section                             | Result |
|----------------------------------------------|-------------------------------------|--------|
| Antenna requirement                          | FCC part 15.203                     | Pass   |
| AC Power Line Conducted Emission             | FCC part 15.207                     | Pass   |
| Maximum Conducted Output Power               | FCC part 15.407(a)(3)               | Pass   |
| Channel Bandwidth and 99% Occupied Bandwidth | FCC part 15.407(e)                  | Pass   |
| Power Spectral Density                       | FCC part 15.407(a)(3)               | Pass   |
| Band Edge                                    | FCC part 15.407(b)(4)               | Pass   |
| Spurious Emission                            | FCC part 15.205/15.209/15.407(b)(4) | Pass   |
| Frequency Stability                          | FCC part 15.407(g)                  | Pass   |

Remarks:

1. Pass: The EUT complies with the essential requirements in the standard.
2. Test according to ANSI C63.10:2013.

### 4.1 Measurement Uncertainty

| Test Item                        | Frequency Range | Measurement Uncertainty | Notes |
|----------------------------------|-----------------|-------------------------|-------|
| Radiated Emission                | 9kHz-30MHz      | 3.1dB                   | (1)   |
| Radiated Emission                | 30MHz-200MHz    | 3.8039dB                | (1)   |
| Radiated Emission                | 200MHz-1GHz     | 3.9679dB                | (1)   |
| Radiated Emission                | 1GHz-18GHz      | 4.29dB                  | (1)   |
| Radiated Emission                | 18GHz-40GHz     | 3.30dB                  | (1)   |
| AC Power Line Conducted Emission | 0.15MHz ~ 30MHz | 3.44dB                  | (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 General Description of EUT

|                                                                                                                                                                |                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name:                                                                                                                                                  | Smart Projector                                                                                                                                                          |
| Model No.:                                                                                                                                                     | N1, N*****("*"can be 0-9, A-Z, a-z, or blank for the marketing purpose, only different model designations on the marking plate for different markets.No safety concern). |
| Test Model No.:                                                                                                                                                | N1                                                                                                                                                                       |
| Remark:All above models are identical in the same PCB layout, interior structure and electrical circuits. The difference is model name for commercial purpose. |                                                                                                                                                                          |
| Test sample(s) ID:                                                                                                                                             | GTS202209000059-1                                                                                                                                                        |
| Sample(s) Status:                                                                                                                                              | Engineer sample                                                                                                                                                          |
| S/N:                                                                                                                                                           | N/A                                                                                                                                                                      |
| Operation Frequency:                                                                                                                                           | 802.11a/802.11n(HT20)/802.11ac(HT20): 5745MHz ~ 5825MHz<br>802.11n(HT40)/ 802.11ac(HT40): 5755MHz ~ 5795MHz<br>802.11ac(HT80): 5775MHz                                   |
| Channel numbers:                                                                                                                                               | 802.11a/802.11n(HT20)/802.11ac(HT20): 5<br>802.11n(HT40)/ 802.11ac(HT40): 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:                                                                                                                                         | Orthogonal Frequency Division Multiplexing (OFDM)                                                                                                                        |
| Antenna Type:                                                                                                                                                  | FPC Antenna                                                                                                                                                              |
| Antenna gain:                                                                                                                                                  | ANT 1: 6.71dBi<br>ANT 2: 7.16dBi                                                                                                                                         |
| Power supply:                                                                                                                                                  | AC ADAPTER<br>MODEL:AY120EA-ZF190632M<br>INPUT:AC 100-240V~50/60Hz 2.0A Max<br>OUTPUT:DC 19.0V 6.32A 120.08W                                                             |

| Operation Frequency each of channel |           |         |           |         |           |         |           |
|-------------------------------------|-----------|---------|-----------|---------|-----------|---------|-----------|
| Channel                             | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 149                                 | 5745MHz   | 151     | 5755MHz   | 153     | 5765MHz   | 155     | 5775MHz   |
| 157                                 | 5785MHz   | 159     | 5795MHz   | 161     | 5805MHz   | 163     | 5815MHz   |
| 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)     |                   |                |
|-----------------|---------------------|-------------------|----------------|
|                 | 802.11 a/n/ac(HT20) | 802.11 n/ac(HT40) | 802.11ac(HT80) |
| Lowest channel  | 5745                | 5755              |                |
| Middle channel  | 5785                |                   | 5775           |
| Highest channel | 5825                | 5795              |                |

## 5.2 Test mode

|                   |                                                |
|-------------------|------------------------------------------------|
| Transmitting mode | Keep the EUT in continuously transmitting mode |
|-------------------|------------------------------------------------|

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

## 5.3 Description of Support Units

|      |
|------|
| None |
|------|

## 5.4 Test Facility

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

- **FCC —Registration No.: 381383**

Designation Number: CN5029

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

- **IC —Registration No.: 9079A**

CAB identifier: CN0091

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

- **NVLAP (LAB CODE:600179-0)**

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

## 5.5 Test Location

|                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| All tests were performed at:                                                                                                                                                                                                                        |
| Global United Technology Services Co., Ltd.<br>Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102<br>Tel: 0755-27798480<br>Fax: 0755-27798960 |

## 5.6 Additional Instructions

|                   |                                                |
|-------------------|------------------------------------------------|
| Test Software     | Special test software provided by manufacturer |
| Power level setup | Default                                        |

## 6 Test Instruments list

| Radiated Emission: |                                     |                                |                             |               |                     |                         |
|--------------------|-------------------------------------|--------------------------------|-----------------------------|---------------|---------------------|-------------------------|
| Item               | Test Equipment                      | Manufacturer                   | Model No.                   | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                  | 3m Semi- Anechoic Chamber           | ZhongYu Electron               | 9.2(L)*6.2(W)* 6.4(H)       | GTS250        | July 02, 2020       | July 01, 2025           |
| 2                  | Control Room                        | ZhongYu Electron               | 6.2(L)*2.5(W)* 2.4(H)       | GTS251        | N/A                 | N/A                     |
| 3                  | EMI Test Receiver                   | Rohde & Schwarz                | ESU26                       | GTS203        | April 22, 2022      | April 21, 2023          |
| 4                  | BiConiLog Antenna                   | SCHWARZBECK<br>MESS-ELEKTRONIK | VULB9168                    | GTS640        | March 21, 2022      | March 20, 2023          |
| 5                  | Double -ridged waveguide horn       | SCHWARZBECK<br>MESS-ELEKTRONIK | BBHA 9120 D                 | GTS208        | June 12, 2022       | June 11, 2023           |
| 6                  | Horn Antenna                        | ETS-LINDGREN                   | 3160                        | GTS217        | June 23, 2022       | June 22, 2023           |
| 7                  | EMI Test Software                   | AUDIX                          | E3                          | N/A           | N/A                 | N/A                     |
| 8                  | Coaxial Cable                       | GTS                            | N/A                         | GTS213        | April 22, 2022      | April 21, 2023          |
| 9                  | Coaxial Cable                       | GTS                            | N/A                         | GTS211        | April 22, 2022      | April 21, 2023          |
| 10                 | Coaxial cable                       | GTS                            | N/A                         | GTS210        | April 22, 2022      | April 21, 2023          |
| 11                 | Coaxial Cable                       | GTS                            | N/A                         | GTS212        | April 22, 2022      | April 21, 2023          |
| 12                 | Amplifier(100kHz-3GHz)              | HP                             | 8347A                       | GTS204        | April 22, 2022      | April 21, 2023          |
| 13                 | Amplifier (18-26GHz)                | Rohde & Schwarz                | AFS33-18002<br>650-30-8P-44 | GTS218        | June 23, 2022       | June 22, 2023           |
| 14                 | Band filter                         | Amindeon                       | 82346                       | GTS219        | June 23, 2022       | June 22, 2023           |
| 15                 | Power Meter                         | Anritsu                        | ML2495A                     | GTS540        | June 23, 2022       | June 22, 2023           |
| 16                 | Power Sensor                        | Anritsu                        | MA2411B                     | GTS541        | June 23, 2022       | June 22, 2023           |
| 17                 | Wideband Radio Communication Tester | Rohde & Schwarz                | CMW500                      | GTS575        | April 22, 2022      | April 21, 2023          |
| 18                 | Splitter                            | Agilent                        | 11636B                      | GTS237        | June 23, 2022       | June 22, 2023           |
| 19                 | Loop Antenna                        | ZHINAN                         | ZN30900A                    | GTS534        | Nov. 30, 2021       | Nov. 29, 2022           |
| 20                 | Broadband Preamplifier              | SCHWARZBECK                    | BBV9718                     | GTS535        | April 22, 2022      | April 21, 2023          |
| 21                 | Breitband hornantenna               | SCHWARZBECK                    | BBHA 9170                   | GTS579        | Oct. 16, 2022       | Oct. 15, 2023           |
| 22                 | Amplifier                           | TDK                            | PA-02-02                    | GTS574        | Oct. 16, 2022       | Oct. 15, 2023           |
| 23                 | Amplifier                           | TDK                            | PA-02-03                    | GTS576        | Oct. 16, 2022       | Oct. 15, 2023           |
| 24                 | PSA Series Spectrum Analyzer        | Rohde & Schwarz                | FSP                         | GTS578        | June 23, 2022       | June 22, 2023           |
| 25                 | Amplifier(1GHz-26.5GHz)             | HP                             | 8449B                       | GTS601        | April 22, 2022      | April 21, 2023          |

