

### FCC REPORT

**Applicant:** Autel Intelligent Tech. Corp., Ltd.

**Address of Applicant:** 6th - 10th Floor, Bldg. B1, Zhiyuan, Xueyuan Rd., Xili, Nanshan Shenzhen China

**Manufacturer/ Factory:** Autel Intelligent Tech. Corp., Ltd.

**Address of Manufacturer/ Factory:** 6th - 10th Floor, Bldg. B1, Zhiyuan, Xueyuan Rd., Xili, Nanshan Shenzhen China

**Equipment Under Test (EUT)**

Product Name: COMPREHENSIVE TPMS TOOL

Model No.: MaxiTPMS TS608, MaxiTPMS MX808TS

Trade Mark: AUTEL

**FCC ID:** WQ8MX808-TPMS

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

**Date of sample receipt:** January 04, 2017

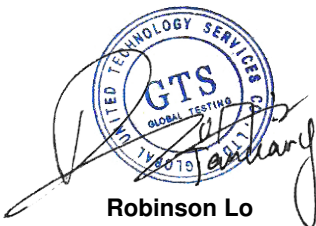
**Date of Test:** January 05-16, 2017

**Date of report issued:** January 17, 2017

**Test Result :** PASS \*

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

Authorized Signature:



The stamp is circular with 'GTS' in the center, 'GLOBAL TESTING' below it, and 'GLOBAL UNITED TECHNOLOGY SERVICES CO., LTD.' around the perimeter. The date '17/01/2017' is also visible within the stamp.

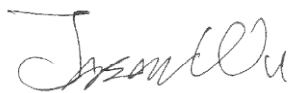
**Robinson Lo**  
**Laboratory Manager**

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          | January 17, 2017 | Original    |
|             |                  |             |
|             |                  |             |
|             |                  |             |
|             |                  |             |

**Prepared By:**

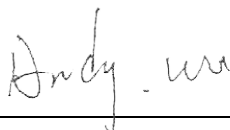


**Date:**

November 11, 2016

**Project Engineer**

**Check By:**



**Date:**

November 11, 2016

**Reviewer**

## 3 Contents

|                                                       | Page |
|-------------------------------------------------------|------|
| 1 COVER PAGE.....                                     | 1    |
| 2 VERSION.....                                        | 2    |
| 3 CONTENTS .....                                      | 3    |
| 4 TEST SUMMARY .....                                  | 4    |
| 4.1 MEASUREMENT UNCERTAINTY .....                     | 4    |
| 5 GENERAL INFORMATION.....                            | 5    |
| 5.1 GENERAL DESCRIPTION OF EUT .....                  | 5    |
| 5.2 TEST MODE .....                                   | 6    |
| 5.3 DESCRIPTION OF SUPPORT UNITS .....                | 6    |
| 5.4 TEST FACILITY.....                                | 6    |
| 5.5 TEST LOCATION .....                               | 6    |
| 5.6 OTHER INFORMATION REQUESTED BY THE CUSTOMER ..... | 6    |
| 6 TEST INSTRUMENTS LIST .....                         | 7    |
| 7 TEST RESULTS AND MEASUREMENT DATA.....              | 8    |
| 7.1 ANTENNA REQUIREMENT:.....                         | 8    |
| 7.2 CONDUCTED EMISSIONS .....                         | 9    |
| 7.3 RADIATED EMISSION METHOD .....                    | 12   |
| 7.4 20dB OCCUPY BANDWIDTH .....                       | 18   |
| 8 TEST SETUP PHOTO .....                              | 19   |
| 9 EUT CONSTRUCTIONAL DETAILS .....                    | 20   |

## 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                   | 15.205            | Pass   |

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

*Remark: Test according to ANSI C63.10 2013 and ANSI C63.4: 2014*

### 4.1 Measurement Uncertainty

| Test Item                        | Frequency Range | Measurement Uncertainty | Notes |
|----------------------------------|-----------------|-------------------------|-------|
| Radiated Emission                | 9kHz ~ 30MHz    | $\pm 4.34\text{dB}$     | (1)   |
| Radiated Emission                | 30MHz ~ 1000MHz | $\pm 4.24\text{dB}$     | (1)   |
| Radiated Emission                | 1GHz ~ 26.5GHz  | $\pm 4.68\text{dB}$     | (1)   |
| AC Power Line Conducted Emission | 0.15MHz ~ 30MHz | $\pm 3.45\text{dB}$     | (1)   |

Note (1): The measurement uncertainty is for coverage factor of  $k=2$  and a level of confidence of 95%.

