

# FCC Report

**Applicant:** SHENZHEN GIEC DIGITAL CO., LTD

**Address of Applicant:** No.1 Building,Factory,No.7 District,Dayang Development Areas,FuYongStreet,Baoan Shenzhen China

**Equipment Under Test (EUT)**

Product Name: Tablet PC

Model No.: TM800W610L, GK-MWR8004, TM800P610L

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart B:2015

**Date of sample receipt:** May 30, 2016

**Date of Test:** May 30-June 03, 2016

**Date of report issue:** June 03, 2016

**Test Result :** PASS \*

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

Authorized Signature:

A circular logo for GTS Global Testing Services Co., Ltd. is overlaid with a handwritten signature in black ink. The logo contains the text 'GTS', 'GLOBAL TESTING', and 'UNITED TECHNOLOGY SERVICES CO., LTD.' around the perimeter.

**Robinson Lo**

**Laboratory Manager**

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the GTS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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## 2 Version

| Version No. | Date          | Description |
|-------------|---------------|-------------|
| 00          | June 03, 2016 | Original    |
|             |               |             |
|             |               |             |
|             |               |             |
|             |               |             |

Prepared By:

*Edward Pan*

Date:

June 03, 2016

Project Engineer

Check By:

*Hank Yan*

Date:

June 03, 2016

Reviewer

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## 4 Test Summary

| Test Item          | Section in CFR 47 | Result |
|--------------------|-------------------|--------|
| Conducted Emission | Part15.107        | PASS   |
| Radiated Emissions | Part15.109        | PASS   |

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

*Remark : Test according to ANSI C63.4:2014.*

### 4.1 Measurement Uncertainty

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

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

## 5 General Information

### 5.1 Client Information

|                          |  |
|--------------------------|--|
| Applicant:               | SHENZHEN GIEC DIGITAL CO., LTD   |
| Address of Applicant:    | No.1 Building,Factory,No.7 District,Dayang Development Areas,FuYongStreet,Baoan Shenzhen China |
| Manufacturer:            | SHENZHEN GIEC DIGITAL CO., LTD   |
| Address of Manufacturer: | No.1 Building,Factory,No.7 District,Dayang Development Areas,FuYongStreet,Baoan Shenzhen China |

### 5.2 General Description of EUT

|               |  |
|---------------|--|
| Product Name: | Tablet PC  |
| Model No.:    | TM800W610L, GK-MWR8004, TM800P610L   |
| Power Supply: | Quick Charger:<br>Model No. : A68-502000<br>Input: AC 100-240V, 50/60Hz 0.35A<br>Output: DC 5V, 2.0A<br>Or<br>DC 3.8 V 3700mAh |

### 5.3 Test mode

|                      |  |
|----------------------|--|
| Test mode:           |  |
| HDMI mode            | Keep the EUT in HDMI mode                    |
| REC mode             | Keep the EUT in video record mode.           |
| USB playing mode     | Keep the EUT in USB flash disk playing mode. |
| TF card playing mode | Keep the EUT in SD card playing mode.        |
| Buring test mode     | PC working mode                              |

## 5.4 Test Facility

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

- **FCC —Registration No.: 600491**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 600491, June 28, 2013.

- **Industry Canada (IC) —Registration No.: 9079A-2**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, June 26, 2013.

## 5.5 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

No. 301-309, 3/F., Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

## 5.6 Description of Support Units

| Manufacturer | Description | Model   | Serial Number | FCC ID/DoC |
|--------------|-------------|---------|---------------|------------|
| DELL         | KEYBOARD    | SK-8115 | N/A           | DOC        |
| DELL         | MOUSE       | N/A     | N/A           | DOC        |

## 5.7 Deviation from Standards

Biconical, log.per. antenna and horn antenna were used instead of dipole antenna. Semi-anechoic Chamber was used as alternation of open air test sites, and all test suites were performed with radiated method in it.

## 5.8 Abnormalities from Standard Conditions

None.

## 5.9 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 | 9.0(L)*6.0(W)* 6.0(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                  | ESU EMI Test Receiver         | R&S              | ESU26                 | GTS203        | July. 03 2015       | July. 02 2016           |
| 4                  | BiConiLog Antenna             | SCHWARZBECK      | VULB9163              | GTS214        | July. 06 2015       | July. 05 2016           |
| 5                  | Double -ridged waveguide horn | SCHWARZBECK      | 9120D                 | GTS208        | July. 06 2015       | July. 05 2016           |
| 6                  | RF Amplifier                  | HP               | 8347A                 | GTS204        | July. 03 2015       | July. 02 2016           |
| 7                  | Broadband Preamplifier        | SCHWARZBECK      | BBV9718               | GTS535        | July. 03 2015       | July. 02 2016           |
| 8                  | EMI Test Software             | AUDIX            | E3                    | N/A           | N/A                 | N/A                     |
| 9                  | Coaxial cable                 | GTS              | N/A                   | GTS210        | July. 05 2015       | July. 04 2016           |
| 10                 | Coaxial Cable                 | GTS              | N/A                   | GTS211        | July. 05 2015       | July. 04 2016           |
| 11                 | Thermo meter                  | N/A              | N/A                   | GTS256        | July. 06 2015       | July. 05 2016           |

| 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               | 7.0(L)x3.0(W)x3.0(H) | GTS264        | Sep. 07 2015        | Sep. 06 2016            |
| 2                   | EMI Test Receiver | Rohde & Schwarz                | ESCS30               | GTS223        | June 30 2015        | June 29 2016            |
| 3                   | 10dB Pulse Limita | Rohde & Schwarz                | N/A                  | GTS224        | June 30 2015        | June 29 2016            |
| 4                   | Coaxial Switch    | ANRITSU CORP                   | MP59B                | GTS225        | June 30 2015        | June 29 2016            |
| 5                   | LISN              | SCHWARZBECK<br>MESS-ELEKTRONIK | NSLK 8127            | GTS226        | June 30 2015        | June 29 2016            |
| 6                   | Coaxial Cable     | GTS                            | N/A                  | GTS227        | June 30 2015        | June 29 2016            |
| 7                   | EMI Test Software | AUDIX                          | E3                   | N/A           | N/A                 | N/A                     |

| 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        | July 07 2015        | July 06 2016            |

## 7 Test Results and Measurement Data

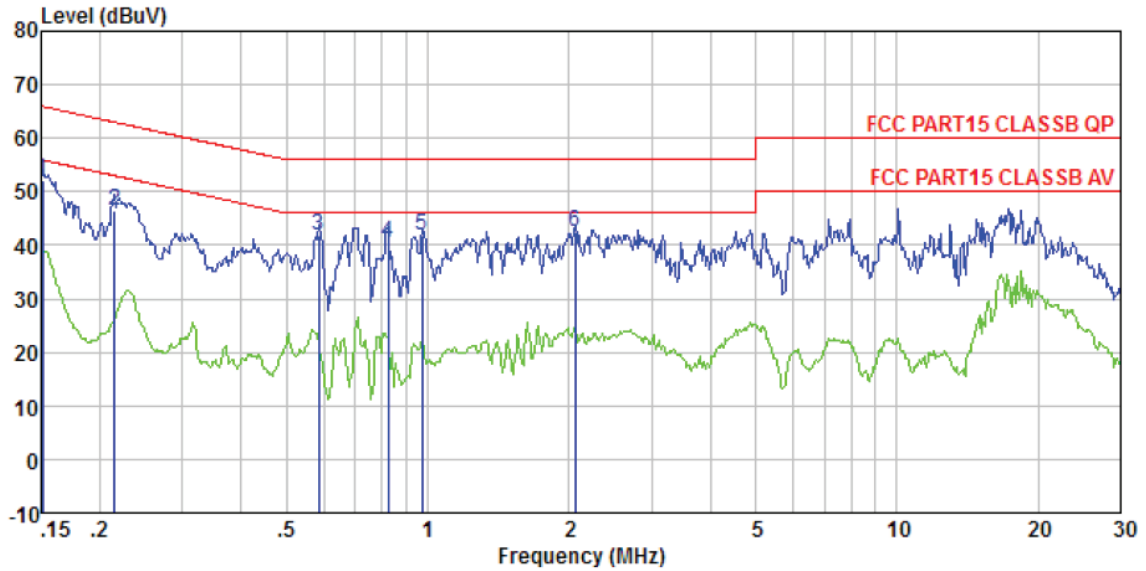
### 7.1 Conducted Emissions

| Test Requirement:     | FCC Part15 B Section 15.107  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
|-----------------------|--|-----------------------|--------------|--|------------|---------|----------|-----------|-----------|-------|----|----|------|----|----|
| Test Method:          | ANSI C63.4:2014  |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| 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 C63.4: 2014 on conducted measurement.</li> </ol> |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test Instruments:     | Refer to section 6 for details   |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test mode:            | worse case is reported   |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |
| Test results:         | Pass   |                       |              |  |            |         |          |           |           |       |    |    |      |    |    |



**Measurement Data**

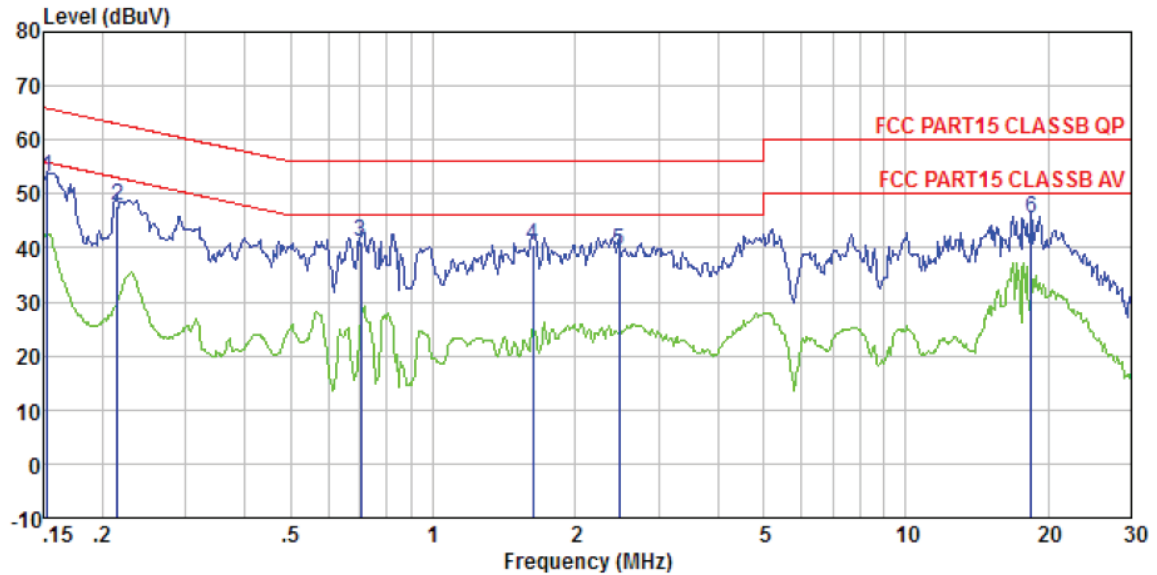
Line:



Site : Shielded room  
 Condition : FCC PART15 CLASSB QP LISN-2012 LINE  
 Job No. : 0205  
 Test Mode : REC mode  
 Test Engineer: Sky

|   | Read Freq | Read Level | LISN Level | LISN Factor | Cable Loss | Limit Line | Over Limit | Remark |
|---|-----------|------------|------------|-------------|------------|------------|------------|--------|
|   | MHz       | dBuV       | dBuV       | dB          | dB         | dBuV       | dB         |        |
| 1 | 0.151     | 52.16      | 52.00      | -0.26       | 0.10       | 65.96      | -13.96     | QP     |
| 2 | 0.215     | 46.54      | 46.41      | -0.23       | 0.10       | 63.01      | -16.60     | QP     |
| 3 | 0.585     | 41.90      | 41.79      | -0.21       | 0.10       | 56.00      | -14.21     | QP     |
| 4 | 0.822     | 40.59      | 40.49      | -0.20       | 0.10       | 56.00      | -15.51     | QP     |
| 5 | 0.974     | 41.92      | 41.81      | -0.21       | 0.10       | 56.00      | -14.19     | QP     |
| 6 | 2.066     | 42.62      | 42.48      | -0.24       | 0.10       | 56.00      | -13.52     | QP     |

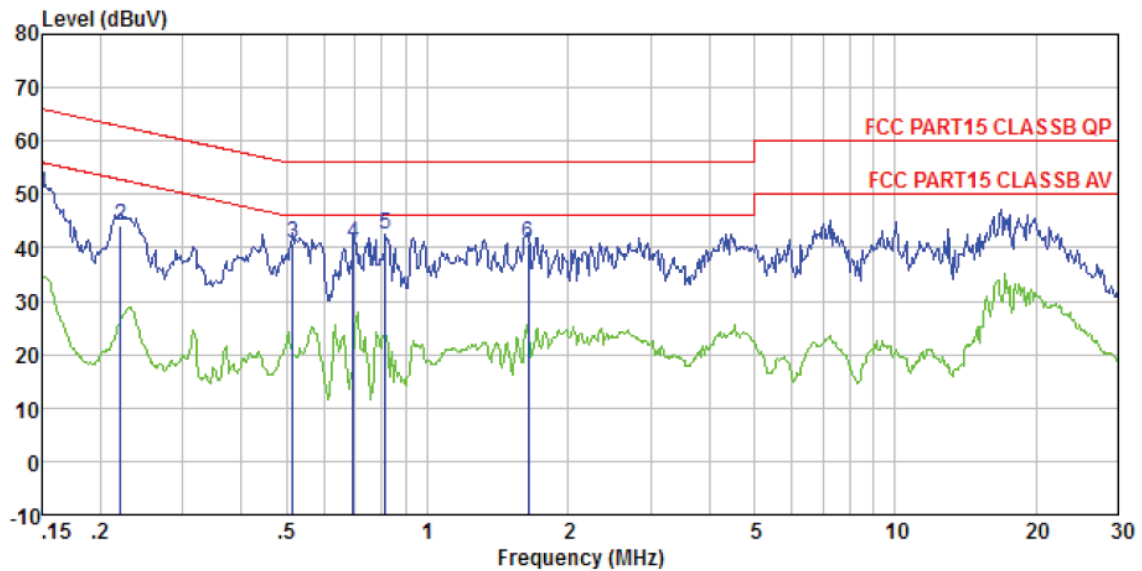
**Neutral:**



Site : Shielded room  
 Condition : FCC PART15 CLASSB QP LISN-2012 NEUTRAL  
 Job No. : 0205  
 Test Mode : REC mode  
 Test Engineer: Sky

|   | Freq   | Read Level | LISN Level | LISN Factor | Cable Loss | Limit Line | Over Limit | Remark |
|---|--------|------------|------------|-------------|------------|------------|------------|--------|
|   | MHz    | dBuV       | dBuV       | dB          | dB         | dBuV       | dB         |        |
| 1 | 0.153  | 53.05      | 53.02      | -0.13       | 0.10       | 65.82      | -12.80     | QP     |
| 2 | 0.215  | 47.81      | 47.82      | -0.09       | 0.10       | 63.01      | -15.19     | QP     |
| 3 | 0.705  | 41.10      | 41.12      | -0.08       | 0.10       | 56.00      | -14.88     | QP     |
| 4 | 1.628  | 40.63      | 40.63      | -0.10       | 0.10       | 56.00      | -15.37     | QP     |
| 5 | 2.474  | 39.61      | 39.60      | -0.11       | 0.10       | 56.00      | -16.40     | QP     |
| 6 | 18.426 | 45.78      | 45.48      | -0.51       | 0.21       | 60.00      | -14.52     | QP     |