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

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

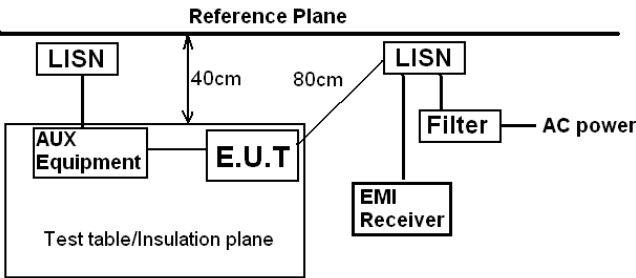
| General used equipment: |                                 |              |           |               |                     |                         |
|-------------------------|---------------------------------|--------------|-----------|---------------|---------------------|-------------------------|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

## 7 Test results and Measurement Data

### 7.1 Antenna requirement

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Standard requirement:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                     | FCC Part15 C Section 15.203 |
| <i>15.203 requirement:</i><br>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. |                             |
| <b>E.U.T Antenna:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                             |
| The antenna is FPC antenna, reference to the appendix II for details                                                                                                                                                                                                                                                                                                                                                                                                             |                             |

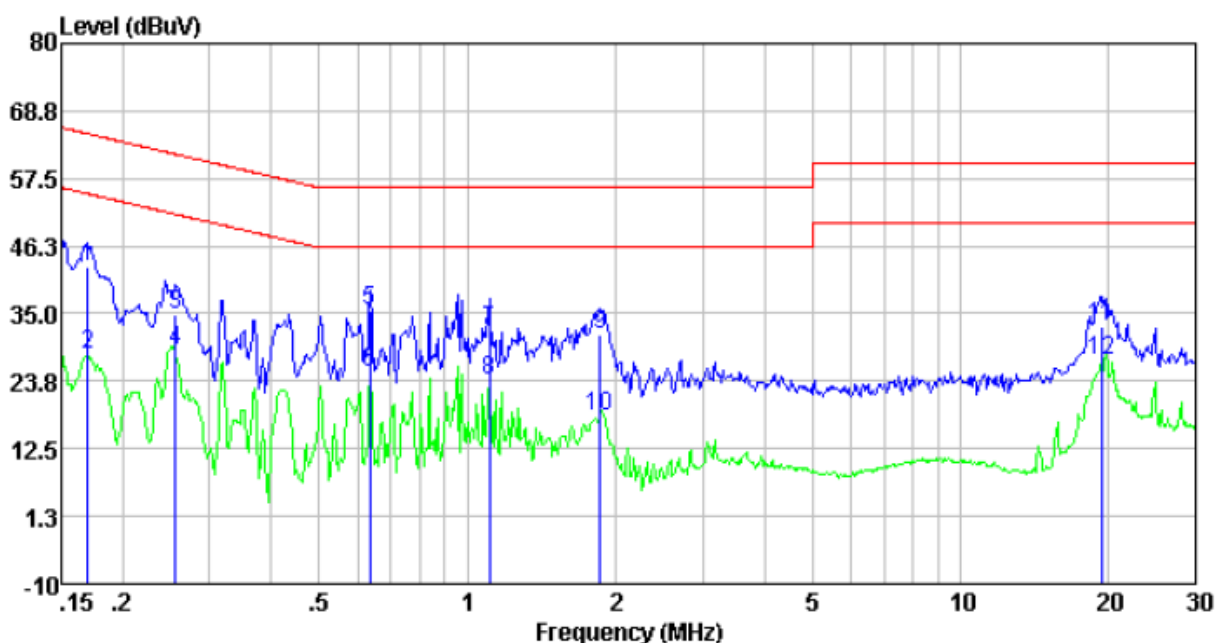
## 7.2 Conducted Emissions

|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |              |     |           |          |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------|-----|-----------|----------|
| Test Requirement:                                | FCC Part15 C Section 15.207                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |              |     |           |          |
| Test Method:                                     | ANSI C63.10:2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |              |     |           |          |
| Test Frequency Range:                            | 150KHz to 30MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |              |     |           |          |
| Class / Severity:                                | Class B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |              |     |           |          |
| Receiver setup:                                  | RBW=9KHz, VBW=30KHz, Sweep time=auto                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |              |     |           |          |
| Limit:                                           | Frequency range (MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       | Limit (dBuV) |     |           |          |
|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       | Quasi-peak   |     | Average   |          |
|                                                  | 0.15-0.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       | 66 to 56*    |     | 56 to 46* |          |
|                                                  | 0.5-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       | 56           |     | 46        |          |
|                                                  | 5-30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       | 60           |     | 50        |          |
| * Decreases with the logarithm of the frequency. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |              |     |           |          |
| Test setup:                                      | <div><p style="text-align: center;"><b>Reference Plane</b></p><p>Remark:<br/>E.U.T: Equipment Under Test<br/>LISN: Line Impedance Stabilization Network<br/>Test table height=0.8m</p></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |              |     |           |          |
| Test procedure:                                  | <div><div>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.</div><div>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).</div><div>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.</div></div> |       |              |     |           |          |
| Test Instruments:                                | Refer to section 6.0 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |              |     |           |          |
| Test mode:                                       | Refer to section 5.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |              |     |           |          |
| Test environment:                                | Temp.:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 25 °C | Humid.:      | 52% | Press.:   | 1012mbar |
| Test voltage:                                    | AC 120V, 60Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |              |     |           |          |
| Test results:                                    | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |              |     |           |          |

## Measurement data

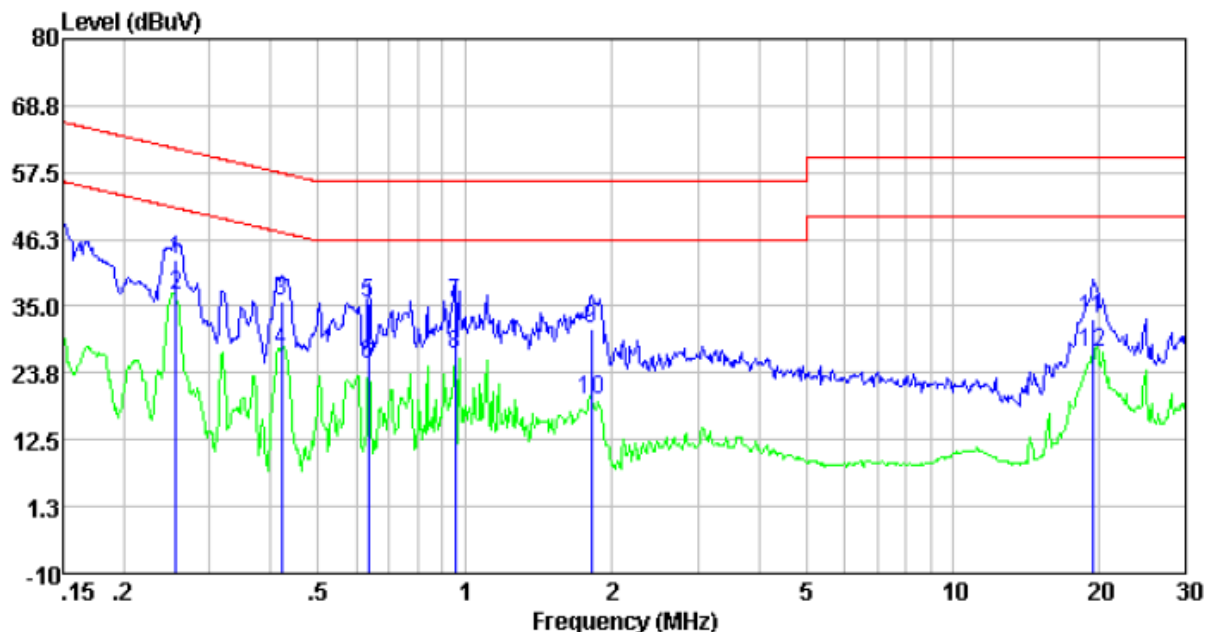
Pre-scan all test modes, found worst case at 802.11ac(VHT80) 5775MHz, and so only show the test result of it  
all were test, only the ANT 1 test result recorded in the report.