## 5 General Information

### 5.1 General Description of EUT

|                      |                                                                                                                                                                                 |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name:        | COMPREHENSIVE TPMS TOOL                                                                                                                                                         |
| Model No.:           | MaxiTPMS TS608, MaxiTPMS MX808TS                                                                                                                                                |
| Test Model:          | MaxiTPMS TS608                                                                                                                                                                  |
| Remark:              | <i>Remark: All above models are identical in the same PCB layout, interior structure and electrical circuits. The only difference is the model name for commercial purpose.</i> |
| Operation Frequency: | 125KHz                                                                                                                                                                          |
| Modulation type:     | ASK                                                                                                                                                                             |
| Antenna Type:        | Integral Antenna                                                                                                                                                                |
| Antenna gain:        | 0dBi (declare by Manufacturer)                                                                                                                                                  |
| Power supply:        | Adapter:<br>Model:GME10C-050200FUu<br>Input: AC 100-240V, 50-60Hz, 0.28A<br>Output: DC 5V, 2A<br>DC 3.7V 3200mAh Lithium Battery                                                |

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 |
|--------------|-----------|
| Test channel | 125KHz    |

## 5.2 Test mode

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

## 5.3 Description of Support Units

|     |
|-----|
| N/A |
|-----|

## 5.4 Test Facility

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The test facility is recognized, certified, or accredited by the following organizations:</p> <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>Address: 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

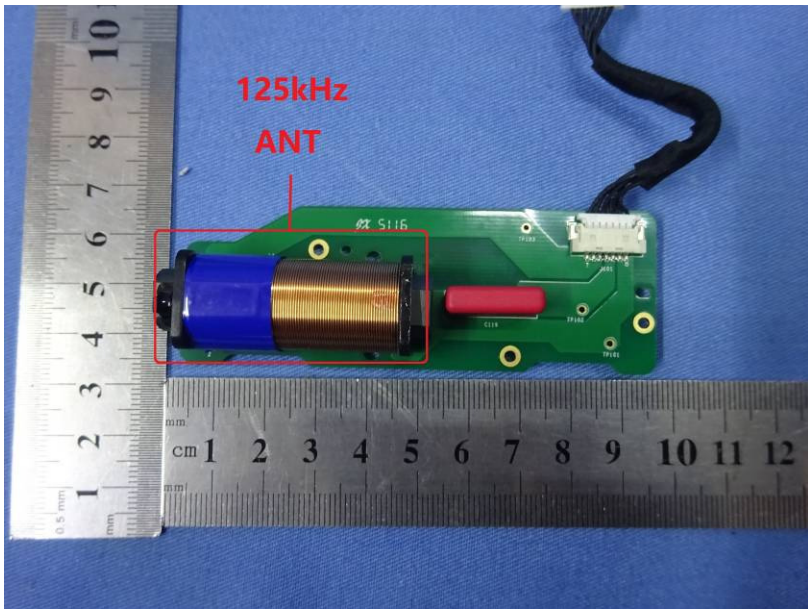
| Radiated Emission: |                               |                                |                             |               |                     |                         |
|--------------------|-------------------------------|--------------------------------|-----------------------------|---------------|---------------------|-------------------------|
| 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 29 2016        | June 28 2017            |
| 4                  | EMI Test Receiver             | Rohde & Schwarz                | ESU26                       | GTS203        | June 29 2016        | June 28 2017            |
| 5                  | Loop Antenna                  | Zhinan                         | ZN30900A                    | GTS534        | June. 29 2016       | June. 28 2017           |
| 6                  | BiConiLog Antenna             | SCHWARZBECK<br>MESS-ELEKTRONIK | VULB9163                    | GTS214        | June 29 2016        | June 28 2017            |
| 7                  | Double -ridged waveguide horn | SCHWARZBECK<br>MESS-ELEKTRONIK | 9120D-829                   | GTS208        | June 29 2016        | June 28 2017            |
| 8                  | Horn Antenna                  | ETS-LINDGREN                   | 3160                        | GTS217        | June 29 2016        | June 28 2017            |
| 9                  | EMI Test Software             | AUDIX                          | E3                          | N/A           | N/A                 | N/A                     |
| 10                 | Coaxial Cable                 | GTS                            | N/A                         | GTS213        | June 29 2016        | June 28 2017            |
| 11                 | Coaxial Cable                 | GTS                            | N/A                         | GTS211        | June 29 2016        | June 28 2017            |
| 12                 | Coaxial cable                 | GTS                            | N/A                         | GTS210        | June 29 2016        | June 28 2017            |
| 13                 | Coaxial Cable                 | GTS                            | N/A                         | GTS212        | June 29 2016        | June 28 2017            |
| 14                 | Amplifier(100kHz-3GHz)        | HP                             | 8347A                       | GTS204        | June 29 2016        | June 28 2017            |
| 15                 | Amplifier(2GHz-20GHz)         | HP                             | 8349B                       | GTS206        | June 29 2016        | June 28 2017            |
| 16                 | Amplifier (18-26GHz)          | Rohde & Schwarz                | AFS33-18002<br>650-30-8P-44 | GTS218        | June 29 2016        | June 28 2017            |
| 17                 | Band filter                   | Amindeon                       | 82346                       | GTS219        | June 29 2016        | June 28 2017            |
| 18                 | Power Meter                   | Anritsu                        | ML2495A                     | GTS540        | June 29 2016        | June 28 2017            |
| 19                 | Power Sensor                  | Anritsu                        | MA2411B                     | GTS541        | June 29 2016        | June 28 2017            |

| Conducted Emission: |                          |                     |                      |               |                     |                         |
|---------------------|--------------------------|---------------------|----------------------|---------------|---------------------|-------------------------|
| Item                | Test Equipment           | Manufacturer        | Model No.            | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                   | Shielding Room           | ZhongYu Electron    | 7.3(L)x3.1(W)x2.9(H) | GTS252        | May.16 2014         | May.15 2019             |
| 2                   | EMI Test Receiver        | R&S                 | ESCI 7               | GTS552        | June. 29 2016       | June. 28 2017           |
| 3                   | Coaxial Switch           | ANRITSU CORP        | MP59B                | GTS225        | June. 29 2016       | June. 28 2017           |
| 4                   | Artificial Mains Network | SCHWARZBECK<br>MESS | NSLK8127             | GTS226        | June. 29 2016       | June. 28 2017           |
| 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. 29 2016       | June. 28 2017           |

