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TESTING  
CNAS L0310



# FCC& RF Test Report

**Product Name: HUAWEI MediaPad T2 8 Pro**

**Model Number: JDN-W09**

**Report No: SYBH(Z-RF)003072016-2004**

**FCC ID: QISJDN-W09**

**Reliability Laboratory of Huawei Technologies Co., Ltd.**

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## Notice

1. The laboratory has passed the accreditation by China National Accreditation Service for Conformity Assessment (CNAS). The accreditation number is L0310.
2. The laboratory has passed the accreditation by The American Association for Laboratory Accreditation (A2LA). The accreditation number is 2174.01 & 2174.02 & 2174.03.
3. The laboratory has been listed by the US Federal Communications Commission to perform electromagnetic emission measurements. The site recognition number is 97456.
4. The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 6369A-1.
5. The laboratory (Reliability Lab of Huawei Technologies Co., Ltd) is also named "Global Compliance and Testing Center of Huawei Technologies Co., Ltd", the both names have coexisted since 2009.
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**Applicant:** Huawei Technologies Co., Ltd.  
**Address:** Administration Building, Headquarters of Huawei Technologies Co., Ltd.,  
Bantian, Longgang District, Shenzhen, 518129, P.R.C

**Date of Receipt Sample:** 2016-07-05

**Start Date of Test:** 2016-07-07

**End Date of Test:** 2016-07-10

**Test Result:** Pass

|                                     |            |             |                    |
|-------------------------------------|------------|-------------|--------------------|
| <b>Approved by Senior Engineer:</b> | 2016-07-11 | Roger Zhang | <i>Roger Zhang</i> |
|                                     | Date       | Name        | Signature          |

|                     |            |           |                  |
|---------------------|------------|-----------|------------------|
| <b>Prepared by:</b> | 2016-07-11 | Wu Tingsi | <i>Wu Tingsi</i> |
|                     | Date       | Name      | Signature        |

## CONTENT

|     |                                                     |    |
|-----|-----------------------------------------------------|----|
| 1   | General Information .....                           | 5  |
| 1.1 | Applied Standard.....                               | 5  |
| 1.2 | Test Location.....                                  | 5  |
| 1.3 | Test Environment Condition .....                    | 5  |
| 2   | Test Summary .....                                  | 6  |
| 2.1 | Measurement Technical Requirements.....             | 6  |
| 3   | Description of the Equipment under Test (EUT) ..... | 9  |
| 3.1 | General Description .....                           | 9  |
| 3.2 | EUT Identity .....                                  | 9  |
| 3.3 | Technical Description .....                         | 10 |
| 4   | General Test Conditions / Configurations .....      | 11 |
| 4.1 | Test Modes .....                                    | 11 |
| 4.2 | EUT Configurations.....                             | 11 |
| 4.3 | Test Environments .....                             | 12 |
| 4.4 | Test Setups .....                                   | 12 |
| 4.5 | Test Conditions .....                               | 15 |
| 5   | Main Test Instruments .....                         | 17 |
| 6   | Appendixes.....                                     | 18 |

## 1 General Information

### 1.1 Applied Standard

Applied Rules:           47 CFR FCC Part 2, Subpart J 2014  
                              47 CFR FCC Part 15, Subpart C 2014  
                              47 CFR FCC Part 15, Subpart E 2014

Test Method:           KDB 789033 D02 General UNII Test Procedures New Rules v01r01  
                              FCC KDB 558074 D01 DTS Meas Guidance v03r04  
                              ANSI C63.10-2013, American National Standard for Testing Unlicensed Wireless Devices

### 1.2 Test Location

Test Location 1:       Reliability Laboratory of Huawei Technologies Co., Ltd.  
Address:               Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang  
                              District, Shenzhen, 518129, P.R.C

### 1.3 Test Environment Condition

Temperature:           15 to 30 °C (Ambient)  
Relative Humidity:     20 to 85 % (Ambient)  
Atmospheric Pressure: Not applicable