Line:



| Freq  | Reading | LISN/ISN | Cable | Level | Limit | Over   | Remark  |
|-------|---------|----------|-------|-------|-------|--------|---------|
| MHz   | dBuV    | factor   | loss  | dBuV  | dBuV  | limit  |         |
|       |         | dB       | dB    |       |       | dB     |         |
| 0.17  | 32.62   | 10.10    | 0.01  | 42.73 | 64.99 | -22.26 | QP      |
| 0.17  | 18.11   | 10.10    | 0.01  | 28.22 | 54.99 | -26.77 | Average |
| 0.26  | 24.79   | 10.01    | 0.01  | 34.81 | 61.56 | -26.75 | QP      |
| 0.26  | 18.74   | 10.01    | 0.01  | 28.76 | 51.56 | -22.80 | Average |
| 0.63  | 25.52   | 9.96     | 0.02  | 35.50 | 56.00 | -20.50 | QP      |
| 0.63  | 15.06   | 9.96     | 0.02  | 25.04 | 46.00 | -20.96 | Average |
| 1.11  | 22.09   | 9.94     | 0.03  | 32.06 | 56.00 | -23.94 | QP      |
| 1.11  | 14.03   | 9.94     | 0.03  | 24.00 | 46.00 | -22.00 | Average |
| 1.86  | 21.56   | 9.85     | 0.04  | 31.45 | 56.00 | -24.55 | QP      |
| 1.86  | 7.98    | 9.85     | 0.04  | 17.87 | 46.00 | -28.13 | Average |
| 19.33 | 23.38   | 9.44     | 0.18  | 33.00 | 60.00 | -27.00 | QP      |
| 19.33 | 17.60   | 9.44     | 0.18  | 27.22 | 50.00 | -22.78 | Average |

Neutral:

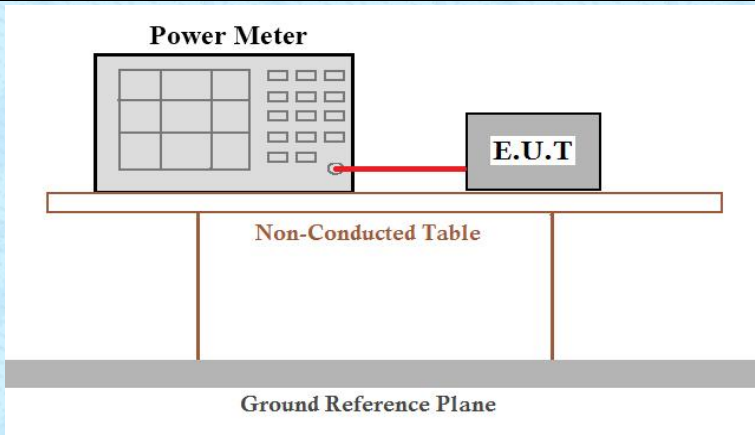


| Freq  | Reading | LISN/ISN | Cable | Level | Limit | Over   | Remark  |
|-------|---------|----------|-------|-------|-------|--------|---------|
| MHz   | dBuV    | dB       | loss  | dBuV  | dBuV  | limit  |         |
| 0.26  | 32.66   | 10.01    | 0.01  | 42.68 | 61.56 | -18.88 | QP      |
| 0.26  | 26.83   | 10.01    | 0.01  | 36.85 | 51.56 | -14.71 | Average |
| 0.42  | 25.97   | 9.96     | 0.01  | 35.94 | 57.42 | -21.48 | QP      |
| 0.42  | 17.65   | 9.96     | 0.01  | 27.62 | 47.42 | -19.80 | Average |
| 0.63  | 25.55   | 9.96     | 0.02  | 35.53 | 56.00 | -20.47 | QP      |
| 0.63  | 15.10   | 9.96     | 0.02  | 25.08 | 46.00 | -20.92 | Average |
| 0.95  | 25.40   | 9.96     | 0.03  | 35.39 | 56.00 | -20.61 | QP      |
| 0.95  | 16.85   | 9.96     | 0.03  | 26.84 | 46.00 | -19.16 | Average |
| 1.82  | 21.10   | 9.88     | 0.04  | 31.02 | 56.00 | -24.98 | QP      |
| 1.82  | 9.35    | 9.88     | 0.04  | 19.27 | 46.00 | -26.73 | Average |
| 19.33 | 23.08   | 9.43     | 0.18  | 32.69 | 60.00 | -27.31 | QP      |
| 19.33 | 17.47   | 9.43     | 0.18  | 27.08 | 50.00 | -22.92 | Average |

Notes:

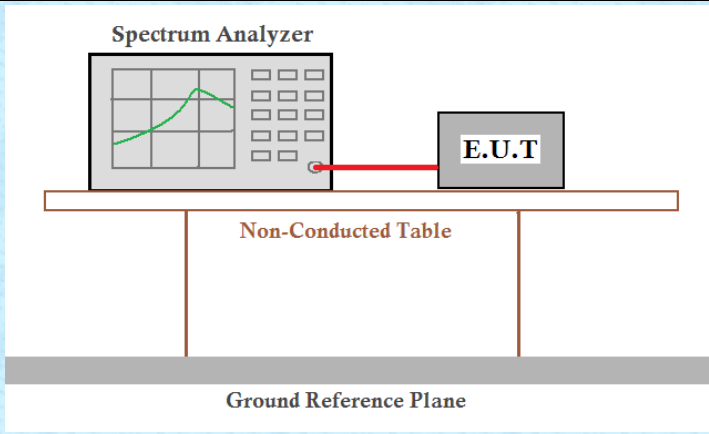
1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss
4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

## 7.3 Maximum Conducted Output Power

|                    |                                                                                                                                                                                                                                                                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement:  | FCC Part15 E Section 15.407(a)(3)                                                                                                                                                                                                                                                                                                               |
| Test Method:       | ANSI C63.10:2013 and KDB 789033 D02 General U-NII Test Procedures New Rules v02r01                                                                                                                                                                                                                                                              |
| Limit:             | 30dBm                                                                                                                                                                                                                                                                                                                                           |
| Duty Cycle set up: | RBW=VBW=8MHz                                                                                                                                                                                                                                                                                                                                    |
| 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 5.2 for details                                                                                                                                                                                                                                                                                                                |
| Test results:      | Pass                                                                                                                                                                                                                                                                                                                                            |

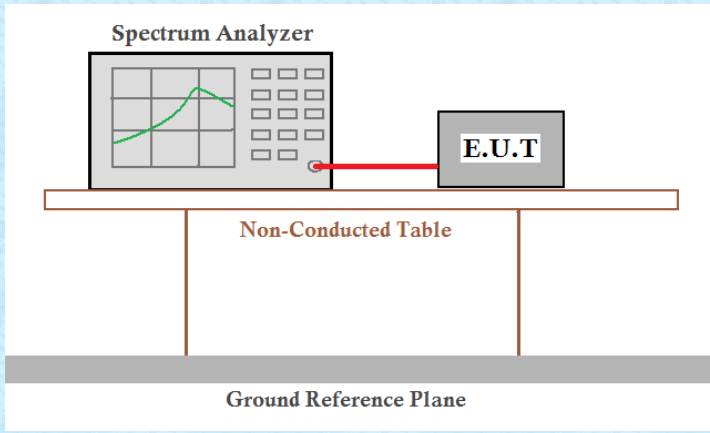
**Measurement Data:** The detailed test data see Appendix.