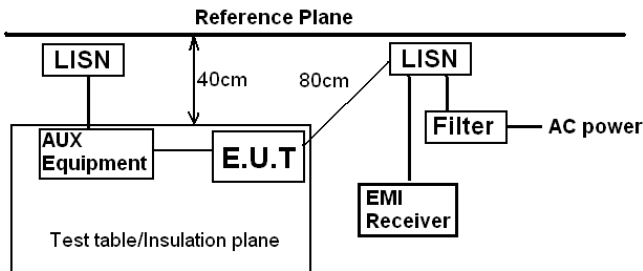
| General used equipment: |                |              |           |               |                     |                         |
|-------------------------|----------------|--------------|-----------|---------------|---------------------|-------------------------|
| Item                    | Test Equipment | Manufacturer | Model No. | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                       | Barometer      | ChangChun    | DYM3      | GTS257        | June 29 2016        | June 28 2017            |

## 7 Test results and Measurement Data

### 7.1 Antenna requirement:

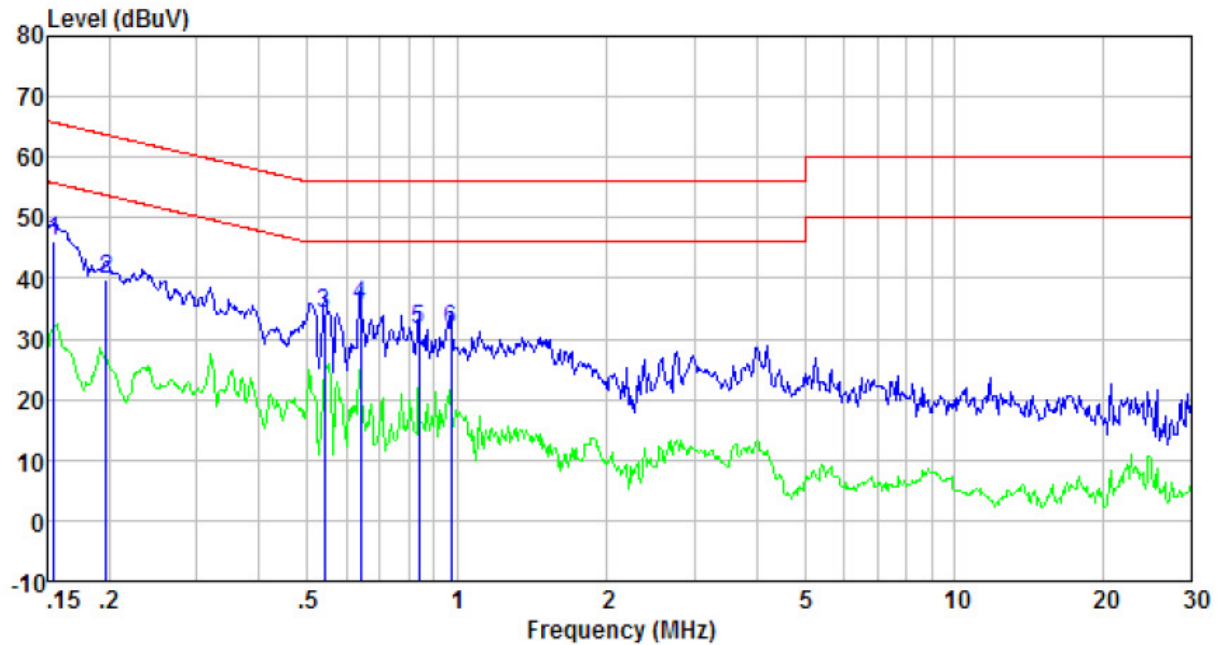
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <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>E.U.T Antenna:</b><br><p><i>The antenna is Integral 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 border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr> <tr> <th>Quasi-peak</th><th>Average</th></tr> </thead> <tbody> <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> </tbody> </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:           |  <p>Remark:<br/>E.U.T: Equipment Under Test<br/>LISN: Line Impedance Stabilization Network<br/>Test table height=0.8m</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test procedure:       | <ol style="list-style-type: none"> <li>1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.</li> <li>2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).</li> <li>3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement.</li> </ol> |           |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test Instruments:     | Refer to section 6.0 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test mode:            | Refer to section 5.3 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test results:         | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |

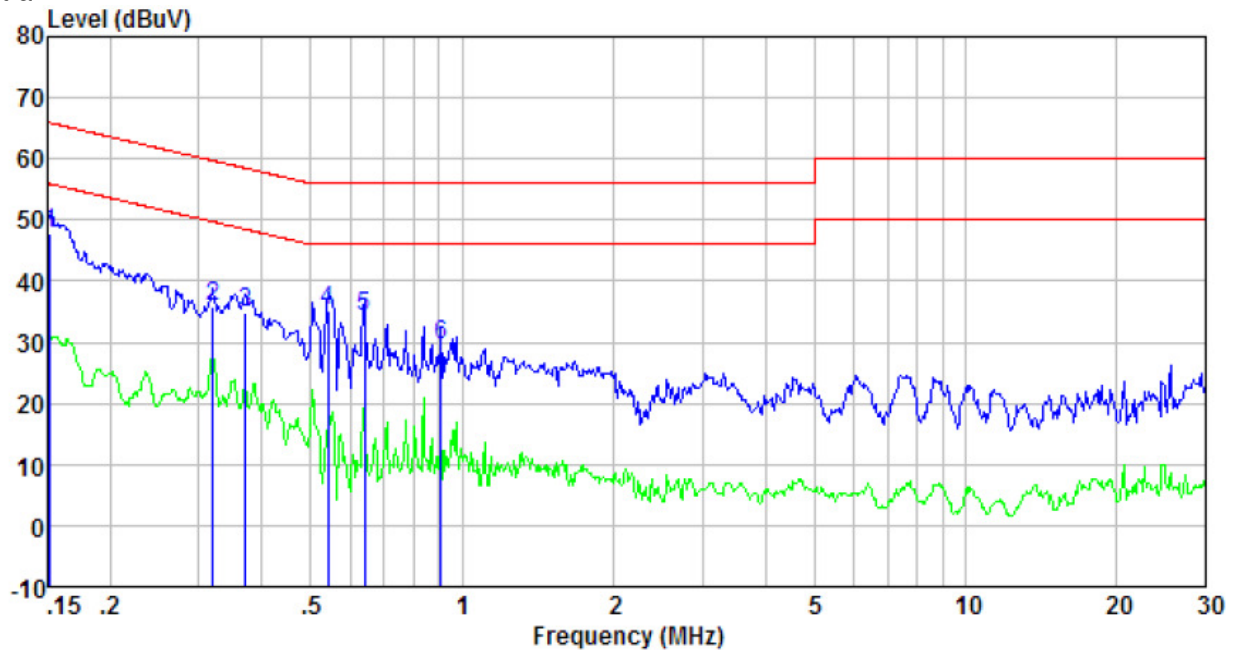
## Measurement data

Line:



| 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 |
|-------------|--------------------------|---------------------------|---------------------|---------------|------------------------|---------------------|--------|
| 0.155       | 45.42                    | 0.42                      | 0.12                | 45.96         | 65.74                  | -19.78              | QP     |
| 0.197       | 39.36                    | 0.43                      | 0.13                | 39.92         | 63.76                  | -23.84              | QP     |
| 0.541       | 33.72                    | 0.35                      | 0.11                | 34.18         | 56.00                  | -21.82              | QP     |
| 0.641       | 35.15                    | 0.30                      | 0.13                | 35.58         | 56.00                  | -20.42              | QP     |
| 0.839       | 31.19                    | 0.26                      | 0.13                | 31.58         | 56.00                  | -24.42              | QP     |
| 0.974       | 31.17                    | 0.25                      | 0.13                | 31.55         | 56.00                  | -24.45              | QP     |

Neutral:



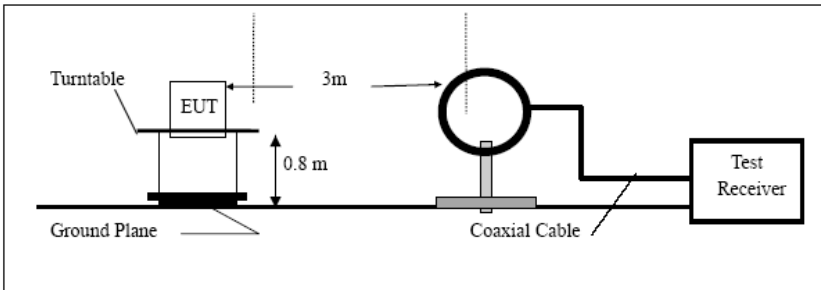
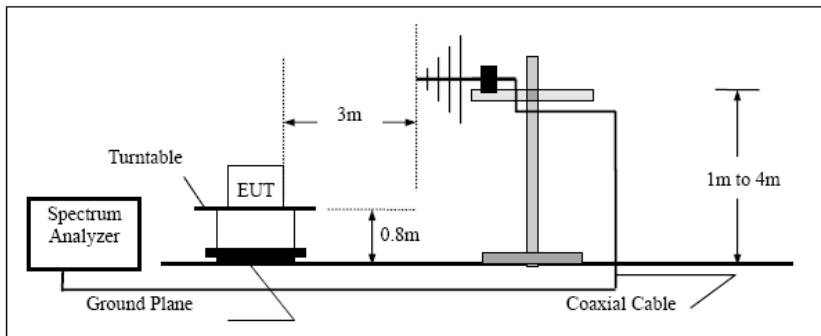
| Freq<br>MHz | Reading<br>level<br>dBuV | LISN/ISN<br>factor<br>dB | Cable<br>loss<br>dB | level<br>dBuV | Limit<br>level<br>dBuV | Over<br>limit<br>dB | Remark |
|-------------|--------------------------|--------------------------|---------------------|---------------|------------------------|---------------------|--------|
| 0.152       | 47.36                    | 0.41                     | 0.12                | 47.89         | 65.91                  | -18.02              | QP     |
| 0.320       | 35.28                    | 0.42                     | 0.10                | 35.80         | 59.71                  | -23.91              | QP     |
| 0.371       | 34.47                    | 0.40                     | 0.10                | 34.97         | 58.47                  | -23.50              | QP     |
| 0.541       | 34.84                    | 0.32                     | 0.11                | 35.27         | 56.00                  | -20.73              | QP     |
| 0.641       | 33.72                    | 0.26                     | 0.13                | 34.11         | 56.00                  | -21.89              | QP     |
| 0.909       | 29.25                    | 0.22                     | 0.13                | 29.60         | 56.00                  | -26.40              | 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 C63.4:2014                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                         |                  |                  |
| 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 |
|                                                                                                                                                                                                                                                                                                      | 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 limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have</div> |                    |                         |                  |                  |

