



## FCC REPORT

**Applicant:** SHENZHEN MAI XIN DA TECHNOLOGY CO.,LTD.

**Address of Applicant:** R704-706,FuTong No.1 International Building, Gushu,Bao'an District,Shenzhen,China

**Equipment Under Test (EUT)**

Product Name: Wireless Charger

Model No.: 41548

**FCC ID:** 2ANBM-41548

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart C:2017

**Date of sample receipt:** June 26, 2017

**Date of Test:** June 27, 2017-June 30, 2017

**Date of report issued:** July 03, 2017

**Test Result :** PASS \*

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

Authorized Signature:

**Robinson Lo**  
**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          | July 03, 2017 | Original    |
|             |               |             |
|             |               |             |
|             |               |             |
|             |               |             |

Prepared By:

*Bill. yuan*

Date:

July 03, 2017

**Project Engineer**

Check By:

*Andy. wa*

Date:

July 03, 2017

**Reviewer**

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## 4 Test Summary

| Test Item                        | Section in CFR 47 | Result |
|----------------------------------|-------------------|--------|
| Antenna requirement              | 15.203            | Pass   |
| AC Power Line Conducted Emission | 15.207            | Pass   |
| Radiated Emission                | 15.209            | Pass   |
| 20dB Bandwidth                   | 15.215            | Pass   |

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

## 5 General Information

### 5.1 General Description of EUT

|                      |                                 |
|----------------------|---------------------------------|
| Product Name:        | Wireless Charger                |
| Model No.:           | 41548                           |
| Operation Frequency: | 110kHz ~ 205KHz                 |
| Modulation type:     | Backscatter modulation          |
| Antenna Type:        | Inductive loop coil antenna     |
| Antenna gain:        | 0dBi (declared by manufacturer) |
| Power supply:        | Charging voltage: DC 5.0V/1.5A  |

Note:

In section 15.31(m), regards to the operating frequency range less than 1 MHz, only the middle frequency of channel was selected to perform the test, and the selected channel see below:

| Channel             | Frequency |
|---------------------|-----------|
| The lowest channel  | N/A       |
| The middle channel  | 176KHz    |
| The Highest channel | N/A       |

## 5.2 Test mode

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

## 5.3 Description of Support Units

| Manufacturer             | Description  | Model  | Serial Number | FCC Approval |
|--------------------------|--------------|--------|---------------|--------------|
| SAMSUNG                  | Mobile Phone | S7EDGE | R28H835BJ2B   | VOC          |
| Emerson<br>Network Power | USB Charger  | A1399  | N/A           | VOC          |

## 5.4 Test Facility

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>● <b>FCC —Registration No.: 600491</b><br/>Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 600491, June 22, 2016.</li><li>● <b>Industry Canada (IC) —Registration No.: 9079A-2</b><br/>The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, August 15, 2016</li></ul> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 5.5 Test Location

|                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| All tests were performed at:                                                                                                                                                                                                            |
| Global United Technology Services Co., Ltd.<br>No. 301-309, 3/F., 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 Other Information Requested by the Customer

|       |
|-------|
| None. |
|-------|

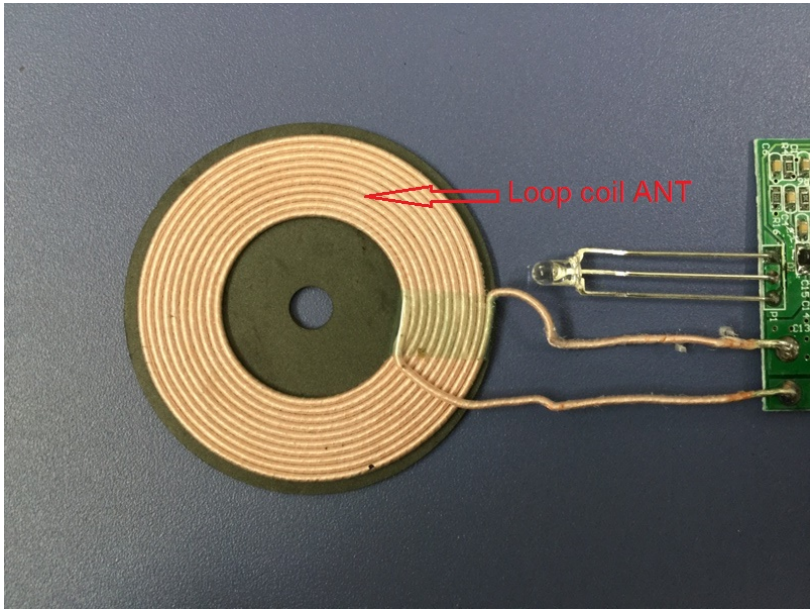
## 6 Test Instruments list

| Radiated Emission: |                               |                                |                             |               |                     |                         |
|--------------------|-------------------------------|--------------------------------|-----------------------------|---------------|---------------------|-------------------------|
| Item               | Test Equipment                | Manufacturer                   | Model No.                   | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                  | 3m Semi- Anechoic Chamber     | ZhongYu Electron               | 9.2(L)*6.2(W)* 6.4(H)       | GTS250        | July 03 2015        | July 02 2020            |
| 2                  | Control Room                  | ZhongYu Electron               | 6.2(L)*2.5(W)* 2.4(H)       | GTS251        | N/A                 | N/A                     |
| 3                  | Spectrum Analyzer             | Agilent                        | E4440A                      | GTS533        | June 26 2017        | June 25 2018            |
| 4                  | EMI Test Receiver             | Rohde & Schwarz                | ESU26                       | GTS203        | June 26 2017        | June 25 2018            |
| 5                  | BiConiLog Antenna             | SCHWARZBECK<br>MESS-ELEKTRONIK | VULB9163                    | GTS214        | June 26 2017        | June 25 2018            |
| 6                  | Double -ridged waveguide horn | SCHWARZBECK<br>MESS-ELEKTRONIK | 9120D-829                   | GTS208        | June 26 2017        | June 25 2018            |
| 7                  | Horn Antenna                  | ETS-LINDGREN                   | 3160                        | GTS217        | June 26 2017        | June 25 2018            |
| 8                  | EMI Test Software             | AUDIX                          | E3                          | N/A           | N/A                 | N/A                     |
| 9                  | Coaxial Cable                 | GTS                            | N/A                         | GTS213        | June 26 2017        | June 25 2018            |
| 10                 | Coaxial Cable                 | GTS                            | N/A                         | GTS211        | June 26 2017        | June 25 2018            |
| 11                 | Coaxial cable                 | GTS                            | N/A                         | GTS210        | June 26 2017        | June 25 2018            |
| 12                 | Coaxial Cable                 | GTS                            | N/A                         | GTS212        | June 26 2017        | June 25 2018            |
| 13                 | Amplifier(100kHz-3GHz)        | HP                             | 8347A                       | GTS204        | June 26 2017        | June 25 2018            |
| 14                 | Amplifier(2GHz-20GHz)         | HP                             | 8349B                       | GTS206        | June 26 2017        | June 25 2018            |
| 15                 | Amplifier (18-26GHz)          | Rohde & Schwarz                | AFS33-18002<br>650-30-8P-44 | GTS218        | June 26 2017        | June 25 2018            |
| 16                 | Band filter                   | Amindeon                       | 82346                       | GTS219        | June 26 2017        | June 25 2018            |
| 17                 | Power Meter                   | Anritsu                        | ML2495A                     | GTS540        | June 26 2017        | June 25 2018            |
| 18                 | Power Sensor                  | Anritsu                        | MA2411B                     | GTS541        | June 26 2017        | June 25 2018            |