## 7.4 Channel Bandwidth and 99% Occupied Bandwidth

|                   |                                                                                                                                                                                                                                                                                                                   |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 E Section 15.407(e)                                                                                                                                                                                                                                                                                    |
| Test Method:      | ANSI C63.10:2013 and KDB 789033 D02 General U-NII Test Procedures New Rules v02r01                                                                                                                                                                                                                                |
| 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 are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.</p> |
| Test Instruments: | Refer to section 6.0 for details                                                                                                                                                                                                                                                                                  |
| Test mode:        | Refer to section 5.2 for details                                                                                                                                                                                                                                                                                  |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                              |

**Measurement Data:** The detailed test data see Appendix.

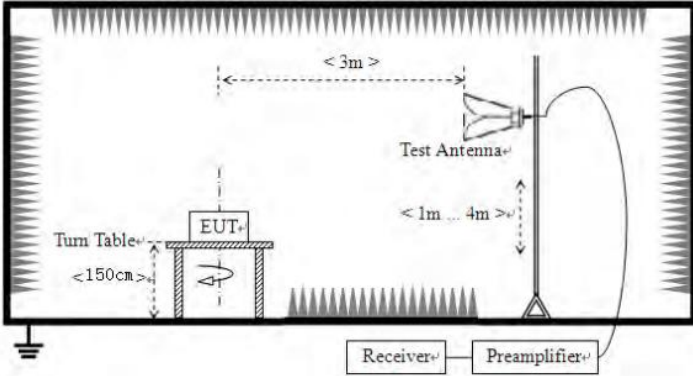
## 7.5 Power Spectral Density

|                   |                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 E Section 15.407(a)(3)                                                                                                                                                                                                                                                                                                                         |
| Test Method:      | ANSI C63.10:2013 and KDB 789033 D02 General U-NII Test Procedures New Rules v02r01                                                                                                                                                                                                                                                                        |
| Limit:            | 30dBm/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. The table is supported by a Ground Reference Plane.</p> |
| Test Instruments: | Refer to section 6.0 for details                                                                                                                                                                                                                                                                                                                          |
| Test mode:        | Refer to section 5.2 for details                                                                                                                                                                                                                                                                                                                          |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                      |

**Measurement Data:** The detailed test data see Appendix.

## 7.6 Band edge

### 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: | 9kHz to 40GHz, only worse case is reported                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |              |              |             |
| Test site:            | Measurement Distance: 3m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             |              |              |             |
| Receiver setup:       | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Detector    | RBW          | VBW          | Value       |
|                       | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Peak<br>RMS | 1MHz<br>1MHz | 3MHz<br>3MHz | Peak<br>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 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</li> </ol> |             |              |              |             |

|                   |                                            |
|-------------------|--------------------------------------------|
|                   | worst case mode is recorded in the report. |
| Test Instruments: | Refer to section 6.0 for details           |
| Test mode:        | Refer to section 5.2 for details           |
| Test results:     | Pass                                       |

## Remarks:

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.
3. The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.
4. All antennas were tested and passed, only an1 report
5. According to KDB 789033 D02v02r01 section G) 1) d),for measurements above 1000 MHz @3m distance, the limit of field strength is computed as follows:  
 $E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2;$   
 $E[\text{dBuV/m}] = -27 + 95.2 = 68.2\text{dBuV/m}.$   
 $E[\text{dBuV/m}] = 10 + 95.2 = 105.2\text{dBuV/m}.$   
 $E[\text{dBuV/m}] = 15.6 + 95.2 = 110.8\text{dBuV/m}.$   
 $E[\text{dBuV/m}] = 27 + 95.2 = 122.2\text{dBuV/m}$

**Measurement data:**

| <b>IEEE 802.11a</b> |                   |                       |                 |                          |                |                     |                 |              |
|---------------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| <b>Peak value:</b>  |                   |                       |                 |                          |                |                     |                 |              |
| 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 |
| 5650.00             | 36.60             | 32.36                 | 9.72            | 23.83                    | 54.85          | 68.20               | -13.35          | Horizontal   |
| 5700.00             | 33.63             | 32.50                 | 9.79            | 23.84                    | 52.08          | 105.20              | -53.12          | Horizontal   |
| 5720.00             | 37.25             | 32.53                 | 9.81            | 23.85                    | 55.74          | 110.80              | -55.06          | Horizontal   |
| 5725.00             | 34.24             | 32.53                 | 9.83            | 23.86                    | 52.74          | 122.20              | -69.46          | Horizontal   |
| 5850.00             | 28.84             | 32.70                 | 9.99            | 23.87                    | 47.66          | 122.20              | -74.54          | Horizontal   |
| 5855.00             | 38.85             | 32.72                 | 9.99            | 23.88                    | 57.68          | 110.80              | -53.12          | Horizontal   |
| 5875.00             | 34.84             | 32.74                 | 10.04           | 23.89                    | 53.73          | 105.20              | -51.47          | Horizontal   |
| 5925.00             | 38.34             | 32.80                 | 10.11           | 23.90                    | 57.35          | 68.20               | -10.85          | Horizontal   |
| 5650.00             | 38.53             | 32.36                 | 9.72            | 23.83                    | 56.78          | 68.20               | -11.42          | Vertical     |
| 5700.00             | 29.22             | 32.50                 | 9.79            | 23.84                    | 47.67          | 105.20              | -57.53          | Vertical     |
| 5720.00             | 32.13             | 32.53                 | 9.81            | 23.85                    | 50.62          | 110.80              | -60.18          | Vertical     |
| 5725.00             | 33.68             | 32.53                 | 9.83            | 23.86                    | 52.18          | 122.20              | -70.02          | Vertical     |
| 5850.00             | 37.89             | 32.70                 | 9.99            | 23.87                    | 56.71          | 122.20              | -65.49          | Vertical     |
| 5855.00             | 30.06             | 32.72                 | 9.99            | 23.88                    | 48.89          | 110.80              | -61.91          | Vertical     |
| 5875.00             | 34.32             | 32.74                 | 10.04           | 23.89                    | 53.21          | 105.20              | -51.99          | Vertical     |
| 5925.00             | 36.00             | 32.80                 | 10.11           | 23.90                    | 55.01          | 68.20               | -13.19          | Vertical     |

| IEEE 802.11n HT20 |                   |                       |                 |                          |                |                     |                 |              |
|-------------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 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 |
| 5650.00           | 36.34             | 32.36                 | 9.72            | 23.83                    | 54.59          | 68.20               | -13.61          | Horizontal   |
| 5700.00           | 29.90             | 32.50                 | 9.79            | 23.84                    | 48.35          | 105.20              | -56.85          | Horizontal   |
| 5720.00           | 34.47             | 32.53                 | 9.81            | 23.85                    | 52.96          | 110.80              | -57.84          | Horizontal   |
| 5725.00           | 31.75             | 32.53                 | 9.83            | 23.86                    | 50.25          | 122.20              | -71.95          | Horizontal   |
| 5850.00           | 32.46             | 32.70                 | 9.99            | 23.87                    | 51.28          | 122.20              | -70.92          | Horizontal   |
| 5855.00           | 35.45             | 32.72                 | 9.99            | 23.88                    | 54.28          | 110.80              | -56.52          | Horizontal   |
| 5875.00           | 32.97             | 32.74                 | 10.04           | 23.89                    | 51.86          | 105.20              | -53.34          | Horizontal   |
| 5925.00           | 34.41             | 32.80                 | 10.11           | 23.90                    | 53.42          | 68.20               | -14.78          | Horizontal   |
| 5650.00           | 35.51             | 32.36                 | 9.72            | 23.83                    | 53.76          | 68.20               | -14.44          | Vertical     |
| 5700.00           | 34.13             | 32.50                 | 9.79            | 23.84                    | 52.58          | 105.20              | -52.62          | Vertical     |
| 5720.00           | 37.85             | 32.53                 | 9.81            | 23.85                    | 56.34          | 110.80              | -54.46          | Vertical     |
| 5725.00           | 38.93             | 32.53                 | 9.83            | 23.86                    | 57.43          | 122.20              | -64.77          | Vertical     |
| 5850.00           | 33.05             | 32.70                 | 9.99            | 23.87                    | 51.87          | 122.20              | -70.33          | Vertical     |
| 5855.00           | 34.96             | 32.72                 | 9.99            | 23.88                    | 53.79          | 110.80              | -57.01          | Vertical     |
| 5875.00           | 35.70             | 32.74                 | 10.04           | 23.89                    | 54.59          | 105.20              | -50.61          | Vertical     |
| 5925.00           | 35.22             | 32.80                 | 10.11           | 23.90                    | 54.23          | 68.20               | -13.97          | Vertical     |