|                   |                                                                                                                                                                                                                                                                                                                                             |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | <p>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 5.3 for details                                                                                                                                                                                                                                                                                                            |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                        |

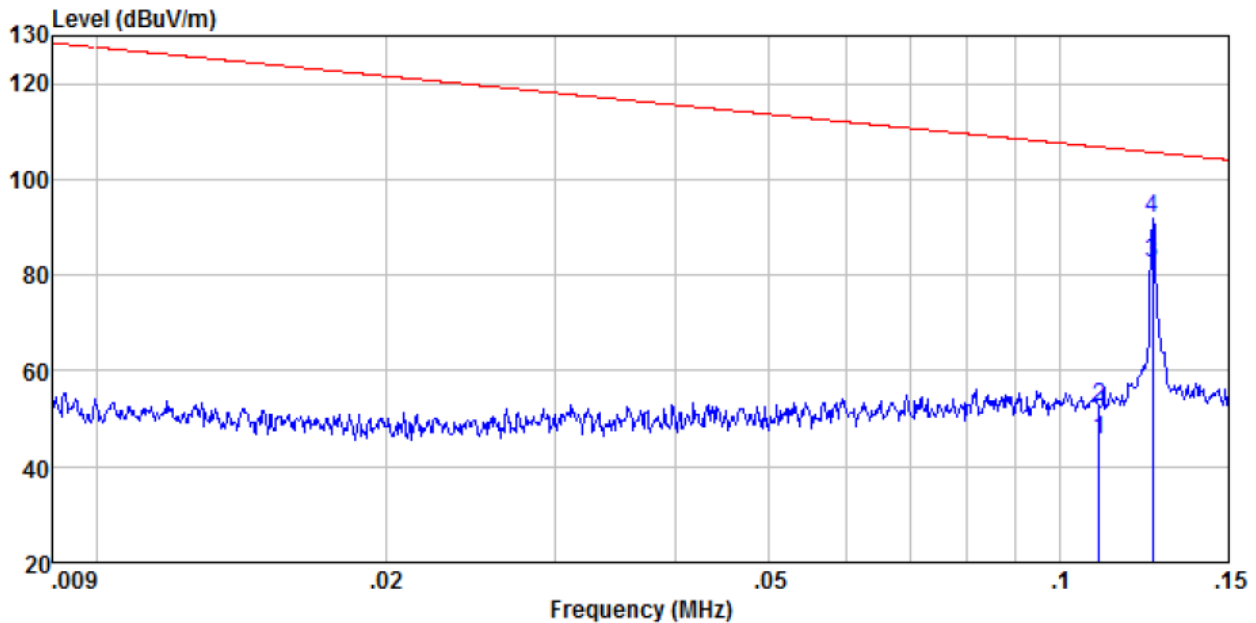
## Measurement data:

## Measurement data:

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

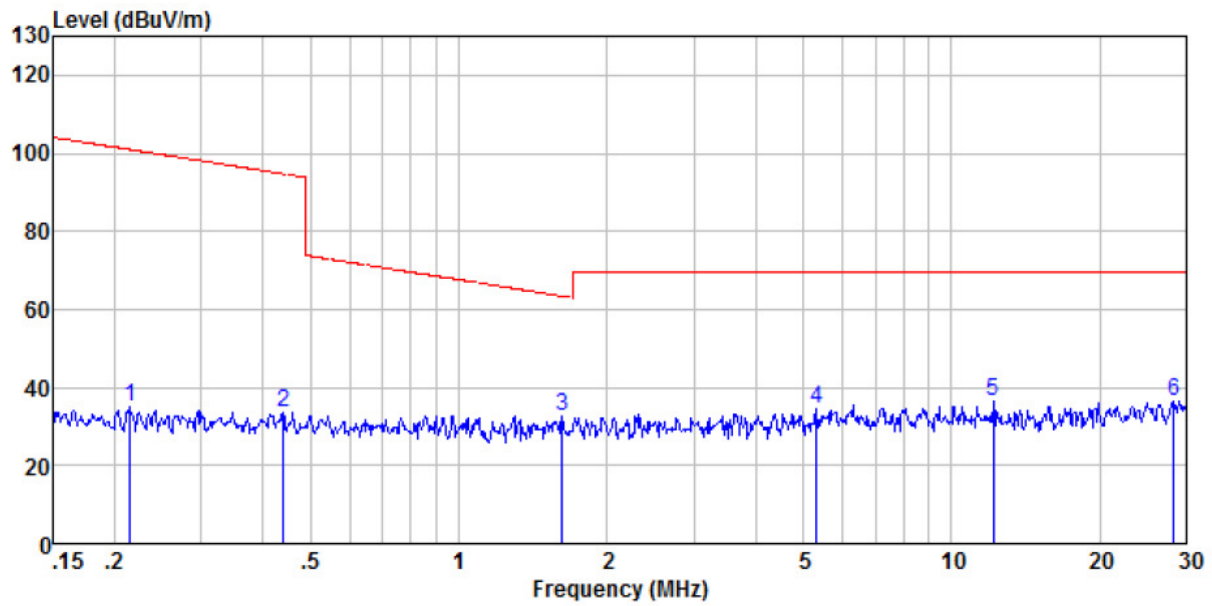
Limit dBuV/m @3m = Limit dBuV/m @30m + 40