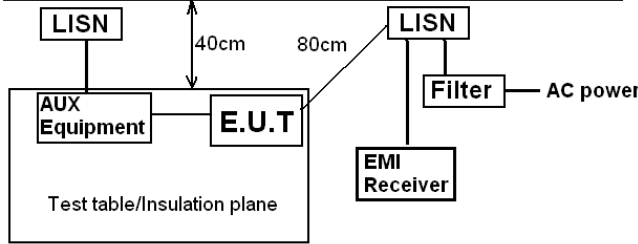
| Conducted Emission: |                          |                     |                      |               |                     |                         |
|---------------------|--------------------------|---------------------|----------------------|---------------|---------------------|-------------------------|
| Item                | Test Equipment           | Manufacturer        | Model No.            | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                   | Shielding Room           | ZhongYu Electron    | 7.3(L)x3.1(W)x2.9(H) | GTS252        | May.16 2014         | May.15 2019             |
| 2                   | EMI Test Receiver        | R&S                 | ESCI 7               | GTS552        | June. 26 2017       | June. 25 2018           |
| 3                   | Coaxial Switch           | ANRITSU CORP        | MP59B                | GTS225        | June. 26 2017       | June. 25 2018           |
| 4                   | Artificial Mains Network | SCHWARZBECK<br>MESS | NSLK8127             | GTS226        | June. 26 2017       | June. 25 2018           |
| 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             | KTJ                 | TA328                | GTS233        | June. 26 2017       | June. 25 2018           |

## 7 Test results and Measurement Data

### 7.1 Antenna requirement:

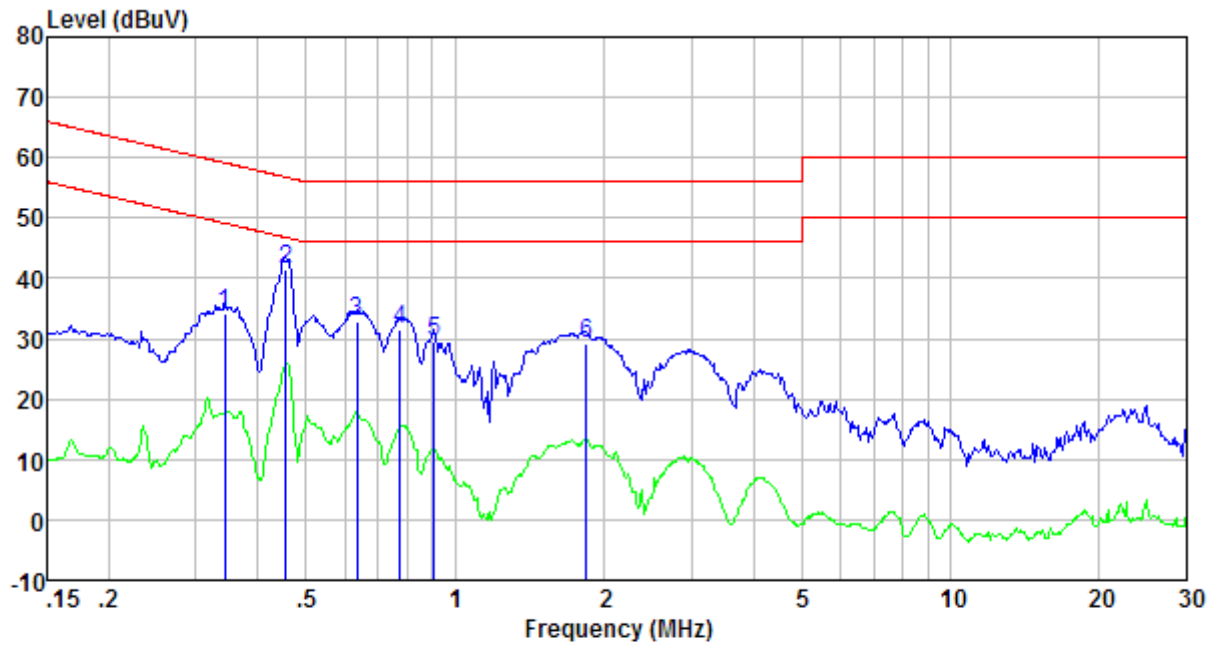
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Standard requirement:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                     | FCC Part15 C Section 15.203 |
| <b>15.203 requirement:</b><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>EUT Antenna:</b><br><p><i>The antenna is Inductive loop coil antenna, the best case gain of the antenna is 0dBi.</i></p>                                                                                                                                                                                                                                                                   |                             |