| <b>IEEE 802.11ac HT20</b> |                   |                       |                 |                          |                |                     |                 |              |
|---------------------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| <b>Peak value:</b>        |                   |                       |                 |                          |                |                     |                 |              |
| 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 |
| 5650.00                   | 35.61             | 32.36                 | 9.72            | 23.83                    | 53.86          | 68.20               | -14.34          | Horizontal   |
| 5700.00                   | 28.13             | 32.50                 | 9.79            | 23.84                    | 46.58          | 105.20              | -58.62          | Horizontal   |
| 5720.00                   | 34.79             | 32.53                 | 9.81            | 23.85                    | 53.28          | 110.80              | -57.52          | Horizontal   |
| 5725.00                   | 31.22             | 32.53                 | 9.83            | 23.86                    | 49.72          | 122.20              | -72.48          | Horizontal   |
| 5850.00                   | 38.81             | 32.70                 | 9.99            | 23.87                    | 57.63          | 122.20              | -64.57          | Horizontal   |
| 5855.00                   | 35.10             | 32.72                 | 9.99            | 23.88                    | 53.93          | 110.80              | -56.87          | Horizontal   |
| 5875.00                   | 28.98             | 32.74                 | 10.04           | 23.89                    | 47.87          | 105.20              | -57.33          | Horizontal   |
| 5925.00                   | 31.14             | 32.80                 | 10.11           | 23.90                    | 50.15          | 68.20               | -18.05          | Horizontal   |
| 5650.00                   | 30.74             | 32.36                 | 9.72            | 23.83                    | 48.99          | 68.20               | -19.21          | Vertical     |
| 5700.00                   | 37.65             | 32.50                 | 9.79            | 23.84                    | 56.10          | 105.20              | -49.10          | Vertical     |
| 5720.00                   | 33.23             | 32.53                 | 9.81            | 23.85                    | 51.72          | 110.80              | -59.08          | Vertical     |
| 5725.00                   | 38.95             | 32.53                 | 9.83            | 23.86                    | 57.45          | 122.20              | -64.75          | Vertical     |
| 5850.00                   | 30.33             | 32.70                 | 9.99            | 23.87                    | 49.15          | 122.20              | -73.05          | Vertical     |
| 5855.00                   | 38.06             | 32.72                 | 9.99            | 23.88                    | 56.89          | 110.80              | -53.91          | Vertical     |
| 5875.00                   | 28.19             | 32.74                 | 10.04           | 23.89                    | 47.08          | 105.20              | -58.12          | Vertical     |
| 5925.00                   | 37.30             | 32.80                 | 10.11           | 23.90                    | 56.31          | 68.20               | -11.89          | Vertical     |

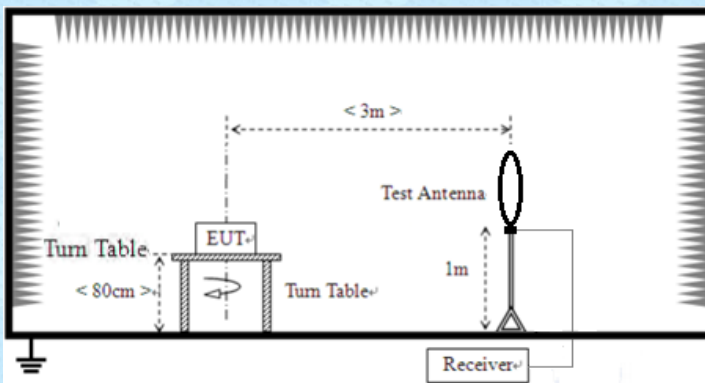
| IEEE 802.11n HT40 |                   |                       |                 |                          |                |                     |                 |              |
|-------------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 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 |
| 5650.00           | 30.23             | 32.36                 | 9.72            | 23.83                    | 48.48          | 68.20               | -19.72          | Horizontal   |
| 5700.00           | 31.80             | 32.50                 | 9.79            | 23.84                    | 50.25          | 105.20              | -54.95          | Horizontal   |
| 5720.00           | 33.49             | 32.53                 | 9.81            | 23.85                    | 51.98          | 110.80              | -58.82          | Horizontal   |
| 5725.00           | 28.43             | 32.53                 | 9.83            | 23.86                    | 46.93          | 122.20              | -75.27          | Horizontal   |
| 5850.00           | 35.47             | 32.70                 | 9.99            | 23.87                    | 54.29          | 122.20              | -67.91          | Horizontal   |
| 5855.00           | 37.75             | 32.72                 | 9.99            | 23.88                    | 56.58          | 110.80              | -54.22          | Horizontal   |
| 5875.00           | 29.27             | 32.74                 | 10.04           | 23.89                    | 48.16          | 105.20              | -57.04          | Horizontal   |
| 5925.00           | 38.76             | 32.80                 | 10.11           | 23.90                    | 57.77          | 68.20               | -10.43          | Horizontal   |
| 5650.00           | 37.17             | 32.36                 | 9.72            | 23.83                    | 55.42          | 68.20               | -12.78          | Vertical     |
| 5700.00           | 29.55             | 32.50                 | 9.79            | 23.84                    | 48.00          | 105.20              | -57.20          | Vertical     |
| 5720.00           | 30.49             | 32.53                 | 9.81            | 23.85                    | 48.98          | 110.80              | -61.82          | Vertical     |
| 5725.00           | 29.91             | 32.53                 | 9.83            | 23.86                    | 48.41          | 122.20              | -73.79          | Vertical     |
| 5850.00           | 31.63             | 32.70                 | 9.99            | 23.87                    | 50.45          | 122.20              | -71.75          | Vertical     |
| 5855.00           | 30.27             | 32.72                 | 9.99            | 23.88                    | 49.10          | 110.80              | -61.70          | Vertical     |
| 5875.00           | 29.62             | 32.74                 | 10.04           | 23.89                    | 48.51          | 105.20              | -56.69          | Vertical     |
| 5925.00           | 33.52             | 32.80                 | 10.11           | 23.90                    | 52.53          | 68.20               | -15.67          | Vertical     |

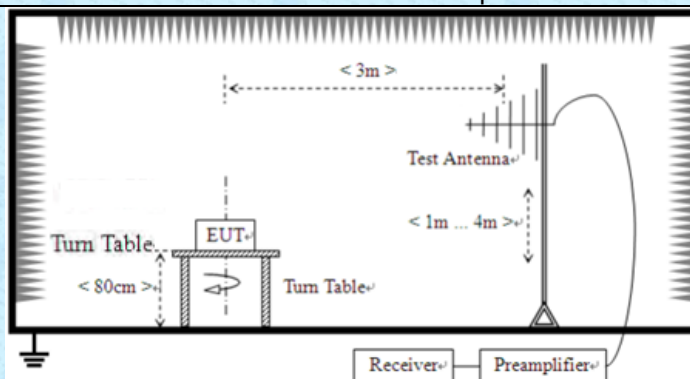
| <b>IEEE 802.11ac HT40</b> |                   |                       |                 |                          |                |                     |                 |              |
|---------------------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| <b>Peak value:</b>        |                   |                       |                 |                          |                |                     |                 |              |
| 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 |
| 5650.00                   | 37.60             | 32.36                 | 9.72            | 23.83                    | 55.85          | 68.20               | -12.35          | Horizontal   |
| 5700.00                   | 35.59             | 32.50                 | 9.79            | 23.84                    | 54.04          | 105.20              | -51.16          | Horizontal   |
| 5720.00                   | 29.08             | 32.53                 | 9.81            | 23.85                    | 47.57          | 110.80              | -63.23          | Horizontal   |
| 5725.00                   | 30.34             | 32.53                 | 9.83            | 23.86                    | 48.84          | 122.20              | -73.36          | Horizontal   |
| 5850.00                   | 36.78             | 32.70                 | 9.99            | 23.87                    | 55.60          | 122.20              | -66.60          | Horizontal   |
| 5855.00                   | 35.21             | 32.72                 | 9.99            | 23.88                    | 54.04          | 110.80              | -56.76          | Horizontal   |
| 5875.00                   | 33.80             | 32.74                 | 10.04           | 23.89                    | 52.69          | 105.20              | -52.51          | Horizontal   |
| 5925.00                   | 30.13             | 32.80                 | 10.11           | 23.90                    | 49.14          | 68.20               | -19.06          | Horizontal   |
| 5650.00                   | 31.89             | 32.36                 | 9.72            | 23.83                    | 50.14          | 68.20               | -18.06          | Vertical     |
| 5700.00                   | 38.97             | 32.50                 | 9.79            | 23.84                    | 57.42          | 105.20              | -47.78          | Vertical     |
| 5720.00                   | 35.66             | 32.53                 | 9.81            | 23.85                    | 54.15          | 110.80              | -56.65          | Vertical     |
| 5725.00                   | 37.23             | 32.53                 | 9.83            | 23.86                    | 55.73          | 122.20              | -66.47          | Vertical     |
| 5850.00                   | 37.24             | 32.70                 | 9.99            | 23.87                    | 56.06          | 122.20              | -66.14          | Vertical     |
| 5855.00                   | 31.17             | 32.72                 | 9.99            | 23.88                    | 50.00          | 110.80              | -60.80          | Vertical     |
| 5875.00                   | 35.53             | 32.74                 | 10.04           | 23.89                    | 54.42          | 105.20              | -50.78          | Vertical     |
| 5925.00                   | 33.11             | 32.80                 | 10.11           | 23.90                    | 52.12          | 68.20               | -16.08          | Vertical     |