## 2 Test Summary

### 2.1 Measurement Technical Requirements

#### 2.1.1 U-NII (5150-5250, 5250-5350, 5470-5725 MHz, 5725-5850)

| Test Item                      | Band      | FCC Rule                     | Requirements                                               | Test Result | Verdict |
|--------------------------------|-----------|------------------------------|------------------------------------------------------------|-------------|---------|
| Emission Bandwidth             | 5150-5250 | 15.403(i)<br>15.407(a)(1)    | No limit.                                                  | Appendix A  | Pass    |
|                                | 5250-5350 | 15.403(i)<br>15.407(a)(2)    |                                                            |             |         |
|                                | 5470-5725 | 15.403(i)<br>15.407(a)(2)    |                                                            |             |         |
|                                | 5725-5850 | 15.403(i)<br>15.407(e)       | ≥ 500 kHz.                                                 |             |         |
| Occupied Bandwidth             | 5150-5250 | KDB 789033<br>§ D            | No limit.                                                  | Appendix B  | Pass    |
|                                | 5250-5350 |                              |                                                            |             |         |
|                                | 5470-5725 |                              |                                                            |             |         |
|                                | 5725-5850 |                              |                                                            |             |         |
| Duty Cycle                     | 5150-5850 | --                           | No limit.                                                  | Appendix C  | Pass    |
| Maximum Conducted Output Power | 5150-5250 | 15.407(a)(1)<br>15.407(a)(4) | < 250mW<br>(avg during transmission)                       | Appendix D  |         |
|                                | 5250-5350 | 15.407(a)(2)<br>15.407(a)(4) | <MIN{250mW,11dBm<br>+10*lg(EBW)} (avg during transmission) |             |         |
|                                | 5470-5725 | 15.407(a)(2)<br>15.407(a)(4) | <MIN{250mW,11dBm<br>+10*lg(EBW)} (avg during transmission) |             |         |
|                                | 5725-5850 | 15.407(a)(3)                 | < 1W<br>(avg during transmission)                          |             |         |
| Peak Power Spectral Density    | 5150-5250 | 15.407(a)(1)<br>15.407(a)(4) | <11dBm/MHz<br>(avg during transmission)                    | Appendix E  |         |
|                                | 5250-5350 | 15.407(a)(2)                 | <11dBm/MHz                                                 |             |         |

| Test Item          | Band      | FCC Rule                                               | Requirements                                                                                                                                                                                                                                                      | Test Result | Verdict |
|--------------------|-----------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|
|                    |           | 15.407(a)(4)                                           | (avg during transmission)                                                                                                                                                                                                                                         |             |         |
|                    | 5470-5725 | 15.407(a)(2)<br>15.407(a)(4)                           | <11dBm/MHz<br>(avg during transmission)                                                                                                                                                                                                                           |             |         |
|                    | 5725-5850 | 15.407(a)(3)<br>15.407(a)(4)                           | <30dBm/500KHz<br>(avg during transmission)                                                                                                                                                                                                                        |             |         |
| Unwanted Emissions | 5150-5250 | 15.407(b)(1)<br>15.407(b)(6)<br>15.407(b)(7)<br>15.209 | <ul style="list-style-type: none"> <li>F&lt;1GHz:<br/>§15.209/§7.2.5 limit (QP).</li> <li>F≥1GHz &amp; out-restricted:<br/>&lt;-27dBm/MHz PK e.i.r.p. (exl. 5.15-5.35 GHz).</li> <li>F≥1GHz &amp; in-restricted:<br/>§15.209/§7.2.5 limit (AV&amp;PK).</li> </ul> | Appendix F  | Pass    |
|                    | 5250-5350 | 15.407(b)(2)<br>15.407(b)(6)<br>15.407(b)(7)<br>15.209 | <ul style="list-style-type: none"> <li>F&lt;1GHz:<br/>§15.209/§7.2.5 limit (QP).</li> <li>F≥1GHz &amp; out-restricted:<br/>&lt;-27dBm/MHz PK e.i.r.p. (exl. 5.25-5.35 GHz).</li> <li>F≥1GHz &amp; in-restricted:<br/>§15.209/§7.2.5 limit (AV&amp;PK).</li> </ul> |             |         |
|                    | 5470-5750 | 15.407(b)(3)<br>15.407(b)(6)<br>15.407(b)(7)<br>15.209 | <ul style="list-style-type: none"> <li>F&lt;1GHz:<br/>§15.209/§7.2.5 limit (QP).</li> <li>F≥1GHz &amp; out-restricted:<br/>&lt;-27dBm/MHz PK e.i.r.p. (exl. 5.47-5.725 GHz).</li> <li>F≥1GHz &amp; in-restricted:<br/>§15.209/§7.2.5</li> </ul>                   |             |         |

| Test Item           | Band                                             | FCC Rule                                               | Requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Test Result | Verdict |
|---------------------|--------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|
|                     |                                                  |                                                        | limit (AV&PK).                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |         |
|                     | 5725-5850                                        | 15.407(b)(4)<br>15.407(b)(6)<br>15.407(b)(7)<br>15.209 | <ul style="list-style-type: none"> <li>F&lt;1GHz:<br/>§15.209/§7.2.5<br/>limit (QP)</li> <li>F≥1GHz &amp;<br/>out-restricted:<br/>&lt;-17dBm/MHz PK<br/>e.i.r.p(from the<br/>edge to 10 MHz<br/>above or below<br/>the band edge);<br/>&lt;-27dBm/MHz PK<br/>e.i.r.p( for<br/>frequencies 10<br/>MHz or<br/>greater above or<br/>below the band<br/>edge)<br/>(exl. 5725-5850<br/>GHz).</li> <li>F≥1GHz &amp;<br/>in-restricted:<br/>§15.209/§7.2.5<br/>limit (AV&amp;PK).</li> </ul> |             |         |
| Frequency Stability | 5150-5250<br>5250-5350<br>5470-5725<br>5725-5850 | 15.407(g)                                              | FCC Part 15.407(g)                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Appendix G  | Pass    |

