

## FCC Test Report (BT-LE)

**Report No.:** RF150226E05E-3

**FCC ID:** PPD-QCA9008-TBD1

**Test Model:** QCA9008-TBD1

**Received Date:** May 23, 2017

**Test Date:** June 02 to 23, 2017

**Issued Date:** June 23, 2017

**Applicant:** Qualcomm Atheros, Inc.

**Address:** 1700 Technology Drive, San Jose, CA 95110

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Hsin Chu Laboratory

**Lab Address:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan R.O.C.

**Test Location (1):** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan R.O.C.

**Test Location (2):** No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin  
Chu Hsien 307, Taiwan R.O.C.



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### Release Control Record

| Issue No.      | Description       | Date Issued   |
|----------------|-------------------|---------------|
| RF150226E05E-3 | Original release. | June 23, 2017 |

## 1 Certificate of Conformity

**Product:** 802.11abgn/ac/ad+BT module

**Brand:** Qualcomm Atheros

**Test Model:** QCA9008-TBD1

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Qualcomm Atheros, Inc.

**Test Date:** June 02 to 23, 2017

**Standards:** 47 CFR FCC Part 15, Subpart C (Section 15.247)  
ANSI C63.10: 2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**Prepared by :**

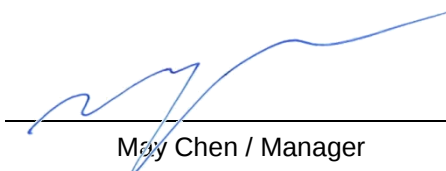


**Date:**

June 23, 2017

Claire Kuan / Specialist

**Approved by :**



**Date:**

June 23, 2017

May Chen / Manager

## 2 Summary of Test Results

| 47 CFR FCC Part 15, Subpart C (SECTION 15.247) |                                              |        |                                                                                  |
|------------------------------------------------|----------------------------------------------|--------|----------------------------------------------------------------------------------|
| FCC Clause                                     | Test Item                                    | Result | Remarks                                                                          |
| 15.205 /<br>15.209 /<br>15.247(d)              | Radiated Emissions and Band Edge Measurement | Pass   | Meet the requirement of limit.<br>Minimum passing margin is -3.5dB at 171.00MHz. |
| 15.247(b)                                      | Conducted power                              | PASS   | Meet the requirement of limit.                                                   |

### NOTE:

1. This report is prepared for FCC Class II change. Only Radiated Emissions and Band Edge and Maximum Peak Output Power Measurement was presented in this test report.

### 2.1 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT (BT-LE)

|                       |                             |
|-----------------------|-----------------------------|
| Product               | 802.11abgn/ac/ad+BT module  |
| Brand                 | Qualcomm Atheros            |
| Test Model            | QCA9008-TBD1                |
| Status of EUT         | ENGINEERING SAMPLE          |
| Power Supply Rating   | DC 3.3V from host equipment |
| Modulation Type       | GFSK                        |
| Modulation Technology | DTS                         |
| Transfer Rate         | Up to 1Mbps                 |
| Operating Frequency   | 2402MHz ~ 2480MHz           |
| Number of Channel     | 40                          |
| Output Power          | 1.995mW                     |
| Antenna Type          | See item 3.2                |
| Antenna Connector     | See item 3.2                |
| Accessory Device      | NA                          |
| Data Cable Supplied   | NA                          |

Note:

1. This report is prepared for FCC Class II change. The difference compared with the Report No.: RF150226E05-3 design is as the following information:

◆ Add one new antenna as following table:

| Original            |       |                       |           |                                   |                                 |                         |                       |                |                   |
|---------------------|-------|-----------------------|-----------|-----------------------------------|---------------------------------|-------------------------|-----------------------|----------------|-------------------|
| Transmitter Circuit | Brand | Model                 | Ant. Type | 2.4GHz Gain with cable loss (dBi) | 5GHz Gain with cable loss (dBi) | 2.4GHz Cable Loss (dBi) | 5GHz Cable Loss (dBi) | Connector Type | Cable Length (mm) |
| Chain (0)           | WNC   | 81-EBJ15.005          | PIFA      | 3.00                              | 5.15~5.35GHz: 2.56              | 1.15                    | 5.15~5.35GHz: 1.70    | IPEX           | 300               |
|                     |       |                       |           |                                   | 5.47~5.725GHz: 4.76             |                         | 5.47~5.725GHz: 1.74   |                |                   |
|                     |       |                       |           |                                   | 5.725~5.85GHz: 4.76             |                         | 5.725~5.85GHz: 1.79   |                |                   |
| Chain (1)           | WNC   | 81-EBJ15.005          | PIFA      | 3.62                              | 5.15~5.35GHz: 3.08              | 1.15                    | 5.15~5.35GHz: 1.70    | IPEX           | 300               |
|                     |       |                       |           |                                   | 5.47~5.725GHz: 3.31             |                         | 5.47~5.725GHz: 1.74   |                |                   |
|                     |       |                       |           |                                   | 5.725~5.85GHz: 2.42             |                         | 5.725~5.85GHz: 1.79   |                |                   |
| Newly               |       |                       |           |                                   |                                 |                         |                       |                |                   |
| Transmitter Circuit | Brand | Model                 | Ant. Type | 2.4GHz Gain with cable loss (dBi) | 5GHz Gain with cable loss (dBi) | Connector Type          | Cable Length (mm)     |                |                   |
| Chain (0)           | INPAQ | DAM-J7-H-DL-065-10-34 | Dipole    | 1.94                              | 1.37                            | SMA RP Plug             | 625                   |                |                   |
| Chain (1)           | INPAQ | DAM-J7-H-DL-065-10-34 | Dipole    | 1.94                              | 1.37                            | SMA RP Plug             | 625                   |                |                   |

Note: 1. Above antenna gains of antenna are Total (H+V).

2. According to above condition, Only Radiated Emissions and Band Edge and Maximum Peak Output Power Measurement was presented in this test report.

3. There are Bluetooth technology and WLAN (2.4GHz, 5GHz & 60GHz) technology used for the EUT.
4. The EUT support multiple function, therefore the WLAN OFDM will be cover BT OFDM (low power) scenario.
5. The power setting are list as below:

| Modulation Mode | Frequency (MHz) | Power Setting | Frequency (MHz) | Power Setting | Frequency (MHz) | Power Setting |
|-----------------|-----------------|---------------|-----------------|---------------|-----------------|---------------|
| GFSK            | 2402            | default       | 2440            | default       | 2480            | default       |

6. WLAN/BT coexistence mode:

◆ 2x2 WLAN + BT:

- 5GHz 802.11a/an (or 11ac) transmit concurrent with BT.
- 2.4GHz: timely shared coexistence. (2.4GHz & BT technology can't transmit at same time.)
- 2.4GHz & 5GHz technology can't transmit at same time.

7. The emission (conducted & radiated emission) of the simultaneous operation (WiFi <5GHz> & Bluetooth) have been evaluated and no non-compliance found. The detail combinations of transmitters / frequencies / modes as below table

| Mode                                        | Available Channel | Tested Channel | Modulation Technology |
|---------------------------------------------|-------------------|----------------|-----------------------|
| 5 GHz<br>(802.11a)<br>+<br>Bluetooth (GFSK) | 36 to 165         | 157            | OFDM                  |
|                                             | 0 to 78           | 0              | FHSS                  |

8. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

### 3.2 Description of Test Modes

40 channels are provided to this EUT:

| CHANNEL | FREQ.<br>(MHz) | CHANNEL | FREQ.<br>(MHz) | CHANNEL | FREQ.<br>(MHz) | CHANNEL | FREQ.<br>(MHz) |
|---------|----------------|---------|----------------|---------|----------------|---------|----------------|
| 0       | 2402           | 10      | 2422           | 20      | 2442           | 30      | 2462           |
| 1       | 2404           | 11      | 2424           | 21      | 2444           | 31      | 2464           |
| 2       | 2406           | 12      | 2426           | 22      | 2446           | 32      | 2466           |
| 3       | 2408           | 13      | 2428           | 23      | 2448           | 33      | 2468           |
| 4       | 2410           | 14      | 2430           | 24      | 2450           | 34      | 2470           |
| 5       | 2412           | 15      | 2432           | 25      | 2452           | 35      | 2472           |
| 6       | 2414           | 16      | 2434           | 26      | 2454           | 36      | 2474           |
| 7       | 2416           | 17      | 2436           | 27      | 2456           | 37      | 2476           |
| 8       | 2418           | 18      | 2438           | 28      | 2458           | 38      | 2478           |
| 9       | 2420           | 19      | 2440           | 29      | 2460           | 39      | 2480           |

### 3.2.1 Test Mode Applicability and Tested Channel Detail

| EUT CONFIGURE MODE | APPLICABLE TO |       |      | DESCRIPTION |
|--------------------|---------------|-------|------|-------------|
|                    | RE $\geq$ 1G  | RE<1G | APCM |             |
| -                  | √             | √     | √    | -           |

Where **RE $\geq$ 1G:** Radiated Emission above 1GHz  
**PLC:** Power Line Conducted Emission  
**RE<1G:** Radiated Emission below 1GHz  
**APCM:** Antenna Port Conducted Measurement

**NOTE:** The EUT's antenna had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on Z-plane.

#### Radiated Emission Test (Above 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TYPE | DATA RATE (Mbps) |
|-------------------|----------------|-----------------|------------------|
| 0 to 39           | 0, 19, 39      | GFSK            | 1                |

#### Radiated Emission Test (Below 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TYPE | DATA RATE (Mbps) |
|-------------------|----------------|-----------------|------------------|
| 0 to 39           | 39             | GFSK            | 1                |

#### Antenna Port Conducted Measurement:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TYPE | DATA RATE (Mbps) |
|-------------------|----------------|-----------------|------------------|
| 0 to 39           | 0, 19, 39      | GFSK            | 1                |

#### Test Condition:

| APPLICABLE TO | ENVIRONMENTAL CONDITIONS | INPUT POWER (SYSTEM) | TESTED BY     |
|---------------|--------------------------|----------------------|---------------|
| RE $\geq$ 1G  | 22deg. C, 69%RH          | 120Vac, 60Hz         | Rey Chen      |
| RE<1G         | 24deg. C, 66%RH          | 120Vac, 60Hz         | Robert Cheng  |
| APCM          | 25deg. C, 60%RH          | 120Vac, 60Hz         | Anderson Chen |

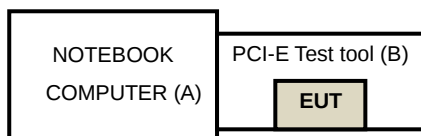
### 3.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| No. | Product           | Brand            | Model No. | Serial No. | FCC ID | Remark             |
|-----|-------------------|------------------|-----------|------------|--------|--------------------|
| A   | NOTEBOOK COMPUTER | Lenovo           | 0769      | NA         | NA     | Supplied by Client |
| B   | PCI-E Test tool   | Qualcomm Atheros | NA        | NA         | NA     | Supplied by Client |