9kHz ~ 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/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark  |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|---------|
| 0.110       | 21.38                    | 24.12                     | 0.17                | 0.00                   | 45.67           | 106.78                   | -61.11              | Average |
| 0.110       | 28.33                    | 24.12                     | 0.17                | 0.00                   | 52.62           | 106.78                   | -54.16              | Peak    |
| 0.125       | 58.57                    | 23.64                     | 0.18                | 0.00                   | 82.39           | 105.66                   | -23.27              | Average |
| 0.125       | 68.21                    | 23.64                     | 0.18                | 0.00                   | 92.03           | 105.66                   | -13.63              | Peak    |

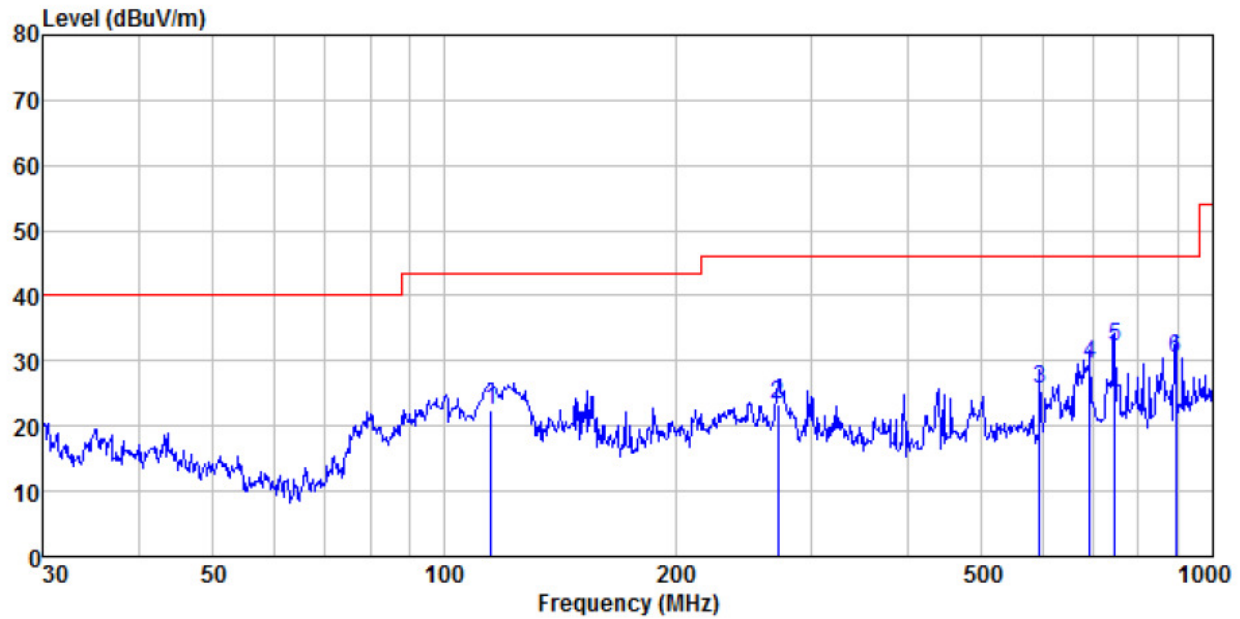
## 150kHz~30MHz



| 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/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|--------|
| 0.215       | 12.86                    | 22.06                     | 0.22                | 0.00                   | 35.14           | 100.96                   | -65.82              | Peak   |
| 0.440       | 12.59                    | 20.89                     | 0.27                | 0.00                   | 33.75           | 94.74                    | -60.99              | Peak   |
| 1.619       | 11.63                    | 20.79                     | 0.36                | 0.00                   | 32.78           | 63.42                    | -30.64              | Peak   |
| 5.333       | 11.34                    | 22.57                     | 0.44                | 0.00                   | 34.35           | 69.54                    | -35.19              | Peak   |
| 12.188      | 13.06                    | 23.01                     | 0.50                | 0.00                   | 36.57           | 69.54                    | -32.97              | Peak   |
| 28.302      | 7.94                     | 27.80                     | 0.56                | 0.00                   | 36.30           | 69.54                    | -33.24              | Peak   |