| IEEE 802.11ac HT80 |                   |                       |                 |                          |                |                     |                 |              |
|--------------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 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 |
| 5650.00            | 36.84             | 32.36                 | 9.72            | 23.83                    | 55.09          | 68.20               | -13.11          | Horizontal   |
| 5700.00            | 38.09             | 32.50                 | 9.79            | 23.84                    | 56.54          | 105.20              | -48.66          | Horizontal   |
| 5720.00            | 34.97             | 32.53                 | 9.81            | 23.85                    | 53.46          | 110.80              | -57.34          | Horizontal   |
| 5725.00            | 32.30             | 32.53                 | 9.83            | 23.86                    | 50.80          | 122.20              | -71.40          | Horizontal   |
| 5850.00            | 31.24             | 32.70                 | 9.99            | 23.87                    | 50.06          | 122.20              | -72.14          | Horizontal   |
| 5855.00            | 33.20             | 32.72                 | 9.99            | 23.88                    | 52.03          | 110.80              | -58.77          | Horizontal   |
| 5875.00            | 28.61             | 32.74                 | 10.04           | 23.89                    | 47.50          | 105.20              | -57.70          | Horizontal   |
| 5925.00            | 34.75             | 32.80                 | 10.11           | 23.90                    | 53.76          | 68.20               | -14.44          | Horizontal   |
| 5650.00            | 32.02             | 32.36                 | 9.72            | 23.83                    | 50.27          | 68.20               | -17.93          | Vertical     |
| 5700.00            | 28.30             | 32.50                 | 9.79            | 23.84                    | 46.75          | 105.20              | -58.45          | Vertical     |
| 5720.00            | 33.72             | 32.53                 | 9.81            | 23.85                    | 52.21          | 110.80              | -58.59          | Vertical     |
| 5725.00            | 37.75             | 32.53                 | 9.83            | 23.86                    | 56.25          | 122.20              | -65.95          | Vertical     |
| 5850.00            | 35.45             | 32.70                 | 9.99            | 23.87                    | 54.27          | 122.20              | -67.93          | Vertical     |
| 5855.00            | 29.11             | 32.72                 | 9.99            | 23.88                    | 47.94          | 110.80              | -62.86          | Vertical     |
| 5875.00            | 28.12             | 32.74                 | 10.04           | 23.89                    | 47.01          | 105.20              | -58.19          | Vertical     |
| 5925.00            | 31.65             | 32.80                 | 10.11           | 23.90                    | 50.66          | 68.20               | -17.54          | Vertical     |

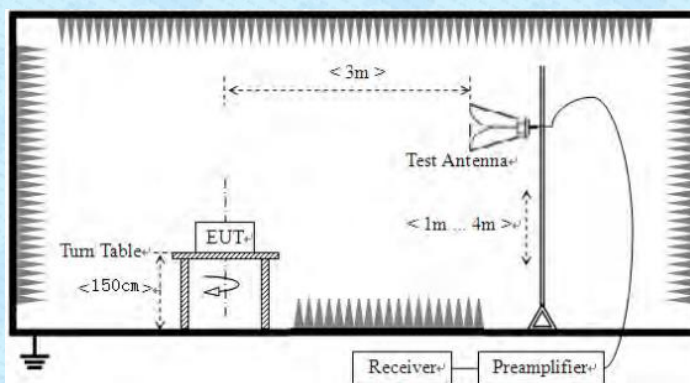
## 7.7 Spurious Emission

### 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: | 9kHz to 40GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |                               |               |                  |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
| Test site:            | Measurement Distance: 3m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                               |               |                  |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
| Receiver setup:       | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Detector                          | RBW                           | VBW           | Value            |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
|                       | 9kHz-150KHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Quasi-peak                        | 200Hz                         | 1kHz          | Quasi-peak Value |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
|                       | 150kHz-30MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Quasi-peak                        | 9kHz                          | 30kHz         | Quasi-peak Value |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
|                       | 30MHz-1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Quasi-peak                        | 120KHz                        | 300KHz        | Quasi-peak Value |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
|                       | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Peak                              | 1MHz                          | 3MHz          | Peak Value       |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
| AV                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1MHz                              | 3MHz                          | Average Value |                  |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
| Limit:                | <table><thead><tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr></thead><tbody><tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr><tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr><tr><td>1.705-30.0</td><td>30</td><td>30</td></tr><tr><td>30-88</td><td>100**</td><td>3</td></tr><tr><td>88-216</td><td>150**</td><td>3</td></tr><tr><td>216-960</td><td>200**</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>3</td></tr></tbody></table> |                                   |                               |               |                  | Frequency (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) | 0.009-0.490 | 2400/F(kHz) | 300 | 0.490-1.705 | 24000/F(kHz) | 30 | 1.705-30.0 | 30 | 30 | 30-88 | 100** | 3 | 88-216 | 150** | 3 | 216-960 | 200** | 3 | Above 960 | 500 | 3 |
|                       | Frequency (MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Field strength (microvolts/meter) | Measurement distance (meters) |               |                  |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
| 0.009-0.490           | 2400/F(kHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 300                               |                               |               |                  |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
| 0.490-1.705           | 24000/F(kHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30                                |                               |               |                  |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
| 1.705-30.0            | 30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 30                                |                               |               |                  |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
| 30-88                 | 100**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3                                 |                               |               |                  |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
| 88-216                | 150**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3                                 |                               |               |                  |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
| 216-960               | 200**                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3                                 |                               |               |                  |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
| Above 960             | 500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3                                 |                               |               |                  |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
|                       | <p>The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.</p>                                                                                                                                                                                                                                         |                                   |                               |               |                  |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
| Test setup:           | For radiated emissions from 9kHz to 30MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |                               |               |                  |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                   |                               |               |                  |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |
|                       | For radiated emissions from 30MHz to1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                               |               |                  |                 |                                   |                               |             |             |     |             |              |    |            |    |    |       |       |   |        |       |   |         |       |   |           |     |   |



For radiated emissions above 1GHz



## Test Procedure:

1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
7. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test

|                   |                                            |       |         |     |         |          |
|-------------------|--------------------------------------------|-------|---------|-----|---------|----------|
|                   | worst case mode is recorded in the report. |       |         |     |         |          |
| Test Instruments: | Refer to section 6.0 for details           |       |         |     |         |          |
| Test mode:        | Refer to section 5.2 for details           |       |         |     |         |          |
| Test environment: | Temp.:                                     | 25 °C | Humid.: | 52% | Press.: | 1012mbar |
| Test voltage:     | AC 120V, 60Hz                              |       |         |     |         |          |
| Test results:     | Pass                                       |       |         |     |         |          |

## Remarks:

1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

## Measurement Data:

### 9 kHz ~ 30 MHz

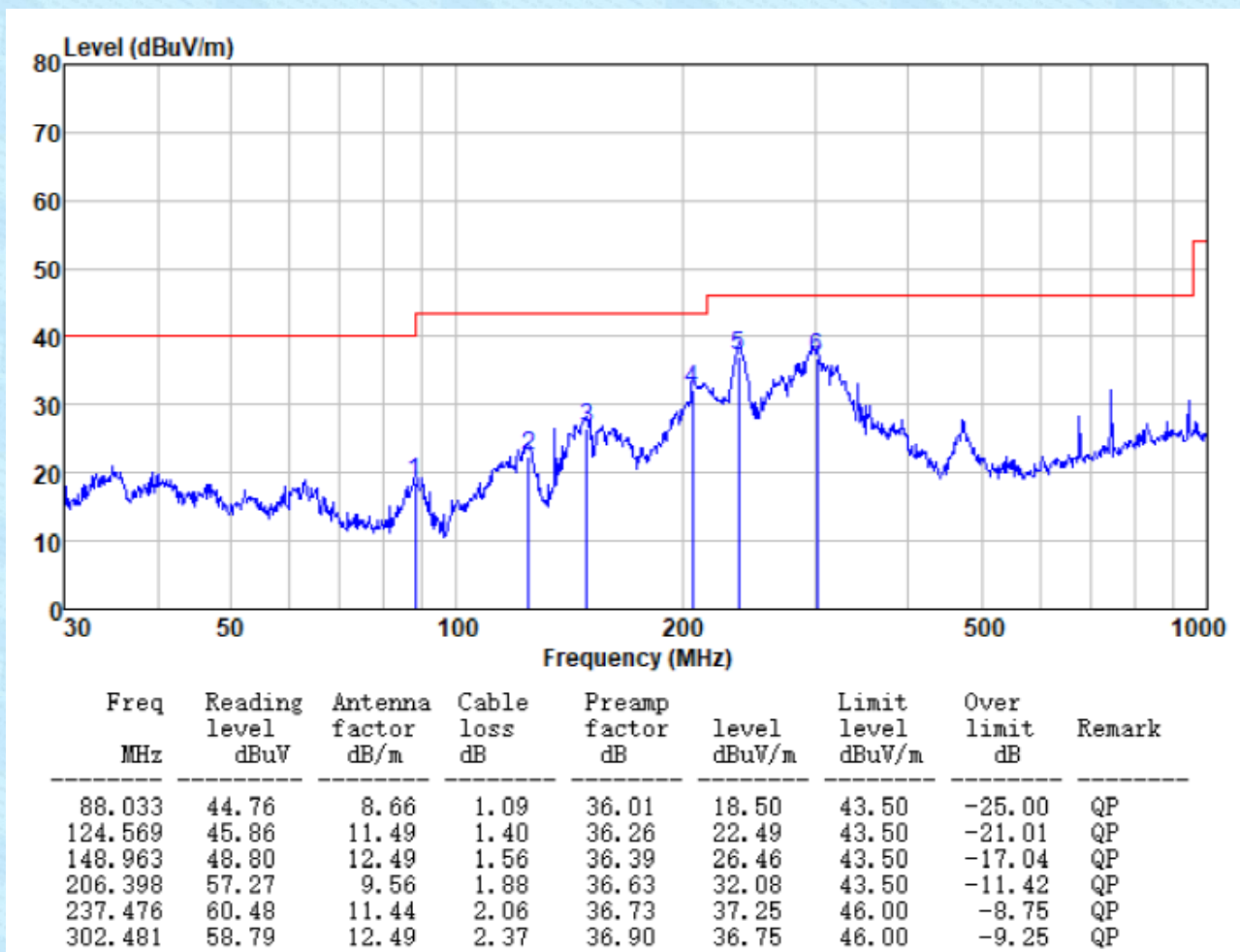
The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