## 7.2 Conducted Emissions

| Test Requirement:     | FCC Part15 C Section 15.207                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--|-----------------------|--------------|--|------------|---------|----------|-----------|-----------|-------|----|----|------|----|----|
| Test Method:          | ANSI C63.10:2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test Frequency Range: | 150KHz to 30MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Class / Severity:     | Class B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Receiver setup:       | RBW=9KHz, VBW=30KHz, Sweep time=auto                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Limit:                | <table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>5-30</td><td>60</td><td>50</td></tr></table> <p>* Decreases with the logarithm of the frequency.</p>                                                                                                                                                                                                                                                                                                                                                                                        |           |  | Frequency range (MHz) | Limit (dBuV) |  | Quasi-peak | Average | 0.15-0.5 | 66 to 56* | 56 to 46* | 0.5-5 | 56 | 46 | 5-30 | 60 | 50 |
| Frequency range (MHz) | Limit (dBuV)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
|                       | Quasi-peak                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Average   |  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| 0.15-0.5              | 66 to 56*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 56 to 46* |  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| 0.5-5                 | 56                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 46        |  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| 5-30                  | 60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 50        |  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test setup:           | <div><p style="text-align: center;"><b>Reference Plane</b></p><p>Remark:<br/>E.U.T: Equipment Under Test<br/>LISN: Line Impedance Stabilization Network<br/>Test table height=0.8m</p></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test procedure:       | <ol style="list-style-type: none"><li>1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.</li><li>2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).</li><li>3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.</li></ol> |           |  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test Instruments:     | Refer to section 6.0 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test mode:            | Refer to section 5.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test results:         | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |

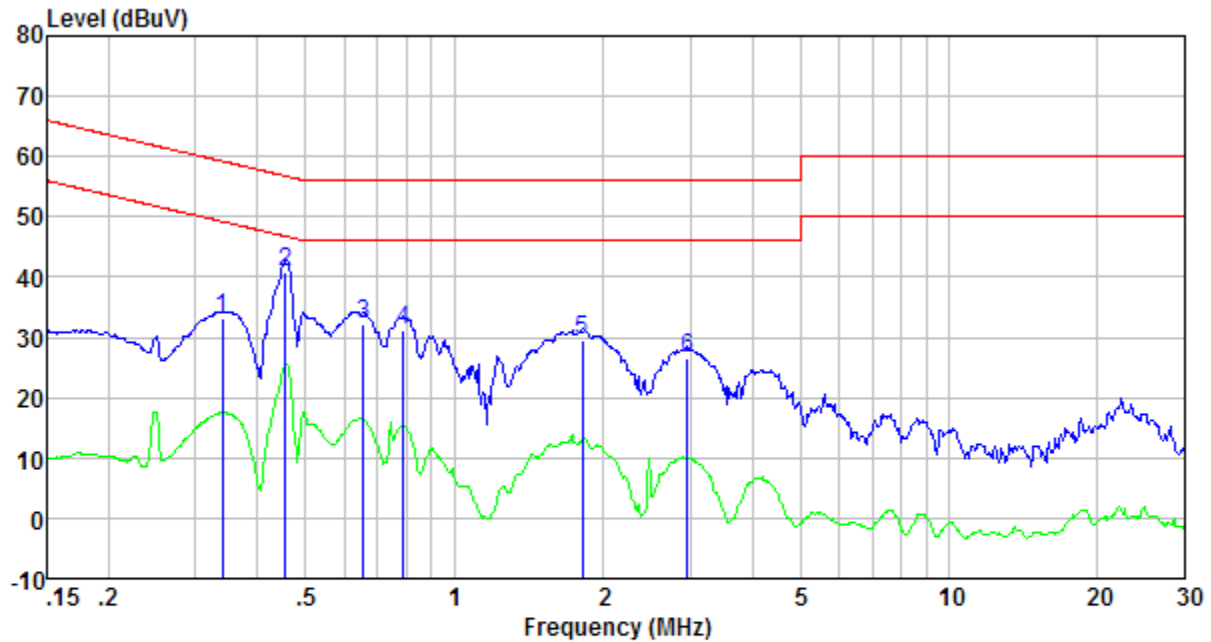
### Measurement data:

Line:



| Freq<br>MHz | Reading<br>level<br>dBuV | LIISN/ISN<br>factor<br>dB | Cable<br>loss<br>dB | level<br>dBuV | Limit<br>level<br>dBuV | Over<br>limit<br>dB | Remark |
|-------------|--------------------------|---------------------------|---------------------|---------------|------------------------|---------------------|--------|
| 0.343       | 33.50                    | 0.43                      | 0.10                | 34.03         | 59.13                  | -25.10              | QP     |
| 0.456       | 41.00                    | 0.40                      | 0.11                | 41.51         | 56.76                  | -15.25              | QP     |
| 0.634       | 32.41                    | 0.30                      | 0.13                | 32.84         | 56.00                  | -23.16              | QP     |
| 0.775       | 30.99                    | 0.27                      | 0.13                | 31.39         | 56.00                  | -24.61              | QP     |
| 0.909       | 29.01                    | 0.26                      | 0.13                | 29.40         | 56.00                  | -26.60              | QP     |
| 1.839       | 28.85                    | 0.20                      | 0.14                | 29.19         | 56.00                  | -26.81              | QP     |

## Neutral:



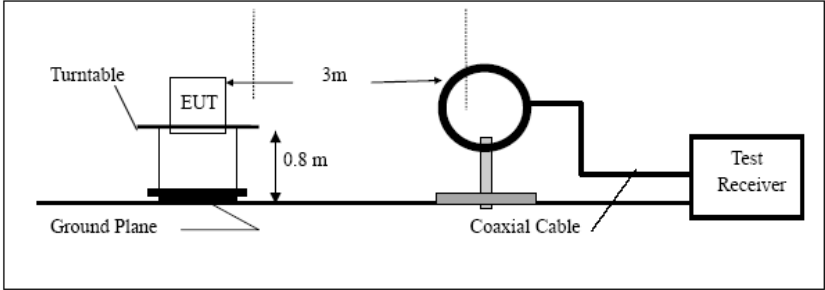
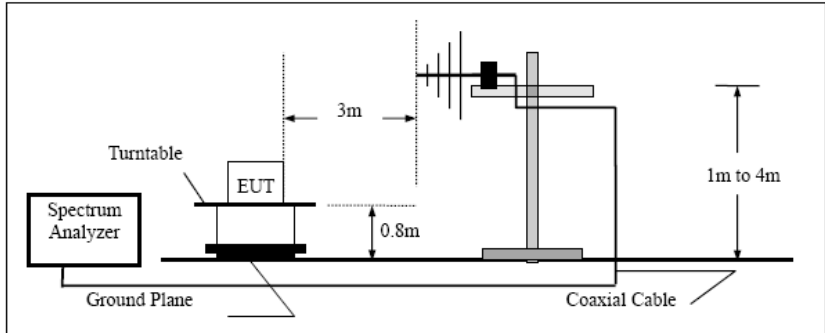
| Freq<br>MHz | Reading<br>level<br>dBuV | LISN/ISN<br>factor<br>dB | Cable<br>loss<br>dB | level<br>dBuV | Limit<br>level<br>dBuV | Over<br>limit<br>dB | Remark |
|-------------|--------------------------|--------------------------|---------------------|---------------|------------------------|---------------------|--------|
| 0.339       | 32.80                    | 0.41                     | 0.10                | 33.31         | 59.22                  | -25.91              | QP     |
| 0.456       | 40.43                    | 0.37                     | 0.11                | 40.91         | 56.76                  | -15.85              | QP     |
| 0.654       | 31.77                    | 0.26                     | 0.13                | 32.16         | 56.00                  | -23.84              | QP     |
| 0.788       | 30.98                    | 0.23                     | 0.13                | 31.34         | 56.00                  | -24.66              | QP     |
| 1.819       | 29.05                    | 0.20                     | 0.14                | 29.39         | 56.00                  | -26.61              | QP     |
| 2.962       | 26.05                    | 0.20                     | 0.15                | 26.40         | 56.00                  | -29.60              | QP     |