### 3 Description of the Equipment under Test (EUT)

#### 3.1 General Description

The HUAWEI MediaPad T2 8 Pro (MediaPad T2 8 Pro for short) is a 8.0-inch tablet that incorporates a 28 nm octa-core Snapdragon 616 (MSM8939) (4 x A53 1.5 GHz+4 x A53 1.2 GHz) and supports Wi-Fi high-speed Internet connection.

.NOTE: Only 5G WIFI test data included in this report.

#### 3.2 EUT Identity

NOTE: Unless otherwise noted in the report, the functional boards installed in the units shall be selected from the below list, but not means all the functional boards listed below shall be installed in one unit.

##### 3.2.1 Board

| Board       |                  |                    |
|-------------|------------------|--------------------|
| Description | Hardware Version | Software Version   |
| Main Board  | QL2010           | JDN-W09C001B001T01 |

##### 3.2.2 Sub-Assembly

| Sub-Assembly       |              |                               |                                                                                                                                                                                                                                                           |
|--------------------|--------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sub-Assembly Name  | Model        | Manufacturer                  | Description                                                                                                                                                                                                                                               |
| Adapter            | HW-050100U01 | Huawei Technologies Co., Ltd. | Input Voltage: ~100-240V 50/60Hz 0.2 A<br>Output Voltage: 5V  1A                                                                                                     |
| Li-Polymer Battery | HB3080G1EBW  | Huawei Technologies Co., Ltd. | Rated capacity: 4650mAh<br>Nominal Voltage:  +3.8V<br>Charging Voltage:  +4.35V |
| Li-Polymer Battery | HB3080G1EBC  | Huawei Technologies Co., Ltd. | Rated capacity: 4650mAh<br>Nominal Voltage:  +3.8V<br>Charging Voltage:  +4.35V |