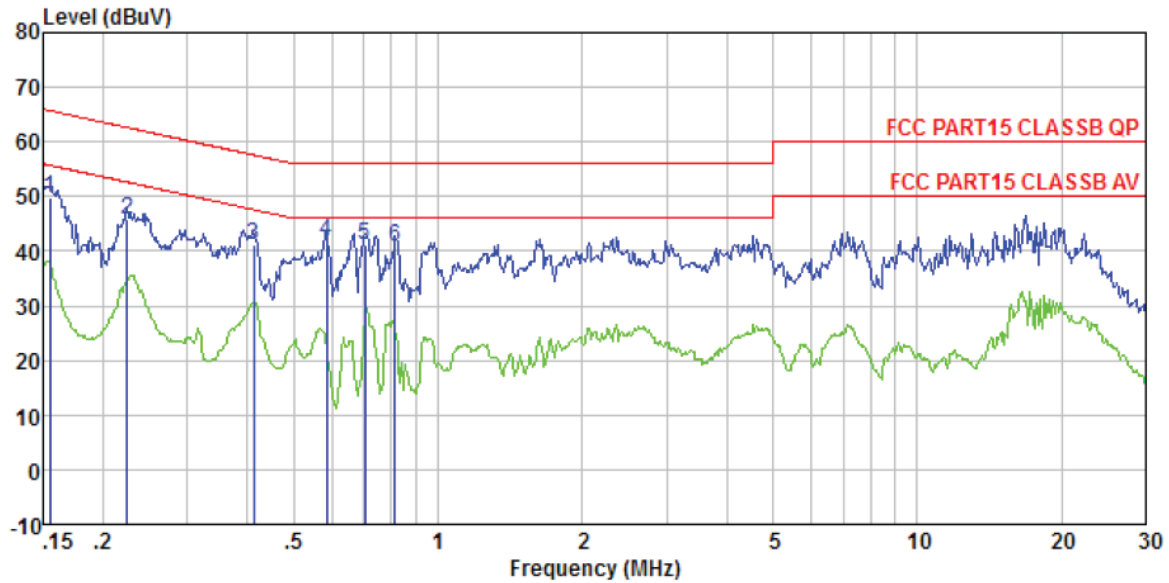
Line:



Site : Shielded room  
 Condition : FCC PART15 CLASSB QP LISN-2012 LINE  
 Job No. : 0205  
 Test Mode : TF card playing mode  
 Test Engineer: Sky

|      | Read  | LISN  | Cable | Limit | Over  |                 |
|------|-------|-------|-------|-------|-------|-----------------|
| Freq | Level | Level | Loss  | Line  | Limit | Remark          |
| MHz  | dBuV  | dBuV  | dB    | dBuV  | dB    |                 |
| 1    | 0.150 | 50.17 | 50.01 | -0.26 | 0.10  | 66.00 -15.99 QP |
| 2    | 0.221 | 44.42 | 44.29 | -0.23 | 0.10  | 62.79 -18.50 QP |
| 3    | 0.516 | 40.86 | 40.75 | -0.21 | 0.10  | 56.00 -15.25 QP |
| 4    | 0.694 | 40.75 | 40.65 | -0.20 | 0.10  | 56.00 -15.35 QP |
| 5    | 0.813 | 42.66 | 42.56 | -0.20 | 0.10  | 56.00 -13.44 QP |
| 6    | 1.645 | 40.97 | 40.84 | -0.23 | 0.10  | 56.00 -15.16 QP |

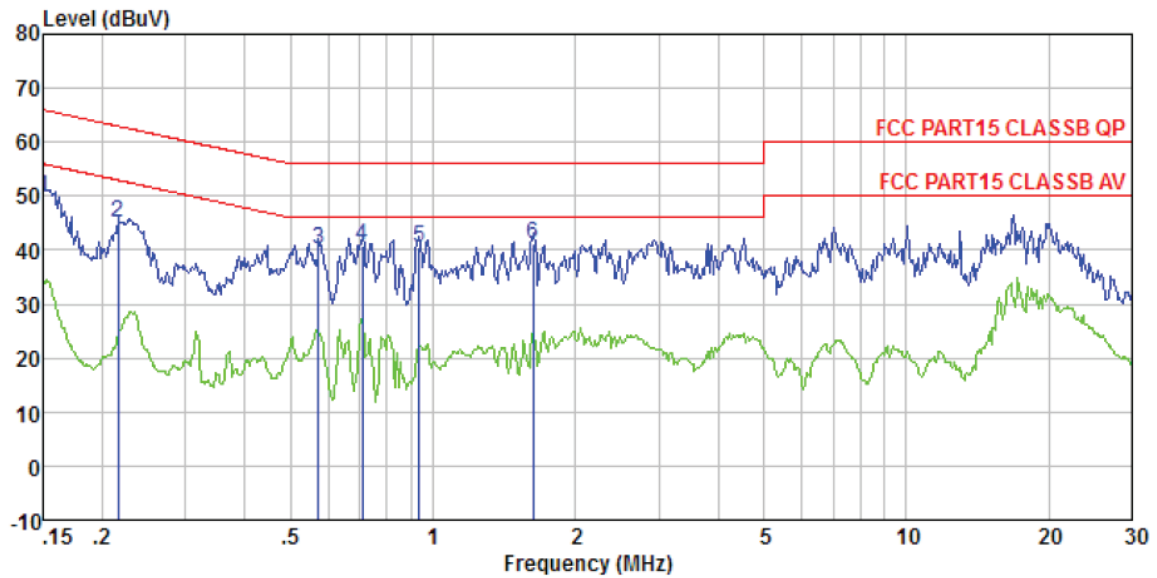
Neutral:



Site : Shielded room  
 Condition : FCC PART15 CLASSB QP LISN-2012 NEUTRAL  
 Job No. : 0205  
 Test Mode : TF card playing mode  
 Test Engineer: Sky

|   | Read Freq | Read Level | LISN Level | LISN Factor | Cable Loss | Limit Line | Over Limit | Remark |
|---|-----------|------------|------------|-------------|------------|------------|------------|--------|
|   | MHz       | dBuV       | dBuV       | dB          | dB         | dBuV       | dB         |        |
| 1 | 0.155     | 49.73      | 49.70      | -0.13       | 0.10       | 65.74      | -16.04     | QP     |
| 2 | 0.224     | 45.65      | 45.66      | -0.09       | 0.10       | 62.66      | -17.00     | QP     |
| 3 | 0.413     | 41.04      | 41.06      | -0.08       | 0.10       | 57.59      | -16.53     | QP     |
| 4 | 0.585     | 41.71      | 41.73      | -0.08       | 0.10       | 56.00      | -14.27     | QP     |
| 5 | 0.705     | 41.10      | 41.12      | -0.08       | 0.10       | 56.00      | -14.88     | QP     |
| 6 | 0.813     | 40.71      | 40.73      | -0.08       | 0.10       | 56.00      | -15.27     | QP     |

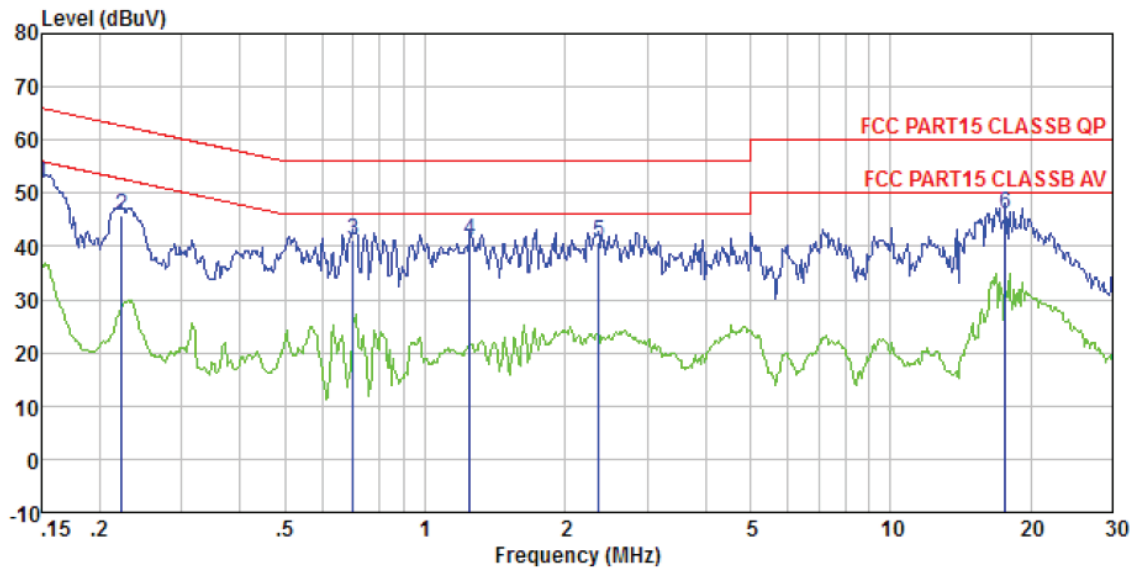
Line:



Site : Shielded room  
 Condition : FCC PART15 CLASSB QP LISN-2012 LINE  
 Job No. : 0205  
 Test Mode : USB playing mode  
 Test Engineer: Sky

|   | Freq  | Read Level | LISN Level | LISN Factor | Cable Loss | Limit Line | Over Limit | Remark |
|---|-------|------------|------------|-------------|------------|------------|------------|--------|
|   | MHz   | dBuV       | dBuV       | dB          | dB         | dBuV       | dB         |        |
| 1 | 0.150 | 49.81      | 49.65      | -0.26       | 0.10       | 66.00      | -16.35     | QP     |
| 2 | 0.216 | 45.19      | 45.06      | -0.23       | 0.10       | 62.96      | -17.90     | QP     |
| 3 | 0.573 | 40.10      | 39.99      | -0.21       | 0.10       | 56.00      | -16.01     | QP     |
| 4 | 0.708 | 40.98      | 40.88      | -0.20       | 0.10       | 56.00      | -15.12     | QP     |
| 5 | 0.933 | 40.63      | 40.52      | -0.21       | 0.10       | 56.00      | -15.48     | QP     |
| 6 | 1.628 | 41.35      | 41.22      | -0.23       | 0.10       | 56.00      | -14.78     | QP     |

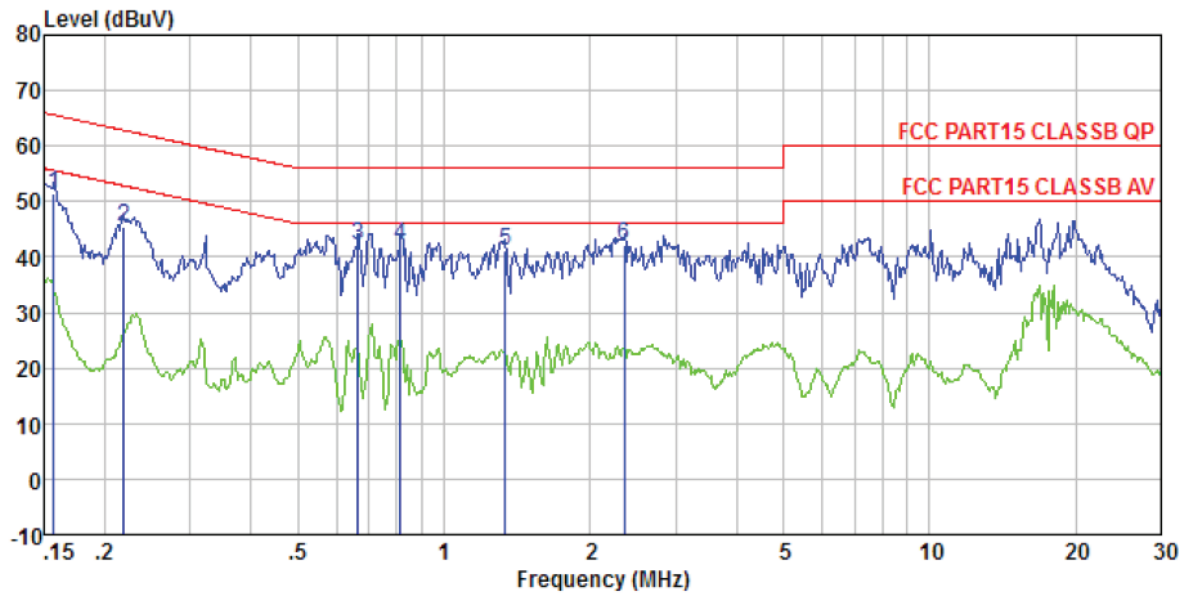
**Neutral:**



Site : Shielded room  
 Condition : FCC PART15 CLASSB QP LISN-2012 NEUTRAL  
 Job No. : 0205  
 Test Mode : USB playing mode  
 Test Engineer: Sky

|      | Read   | LISN  | Cable | Limit | Over  |                 |
|------|--------|-------|-------|-------|-------|-----------------|
| Freq | Level  | Level | Loss  | Line  | Limit | Remark          |
| MHz  | dBuV   | dBuV  | dB    | dB    | dB    |                 |
| 1    | 0.150  | 51.64 | 51.61 | -0.13 | 0.10  | 66.00 -14.39 QP |
| 2    | 0.223  | 45.79 | 45.80 | -0.09 | 0.10  | 62.70 -16.90 QP |
| 3    | 0.701  | 41.23 | 41.25 | -0.08 | 0.10  | 56.00 -14.75 QP |
| 4    | 1.249  | 41.24 | 41.25 | -0.09 | 0.10  | 56.00 -14.75 QP |
| 5    | 2.358  | 40.88 | 40.87 | -0.11 | 0.10  | 56.00 -15.13 QP |
| 6    | 17.661 | 46.32 | 46.05 | -0.48 | 0.21  | 60.00 -13.95 QP |