## Notes:

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

## 7.3 Radiated Emission Method

|                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                         |                  |                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------|------------------|------------------|
| Test Requirement:                                                                                                                                                                                                                                                                                    | FCC Part15 C Section 15.209                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    |                         |                  |                  |
| Test Method:                                                                                                                                                                                                                                                                                         | ANSI C63.10:2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                         |                  |                  |
| Test Frequency Range:                                                                                                                                                                                                                                                                                | 9kHz to 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    |                         |                  |                  |
| Test site:                                                                                                                                                                                                                                                                                           | Measurement Distance: 3m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                         |                  |                  |
| Receiver setup:                                                                                                                                                                                                                                                                                      | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Detector           | RBW                     | VBW              | Remark           |
|                                                                                                                                                                                                                                                                                                      | 9kHz - 30MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Quasi-peak         | 10kHz                   | 30kHz            | Quasi-peak Value |
|                                                                                                                                                                                                                                                                                                      | 30MHz-1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Quasi-peak         | 120kHz                  | 300kHz           | Quasi-peak Value |
|                                                                                                                                                                                                                                                                                                      | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Peak               | 1MHz                    | 3MHz             | Peak Value       |
|                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | AV                 | 1MHz                    | 10Hz             | Average Value    |
|                                                                                                                                                                                                                                                                                                      | Remark: For the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission test in these three bands are based on measurements employing an average detector.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |                         |                  |                  |
| Limit:<br>(Spurious Emissions)                                                                                                                                                                                                                                                                       | <b>Limits for frequency below 30MHz</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                         |                  |                  |
|                                                                                                                                                                                                                                                                                                      | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Limit (uV/m)       | Measurement Distance(m) | Remark           |                  |
|                                                                                                                                                                                                                                                                                                      | 0.009-0.490                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2400/F(kHz)        | 300                     | Quasi-peak Value |                  |
|                                                                                                                                                                                                                                                                                                      | 0.490-1.705                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 24000/F(kHz)       | 30                      | Quasi-peak Value |                  |
|                                                                                                                                                                                                                                                                                                      | 1.705-30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30                 | 30                      | Quasi-peak Value |                  |
|                                                                                                                                                                                                                                                                                                      | <b>Limits for frequency Above 30MHz</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                         |                  |                  |
|                                                                                                                                                                                                                                                                                                      | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Limit (dBuV/m @3m) |                         | Remark           |                  |
|                                                                                                                                                                                                                                                                                                      | 30MHz-88MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 40.00              |                         | Quasi-peak Value |                  |
|                                                                                                                                                                                                                                                                                                      | 88MHz-216MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 43.50              |                         | Quasi-peak Value |                  |
|                                                                                                                                                                                                                                                                                                      | 216MHz-960MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 46.00              |                         | Quasi-peak Value |                  |
|                                                                                                                                                                                                                                                                                                      | 960MHz-1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 54.00              |                         | Quasi-peak Value |                  |
|                                                                                                                                                                                                                                                                                                      | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 54.00              |                         | Average Value    |                  |
| 74.00                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Peak Value         |                         |                  |                  |
| Remark: 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. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                         |                  |                  |
| Test Procedure:                                                                                                                                                                                                                                                                                      | <div>1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</div> <div>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.</div> <div>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.</div> <div>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.</div> <div>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</div> <div>6. If the emission level of the EUT in peak mode was 10dB lower than the</div> |                    |                         |                  |                  |

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | <p>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.</p> <p>7. The radiation measurements are performed in X, Y, Z axis positioning. And found the Y axis positioning which it is worse case, only the test worst case mode is recorded in the report.</p> |
| Test setup:       | <p>Below 30MHz</p>  <p>30MHz ~ 1000MHz</p>                                                                                                                                                                                                                                                                        |
| Test Instruments: | Refer to section 6.0 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Test mode:        | Refer to section 5.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