### 3.3 Technical Description

| Characteristics                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                             |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IEEE 802.11 WLAN Mode Supported | <input checked="" type="checkbox"/> 802.11a (20 MHz channel bandwidth), <input checked="" type="checkbox"/> 802.11n (20 MHz channel bandwidth),<br><input checked="" type="checkbox"/> 802.11n (40 MHz channel bandwidth), <input checked="" type="checkbox"/> 802.11ac (20 MHz channel bandwidth),<br><input checked="" type="checkbox"/> 802.11ac (40 MHz channel bandwidth), <input checked="" type="checkbox"/> 802.11ac (80 MHz channel bandwidth), |                                                                                                                                                                                                                             |
| TX/RX Operating Range           | All                                                                                                                                                                                                                                                                                                                                                                                                                                                      | $f_c = 5000 \text{ MHz} + N * 5 \text{ MHz}$ , where:<br>- $f_c$ = "Operating Frequency" in MHz,<br>- $N$ = "Channel Number".                                                                                               |
|                                 | 5150-5250 MHz (U-NII)                                                                                                                                                                                                                                                                                                                                                                                                                                    | $N = 36$ to $48$ with step of $4$ for the $20 \text{ MHz}$ channel bandwidth.<br>$N = 38$ to $46$ with step of $4$ for the $40 \text{ MHz}$ channel bandwidth.<br>$N = 42$ for the $80 \text{ MHz}$ channel bandwidth.      |
|                                 | 5250-5350 MHz (U-NII)                                                                                                                                                                                                                                                                                                                                                                                                                                    | $N = 52$ to $64$ with step of $4$ for the $20 \text{ MHz}$ channel bandwidth.<br>$N = 54$ to $62$ with step of $4$ for the $40 \text{ MHz}$ channel bandwidth.<br>$N = 58$ for the $80 \text{ MHz}$ channel bandwidth.      |
|                                 | 5470-5600 MHz (U-NII)                                                                                                                                                                                                                                                                                                                                                                                                                                    | $N = 100$ to $116$ with step of $4$ for the $20 \text{ MHz}$ channel bandwidth.<br>$N = 102$ to $110$ with step of $4$ for the $40 \text{ MHz}$ channel bandwidth.<br>$N = 106$ for the $80 \text{ MHz}$ channel bandwidth. |
|                                 | 5650-5725 MHz (U-NII)                                                                                                                                                                                                                                                                                                                                                                                                                                    | $N = 132$ to $140$ with step of $4$ for the $20 \text{ MHz}$ channel bandwidth.<br>$N = 134$ for the $40 \text{ MHz}$ channel bandwidth.                                                                                    |
| Modulation Type                 | BPSK/QPSK/16QAM/64QAM (OFDM).                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                             |
| Emission Designator             | U-NII(5150-5250, 5250-5350, 5470-5725)                                                                                                                                                                                                                                                                                                                                                                                                                   | 22M8G7D (for 802.11a mod),<br>23M0G7D (for 802.11n 20 MHz mode),<br>44M6G7D (for 802.11n 40 MHz mode),<br>22M5G7D (for 802.11ac 20 MHz mode)<br>43M7G7D (for 802.11ac 40 MHz mode)<br>85M4G7D (for 802.11ac 80 MHz mode)    |
|                                 | U-NII(5725-5850)                                                                                                                                                                                                                                                                                                                                                                                                                                         | 16M4G7D (for 802.11a mod),<br>17M6G7D (for 802.11n 20 MHz mode),<br>35M7G7D (for 802.11n 40 MHz mode),<br>17M6G7D (for 802.11ac 20 MHz mode)<br>35M4G7D (for 802.11ac 40 MHz mode)<br>75M2G7D (for 802.11ac 80 MHz mode)    |
| TPC                             | <input checked="" type="checkbox"/> Supported, <input type="checkbox"/> Not Supported                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                             |
| Antenna                         | Type                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> External, <input checked="" type="checkbox"/> Integrated                                                                                                                                           |
|                                 | Ports                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <input checked="" type="checkbox"/> Ant 1, <input type="checkbox"/> Ant 2, <input type="checkbox"/> Ant 3, <input type="checkbox"/> Ant 4                                                                                   |
|                                 | Smart System                                                                                                                                                                                                                                                                                                                                                                                                                                             | <input checked="" type="checkbox"/> SISO (for 802.11a/n/ac),<br><input type="checkbox"/> MIMO (for 802.11n/ac),<br><input type="checkbox"/> Diversity (for 802.11a) : Tx & Rx                                               |
|                                 | Gain                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1 dBi (per antenna port, max.)                                                                                                                                                                                              |
|                                 | Remark                                                                                                                                                                                                                                                                                                                                                                                                                                                   | When the EUT is put into service, the practical maximum antenna gain should NOT exceed the value as described above.                                                                                                        |



| Characteristics | Description |                                                   |                               |                                 |
|-----------------|-------------|---------------------------------------------------|-------------------------------|---------------------------------|
| Power Supply    | Type        | <input checked="" type="checkbox"/> AC/DC Adapter | <input type="checkbox"/> PoE: | <input type="checkbox"/> Other: |

## 4 General Test Conditions / Configurations

### 4.1 Test Modes

NOTE: Worst cases for each IEEE 802.11 mode are selected to perform tests.

| Test Mode | Test Modes Description                                                        |
|-----------|-------------------------------------------------------------------------------|
| 11A       | IEEE 802.11a with data rate of 6 Mbps using SISO mode.                        |
| 11N20     | IEEE 802.11n with data rate of MCS0 and bandwidth of 20 MHz using SISO mode.  |
| 11N40     | IEEE 802.11n with data rate of MCS0 and bandwidth of 40 MHz using SISO mode.  |
| 11AC20    | IEEE 802.11ac with data rate of MCS0 and bandwidth of 20 MHz using SISO mode. |
| 11AC40    | IEEE 802.11ac with data rate of MCS8 and bandwidth of 40 MHz using SISO mode. |
| 11AC80    | IEEE 802.11ac with data rate of MCS8 and bandwidth of 80 MHz using SISO mode. |

### 4.2 EUT Configurations

#### 4.2.1 General Configurations

| Configuration       | Description                                                                                                                                                                                                          |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Antenna Ports  | Until otherwise specified, <ul style="list-style-type: none"><li>All TX tests are performed at all TX antenna ports of the EUT, and</li><li>All RX tests are performed at all RX antenna ports of the EUT.</li></ul> |
| Multiple RF Sources | Other than the tested RF source of the EUT, other RF source(s) are disabled or shutdown during measurements.                                                                                                         |

#### 4.2.2 Customized Configurations

##### 4.2.2.1 U-NII

| Test Mode | Antenna Port | Power Conf., | Duty cycle [%] |
|-----------|--------------|--------------|----------------|
| 11A       | Ant 1        | 13           | 84             |
| 11N20     | Ant 1        | 12.5         | 83             |
| 11N40     | Ant 1        | 12.5         | 71             |
| 11AC20    | Ant 1        | 12.5         | 83             |
| 11AC40    | Ant 1        | 12.5         | 71             |
| 11AC80    | Ant 1        | 12.5         | 56             |