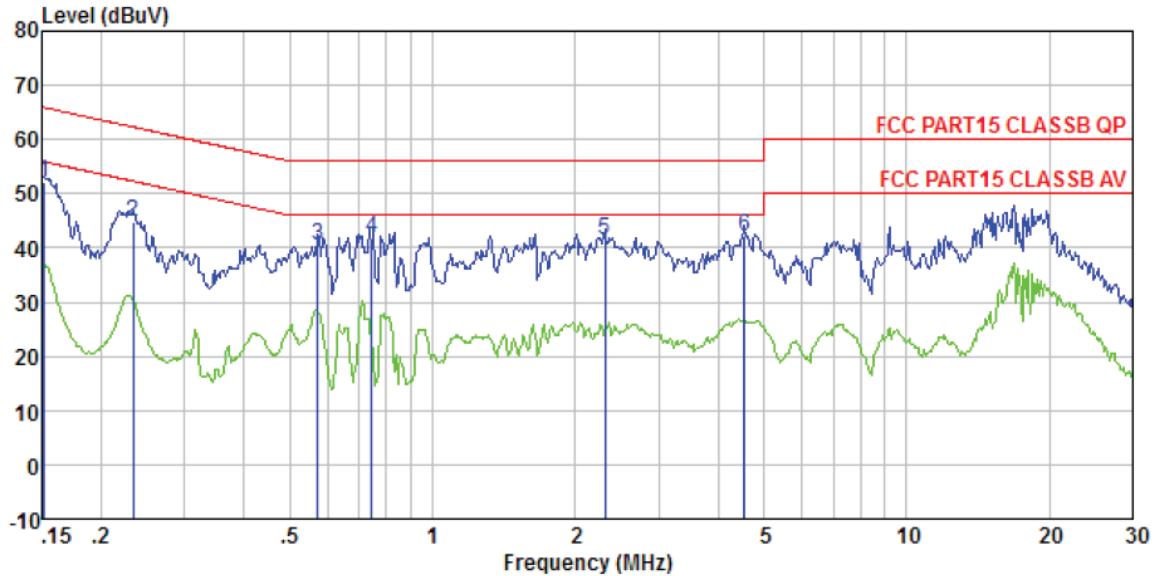
Line:



Site : Shielded room  
 Condition : FCC PART15 CLASSB QP LISN-2012 LINE  
 Job No. : 0205  
 Test Mode : Burning test mode  
 Test Engineer: Sky

|   | Read<br>Freq | Read<br>Level | LISN<br>Level | LISN<br>Factor | Cable<br>Loss | Limit<br>Line | Over<br>Limit | Remark |
|---|--------------|---------------|---------------|----------------|---------------|---------------|---------------|--------|
|   | MHz          | dBuV          | dBuV          | dB             | dB            | dBuV          | dB            |        |
| 1 | 0.157        | 51.65         | 51.49         | -0.26          | 0.10          | 65.60         | -14.11        | QP     |
| 2 | 0.219        | 45.57         | 45.44         | -0.23          | 0.10          | 62.88         | -17.44        | QP     |
| 3 | 0.665        | 42.40         | 42.30         | -0.20          | 0.10          | 56.00         | -13.70        | QP     |
| 4 | 0.813        | 42.21         | 42.11         | -0.20          | 0.10          | 56.00         | -13.89        | QP     |
| 5 | 1.338        | 41.29         | 41.17         | -0.22          | 0.10          | 56.00         | -14.83        | QP     |
| 6 | 2.346        | 42.32         | 42.18         | -0.24          | 0.10          | 56.00         | -13.82        | QP     |

**Neutral:**

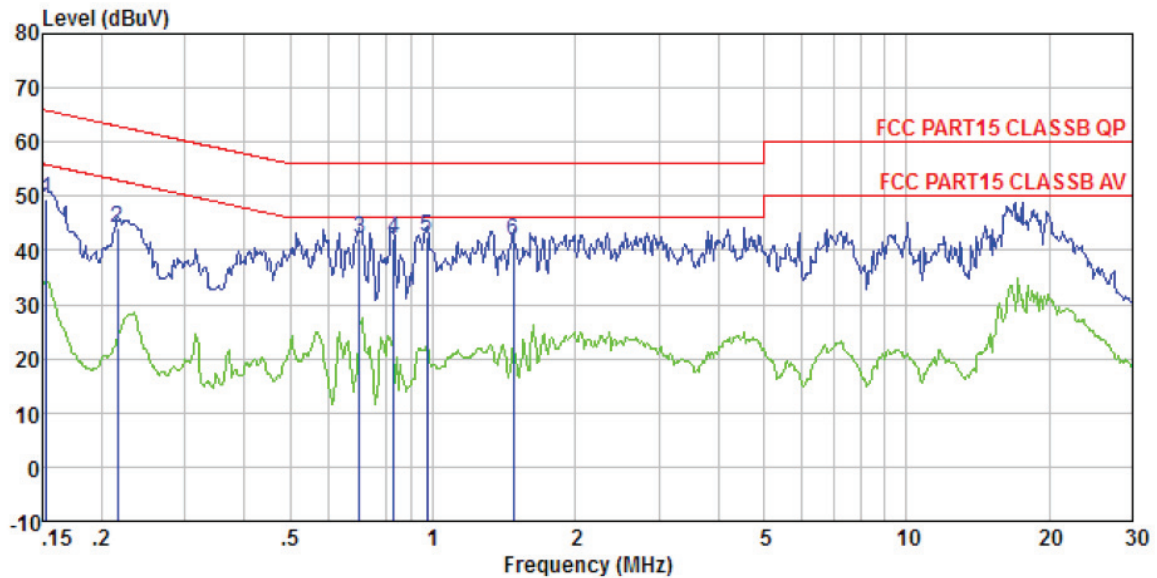


Site : Shielded room  
 Condition : FCC PART15 CLASSB QP LISN-2012 NEUTRAL  
 Job No. : 0205  
 Test Mode : Burning test mode  
 Test Engineer: Sky

|      | Read  | LISN  | Cable | Limit | Over  |                 |
|------|-------|-------|-------|-------|-------|-----------------|
| Freq | Level | Level | Loss  | Line  | Limit | Remark          |
| MHz  | dBuV  | dBuV  | dB    | dB    | dBuV  | dB              |
| 1    | 0.152 | 52.19 | 52.16 | -0.13 | 0.10  | 65.91 -13.75 QP |
| 2    | 0.234 | 44.92 | 44.93 | -0.09 | 0.10  | 62.30 -17.37 QP |
| 3    | 0.573 | 40.55 | 40.57 | -0.08 | 0.10  | 56.00 -15.43 QP |
| 4    | 0.743 | 41.80 | 41.82 | -0.08 | 0.10  | 56.00 -14.18 QP |
| 5    | 2.309 | 41.57 | 41.56 | -0.11 | 0.10  | 56.00 -14.44 QP |
| 6    | 4.549 | 42.19 | 42.13 | -0.16 | 0.10  | 56.00 -13.87 QP |



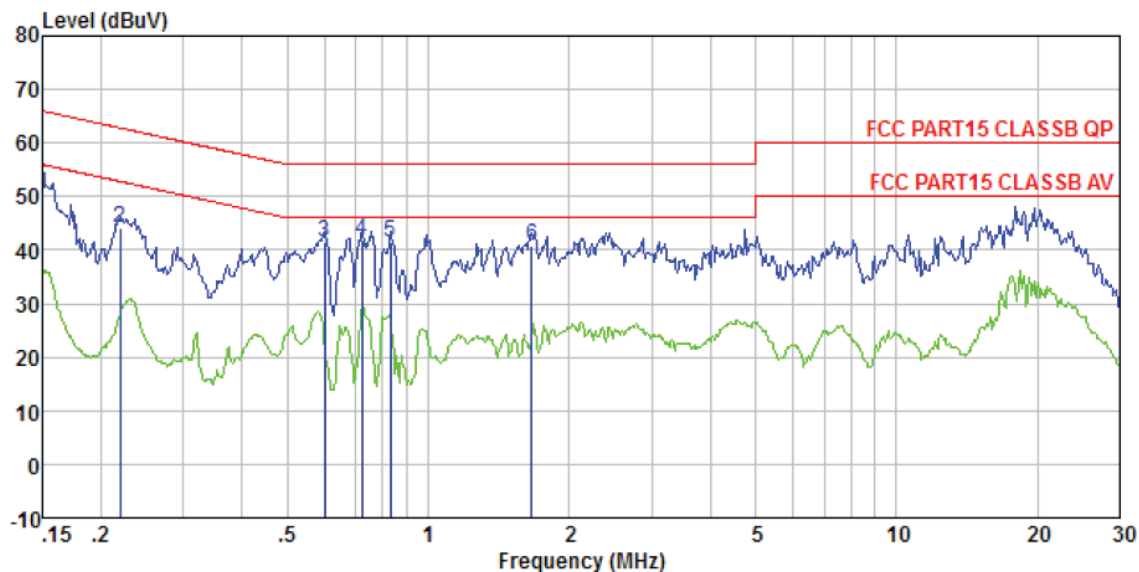
**Line:**



Site : Shielded room  
 Condition : FCC PART15 CLASSB QP LISN-2012 LINE  
 Job No. : 0205  
 Test Mode : HDMI mode  
 Test Engineer: Sky

|      | Read  | LISN  | Cable | Limit | Over  |        |        |    |
|------|-------|-------|-------|-------|-------|--------|--------|----|
| Freq | Level | Level | Loss  | Line  | Limit | Remark |        |    |
| MHz  | dBuV  | dBuV  | dB    | dB    | dBuV  | dB     |        |    |
| 1    | 0.153 | 49.56 | 49.40 | -0.26 | 0.10  | 65.82  | -16.42 | QP |
| 2    | 0.216 | 44.33 | 44.20 | -0.23 | 0.10  | 62.96  | -18.76 | QP |
| 3    | 0.701 | 42.32 | 42.22 | -0.20 | 0.10  | 56.00  | -13.78 | QP |
| 4    | 0.826 | 42.20 | 42.10 | -0.20 | 0.10  | 56.00  | -13.90 | QP |
| 5    | 0.974 | 42.56 | 42.45 | -0.21 | 0.10  | 56.00  | -13.55 | QP |
| 6    | 1.480 | 41.79 | 41.67 | -0.22 | 0.10  | 56.00  | -14.33 | QP |

**Neutral:**



Site : Shielded room  
 Condition : FCC PART15 CLASSB QP LISN-2012 NEUTRAL  
 Job No. : 0205  
 Test Mode : HDMI mode  
 Test Engineer: Sky

|      | Read  | LISN  | Cable | Limit | Over  |        |        |    |
|------|-------|-------|-------|-------|-------|--------|--------|----|
| Freq | Level | Level | Loss  | Line  | Limit | Remark |        |    |
| MHz  | dBuV  | dBuV  | dB    | dB    | dBuV  | dB     |        |    |
| 1    | 0.150 | 50.57 | 50.54 | -0.13 | 0.10  | 66.00  | -15.46 | QP |
| 2    | 0.220 | 43.96 | 43.97 | -0.09 | 0.10  | 62.83  | -18.86 | QP |
| 3    | 0.601 | 41.40 | 41.42 | -0.08 | 0.10  | 56.00  | -14.58 | QP |
| 4    | 0.724 | 41.63 | 41.65 | -0.08 | 0.10  | 56.00  | -14.35 | QP |
| 5    | 0.830 | 41.35 | 41.37 | -0.08 | 0.10  | 56.00  | -14.63 | QP |
| 6    | 1.662 | 40.97 | 40.97 | -0.10 | 0.10  | 56.00  | -15.03 | 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.

## 7.2 Radiated Emission

| Test Requirement:     | FCC Part15 B Section 15.109   |                  |                    |                  |             |        |                  |              |        |                  |                  |            |                  |             |       |                  |            |       |               |               |            |
|-----------------------|---|------------------|--------------------|------------------|-------------|--------|------------------|--------------|--------|------------------|------------------|------------|------------------|-------------|-------|------------------|------------|-------|---------------|---------------|------------|
| Test Method:          | ANSI C63.4:2014   |                  |                    |                  |             |        |                  |              |        |                  |                  |            |                  |             |       |                  |            |       |               |               |            |
| Test Frequency Range: | 30MHz to 25GHz  |                  |                    |                  |             |        |                  |              |        |                  |                  |            |                  |             |       |                  |            |       |               |               |            |
| Test site:            | Measurement Distance: 3m (Semi-Anechoic Chamber)  |                  |                    |                  |             |        |                  |              |        |                  |                  |            |                  |             |       |                  |            |       |               |               |            |
| Receiver setup:       | <table border="1"> <thead> <tr> <th>Frequency</th> <th>Detector</th> <th>RBW</th> <th>VBW</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>30MHz-1GHz</td> <td>Quasi-peak</td> <td>120kHz</td> <td>300kHz</td> <td>Quasi-peak Value</td> </tr> <tr> <td rowspan="2">Above 1GHz</td> <td>Peak</td> <td>1MHz</td> <td>3MHz</td> <td>Peak Value</td> </tr> <tr> <td>Peak</td> <td>1MHz</td> <td>10Hz</td> <td>Average Value</td> </tr> </tbody> </table>   | Frequency        | Detector           | RBW              | VBW         | Remark | 30MHz-1GHz       | Quasi-peak   | 120kHz | 300kHz           | Quasi-peak Value | Above 1GHz | Peak             | 1MHz        | 3MHz  | Peak Value       | Peak       | 1MHz  | 10Hz          | Average Value |            |
| Frequency             | Detector  | RBW              | VBW                | Remark           |             |        |                  |              |        |                  |                  |            |                  |             |       |                  |            |       |               |               |            |
| 30MHz-1GHz            | Quasi-peak  | 120kHz           | 300kHz             | Quasi-peak Value |             |        |                  |              |        |                  |                  |            |                  |             |       |                  |            |       |               |               |            |
| Above 1GHz            | Peak  | 1MHz             | 3MHz               | Peak Value       |             |        |                  |              |        |                  |                  |            |                  |             |       |                  |            |       |               |               |            |
|                       | Peak  | 1MHz             | 10Hz               | Average Value    |             |        |                  |              |        |                  |                  |            |                  |             |       |                  |            |       |               |               |            |
| Limit:                | <table border="1"> <thead> <tr> <th>Frequency</th> <th>Limit (dBuV/m @3m)</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>30MHz-88MHz</td> <td>40.00</td> <td>Quasi-peak Value</td> </tr> <tr> <td>88MHz-216MHz</td> <td>43.50</td> <td>Quasi-peak Value</td> </tr> <tr> <td>216MHz-960MHz</td> <td>46.00</td> <td>Quasi-peak Value</td> </tr> <tr> <td>960MHz-1GHz</td> <td>54.00</td> <td>Quasi-peak Value</td> </tr> <tr> <td rowspan="2">Above 1GHz</td> <td>54.00</td> <td>Average Value</td> </tr> <tr> <td>74.00</td> <td>Peak Value</td> </tr> </tbody> </table>   | 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 |
| 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       |                    |                  |             |        |                  |              |        |                  |                  |            |                  |             |       |                  |            |       |               |               |            |
| Test Procedure:       | <ol style="list-style-type: none"> <li>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.</li> <li>The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</li> <li>For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</li> </ol> |                  |                    |                  |             |        |                  |              |        |                  |                  |            |                  |             |       |                  |            |       |               |               |            |
| Test setup:           | Below 1GHz  |                  |                    |                  |             |        |                  |              |        |                  |                  |            |                  |             |       |                  |            |       |               |               |            |

|                     |                                  |             |                   |
|---------------------|----------------------------------|-------------|-------------------|
|                     |                                  |             |                   |
| Test environment:   | Temp.: 25 °C                     | Humid.: 52% | Press.: 1 012mbar |
| Measurement Record: | Uncertainty: ± 4.5dB             |             |                   |
| Test Instruments:   | Refer to section 6 for details   |             |                   |
| Test mode:          | Refer to section 5.3 for details |             |                   |
| Test results:       | Pass                             |             |                   |