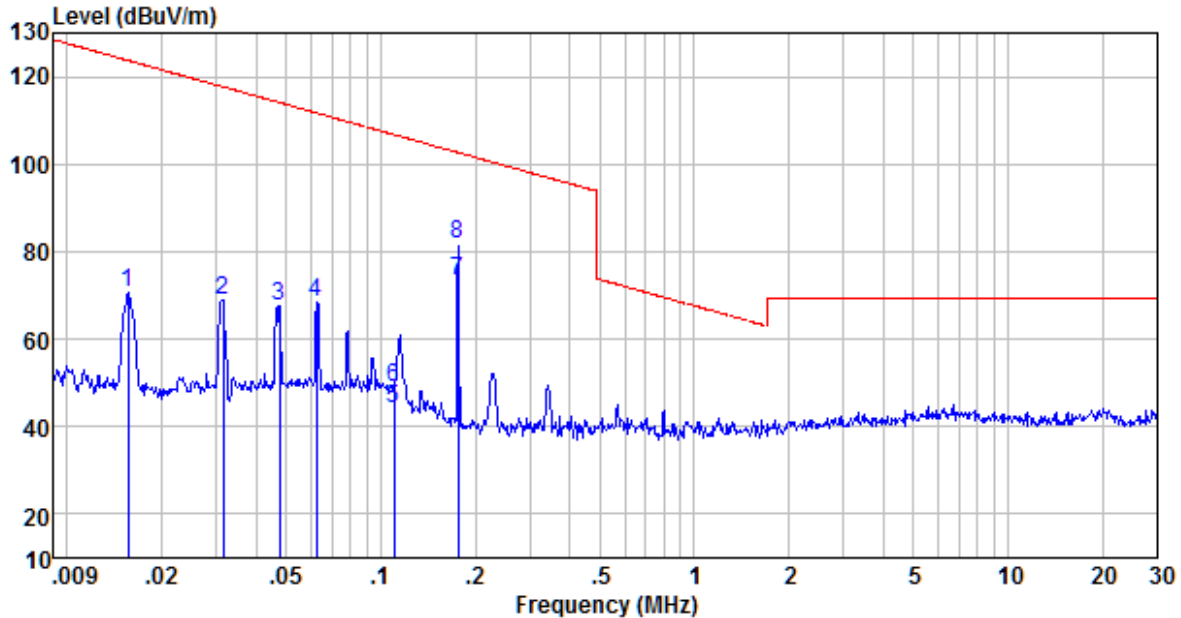
## Measurement data:

## Measurement data:

Note: Limit dBuV/m @3m = Limit dBuV/m @300m+ 80

Limit dBuV/m @3m = Limit dBuV/m @30m + 40

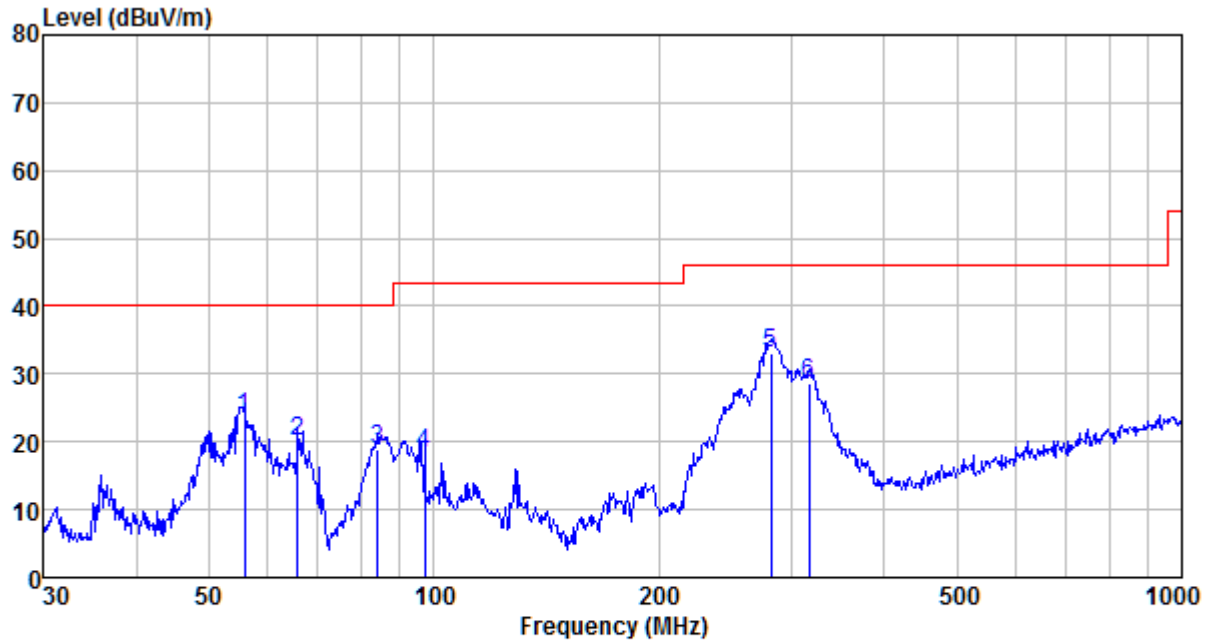
Below 30MHz



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|---------------|--------------------------|---------------------|---------|
| 0.016       | 50.37                    | 20.04                     | 0.04                | 0.00                   | 70.45         | 123.73                   | -53.28              | Peak    |
| 0.031       | 48.93                    | 20.09                     | 0.09                | 0.00                   | 69.11         | 117.67                   | -48.56              | Peak    |
| 0.047       | 46.34                    | 21.26                     | 0.11                | 0.00                   | 67.71         | 114.07                   | -46.36              | Peak    |
| 0.063       | 45.79                    | 22.41                     | 0.13                | 0.00                   | 68.33         | 111.68                   | -43.35              | Peak    |
| 0.110       | 19.67                    | 24.12                     | 0.17                | 0.00                   | 43.96         | 106.78                   | -62.82              | Average |
| 0.110       | 24.71                    | 24.12                     | 0.17                | 0.00                   | 49.00         | 106.78                   | -57.78              | Peak    |
| 0.176       | 50.75                    | 22.52                     | 0.21                | 0.00                   | 73.48         | 102.69                   | -29.21              | Average |
| 0.176       | 58.82                    | 22.52                     | 0.21                | 0.00                   | 81.55         | 102.69                   | -21.14              | Peak    |