### 4.3 Test Environments

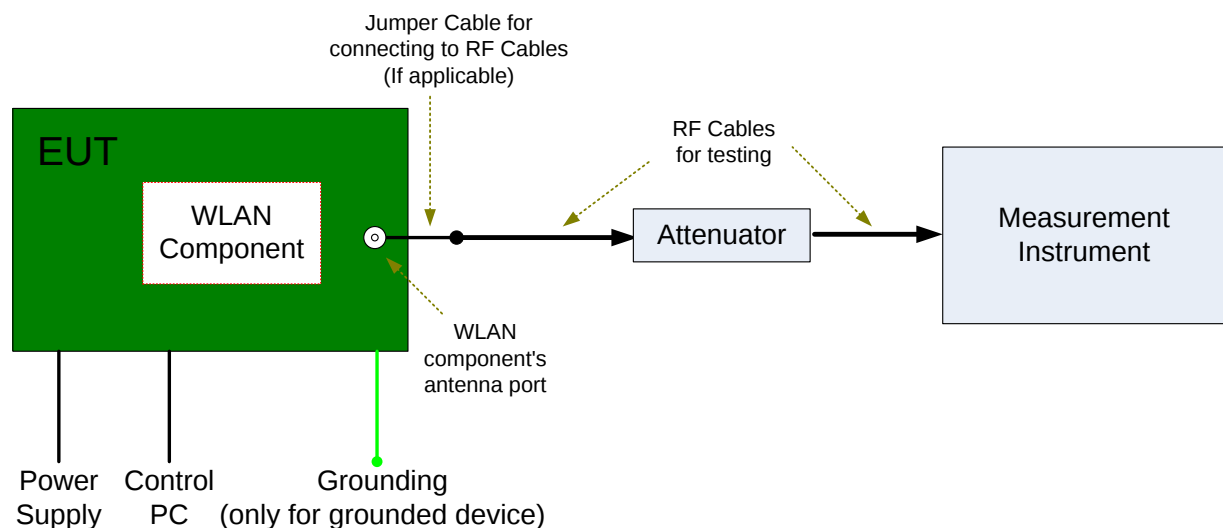
| Environment Parameter | Selected Values During Tests |         |
|-----------------------|------------------------------|---------|
| Relative Humidity     | Ambient                      |         |
| Temperature           | TN                           | Ambient |
| Voltage               | VN                           | 3.8V    |

NOTE: VN= nominal voltage

### 4.4 Test Setups

#### 4.4.1 Test Setup 1

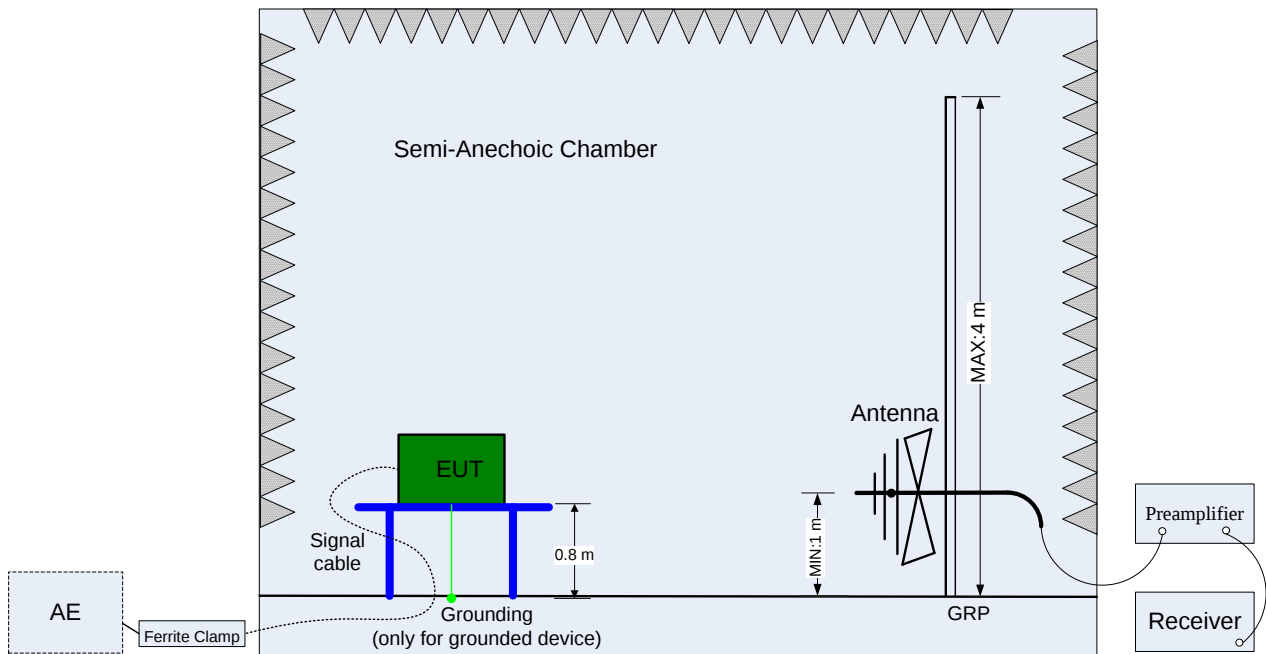
The WLAN component's antenna ports(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The EUT is controlled by PC/software to emit the specified signals for the purpose of measurements.