**Note:**

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

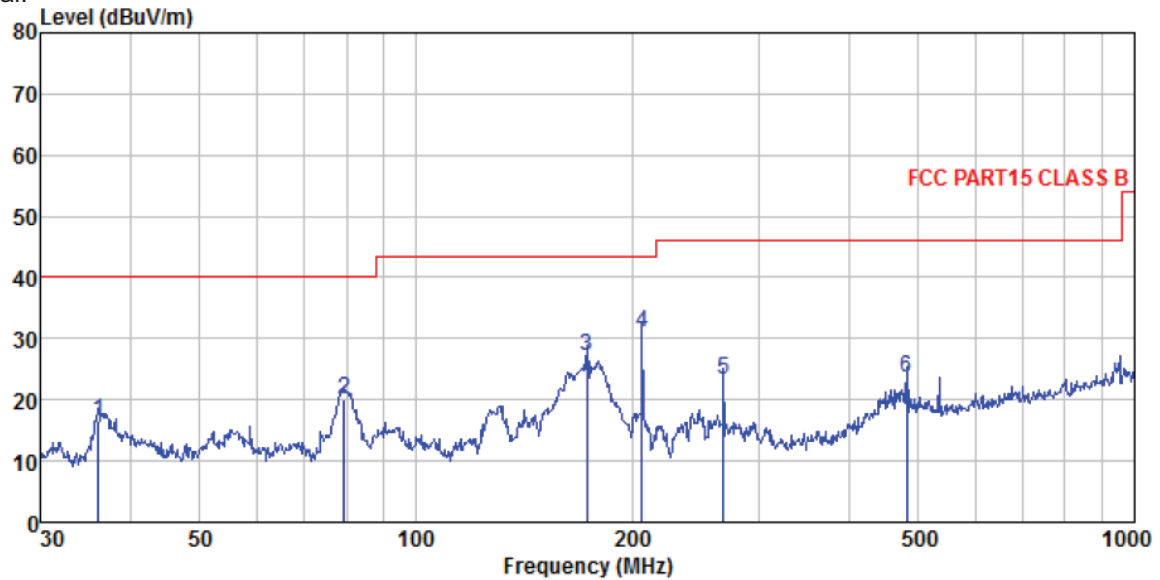
$$\text{Final Test Level} = \text{Receiver Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Preamplifier Factor}$$

For above 1GHz test , 1GHz to 25GHz all have been tested , only worse case 1GHz to 6GHz is reported , from 6GHz to 25GHz , no emission is found

## Measurement Data

Below 1GHz

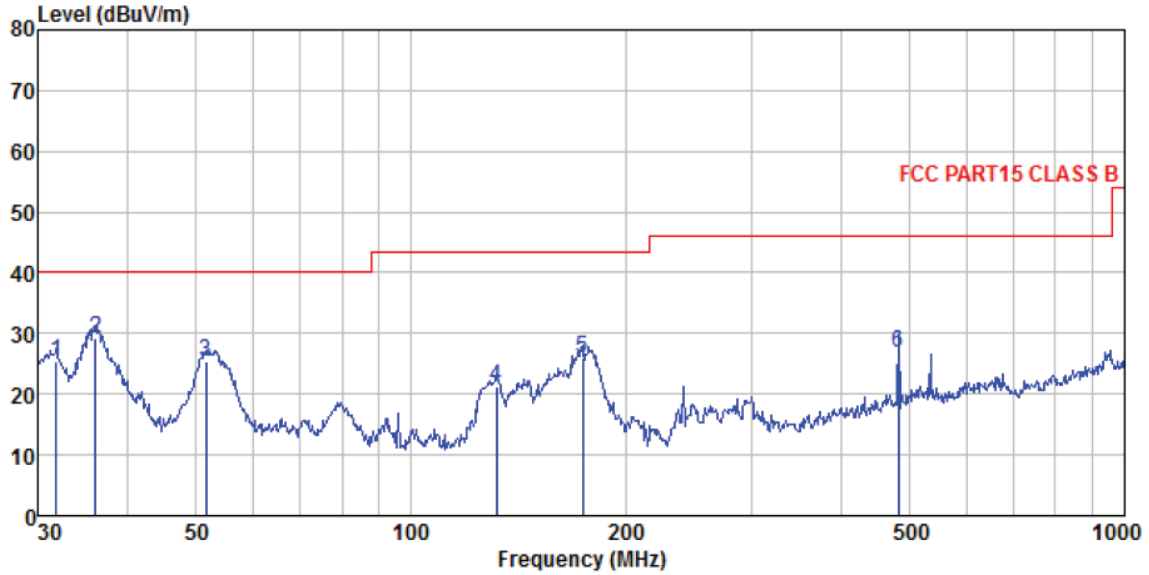
Horizontal:



Condition : FCC PART15 CLASS B VULB9163-2013M HORIZONTAL  
 Job No. : 0205  
 Test Mode : REC mode  
 Test Engineer: He

|      | Read    | Antenna | Cable | Preamp | Level  | Limit  | Over  |           |
|------|---------|---------|-------|--------|--------|--------|-------|-----------|
| Freq | Level   | Factor  | Loss  | Factor | Level  | Line   | Limit | Remark    |
| MHz  | dBuV    | dB/m    | dB    | dB     | dBuV/m | dBuV/m | dB    |           |
| 1    | 36.127  | 31.28   | 14.63 | 0.62   | 30.06  | 16.47  | 40.00 | -23.53 QP |
| 2    | 79.521  | 38.28   | 10.48 | 1.02   | 29.80  | 19.98  | 40.00 | -20.02 QP |
| 3    | 173.205 | 43.51   | 11.16 | 1.70   | 29.30  | 27.07  | 43.50 | -16.43 QP |
| 4    | 206.398 | 45.48   | 12.77 | 1.88   | 29.27  | 30.86  | 43.50 | -12.64 QP |
| 5    | 267.546 | 36.48   | 14.30 | 2.21   | 29.77  | 23.22  | 46.00 | -22.78 QP |
| 6    | 482.216 | 31.45   | 18.13 | 3.23   | 29.33  | 23.48  | 46.00 | -22.52 QP |

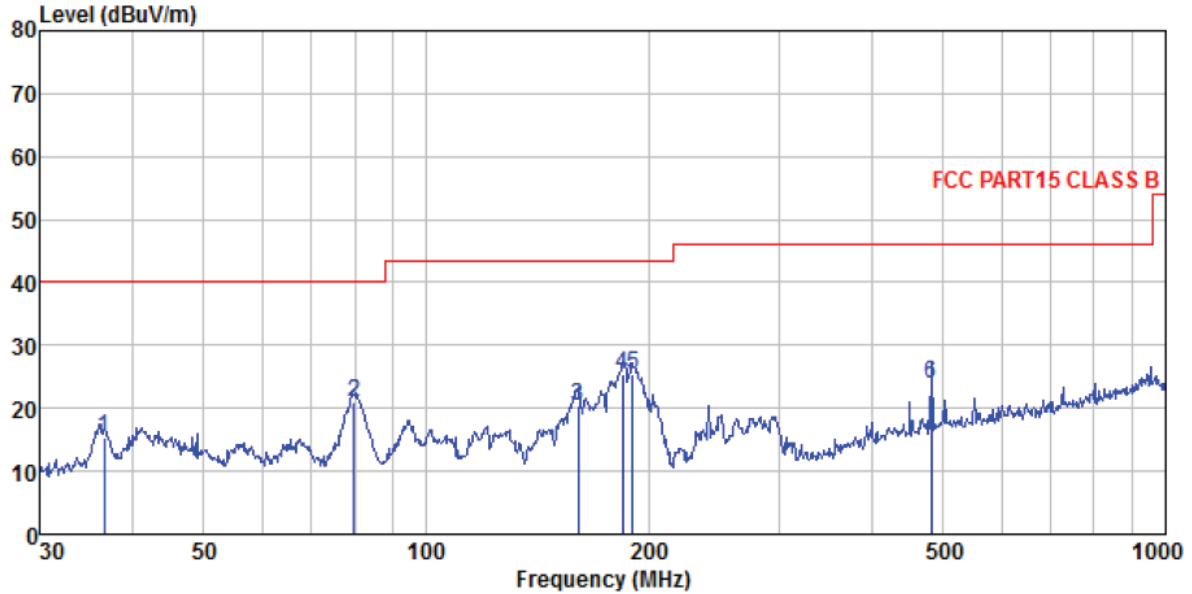
Vertical:



Condition : FCC PART15 CLASS B VULB9163-2013M VERTICAL  
 Job No. : 0205  
 Test Mode : REC mode  
 Test Engineer: He

|   | Freq    | ReadAntenna | Cable Preamp |      | Limit  | Over   |       |           |
|---|---------|-------------|--------------|------|--------|--------|-------|-----------|
|   | MHz     | Level       | Loss Factor  | dB   | Line   | Limit  | dB    | Remark    |
|   |         | dBuV        | dB/m         | dB   | dBuV/m | dBuV/m | dB    |           |
| 1 | 31.843  | 40.57       | 14.32        | 0.57 | 30.09  | 25.37  | 40.00 | -14.63 QP |
| 2 | 36.127  | 44.12       | 14.63        | 0.62 | 30.06  | 29.31  | 40.00 | -10.69 QP |
| 3 | 51.662  | 39.29       | 15.17        | 0.79 | 29.99  | 25.26  | 40.00 | -14.74 QP |
| 4 | 131.758 | 38.48       | 10.82        | 1.45 | 29.50  | 21.25  | 43.50 | -22.25 QP |
| 5 | 173.814 | 42.30       | 11.23        | 1.71 | 29.30  | 25.94  | 43.50 | -17.56 QP |
| 6 | 482.216 | 34.75       | 18.13        | 3.23 | 29.33  | 26.78  | 46.00 | -19.22 QP |

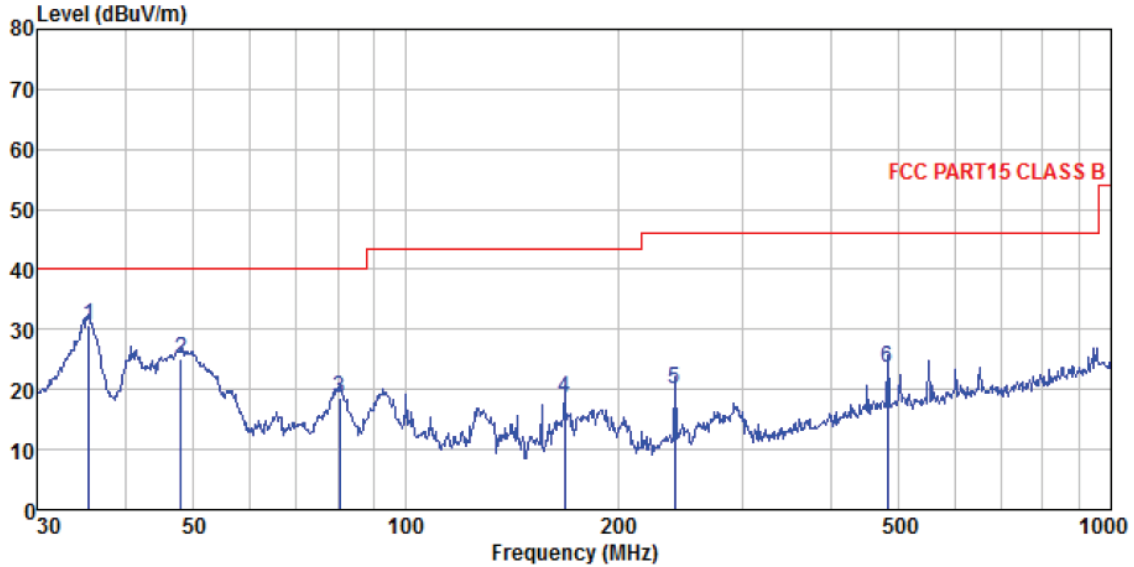
Horizontal:



Condition : FCC PART15 CLASS B VULB9163-2013M HORIZONTAL  
 Job No. : 0205  
 Test Mode : IF card playing mode  
 Test Engineer: He

|      | ReadAntenna  | Cable Preamp | Level | Limit | Over   | Remark |       |        |    |
|------|--------------|--------------|-------|-------|--------|--------|-------|--------|----|
| Freq | Level Factor | Loss Factor  | Level | Line  | Limit  | Remark |       |        |    |
| MHz  | dBuV         | dB/m         | dB    | dB    | dBuV/m | dBuV/m | dB    |        |    |
| 1    | 36.637       | 30.16        | 14.73 | 0.63  | 30.06  | 15.46  | 40.00 | -24.54 | QP |
| 2    | 79.800       | 39.27        | 10.54 | 1.03  | 29.80  | 21.04  | 40.00 | -18.96 | QP |
| 3    | 160.346      | 37.52        | 10.67 | 1.63  | 29.36  | 20.46  | 43.50 | -23.04 | QP |
| 4    | 184.490      | 40.94        | 12.08 | 1.76  | 29.26  | 25.52  | 43.50 | -17.98 | QP |
| 5    | 190.405      | 40.18        | 12.56 | 1.79  | 29.23  | 25.30  | 43.50 | -18.20 | QP |
| 6    | 482.216      | 32.03        | 18.13 | 3.23  | 29.33  | 24.06  | 46.00 | -21.94 | QP |

Vertical:

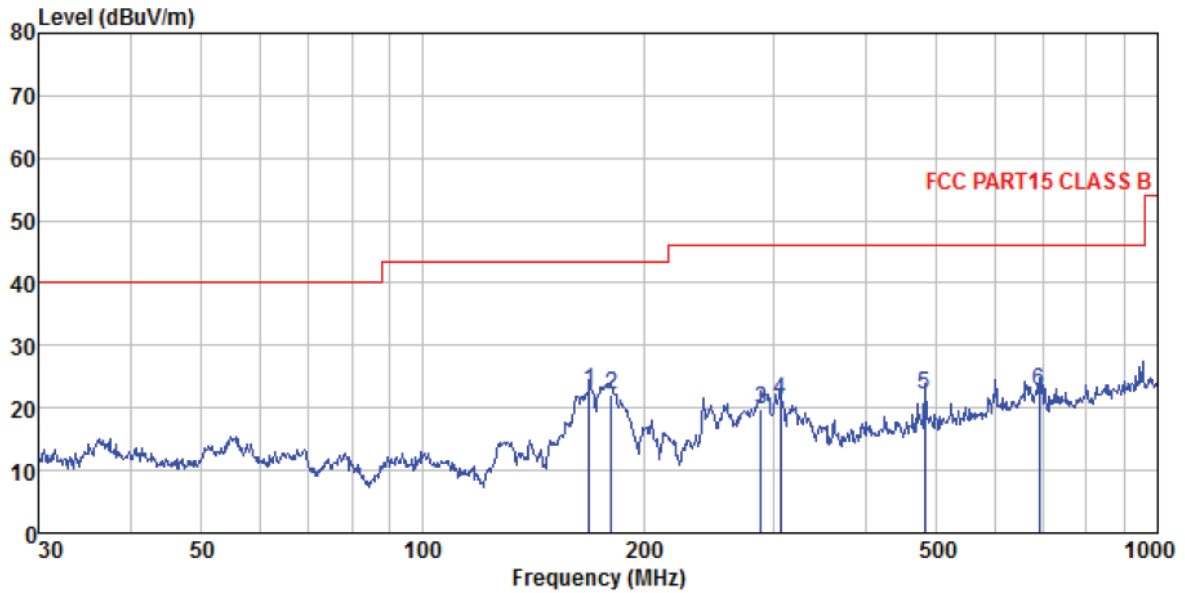


Condition : FCC PART15 CLASS B VULB9163-2013M VERTICAL  
 Job No. : 0205  
 Test Mode : TF card playing mode  
 Test Engineer: He

| Freq | ReadAntenna |        | Cable Preamp |        | Level  | Limit  | Over  | Remark    |
|------|-------------|--------|--------------|--------|--------|--------|-------|-----------|
|      | Level       | Factor | Loss         | Factor |        |        |       |           |
| MHz  | dBuV        | dB/m   | dB           | dB     | dBuV/m | dBuV/m | dB    |           |
| 1    | 35.499      | 45.60  | 14.44        | 0.61   | 30.07  | 30.58  | 40.00 | -9.42 QP  |
| 2    | 47.994      | 38.91  | 15.36        | 0.75   | 30.01  | 25.01  | 40.00 | -14.99 QP |
| 3    | 80.644      | 36.48  | 10.84        | 1.03   | 29.79  | 18.56  | 40.00 | -21.44 QP |
| 4    | 167.824     | 35.46  | 10.90        | 1.67   | 29.33  | 18.70  | 43.50 | -24.80 QP |
| 5    | 240.830     | 33.45  | 14.09        | 2.08   | 29.57  | 20.05  | 46.00 | -25.95 QP |
| 6    | 482.216     | 31.59  | 18.13        | 3.23   | 29.33  | 23.62  | 46.00 | -22.38 QP |



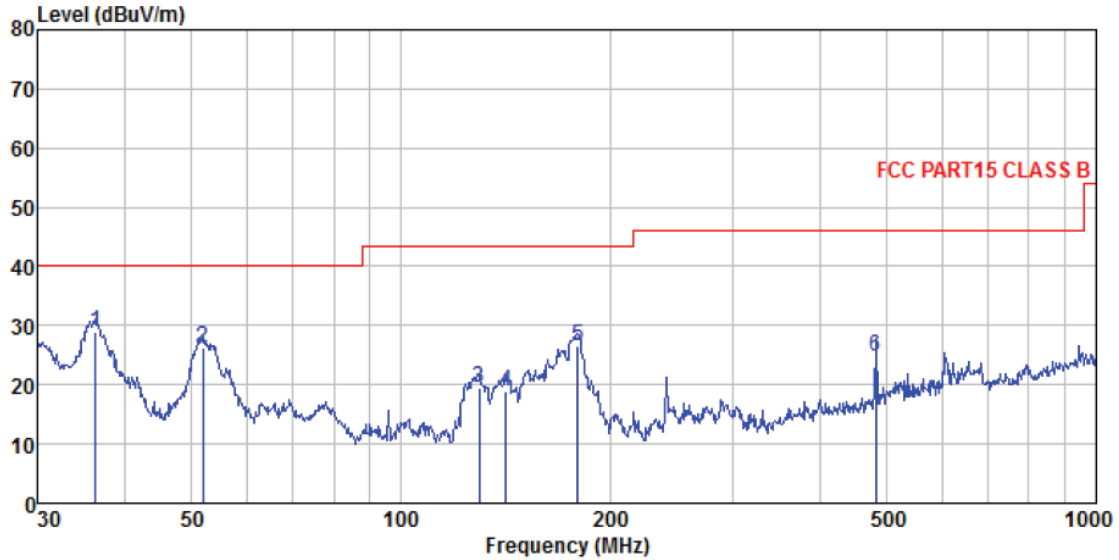
Horizontal:



Condition : FCC PART15 CLASS B VULB9163-2013M HORIZONTAL  
 Job No. : 0205  
 Test Mode : Burning test mode  
 Test Engineer: He

|      | ReadAntenna | Cable  | Preamp | Limit  | Over   |        |       |           |
|------|-------------|--------|--------|--------|--------|--------|-------|-----------|
| Freq | Level       | Factor | Loss   | Factor | Level  | Line   | Limit | Remark    |
| MHz  | dBuV        | dB/m   | dB     | dB     | dBuV/m | dBuV/m | dB    |           |
| 1    | 168.414     | 39.33  | 10.92  | 1.68   | 29.32  | 22.61  | 43.50 | -20.89 QP |
| 2    | 180.649     | 38.04  | 11.76  | 1.74   | 29.27  | 22.27  | 43.50 | -21.23 QP |
| 3    | 289.002     | 32.62  | 14.84  | 2.31   | 29.93  | 19.84  | 46.00 | -26.16 QP |
| 4    | 306.754     | 33.70  | 15.15  | 2.39   | 29.96  | 21.28  | 46.00 | -24.72 QP |
| 5    | 482.216     | 29.99  | 18.13  | 3.23   | 29.33  | 22.02  | 46.00 | -23.98 QP |
| 6    | 689.565     | 27.05  | 20.78  | 4.05   | 29.21  | 22.67  | 46.00 | -23.33 QP |

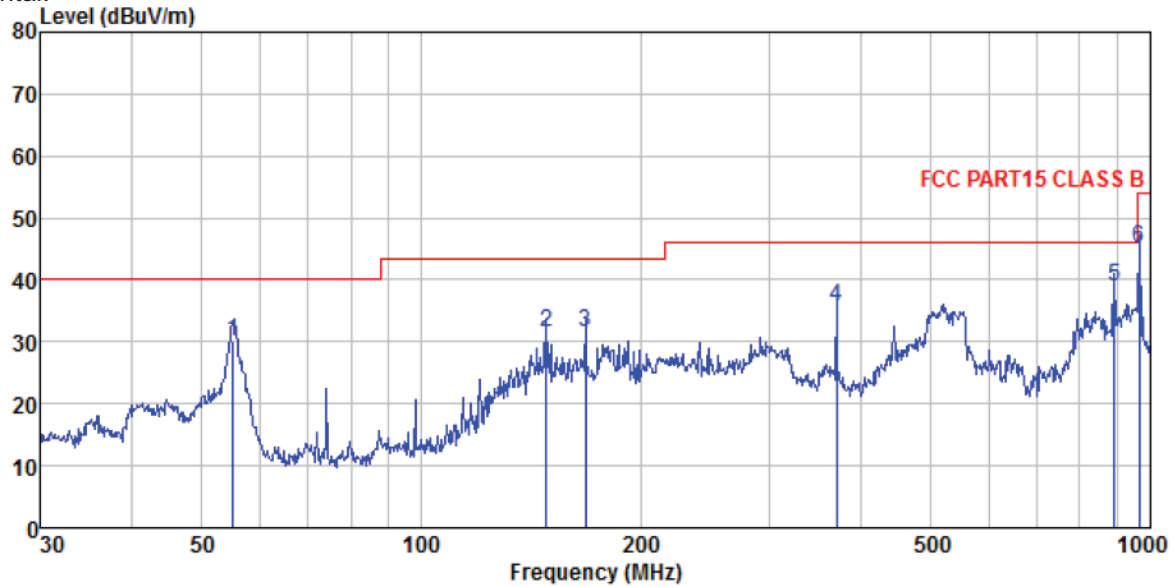
Vertical:



Condition : FCC PART15 CLASS B VULB9163-2013M VERTICAL  
 Job No. : 0205  
 Test Mode : Burning test mode  
 Test Engineer: He

|   | Freq    | ReadAntenna<br>Level | Antenna<br>Factor | Cable<br>Loss | Preamp<br>Factor | Level  | Limit<br>Line | Over<br>Limit | Remark |
|---|---------|----------------------|-------------------|---------------|------------------|--------|---------------|---------------|--------|
|   | MHz     | dBuV                 | dB/m              | dB            | dB               | dBuV/m | dBuV/m        | dB            |        |
| 1 | 36.381  | 43.79                | 14.68             | 0.62          | 30.06            | 29.03  | 40.00         | -10.97        | QP     |
| 2 | 51.843  | 40.21                | 15.16             | 0.79          | 29.98            | 26.18  | 40.00         | -13.82        | QP     |
| 3 | 129.468 | 36.63                | 11.03             | 1.43          | 29.51            | 19.58  | 43.50         | -23.92        | QP     |
| 4 | 141.826 | 36.69                | 10.20             | 1.52          | 29.45            | 18.96  | 43.50         | -24.54        | QP     |
| 5 | 179.386 | 42.55                | 11.62             | 1.74          | 29.28            | 26.63  | 43.50         | -16.87        | QP     |
| 6 | 482.216 | 32.69                | 18.13             | 3.23          | 29.33            | 24.72  | 46.00         | -21.28        | QP     |

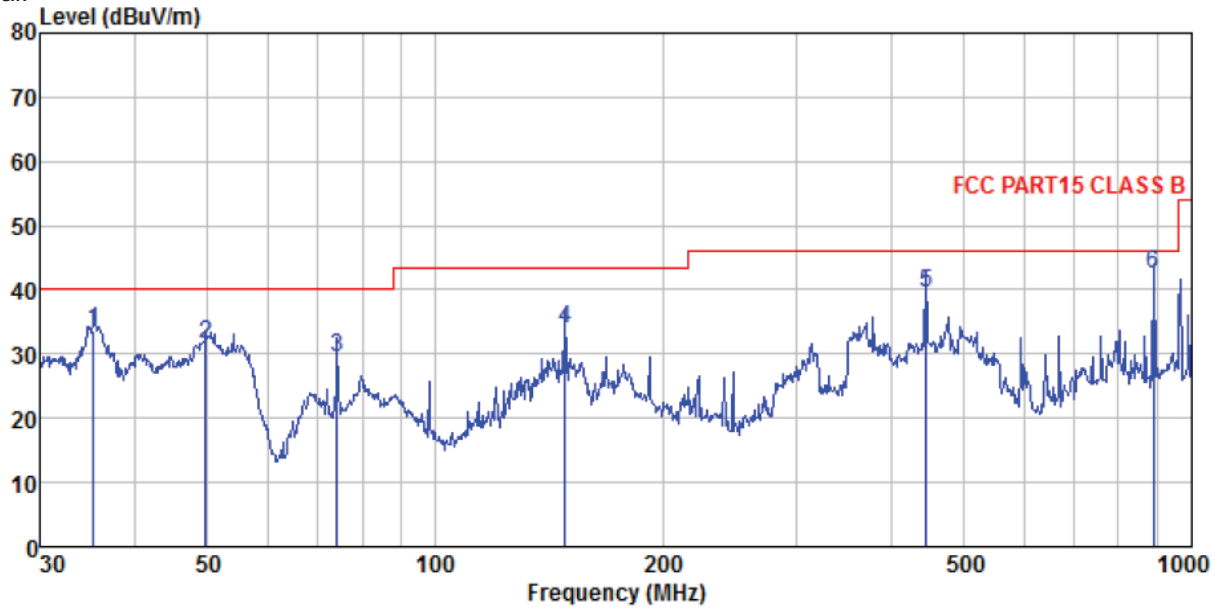
Horizontal:



Condition : FCC PART15 CLASS B VULB9163-2013M HORIZONTAL  
 Job No. : 0205  
 Test Mode : HDMI mode  
 Test Engineer: He

|   | Freq    | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level  | Limit Line | Over Limit | Remark |
|---|---------|------------|----------------|------------|---------------|--------|------------|------------|--------|
|   | MHz     | dBuV       | dB/m           | dB         | dB            | dBuV/m | dBuV/m     | dB         |        |
| 1 | 55.221  | 44.31      | 15.00          | 0.82       | 29.96         | 30.17  | 40.00      | -9.83      | QP     |
| 2 | 148.441 | 49.26      | 10.25          | 1.56       | 29.41         | 31.66  | 43.50      | -11.84     | QP     |
| 3 | 167.824 | 48.31      | 10.90          | 1.67       | 29.33         | 31.55  | 43.50      | -11.95     | QP     |
| 4 | 370.702 | 46.06      | 16.51          | 2.72       | 29.64         | 35.65  | 46.00      | -10.35     | QP     |
| 5 | 890.728 | 40.37      | 23.00          | 4.82       | 29.11         | 39.08  | 46.00      | -6.92      | QP     |
| 6 | 965.542 | 45.63      | 23.52          | 5.09       | 29.10         | 45.14  | 54.00      | -8.86      | QP     |