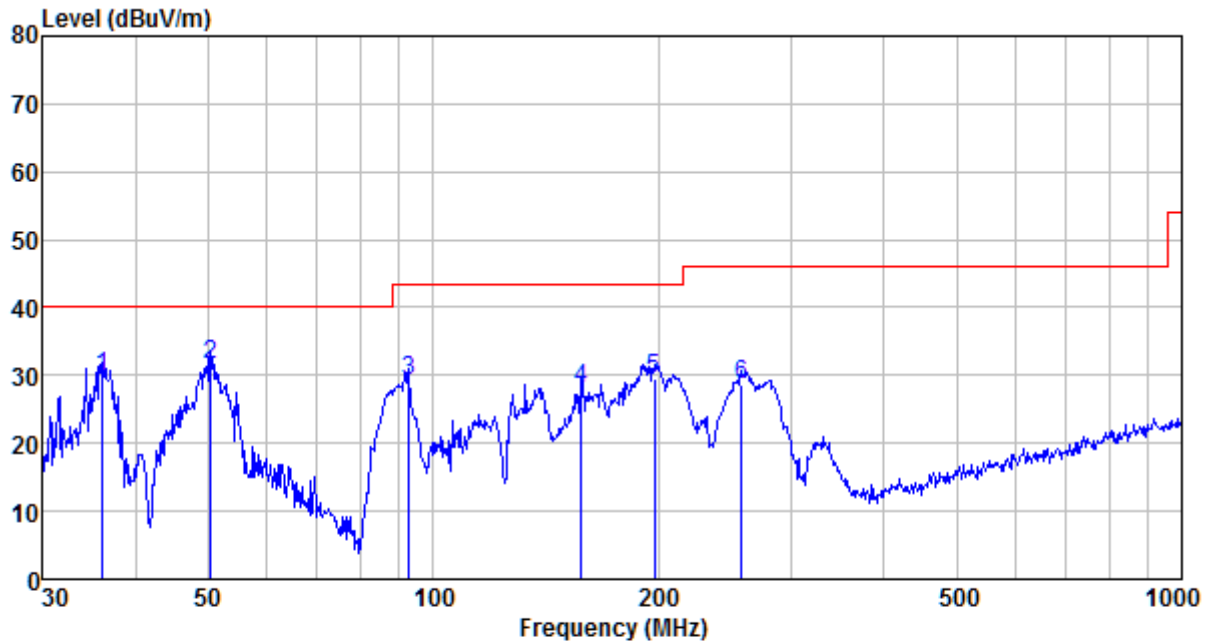
## 30MHz ~ 1GHz

Horizontal



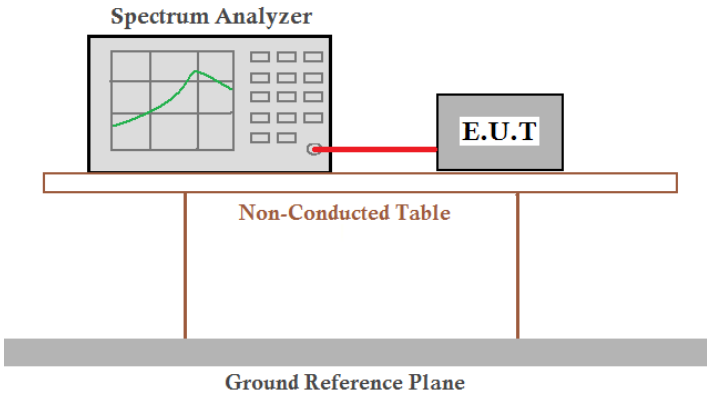
| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark |
|-------------|--------------------------|---------------------------|---------------------|------------------------|---------------|--------------------------|---------------------|--------|
| 55.805      | 41.20                    | 11.67                     | 0.82                | 30.06                  | 23.63         | 40.00                    | -16.37              | QP     |
| 65.803      | 40.30                    | 8.73                      | 0.91                | 29.99                  | 19.95         | 40.00                    | -20.05              | QP     |
| 84.110      | 39.43                    | 8.40                      | 1.06                | 29.89                  | 19.00         | 40.00                    | -21.00              | QP     |
| 97.115      | 35.15                    | 11.73                     | 1.17                | 29.82                  | 18.23         | 43.50                    | -25.27              | QP     |
| 281.995     | 47.99                    | 12.92                     | 2.28                | 30.05                  | 33.14         | 46.00                    | -12.86              | QP     |
| 317.701     | 42.48                    | 13.85                     | 2.45                | 30.09                  | 28.69         | 46.00                    | -17.31              | QP     |

Vertical

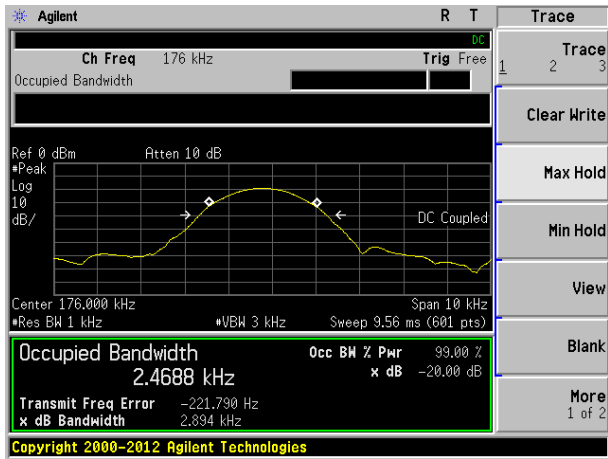


| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark |
|-------------|--------------------------|---------------------------|---------------------|------------------------|---------------|--------------------------|---------------------|--------|
| 36.127      | 48.20                    | 11.20                     | 0.62                | 30.10                  | 29.92         | 40.00                    | -10.08              | QP     |
| 50.409      | 48.65                    | 12.20                     | 0.77                | 30.08                  | 31.54         | 40.00                    | -8.46               | QP     |
| 92.787      | 46.81                    | 10.98                     | 1.13                | 29.84                  | 29.08         | 43.50                    | -14.42              | QP     |
| 157.559     | 47.88                    | 8.02                      | 1.62                | 29.58                  | 27.94         | 43.50                    | -15.56              | QP     |
| 197.200     | 47.07                    | 10.03                     | 1.82                | 29.41                  | 29.51         | 43.50                    | -13.99              | QP     |
| 258.326     | 44.29                    | 12.14                     | 2.16                | 29.86                  | 28.73         | 46.00                    | -17.27              | QP     |