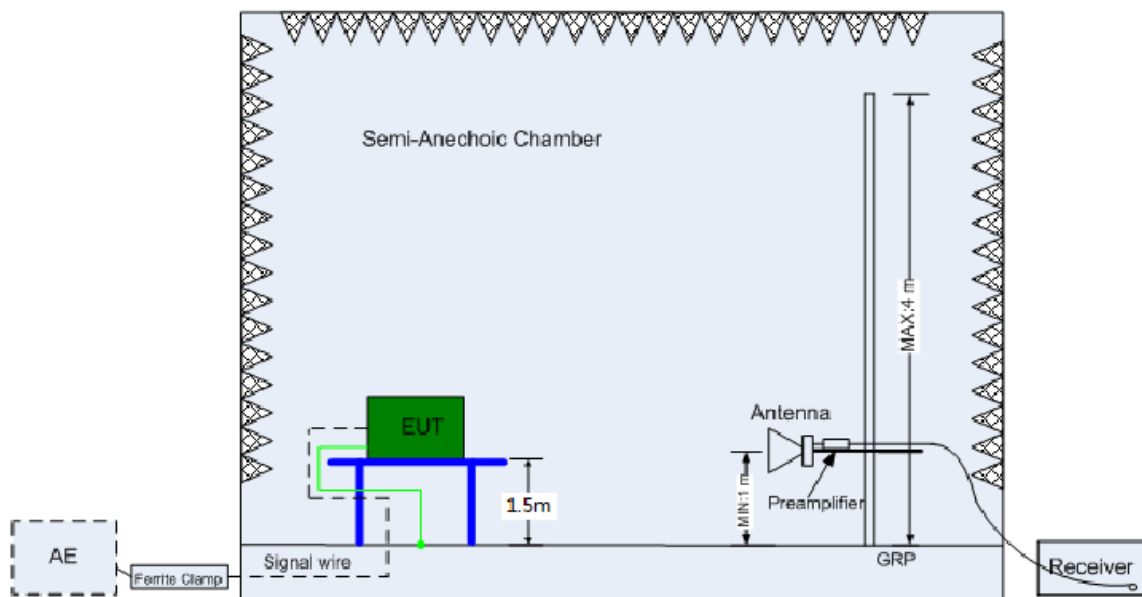
#### 4.4.2 Test Setup 2

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.4. The test distance is 3 m (for 30 MHz to 26.5 GHz) or 1 m (for 26.5 GHz to 40 GHz). The setup is according to ANSI C63.10, ANSI C63.4 and CAN/CSA-CEI/IEC CISPR 22.

The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).



(Below 1 GHz)