## Below 1GHz

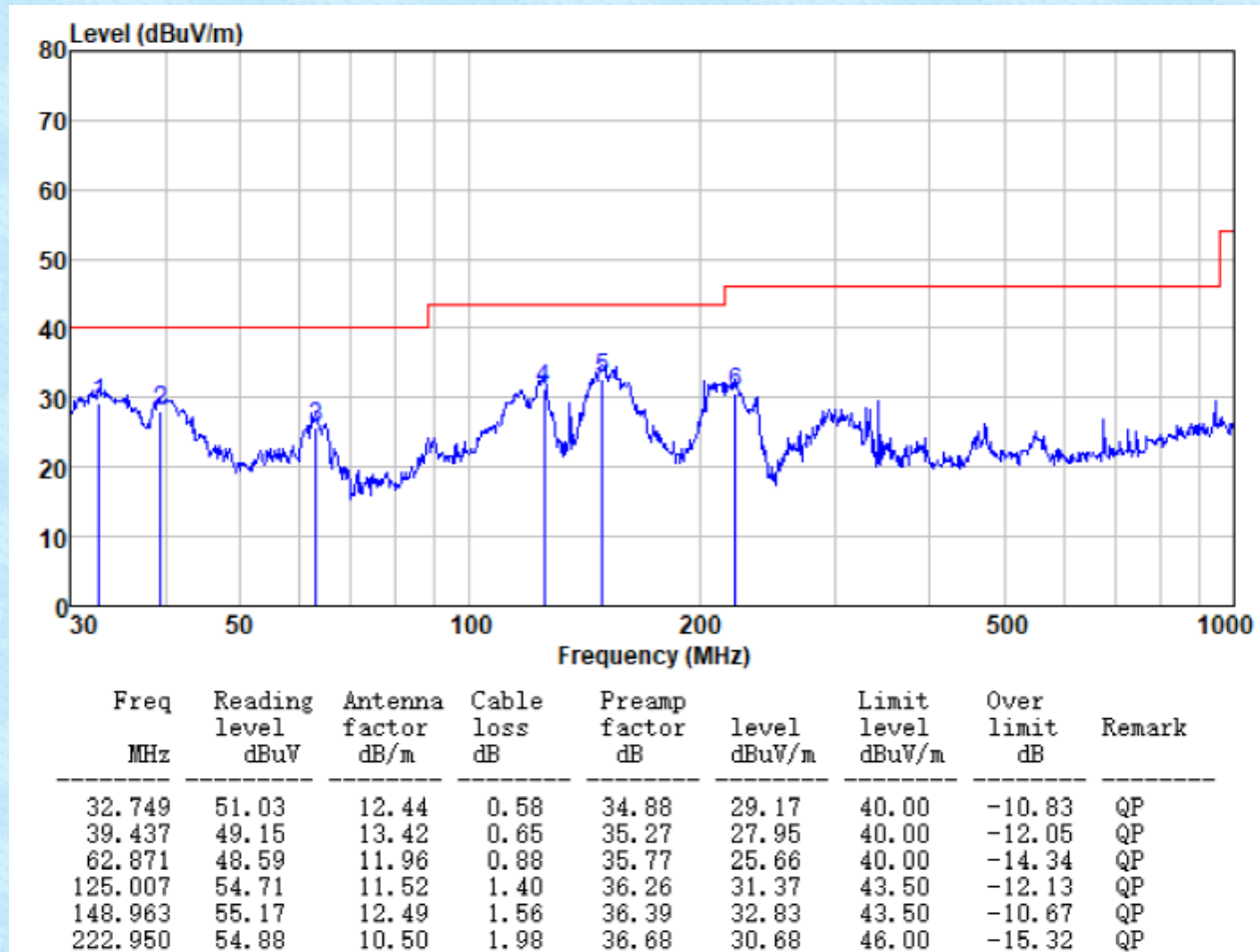
Pre-scan all test modes, found worst case at 802.11ac(VHT80) 5775MHz, and so only show the test result of it

all were test, only the ANT 1 test result recorded in the report.

## Horizontal:



Vertical:



## Above 1GHz:

| 802.11a         |                   |                       |                 |                          | Test Frequency: 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           | 28.84             | 39.4                  | 8.73            | 36.3                     | 40.67                   | 68.20               | -27.53          | Horizontal   |
| 17235           | 27.21             | 41                    | 11.37           | 36.28                    | 43.30                   | 68.20               | -24.90          | Horizontal   |
| 11490           | 29.13             | 39.4                  | 8.73            | 36.3                     | 40.96                   | 68.20               | -27.24          | Vertical     |
| 17235           | 30.33             | 41                    | 11.37           | 36.28                    | 46.42                   | 68.20               | -21.78          | Vertical     |

| 802.11a         |                   |                       |                 |                          | Test Frequency: 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           | 31.30             | 39.28                 | 8.77            | 36.29                    | 43.06                   | 68.20               | -25.14          | Horizontal   |
| 17355           | 28.15             | 41.52                 | 11.48           | 36.26                    | 44.89                   | 68.20               | -23.31          | Horizontal   |
| 11570           | 28.00             | 39.28                 | 8.77            | 36.29                    | 39.76                   | 68.20               | -28.44          | Vertical     |
| 17355           | 29.45             | 41.52                 | 11.48           | 36.26                    | 46.19                   | 68.20               | -22.01          | Vertical     |

| 802.11a         |                   |                       |                 |                          | Test Frequency: 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           | 28.72             | 39.16                 | 8.79            | 36.27                    | 40.40                   | 68.20               | -27.80          | Horizontal   |
| 17475           | 28.95             | 42.3                  | 11.58           | 36.25                    | 46.58                   | 68.20               | -21.62          | Horizontal   |
| 11650           | 28.63             | 39.16                 | 8.79            | 36.27                    | 40.31                   | 68.20               | -27.89          | Vertical     |
| 17475           | 28.91             | 42.3                  | 11.58           | 36.25                    | 46.54                   | 68.20               | -21.66          | Vertical     |

| 802.11n(HT20)   |                   |                       |                 |                          | Test Frequency: 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           | 33.43             | 39.4                  | 8.73            | 36.3                     | 45.26                   | 68.20               | -22.94          | Horizontal   |
| 17235           | 28.19             | 41                    | 11.37           | 36.28                    | 44.28                   | 68.20               | -23.92          | Horizontal   |
| 11490           | 33.86             | 39.4                  | 8.73            | 36.3                     | 45.69                   | 68.20               | -22.51          | Vertical     |
| 17235           | 30.29             | 41                    | 11.37           | 36.28                    | 46.38                   | 68.20               | -21.82          | Vertical     |

| 802.11n(HT20)   |                   |                       |                 |                          | Test Frequency: 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           | 32.60             | 39.28                 | 8.77            | 36.29                    | 44.36                   | 68.20               | -23.84          | Horizontal   |
| 17355           | 28.47             | 41.52                 | 11.48           | 36.26                    | 45.21                   | 68.20               | -22.99          | Horizontal   |
| 11570           | 31.52             | 39.28                 | 8.77            | 36.29                    | 43.28                   | 68.20               | -24.92          | Vertical     |
| 17355           | 28.38             | 41.52                 | 11.48           | 36.26                    | 45.12                   | 68.20               | -23.08          | Vertical     |