## 7.4 20dB Occupy Bandwidth

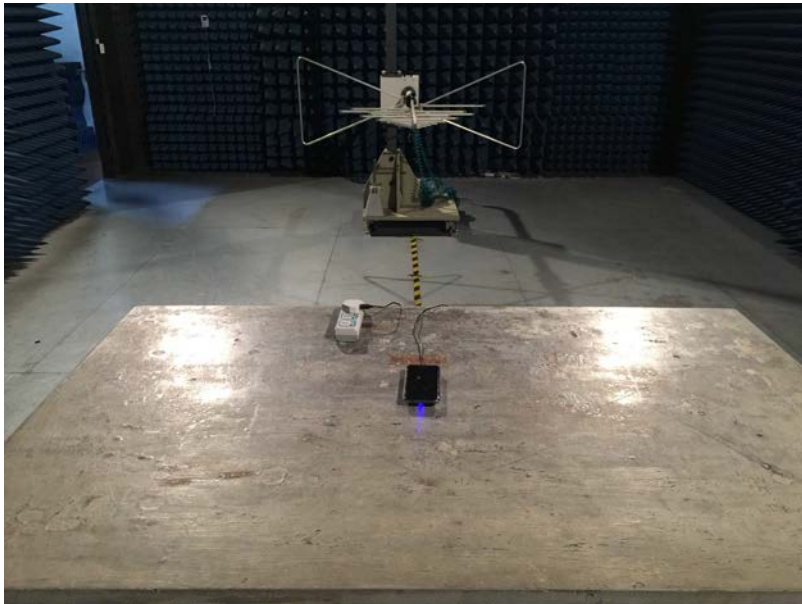
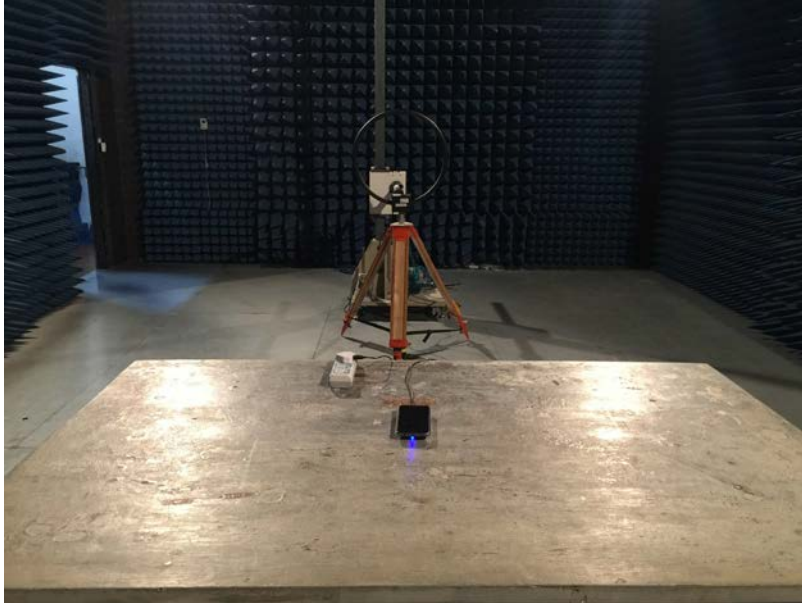
|                   |                                                                                    |
|-------------------|------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 C Section 15.215                                                        |
| Test Method:      | ANSI C63.10:2013                                                                   |
| Test setup:       |  |
| Test Instruments: | Refer to section 6.0 for details                                                   |
| Test mode:        | Refer to section 5.2 for details                                                   |
| Test results:     | Pass                                                                               |

## Measurement Data

|                                                                                      |
|--------------------------------------------------------------------------------------|
|  |
| 176kHz: 20dB BW=2.894kHz                                                             |

## 8 Test Setup Photo

Radiated Emission

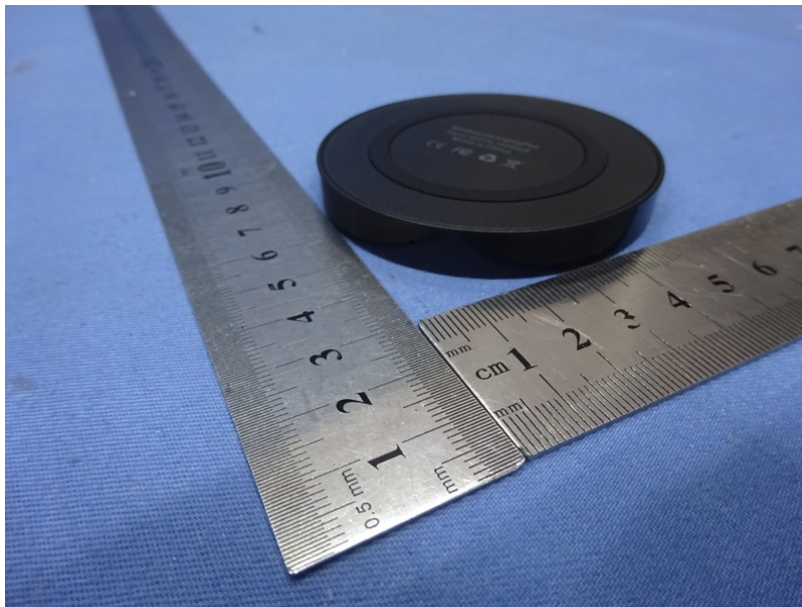
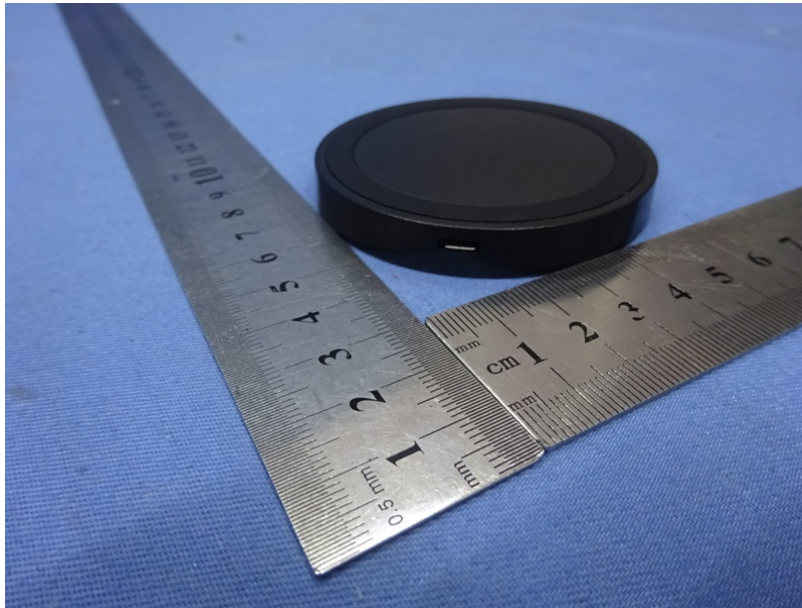