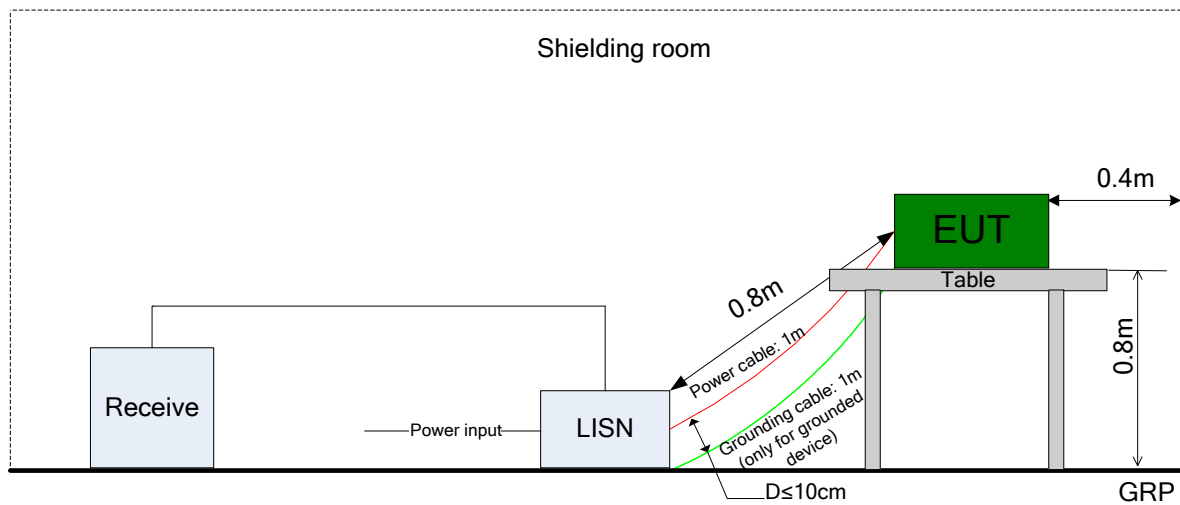


(Above 1 GHz)

### 4.4.3 Test Setup 3

The mains cable of the EUT (maybe per AC/DC Adapter) must be connected to LISN. The LISN shall be placed 0.8 m from the boundary of EUT and bonded to a ground reference plane for LISN mounted on top of the ground reference plane. This distance is between the closest points of the LISN and the EUT. All other units of the EUT and associated equipment shall be at least 0.8m from the LISN.

Ground connections, where required for safety purposes, shall be connected to the reference ground point of the LISN and, where not otherwise provided or specified by the manufacturer, shall be of same length as the mains cable and run parallel to the mains connection at a separation distance of not more than 0.1 m.



## 4.5 Test Conditions

### 4.5.1 U-NII

| Test Case                      | Test Conditions |                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                  |
|--------------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
|                                | Configuration   | Description                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                  |
| Emission Bandwidth (EBW)       | Meas. Method    | FCC KDB 789033 §C).                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                  |
|                                | Test Env.       | NTNV                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                  |
|                                | Test Setup      | Test Setup 1                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |
|                                | EUT Conf.       | All EUT conf. with Tx modes.                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |
| Maximum Conducted Output Power | Meas. Method    | FCC KDB 789033 §E)d)                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                  |
|                                | Test Env.       | NTNV                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                  |
|                                | Test Setup      | Test Setup 1                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |
|                                | EUT Conf.       | All EUT conf. with Tx modes.                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |
| Peak Power Spectral Density    | Meas. Method    | FCC KDB 789033 §F).                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                  |
|                                | Test Env.       | NTNV                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                  |
|                                | Test Setup      | Test Setup 1                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |
|                                | EUT Conf.       | All EUT conf. with Tx modes.                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |
| Peak Excursion Ratio           | Meas. Method    | FCC KDB 789033 §F).                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                  |
|                                | Test Env.       | NTNV                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                  |
|                                | Test Setup      | Test Setup 1                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |
|                                | EUT Conf.       | All EUT conf. with Tx modes.                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |
| Unwanted Emissions (Cond.)     | Meas. Method    | FCC KDB 789033 §G), Conducted (antenna-port).<br><br>NOTE: Antenna-port conducted measurements (Cond.) are acceptable as an alternative to radiated measurements (Rad.) for demonstrating compliance to the limits in the restricted frequency bands. If conducted measurements are performed, then proper impedance matching must be ensured and an additional radiated test (Rad-a) for cabinet/case emissions will also be required. |                                                                                                                  |
|                                | Test Env.       | NTNV                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                  |
|                                | Test Setup      | Test Setup 1                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                  |
|                                | EUT Conf.       | 5150-5250                                                                                                                                                                                                                                                                                                                                                                                                                               | All EUT Test Mode<br>20 MHz bandwidth: Ch.36, Ch.48<br>40 MHz bandwidth: Ch.38, Ch.46<br>80 MHz bandwidth: Ch.42 |
|                                |                 | 5250-5350                                                                                                                                                                                                                                                                                                                                                                                                                               | All EUT Test Mode<br>20 MHz bandwidth: Ch.52, Ch.64<br>40 MHz bandwidth: Ch.54, Ch.62<br>80 MHz bandwidth: Ch.58 |
|                                |                 | 5470-5725                                                                                                                                                                                                                                                                                                                                                                                                                               | All EUT Test Mode<br>20 MHz bandwidth: Ch.100, Ch.140<br>40 MHz bandwidth: Ch.102, Ch.134                        |
|                                |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                  |

| Test Case           | Test Conditions |                                                                                                  |                                          |
|---------------------|-----------------|--------------------------------------------------------------------------------------------------|------------------------------------------|
|                     | Configuration   | Description                                                                                      |                                          |
|                     |                 |                                                                                                  | 80 MHz bandwidth: Ch.106                 |
|                     |                 | 5725-5850                                                                                        | All EUT Test Mode                        |
|                     |                 |                                                                                                  | 20 MHz bandwidth: Ch.149, Ch.157, Ch.165 |
|                     |                 |                                                                                                  | 40 MHz bandwidth: Ch.151, Ch.159         |
|                     |                 |                                                                                                  | 80 MHz bandwidth: Ch.155                 |
| Frequency Stability | Meas. Method    | 15.407(g)<br>Frequency Stability                                                                 |                                          |
|                     | Test Env.       | (1)VL, VN and VH of Rated Voltage at Ambient Climate.<br>(2) -5 °C,5°C,15°C,-25°C,35°C,45°C,50°C |                                          |
|                     | Test Setup      | Test Setup 1                                                                                     |                                          |
|                     | EUT Conf.       | Ch.36,Ch.165                                                                                     |                                          |