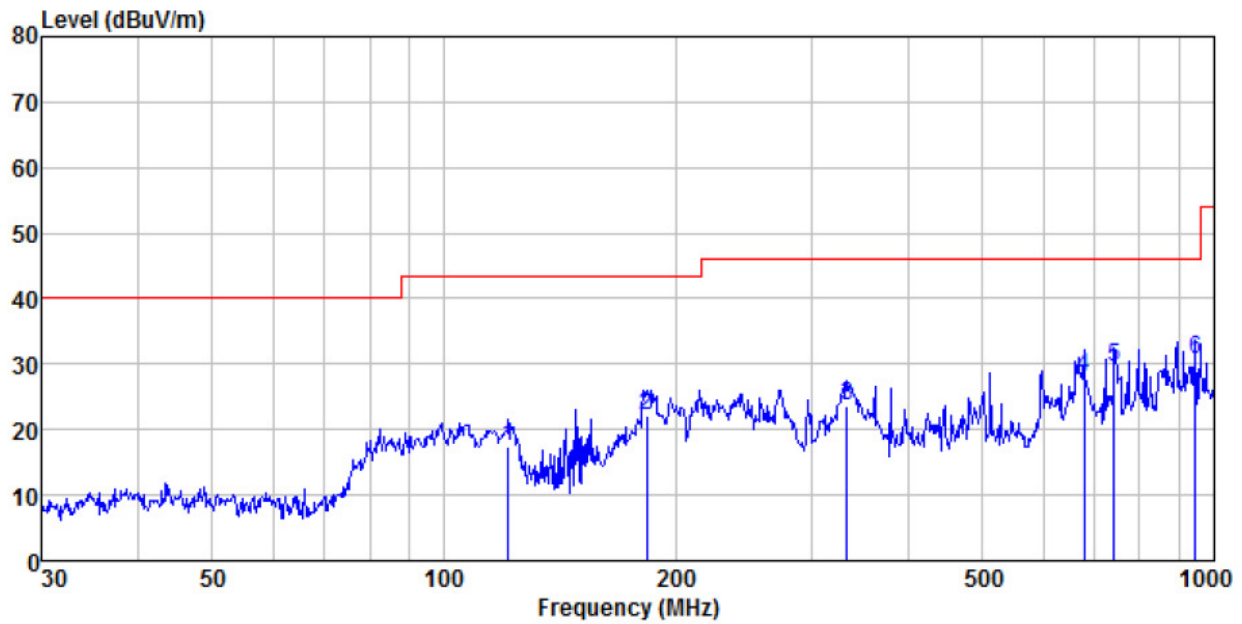
30MHz~1GHz

Vertical:



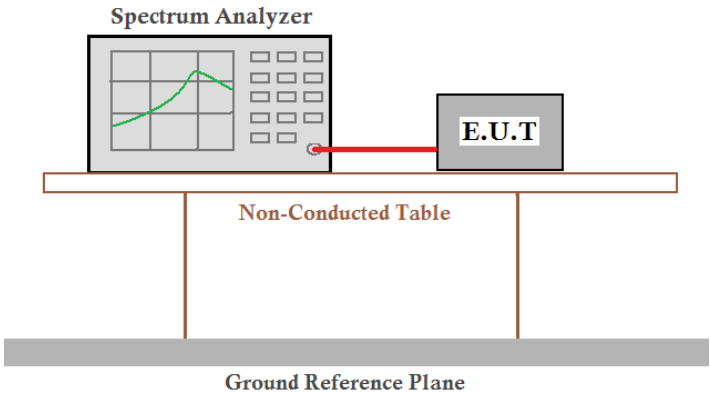
| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|--------|
| 114.917     | 40.83                    | 10.00                     | 1.32                | 29.60                  | 22.55           | 43.50                    | -20.95              | QP     |
| 271.325     | 38.24                    | 12.53                     | 2.23                | 29.81                  | 23.19           | 46.00                    | -22.81              | QP     |
| 595.133     | 32.08                    | 19.19                     | 3.70                | 29.30                  | 25.67           | 46.00                    | -20.33              | QP     |
| 691.987     | 35.00                    | 19.76                     | 4.06                | 29.21                  | 29.61           | 46.00                    | -16.39              | QP     |
| 744.866     | 36.74                    | 20.48                     | 4.26                | 29.20                  | 32.28           | 46.00                    | -13.72              | QP     |
| 893.857     | 32.63                    | 22.15                     | 4.83                | 29.10                  | 30.51           | 46.00                    | -15.49              | QP     |