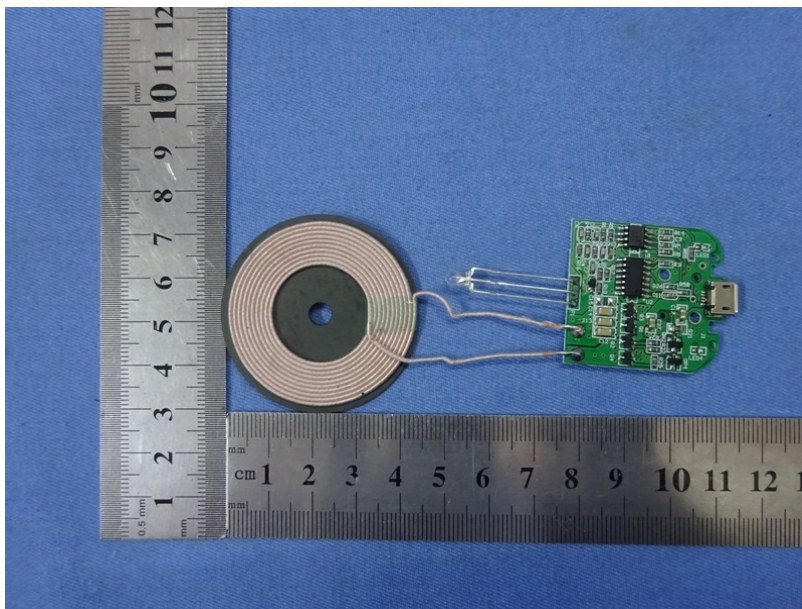
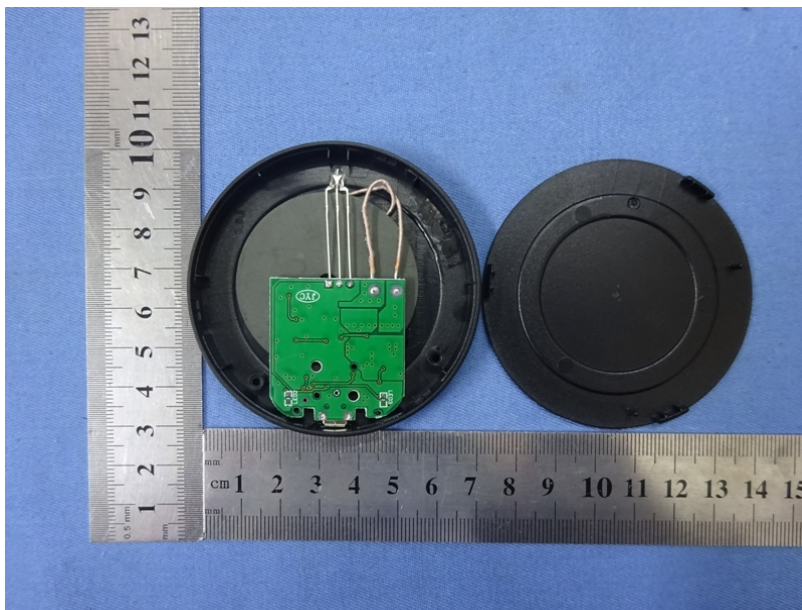
## Conducted Emission

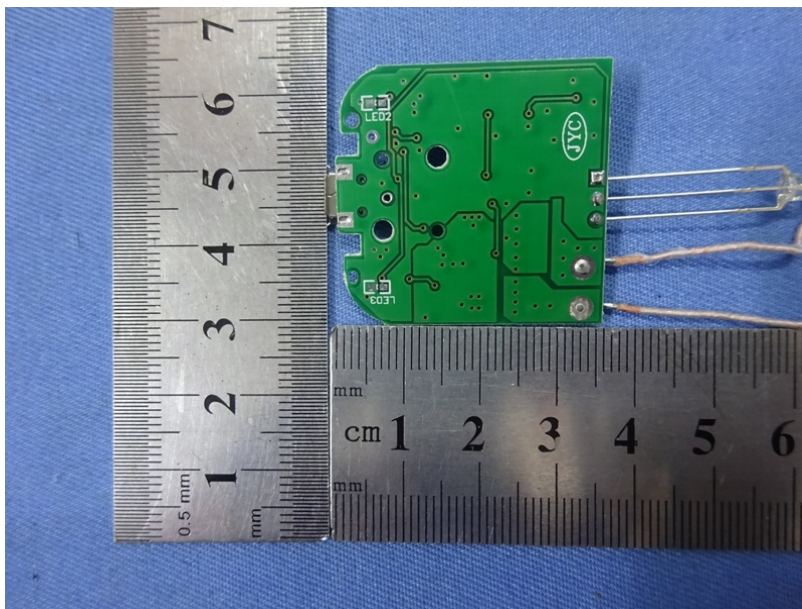
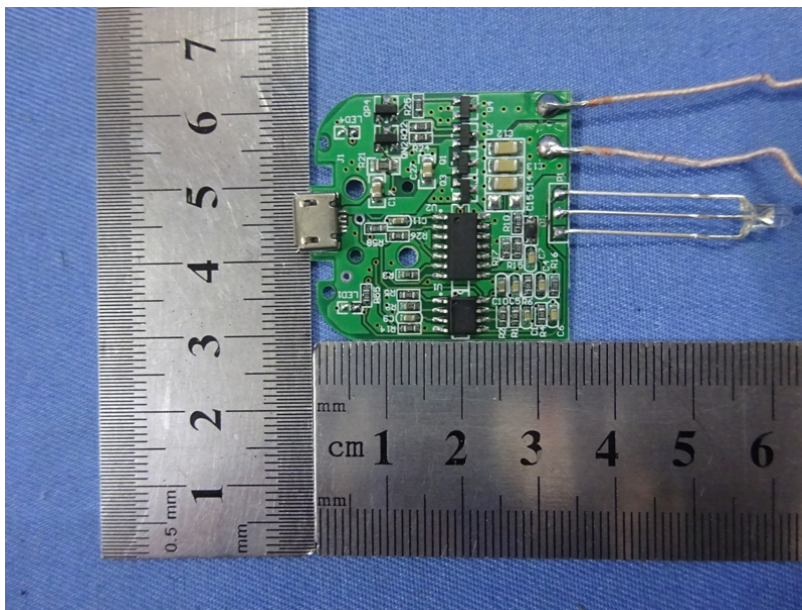


## 9 EUT Constructional Details









-----End-----