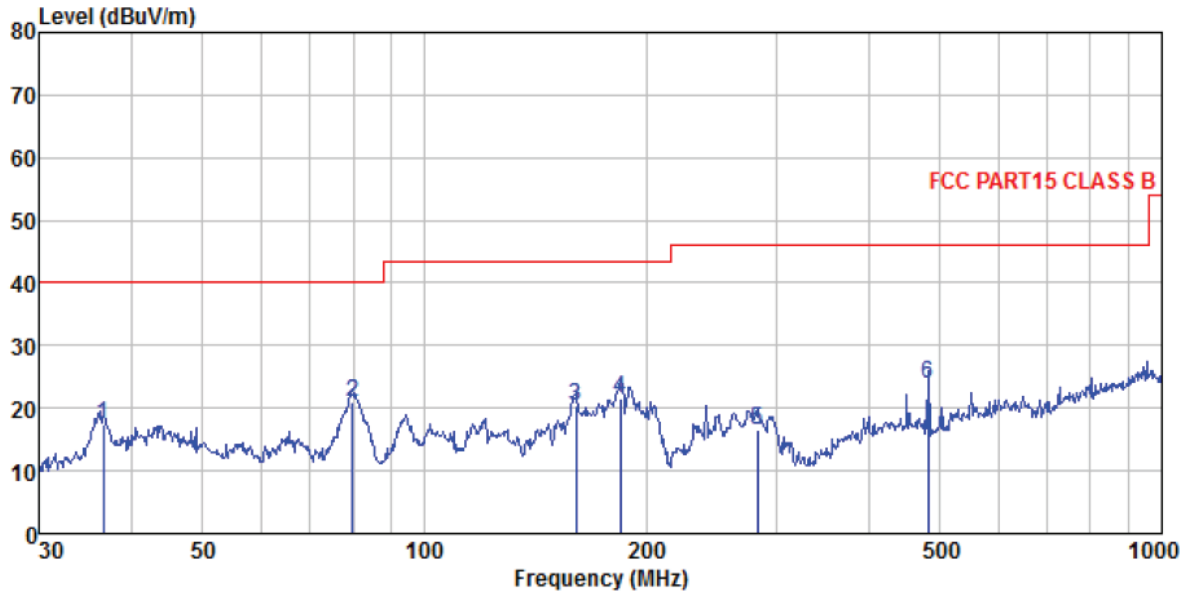
Vertical:



Condition : FCC PART15 CLASS B VULB9163-2013M VERTICAL  
 Job No. : 0205  
 Test Mode : HDMI mode  
 Test Engineer: He

|      | ReadAntenna | Cable  | Preamp | Limit  | Over   |        |       |           |
|------|-------------|--------|--------|--------|--------|--------|-------|-----------|
| Freq | Level       | Factor | Loss   | Factor | Level  | Line   | Limit | Remark    |
| MHz  | dBuV        | dB/m   | dB     | dB     | dBuV/m | dBuV/m | dB    |           |
| 1    | 35.375      | 48.58  | 14.39  | 0.61   | 30.07  | 33.51  | 40.00 | -6.49 QP  |
| 2    | 49.707      | 45.44  | 15.28  | 0.77   | 30.00  | 31.49  | 40.00 | -8.51 QP  |
| 3    | 74.135      | 48.36  | 9.93   | 0.98   | 29.83  | 29.44  | 40.00 | -10.56 QP |
| 4    | 148.441     | 51.62  | 10.25  | 1.56   | 29.41  | 34.02  | 43.50 | -9.48 QP  |
| 5    | 444.851     | 48.44  | 17.57  | 3.07   | 29.41  | 39.67  | 46.00 | -6.33 QP  |
| 6    | 890.097     | 43.70  | 23.00  | 4.82   | 29.11  | 42.41  | 46.00 | -3.59 QP  |

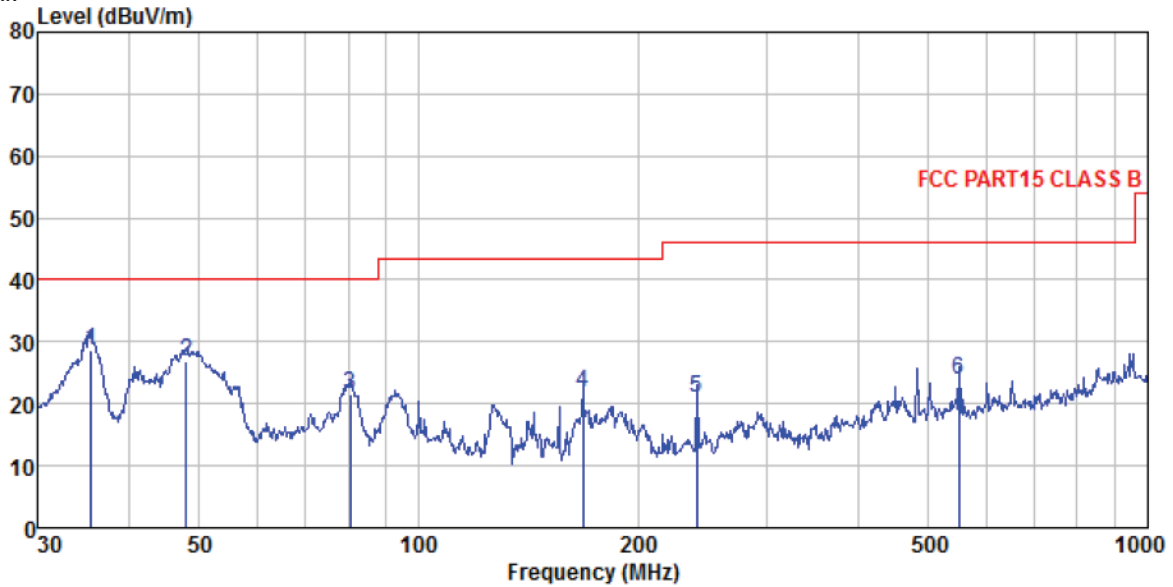
Horizontal:



Condition : FCC PART15 CLASS B WULB9163-2013M HORIZONTAL  
 Job No. : 0205  
 Test Mode : USB playing mode  
 Test Engineer: He

|      | ReadAntenna  | Cable Preamp | Limit | Over  |        |       |       |        |    |
|------|--------------|--------------|-------|-------|--------|-------|-------|--------|----|
| Freq | Level Factor | Loss Factor  | Line  | Limit | Remark |       |       |        |    |
| MHz  | dBuV         | dB/m         | dB    | dB    |        |       |       |        |    |
| 1    | 36.637       | 32.16        | 14.73 | 0.63  | 30.06  | 17.46 | 40.00 | -22.54 | QP |
| 2    | 79.800       | 39.27        | 10.54 | 1.03  | 29.80  | 21.04 | 40.00 | -18.96 | QP |
| 3    | 160.346      | 37.52        | 10.67 | 1.63  | 29.36  | 20.46 | 43.50 | -23.04 | QP |
| 4    | 184.490      | 36.94        | 12.08 | 1.76  | 29.26  | 21.52 | 43.50 | -21.98 | QP |
| 5    | 282.985      | 29.53        | 14.73 | 2.28  | 29.89  | 16.65 | 46.00 | -29.35 | QP |
| 6    | 482.216      | 32.03        | 18.13 | 3.23  | 29.33  | 24.06 | 46.00 | -21.94 | QP |

Vertical:

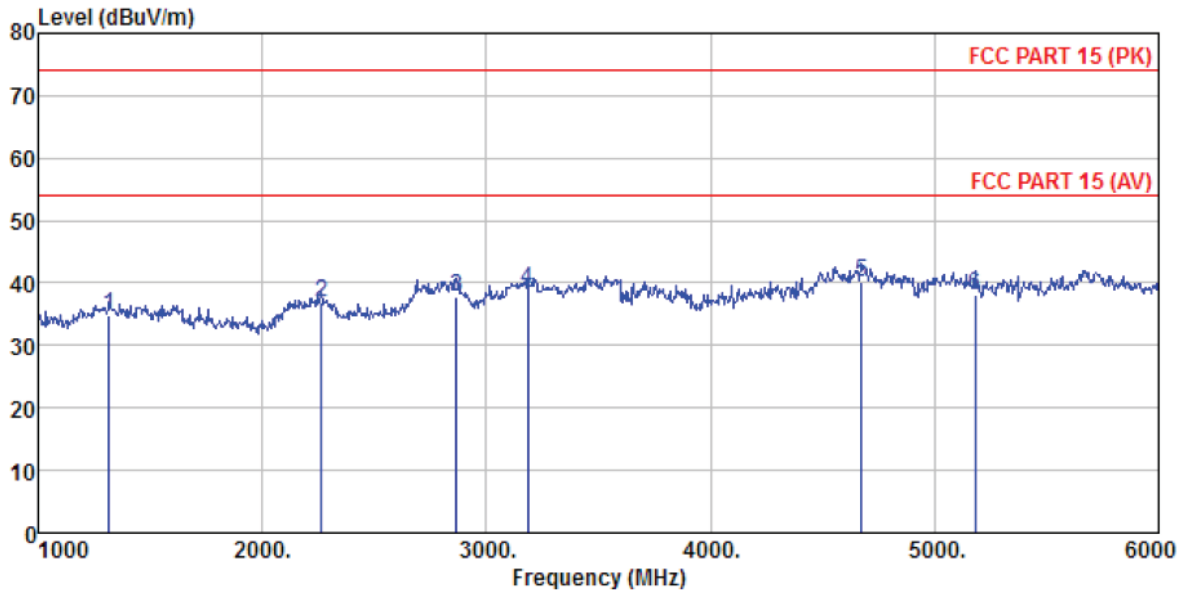


Condition : FCC PART15 CLASS B WULB9163-2013M VERTICAL  
 Job No. : 0205  
 Test Mode : USB playing mode  
 Test Engineer: He

|      | ReadAntenna | Cable  | Preamp | Limit  | Over   |        |       |        |    |
|------|-------------|--------|--------|--------|--------|--------|-------|--------|----|
| Freq | Level       | Factor | Loss   | Factor | Level  | Line   |       |        |    |
| MHz  | dBuV        | dB/m   | dB     | dB     | dBuV/m | dBuV/m |       |        |    |
| 1    | 35.499      | 43.60  | 14.44  | 0.61   | 30.07  | 28.58  | 40.00 | -11.42 | QP |
| 2    | 47.994      | 40.91  | 15.36  | 0.75   | 30.01  | 27.01  | 40.00 | -12.99 | QP |
| 3    | 80.644      | 39.48  | 10.84  | 1.03   | 29.79  | 21.56  | 40.00 | -18.44 | QP |
| 4    | 167.824     | 38.46  | 10.90  | 1.67   | 29.33  | 21.70  | 43.50 | -21.80 | QP |
| 5    | 240.830     | 34.45  | 14.09  | 2.08   | 29.57  | 21.05  | 46.00 | -24.95 | QP |
| 6    | 550.948     | 30.14  | 19.57  | 3.53   | 29.30  | 23.94  | 46.00 | -22.06 | QP |

Above 1GHz

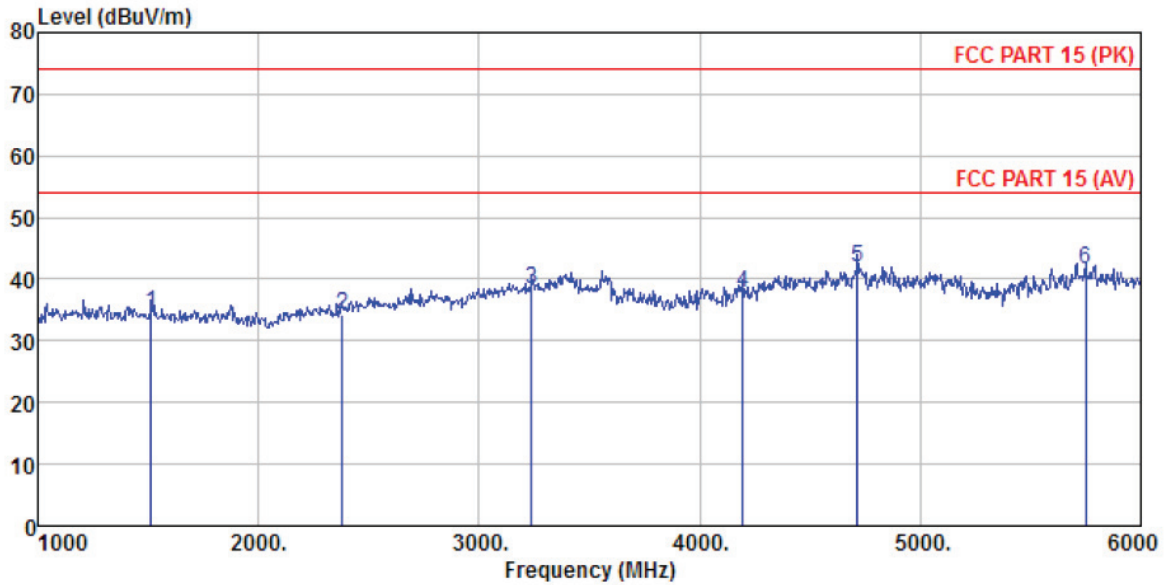
Horizontal:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) HORIZONTAL  
 Job No. : 0205  
 Test Mode : REC mode  
 Test Engineer: He

|      | Read     | Antenna | Cable | Preamp | Limit  | Over   |                   |
|------|----------|---------|-------|--------|--------|--------|-------------------|
| Freq | Level    | Factor  | Loss  | Factor | Line   | Limit  | Remark            |
| MHz  | dBuV     | dB/m    | dB    | dB     | dBuV/m | dBuV/m | dB                |
| 1    | 1315.000 | 37.94   | 25.66 | 4.56   | 33.30  | 34.86  | 74.00 -39.14 Peak |
| 2    | 2265.000 | 37.68   | 28.01 | 5.25   | 34.17  | 36.77  | 74.00 -37.23 Peak |
| 3    | 2865.000 | 36.95   | 28.40 | 5.81   | 33.47  | 37.69  | 74.00 -36.31 Peak |
| 4    | 3185.000 | 36.89   | 28.76 | 6.33   | 33.10  | 38.88  | 74.00 -35.12 Peak |
| 5    | 4675.000 | 32.05   | 31.63 | 8.49   | 32.02  | 40.15  | 74.00 -33.85 Peak |
| 6    | 5180.000 | 29.24   | 32.00 | 9.03   | 32.27  | 38.00  | 74.00 -36.00 Peak |

Vertical:

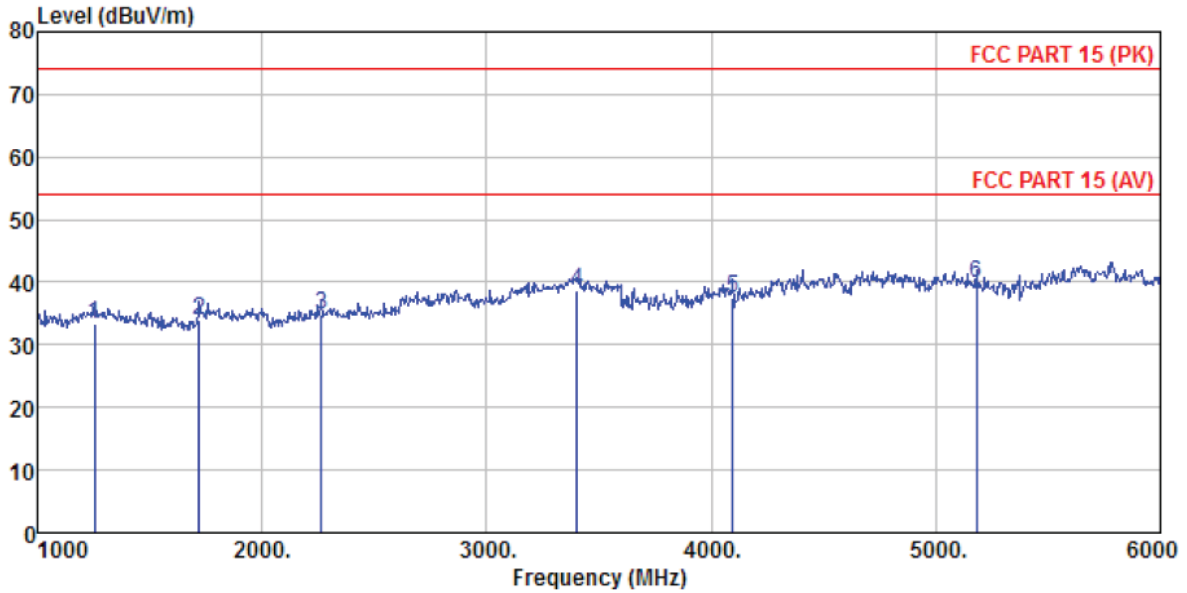


Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) VERTICAL  
 Job No. : 0205  
 Test Mode : REC mode  
 Test Engineer: He

|      | ReadAntenna | Cable | Preamp | Limit | Over   |        |       |             |
|------|-------------|-------|--------|-------|--------|--------|-------|-------------|
| Freq | Level       | Loss  | Level  | Line  | Limit  | Remark |       |             |
| MHz  | dBuV        | dB/m  | dB     | dB    | dBuV/m | dBuV/m | dB    |             |
| 1    | 1515.000    | 38.22 | 25.20  | 4.69  | 33.62  | 34.49  | 74.00 | -39.51 Peak |
| 2    | 2380.000    | 35.39 | 27.63  | 5.37  | 34.03  | 34.36  | 74.00 | -39.64 Peak |
| 3    | 3240.000    | 36.50 | 28.58  | 6.45  | 33.04  | 38.49  | 74.00 | -35.51 Peak |
| 4    | 4195.000    | 31.64 | 30.18  | 8.05  | 31.96  | 37.91  | 74.00 | -36.09 Peak |
| 5    | 4715.000    | 33.77 | 31.66  | 8.53  | 32.05  | 41.91  | 74.00 | -32.09 Peak |
| 6    | 5750.000    | 31.37 | 32.56  | 9.86  | 32.28  | 41.51  | 74.00 | -32.49 Peak |



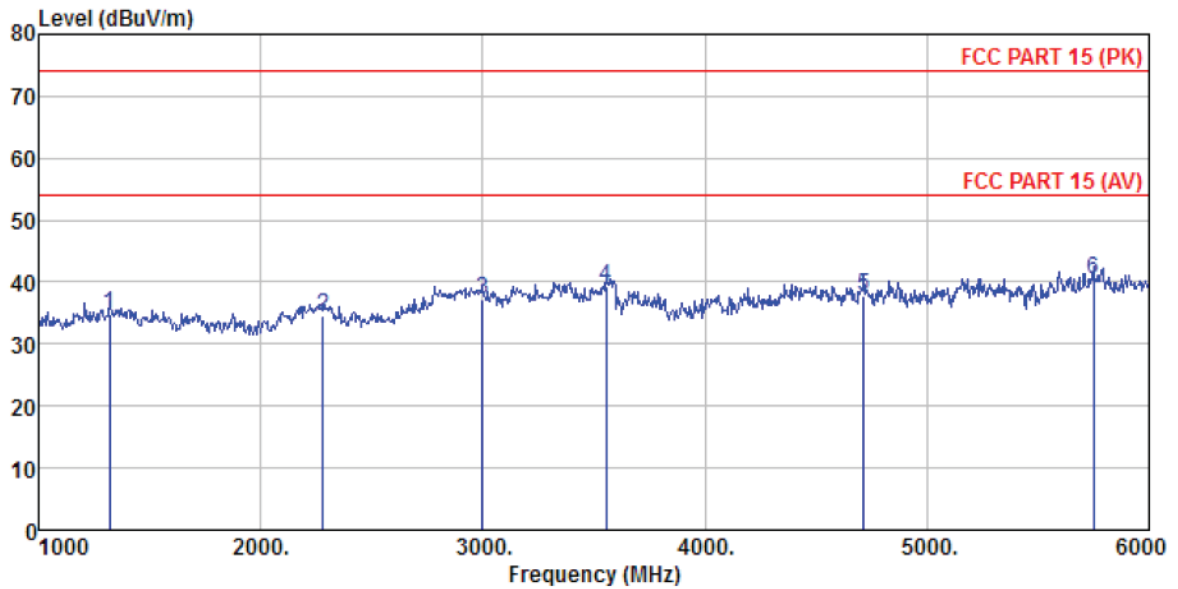
Horizontal:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) HORIZONTAL  
 Job No. : 0205  
 Test Mode : TF card playing mode  
 Test Engineer: He

|   | Freq     | ReadAntenna<br>Level | Cable<br>Factor | Preamp<br>Loss | Factor | Limit  | Over   | Remark      |
|---|----------|----------------------|-----------------|----------------|--------|--------|--------|-------------|
|   | MHz      | dBuV                 | dB/m            | dB             | dB     | dBuV/m | dBuV/m | dB          |
| 1 | 1255.000 | 36.54                | 25.54           | 4.51           | 33.18  | 33.41  | 74.00  | -40.59 Peak |
| 2 | 1720.000 | 38.14                | 25.01           | 4.81           | 33.97  | 33.99  | 74.00  | -40.01 Peak |
| 3 | 2265.000 | 35.68                | 28.01           | 5.25           | 34.17  | 34.77  | 74.00  | -39.23 Peak |
| 4 | 3405.000 | 36.23                | 28.64           | 6.78           | 32.87  | 38.78  | 74.00  | -35.22 Peak |
| 5 | 4095.000 | 31.80                | 29.89           | 7.96           | 32.07  | 37.58  | 74.00  | -36.42 Peak |
| 6 | 5180.000 | 31.24                | 32.00           | 9.03           | 32.27  | 40.00  | 74.00  | -34.00 Peak |

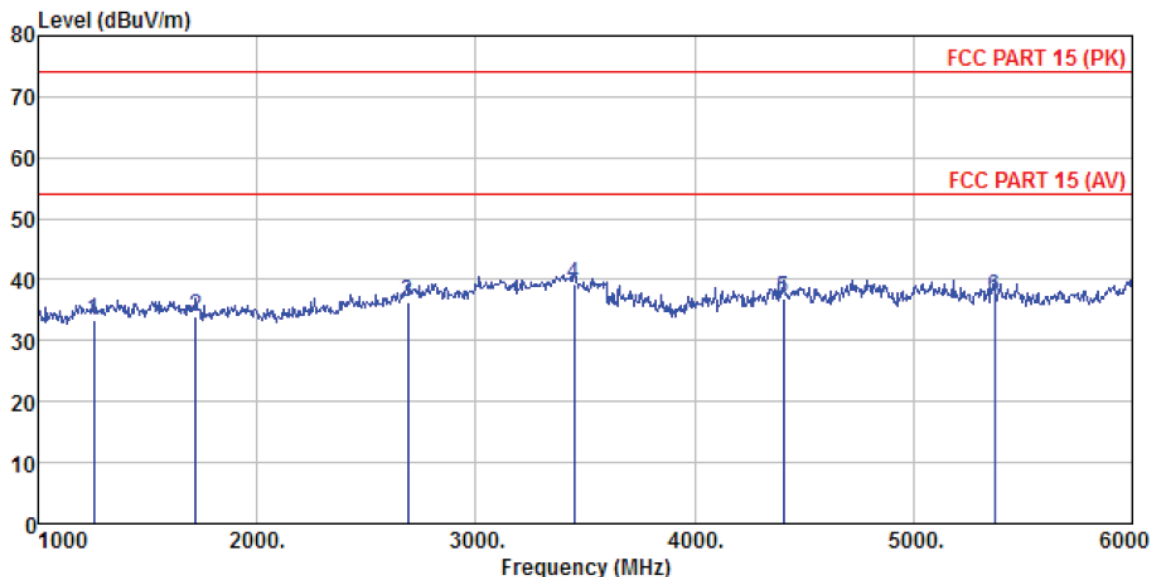
Vertical:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) VERTICAL  
 Job No. : 0205  
 Test Mode : TF card playing mode  
 Test Engineer: He

|          | Read      | Antenna   | Cable   | Preamp  | Limit       | Over        |                   |
|----------|-----------|-----------|---------|---------|-------------|-------------|-------------------|
| Freq     | Level     | Factor    | Loss    | Factor  | Level       | Line        | Limit Remark      |
| -----MHz | -----dBuV | -----dB/m | -----dB | -----dB | -----dBuV/m | -----dBuV/m | -----dB           |
| 1        | 1320.000  | 37.86     | 25.66   | 4.56    | 33.30       | 34.78       | 74.00 -39.22 Peak |
| 2        | 2280.000  | 35.32     | 27.99   | 5.27    | 34.15       | 34.43       | 74.00 -39.57 Peak |
| 3        | 3000.000  | 36.22     | 28.47   | 5.92    | 33.31       | 37.30       | 74.00 -36.70 Peak |
| 4        | 3555.000  | 35.92     | 29.09   | 7.07    | 32.69       | 39.39       | 74.00 -34.61 Peak |
| 5        | 4715.000  | 29.77     | 31.66   | 8.53    | 32.05       | 37.91       | 74.00 -36.09 Peak |
| 6        | 5750.000  | 30.37     | 32.56   | 9.86    | 32.28       | 40.51       | 74.00 -33.49 Peak |

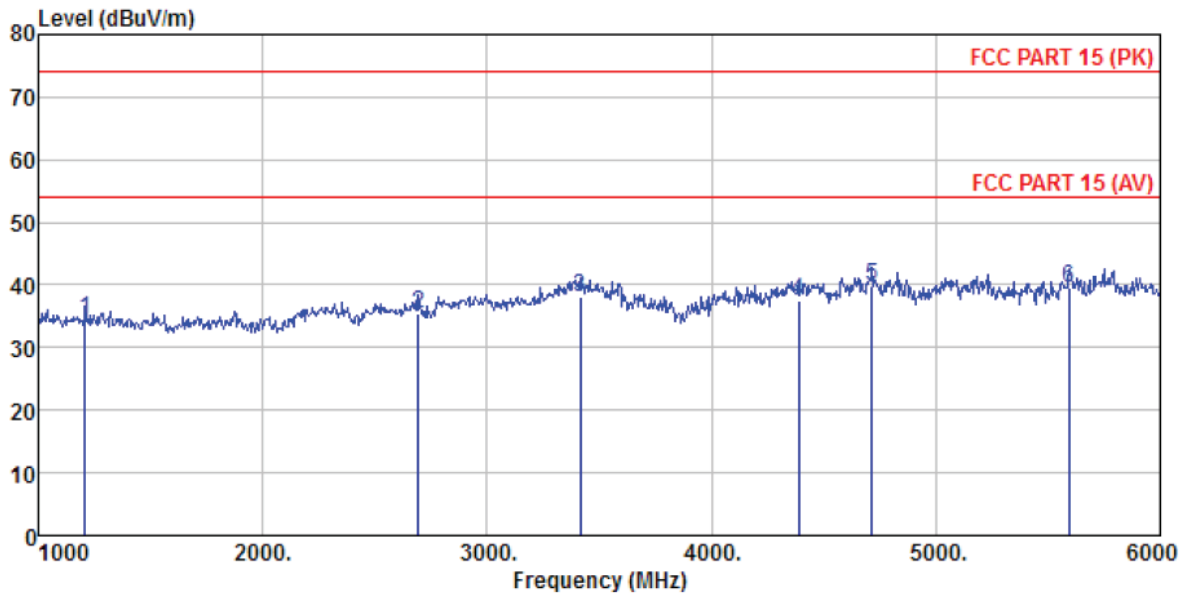
Horizontal:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) HORIZONTAL  
 Job No. : 0205  
 Test Mode : Burning test mode  
 Test Engineer: He

|      | Read     | Antenna | Cable | Preamp | Limit  | Over   |                   |
|------|----------|---------|-------|--------|--------|--------|-------------------|
| Freq | Level    | Factor  | Loss  | Factor | Line   | Limit  | Remark            |
| MHz  | dBuV     | dB/m    | dB    | dB     | dBuV/m | dBuV/m | dB                |
| 1    | 1255.000 | 36.54   | 25.54 | 4.51   | 33.18  | 33.41  | 74.00 -40.59 Peak |
| 2    | 1720.000 | 38.14   | 25.01 | 4.81   | 33.97  | 33.99  | 74.00 -40.01 Peak |
| 3    | 2690.000 | 36.22   | 28.12 | 5.66   | 33.68  | 36.32  | 74.00 -37.68 Peak |
| 4    | 3450.000 | 36.27   | 28.80 | 6.86   | 32.81  | 39.12  | 74.00 -34.88 Peak |
| 5    | 4405.000 | 29.35   | 31.09 | 8.25   | 31.89  | 36.80  | 74.00 -37.20 Peak |
| 6    | 5370.000 | 28.42   | 31.77 | 9.33   | 32.36  | 37.16  | 74.00 -36.84 Peak |