## 5 Main Test Instruments

NOTE: Unless otherwise specified, the calibration intervals for test instruments were Annual (per year). The other intervals, if applicable, are marked with (##y), which denotes ## years calibration interval.

| Main Test Equipments                 |              |           |               |            |            |
|--------------------------------------|--------------|-----------|---------------|------------|------------|
| Equipment Name                       | Manufacturer | Model     | Serial Number | Cal Date   | Cal- Due   |
| Power supply                         | KEITHLEY     | 2303      | 1342889       | 2015/9/16  | 2017/9/15  |
| Wireless Communication Test set      | Agilent      | N4010A    | MY49081592    | 2015/10/30 | 2016/10/29 |
| Universal Radio Communication Tester | R&S          | CMU200    | 123299        | 2015/10/30 | 2016/10/29 |
| Spectrum Analyzer                    | Agilent      | N9020A    | MY52090652    | 2016/6/29  | 2017/6/29  |
| Universal Radio Communication Tester | R & S        | CMW500    | 126854        | 2016/1/8   | 2017/1/7   |
| Signal Analyzer                      | R&S          | FSQ31     | 200021        | 2015/10/30 | 2016/10/29 |
| Spectrum Analyzer                    | Agilent      | N9030A    | MY49431698    | 2015/10/30 | 2016/10/29 |
| Temperature Chamber                  | WEISS        | WKL64     | 5.6246E+13    | 2016/1/21  | 2017/1/20  |
| Signal generator                     | Agilent      | E8257D    | MY49281095    | 2015/10/30 | 2016/10/29 |
| Vector Signal Generator              | R&S          | SMU200A   | 104162        | 2015/10/30 | 2016/10/29 |
| Test receiver                        | R&S          | ESU26     | 100387        | 2016/6/21  | 2017/6/20  |
| Test receiver                        | R&S          | ESCI      | 101163        | 2015/11/11 | 2016/11/10 |
| Spectrum analyzer                    | R&S          | FSU3      | 200474        | 2016/5/24  | 2017/5/23  |
| Spectrum analyzer                    | R&S          | FSU43     | 100144        | 2015/6/2   | 2017/6/2   |
| LOOP Antennas(9kHz-30MHz)            | R&S          | HFH2-Z2   | 100262        | 2015/4/30  | 2017/4/29  |
| LOOP Antennas(9kHz-30MHz)            | R&S          | HFH2-Z2   | 100263        | 2015/4/30  | 2017/4/29  |
| Trilog Broadband Antenna (30M~3GHz)  | SCHWARZBECK  | VULB 9163 | 9163-490      | 2015/4/30  | 2017/4/29  |
| Trilog Broadband Antenna (30M~3GHz)  | SCHWARZBECK  | VULB 9163 | 9163-520      | 2015/4/30  | 2017/4/29  |

|                                                 |              |          |            |           |           |
|-------------------------------------------------|--------------|----------|------------|-----------|-----------|
| Double-Ridged Waveguide Horn Antenna (1G~18GHz) | R&S          | HF907    | 100304     | 2015/4/30 | 2017/4/29 |
| double ridged horn antenna (0.8G-18GHz)         | R&S          | HF907    | 100305     | 2015/4/30 | 2017/4/29 |
| Pyramidal Horn Antenna(18GHz-26.5GHz)           | ETS-Lindgren | Sep-60   | 5140299    | 2015/7/15 | 2017/7/14 |
| Artificial Main Network                         | R&S          | ENV4200  | 100134     | 2016/6/2  | 2017/6/1  |
| Line Impedance Stabilization Network            | R&S          | ENV216   | 100382     | 2016/6/2  | 2017/6/1  |
| Signal Generator                                | Agilent      | E4438C   | MY49071538 | 2016/3/1  | 2017/3/1  |
| Power Detecting & Sampling Unit                 | R&S          | OSP-B157 | 100914     | 2015/7/27 | 2016/7/26 |

## 6 Appendixes

| Appendix No.               | Description          |
|----------------------------|----------------------|
| SYBH(Z-RF)003072016-2004-A | Appendix for 5G WLAN |

END