**Horizontal:**



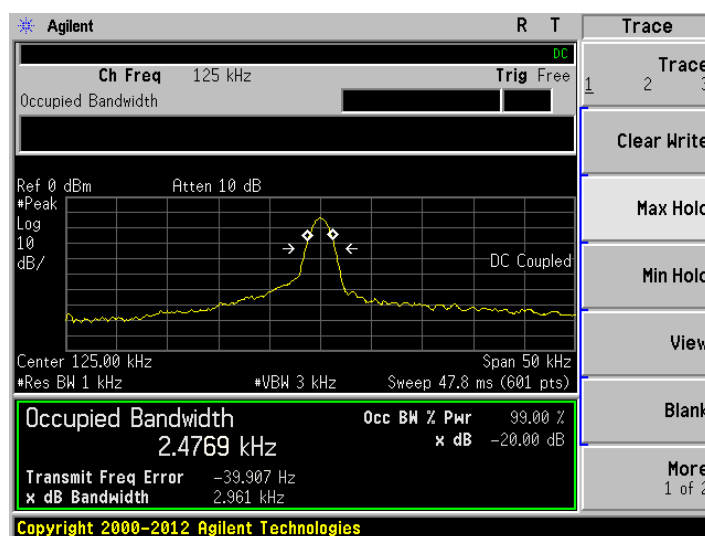
| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|--------|
| 121.123     | 36.61                    | 9.07                      | 1.37                | 29.56                  | 17.49           | 43.50                    | -26.01              | QP     |
| 183.201     | 40.44                    | 9.10                      | 1.75                | 29.26                  | 22.03           | 43.50                    | -21.47              | QP     |
| 333.687     | 36.63                    | 14.15                     | 2.54                | 29.81                  | 23.51           | 46.00                    | -22.49              | QP     |
| 677.580     | 33.62                    | 19.68                     | 4.00                | 29.22                  | 28.08           | 46.00                    | -17.92              | QP     |
| 742.259     | 34.02                    | 20.44                     | 4.24                | 29.20                  | 29.50           | 46.00                    | -16.50              | QP     |
| 945.440     | 32.23                    | 22.46                     | 5.03                | 29.10                  | 30.62           | 46.00                    | -15.38              | 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 5.3 for details                                                   |
| Test results:     | Pass                                                                               |

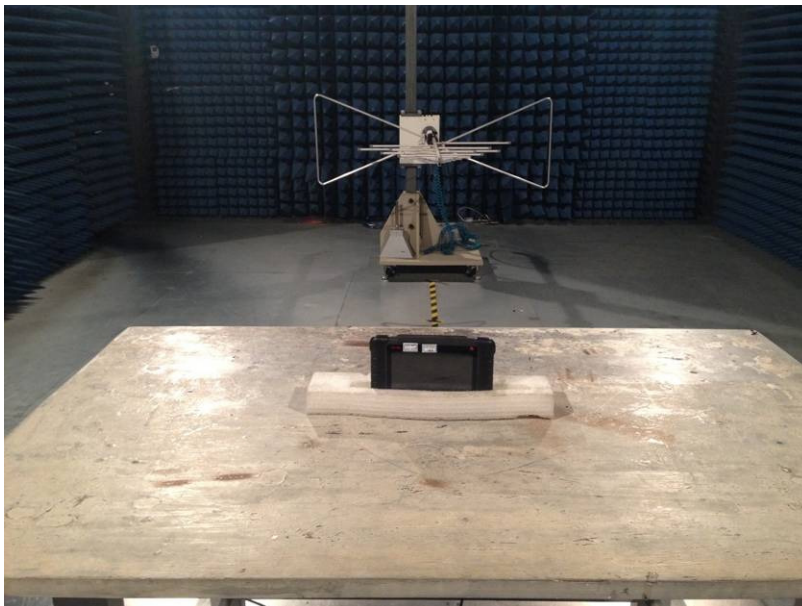
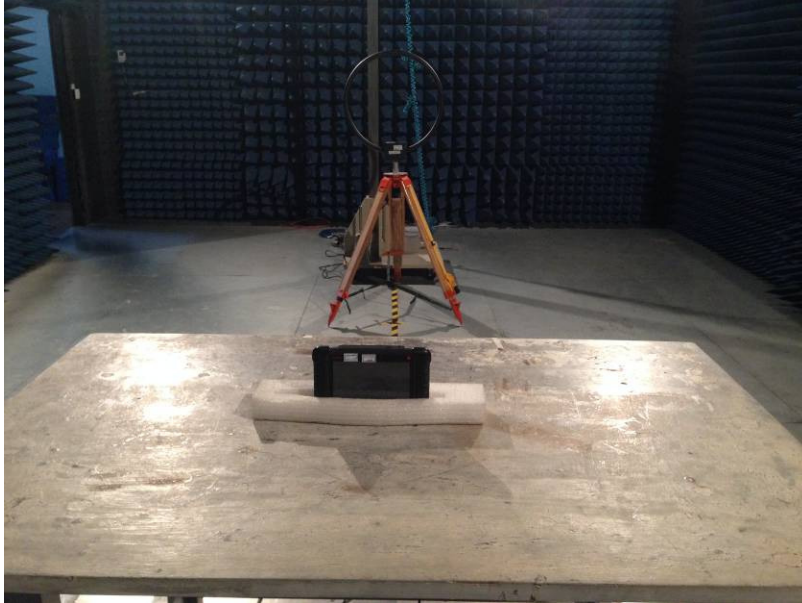
### Measurement Data

| Test frequency | 20dB bandwidth(KHz) | Result |
|----------------|---------------------|--------|
| 125KHz         | 2.961               | Pass   |



## 8 Test Setup Photo

Radiated Emission



Conducted Emission



## 9 EUT Constructional Details

Reference to the test report No. GTS201701000007F01

-----End-----