| 802.11n(HT20)   |                   |                       |                 |                          | Test Frequency: 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           | 29.27             | 39.16                 | 8.79            | 36.27                    | 40.95                   | 68.20               | -27.25          | Horizontal   |
| 17475           | 29.90             | 42.3                  | 11.58           | 36.25                    | 47.53                   | 68.20               | -20.67          | Horizontal   |
| 11650           | 32.21             | 39.16                 | 8.79            | 36.27                    | 43.89                   | 68.20               | -24.31          | Vertical     |
| 17475           | 28.54             | 42.3                  | 11.58           | 36.25                    | 46.17                   | 68.20               | -22.03          | Vertical     |

| 802.11n(HT40)   |                   |                       |                 |                          | Test Frequency: 5755MHz |                     |                 |              |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|-------------------------|---------------------|-----------------|--------------|
| 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 |
| 11510           | 31.59             | 39.4                  | 8.74            | 36.3                     | 43.43                   | 68.20               | -24.77          | Horizontal   |
| 17265           | 27.10             | 41.26                 | 11.4            | 36.27                    | 43.49                   | 68.20               | -24.71          | Horizontal   |
| 11510           | 33.53             | 39.4                  | 8.74            | 36.3                     | 45.37                   | 68.20               | -22.83          | Vertical     |
| 17265           | 25.38             | 41.26                 | 11.4            | 36.27                    | 41.77                   | 68.20               | -26.43          | Vertical     |

| 802.11n(HT40)   |                   |                       |                 |                          | Test Frequency: 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           | 29.71             | 39.22                 | 8.77            | 36.28                    | 41.42                   | 68.20               | -26.78          | Horizontal   |
| 17385           | 28.38             | 41.78                 | 11.51           | 36.26                    | 45.41                   | 68.20               | -22.79          | Horizontal   |
| 11590           | 30.45             | 39.22                 | 8.77            | 36.28                    | 42.16                   | 68.20               | -26.04          | Vertical     |
| 17385           | 26.76             | 41.78                 | 11.51           | 36.26                    | 43.79                   | 68.20               | -24.41          | Vertical     |

| 802.11ac(HT20)  |                   |                       |                 |                          | Test Frequency: 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           | 32.35             | 39.4                  | 8.73            | 36.3                     | 44.18                   | 68.20               | -24.02          | Horizontal   |
| 17235           | 25.73             | 41                    | 11.37           | 36.28                    | 41.82                   | 68.20               | -26.38          | Horizontal   |
| 11490           | 29.12             | 39.4                  | 8.73            | 36.3                     | 40.95                   | 68.20               | -27.25          | Vertical     |
| 17235           | 26.29             | 41                    | 11.37           | 36.28                    | 42.38                   | 68.20               | -25.82          | Vertical     |

| 802.11ac(HT20)  |                   |                       |                 |                          | Test Frequency: 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           | 29.46             | 39.28                 | 8.77            | 36.29                    | 41.22                   | 68.20               | -26.98          | Horizontal   |
| 17355           | 26.48             | 41.52                 | 11.48           | 36.26                    | 43.22                   | 68.20               | -24.98          | Horizontal   |
| 11570           | 32.89             | 39.28                 | 8.77            | 36.29                    | 44.65                   | 68.20               | -23.55          | Vertical     |
| 17355           | 28.95             | 41.52                 | 11.48           | 36.26                    | 45.69                   | 68.20               | -22.51          | Vertical     |

| 802.11ac(HT20)  |                   |                       |                 |                          | Test Frequency: 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           | 31.03             | 39.16                 | 8.79            | 36.27                    | 42.71                   | 68.20               | -25.49          | Horizontal   |
| 17475           | 28.09             | 42.3                  | 11.58           | 36.25                    | 45.72                   | 68.20               | -22.48          | Horizontal   |
| 11650           | 27.91             | 39.16                 | 8.79            | 36.27                    | 39.59                   | 68.20               | -28.61          | Vertical     |
| 17475           | 26.64             | 42.3                  | 11.58           | 36.25                    | 44.27                   | 68.20               | -23.93          | Vertical     |

| 802.11ac(HT40)  |                   |                       |                 |                          | Test Frequency: 5755MHz |                     |                 |              |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|-------------------------|---------------------|-----------------|--------------|
| 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 |
| 11510           | 29.01             | 39.4                  | 8.74            | 36.3                     | 40.85                   | 68.20               | -27.35          | Horizontal   |
| 17265           | 30.98             | 41.26                 | 11.4            | 36.27                    | 47.37                   | 68.20               | -20.83          | Horizontal   |
| 11510           | 29.08             | 39.4                  | 8.74            | 36.3                     | 40.92                   | 68.20               | -27.28          | Vertical     |
| 17265           | 30.20             | 41.26                 | 11.4            | 36.27                    | 46.59                   | 68.20               | -21.61          | Vertical     |

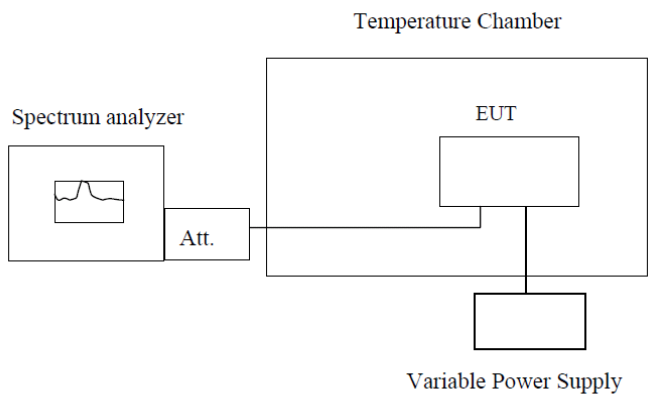
| 802.11ac(HT40)  |                   |                       |                 |                          | Test Frequency: 5795MHz |                     |                 |              |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|-------------------------|---------------------|-----------------|--------------|
| 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           | 30.62             | 39.22                 | 8.77            | 36.28                    | 42.33                   | 68.20               | -25.87          | Horizontal   |
| 17385           | 28.70             | 41.78                 | 11.51           | 36.26                    | 45.73                   | 68.20               | -22.47          | Horizontal   |
| 11590           | 30.59             | 39.22                 | 8.77            | 36.28                    | 42.30                   | 68.20               | -25.90          | Vertical     |
| 17385           | 29.24             | 41.78                 | 11.51           | 36.26                    | 46.27                   | 68.20               | -21.93          | Vertical     |

| 802.11ac(HT80)  |                   |                       |                 |                          | Test Frequency: 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           | 28.72             | 39.34                 | 8.76            | 36.29                    | 40.53                   | 68.20               | -27.67          | Horizontal   |
| 17325           | 27.98             | 41.52                 | 11.45           | 36.26                    | 44.69                   | 68.20               | -23.51          | Horizontal   |
| 11550           | 31.14             | 39.34                 | 8.76            | 36.29                    | 42.95                   | 68.20               | -25.25          | Vertical     |
| 17325           | 25.84             | 41.52                 | 11.45           | 36.26                    | 42.55                   | 68.20               | -25.65          | Vertical     |

## Notes:

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.
3. If the test result on peak is lower than the limit more than 20dB, then average measurement needn't be performed.
4. all antennas were tested and passed, only ant1 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 6 for details                                                                                                                                                                        |
| Test mode:        | Refer to section 5.2 for details                                                                                                                                                                      |
| Test results:     | Pass                                                                                                                                                                                                  |

### Measurement Data:

| Test Condition | Test Mode | Test Frequency [MHz] | Ant | Result [ppm] | Limit [ppm] | Verdict |
|----------------|-----------|----------------------|-----|--------------|-------------|---------|
| NTNV           | Carrier   | 5745                 | 1   | -2.36        | $\leq 20$   | PASS    |
|                |           | 5755                 | 1   | -6.91        | $\leq 20$   | PASS    |
|                |           | 5775                 | 1   | -5.25        | $\leq 20$   | PASS    |
|                |           | 5785                 | 1   | -5.52        | $\leq 20$   | PASS    |
|                |           | 5795                 | 1   | -3.27        | $\leq 20$   | PASS    |
|                |           | 5825                 | 1   | -1.42        | $\leq 20$   | PASS    |

## 8 Test Setup Photo

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

## 9 EUT Constructional Details

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

-----END-----