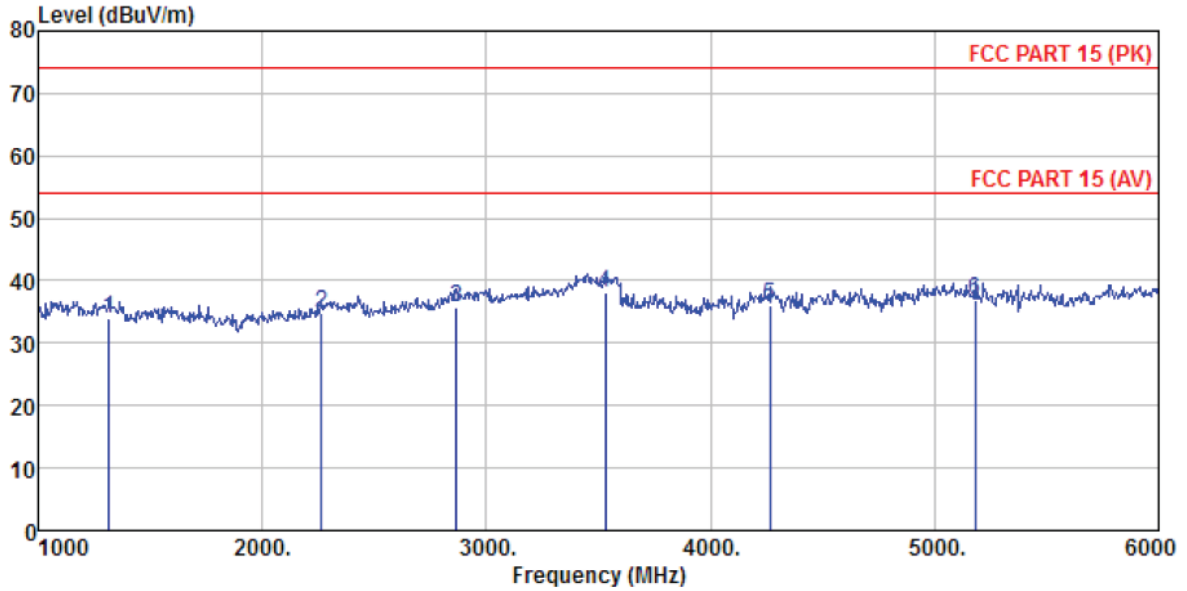
Vertical:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) VERTICAL  
 Job No. : 0205  
 Test Mode : Burning test mode  
 Test Engineer: He

|      | Read     | Antenna | Cable | Preamp | Limit  | Over   |                   |
|------|----------|---------|-------|--------|--------|--------|-------------------|
| Freq | Level    | Factor  | Loss  | Factor | Line   | Limit  | Remark            |
| MHz  | dBuV     | dB/m    | dB    | dB     | dBuV/m | dBuV/m | dB                |
| 1    | 1210.000 | 37.71   | 25.39 | 4.47   | 33.10  | 34.47  | 74.00 -39.53 Peak |
| 2    | 2695.000 | 35.16   | 28.16 | 5.67   | 33.66  | 35.33  | 74.00 -38.67 Peak |
| 3    | 3415.000 | 35.38   | 28.67 | 6.80   | 32.85  | 38.00  | 74.00 -36.00 Peak |
| 4    | 4390.000 | 30.03   | 31.05 | 8.24   | 31.88  | 37.44  | 74.00 -36.56 Peak |
| 5    | 4715.000 | 31.77   | 31.66 | 8.53   | 32.05  | 39.91  | 74.00 -34.09 Peak |
| 6    | 5595.000 | 30.08   | 32.22 | 9.65   | 32.38  | 39.57  | 74.00 -34.43 Peak |

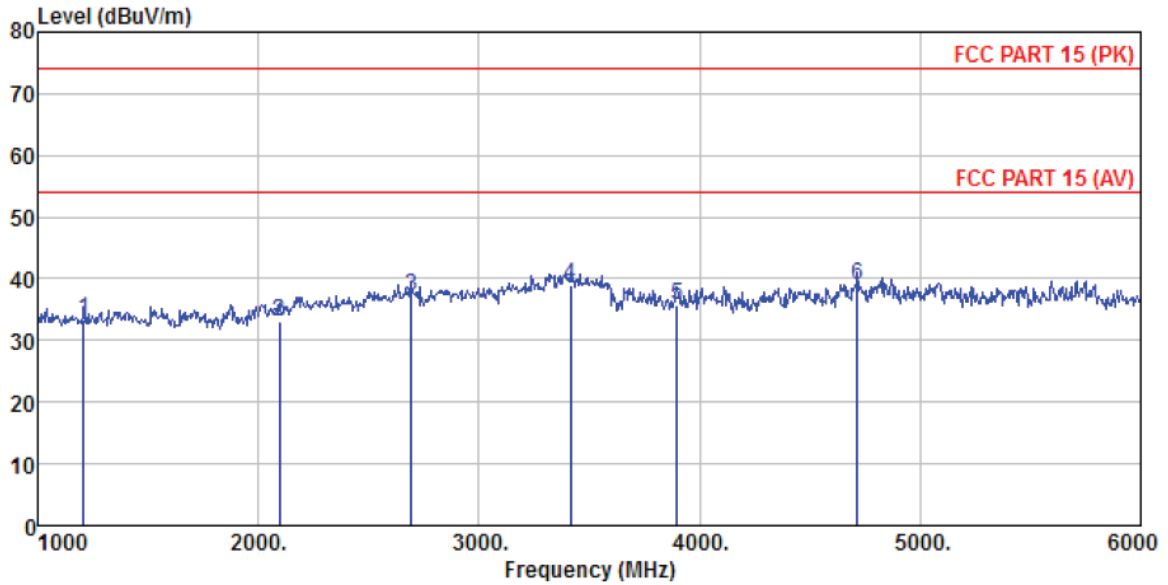
Horizontal:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) HORIZONTAL  
 Job No. : 0205  
 Test Mode : HDMI mode  
 Test Engineer: He

|      | Read     | Antenna | Cable | Preamp | Limit  | Over   |                   |
|------|----------|---------|-------|--------|--------|--------|-------------------|
| Freq | Level    | Factor  | Loss  | Factor | Level  | Line   | Limit Remark      |
| MHz  | dBuV     | dB/m    | dB    | dB     | dBuV/m | dBuV/m | dB                |
| 1    | 1315.000 | 36.94   | 25.66 | 4.56   | 33.30  | 33.86  | 74.00 -40.14 Peak |
| 2    | 2265.000 | 35.68   | 28.01 | 5.25   | 34.17  | 34.77  | 74.00 -39.23 Peak |
| 3    | 2865.000 | 34.95   | 28.40 | 5.81   | 33.47  | 35.69  | 74.00 -38.31 Peak |
| 4    | 3530.000 | 34.79   | 29.04 | 7.01   | 32.71  | 38.13  | 74.00 -35.87 Peak |
| 5    | 4265.000 | 29.35   | 30.50 | 8.12   | 31.88  | 36.09  | 74.00 -37.91 Peak |
| 6    | 5180.000 | 28.24   | 32.00 | 9.03   | 32.27  | 37.00  | 74.00 -37.00 Peak |

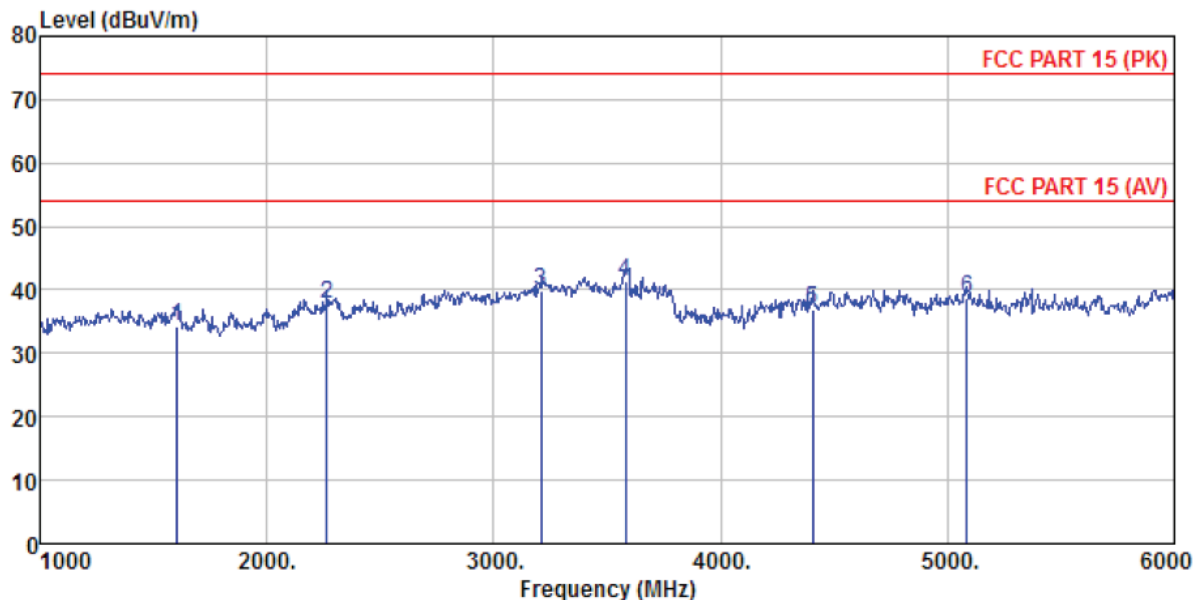
Vertical:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) VERTICAL  
 Job No. : 0205  
 Test Mode : HDMI mode  
 Test Engineer: He

|   | Freq     | ReadAntenna | Cable  | Preamp | Limit | Over   |                   |
|---|----------|-------------|--------|--------|-------|--------|-------------------|
|   | MHz      | Level       | Factor | Loss   | Line  | Limit  | Remark            |
|   | MHz      | dBuV        | dB/m   | dB     | dB    | dBuV/m | dBuV/m            |
| 1 | 1210.000 | 36.71       | 25.39  | 4.47   | 33.10 | 33.47  | 74.00 -40.53 Peak |
| 2 | 2095.000 | 35.52       | 26.91  | 5.07   | 34.36 | 33.14  | 74.00 -40.86 Peak |
| 3 | 2695.000 | 37.16       | 28.16  | 5.67   | 33.66 | 37.33  | 74.00 -36.67 Peak |
| 4 | 3415.000 | 36.38       | 28.67  | 6.80   | 32.85 | 39.00  | 74.00 -35.00 Peak |
| 5 | 3900.000 | 30.73       | 29.50  | 7.69   | 32.29 | 35.63  | 74.00 -38.37 Peak |
| 6 | 4715.000 | 30.77       | 31.66  | 8.53   | 32.05 | 38.91  | 74.00 -35.09 Peak |

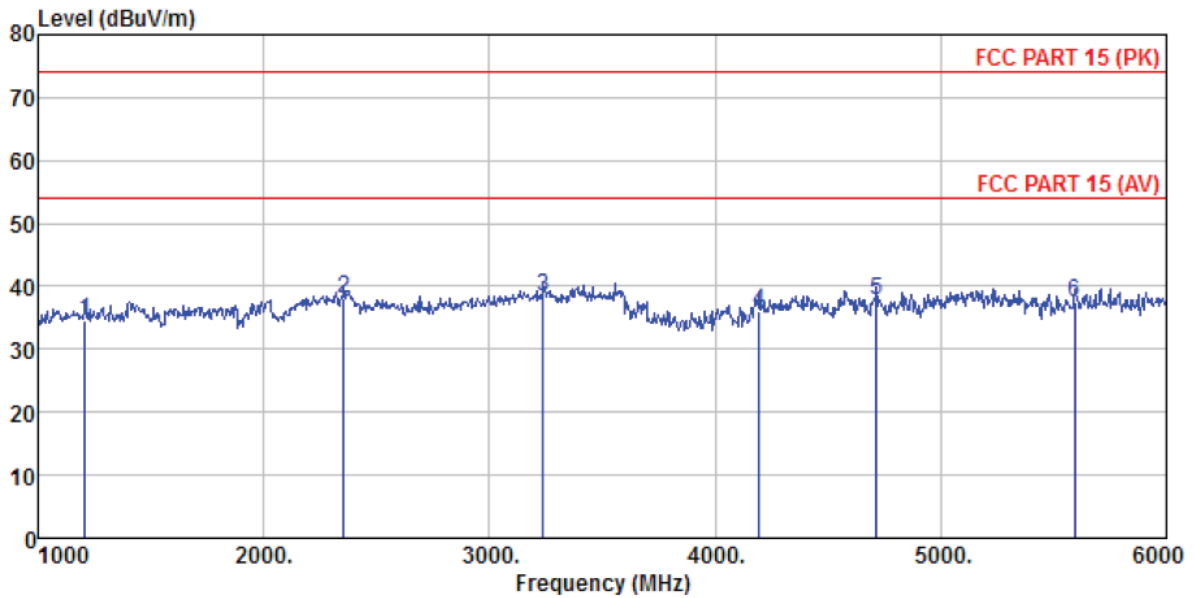
Horizontal:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) HORIZONTAL  
 Job No. : 0205  
 Test Mode : USB playing mode  
 Test Engineer: He

|      | Read     | Antenna | Cable | Preamp | Limit  | Over   |        |             |
|------|----------|---------|-------|--------|--------|--------|--------|-------------|
| Freq | Level    | Factor  | Loss  | Factor | Line   | Limit  | Remark |             |
| MHz  | dBuV     | dB/m    | dB    | dB     | dBuV/m | dBuV/m | dB     |             |
| 1    | 1605.000 | 38.29   | 24.97 | 4.75   | 33.79  | 34.22  | 74.00  | -39.78 Peak |
| 2    | 2265.000 | 38.68   | 28.01 | 5.25   | 34.17  | 37.77  | 74.00  | -36.23 Peak |
| 3    | 3210.000 | 37.85   | 28.68 | 6.39   | 33.08  | 39.84  | 74.00  | -34.16 Peak |
| 4    | 3580.000 | 37.86   | 29.11 | 7.11   | 32.66  | 41.42  | 74.00  | -32.58 Peak |
| 5    | 4405.000 | 29.35   | 31.09 | 8.25   | 31.89  | 36.80  | 74.00  | -37.20 Peak |
| 6    | 5085.000 | 29.85   | 32.02 | 8.90   | 32.22  | 38.55  | 74.00  | -35.45 Peak |

Vertical:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) VERTICAL  
 Job No. : 0205  
 Test Mode : USB playing mode  
 Test Engineer: He

|      | Read     | Antenna | Cable | Preamp | Level  | Limit  | Over  |             |
|------|----------|---------|-------|--------|--------|--------|-------|-------------|
| Freq | Level    | Factor  | Loss  | Factor | Level  | Line   | Limit | Remark      |
| MHz  | dBuV     | dB/m    | dB    | dB     | dBuV/m | dBuV/m | dB    |             |
| 1    | 1210.000 | 37.71   | 25.39 | 4.47   | 33.10  | 34.47  | 74.00 | -39.53 Peak |
| 2    | 2355.000 | 39.18   | 27.69 | 5.34   | 34.05  | 38.16  | 74.00 | -35.84 Peak |
| 3    | 3240.000 | 36.50   | 28.58 | 6.45   | 33.04  | 38.49  | 74.00 | -35.51 Peak |
| 4    | 4195.000 | 29.64   | 30.18 | 8.05   | 31.96  | 35.91  | 74.00 | -38.09 Peak |
| 5    | 4715.000 | 29.77   | 31.66 | 8.53   | 32.05  | 37.91  | 74.00 | -36.09 Peak |
| 6    | 5595.000 | 28.08   | 32.22 | 9.65   | 32.38  | 37.57  | 74.00 | -36.43 Peak |



## 8 Test Setup Photo

Radiated Emission



Conducted Emission



## 9 EUT Constructional Details

Reference to the test report No. GTS201605000205E01

----- End-----