**NOTE:** All power cords of the above support units are non-shielded (1.8 m).

#### 3.3.1 Configuration of System under Test



### 3.4 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC Part 15, Subpart C (15.247)**

**KDB 558074 D01 DTS Meas Guidance v03r05**

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

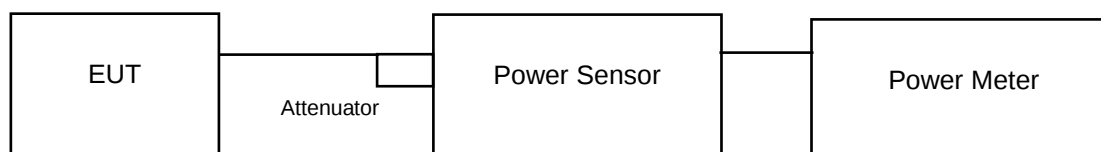
## 4 Test Types and Results

### 4.1 Conducted Output Power Measurement

#### 4.1.1 Limits of Conducted Output Power Measurement

For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

#### 4.1.2 Test Setup



#### 4.1.3 Test Instruments

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|----------------------------|-----------|------------|-----------------|------------------|
| Power meter<br>Anritsu     | ML2495A   | 1014008    | May 11, 2017    | May 10, 2018     |
| Power sensor<br>Anritsu    | MA2411B   | 0917122    | May 11, 2017    | May 10, 2018     |

**Note:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : June 02, 2017

#### 4.1.4 Test Procedures

A peak / average power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak / average power sensor. Record the power level.

#### 4.1.5 Deviation from Test Standard

No deviation.

#### 4.1.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

#### 4.1.7 Test Results

##### FOR PEAK POWER

| Channel | Frequency (MHz) | Peak Power (mW) | Peak Power (dBm) | Limit (dBm) | Pass/Fail |
|---------|-----------------|-----------------|------------------|-------------|-----------|
| 0       | 2402            | 1.845           | 2.66             | 30          | Pass      |
| 19      | 2440            | 1.945           | 2.89             | 30          | Pass      |
| 39      | 2480            | 1.995           | 3.00             | 30          | Pass      |

##### FOR AVERAGE POWER

| Channel | Frequency (MHz) | Average Power (mW) | Average Power (dBm) |
|---------|-----------------|--------------------|---------------------|
| 0       | 2402            | 1.535              | 1.86                |
| 19      | 2440            | 1.667              | 2.22                |
| 39      | 2480            | 1.652              | 2.18                |

## 4.2 Radiated Emission and Bandedge Measurement

### 4.2.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

| Frequencies (MHz) | Field Strength (microvolts/meter) | Measurement Distance (meters) |
|-------------------|-----------------------------------|-------------------------------|
| 0.009 ~ 0.490     | 2400/F(kHz)                       | 300                           |
| 0.490 ~ 1.705     | 24000/F(kHz)                      | 30                            |
| 1.705 ~ 30.0      | 30                                | 30                            |
| 30 ~ 88           | 100                               | 3                             |
| 88 ~ 216          | 150                               | 3                             |
| 216 ~ 960         | 200                               | 3                             |
| Above 960         | 500                               | 3                             |

#### NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

#### 4.2.2 Test Instruments

| DESCRIPTION & MANUFACTURER                     | MODEL NO.                                                   | SERIAL NO.                    | CALIBRATED DATE                                 | CALIBRATED UNTIL                                |
|------------------------------------------------|-------------------------------------------------------------|-------------------------------|-------------------------------------------------|-------------------------------------------------|
| Test Receiver<br>Agilent                       | N9038A                                                      | MY50010156                    | Aug. 18, 2016                                   | Aug. 17, 2017                                   |
| Pre-Amplifier <sup>(*)</sup><br>EMCI           | EMC001340                                                   | 980142                        | Jan. 20, 2016                                   | Jan. 19, 2018                                   |
| Loop Antenna <sup>(*)</sup><br>Electro-Metrics | EM-6879                                                     | 264                           | Dec. 16, 2016                                   | Dec. 15, 2018                                   |
| RF Cable                                       | NA                                                          | LOOPCAB-001<br>LOOPCAB-002    | Jan. 17, 2017                                   | Jan. 16, 2018                                   |
| Pre-Amplifier<br>Mini-Circuits                 | ZFL-1000VH2B                                                | AMP-ZFL-05                    | May 06, 2017                                    | May 05, 2018                                    |
| Trilog Broadband Antenna<br>SCHWARZBECK        | VULB 9168                                                   | 9168-361                      | Dec. 29, 2016                                   | Dec. 28, 2017                                   |
| RF Cable                                       | 8D                                                          | 966-3-1<br>966-3-2<br>966-3-3 | Apr. 01, 2017                                   | Mar. 31, 2018                                   |
| Fixed attenuator<br>Mini-Circuits              | UNAT-5+                                                     | PAD-3m-3-01                   | Oct. 05, 2016                                   | Oct. 04, 2017                                   |
| Horn_Antenna<br>SCHWARZBECK                    | BBHA9120-D                                                  | 9120D-406                     | Dec. 28, 2016                                   | Dec. 27, 2017                                   |
| Pre-Amplifier<br>EMCI                          | EMC12630SE                                                  | 980384                        | Feb. 02, 2017                                   | Feb. 01, 2018                                   |
| RF Cable                                       | EMC104-SM-SM-1200<br>EMC104-SM-SM-2000<br>EMC104-SM-SM-5000 | 160922<br>150317<br>150322    | Feb. 02, 2017<br>Mar. 29, 2017<br>Mar. 29, 2017 | Feb. 01, 2018<br>Mar. 28, 2018<br>Mar. 28, 2018 |
| Spectrum Analyzer<br>Keysight                  | N9030A                                                      | MY54490520                    | July 29, 2016                                   | July 28, 2017                                   |
| Pre-Amplifier<br>EMCI                          | EMC184045SE                                                 | 980386                        | Feb. 02, 2017                                   | Feb. 01, 2018                                   |
| Horn_Antenna<br>SCHWARZBECK                    | BBHA 9170                                                   | BBHA9170608                   | Dec. 15, 2016                                   | Dec. 14, 2017                                   |
| RF Cable                                       | SUCOFLEX 102                                                | 36432/2<br>36433/2            | Jan. 15, 2017                                   | Jan. 14, 2018                                   |
| Software                                       | ADT_Radiated_V8.7.08                                        | NA                            | NA                                              | NA                                              |
| Antenna Tower & Turn Table<br>Max-Full         | MF-7802                                                     | MF780208406                   | NA                                              | NA                                              |
| Boresight Antenna Fixture                      | FBA-01                                                      | FBA-SIP01                     | NA                                              | NA                                              |

#### Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. \*The calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in 966 Chamber No. 3.
4. The FCC Site Registration No. is 147459
5. The CANADA Site Registration No. is 20331-1
6. Tested Date: June 22 to 23, 2017

**For below 1GHz test:**

| DESCRIPTION & MANUFACTURER              | MODEL NO.                | SERIAL NO.                   | CALIBRATED DATE | CALIBRATED UNTIL |
|-----------------------------------------|--------------------------|------------------------------|-----------------|------------------|
| Test Receiver<br>Agilent                | N9038A                   | MY50010156                   | Aug. 11, 2014   | Aug. 10, 2015    |
| Pre-Amplifier<br>Mini-Circuits          | ZFL-1000VH2<br>B         | AMP-ZFL-04                   | Nov. 12, 2014   | Nov. 11, 2015    |
| Trilog Broadband Antenna<br>SCHWARZBECK | VULB 9168                | 9168-361                     | Feb. 09, 2015   | Feb. 08, 2016    |
| RF Cable                                | 8D-FB                    | CHHCAB-001-1<br>CHHCAB-001-2 | Oct. 05, 2014   | Oct. 04, 2015    |
|                                         | RF-141                   | CHHCAB-004                   | Oct. 05, 2014   | Oct. 04, 2015    |
| Software                                | ADT_Radiated<br>_V8.7.07 | NA                           | NA              | NA               |
| Antenna Tower & Turn Table<br>CT        | NA                       | NA                           | NA              | NA               |

**Note:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. H.
3. The FCC Site Registration No. is 797305.
4. The CANADA Site Registration No. is IC 7450H-3.
5. Tested Date: Mar. 21, 2015

#### 4.2.3 Test Procedures

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna 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.
- d. 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 rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

**Note:**

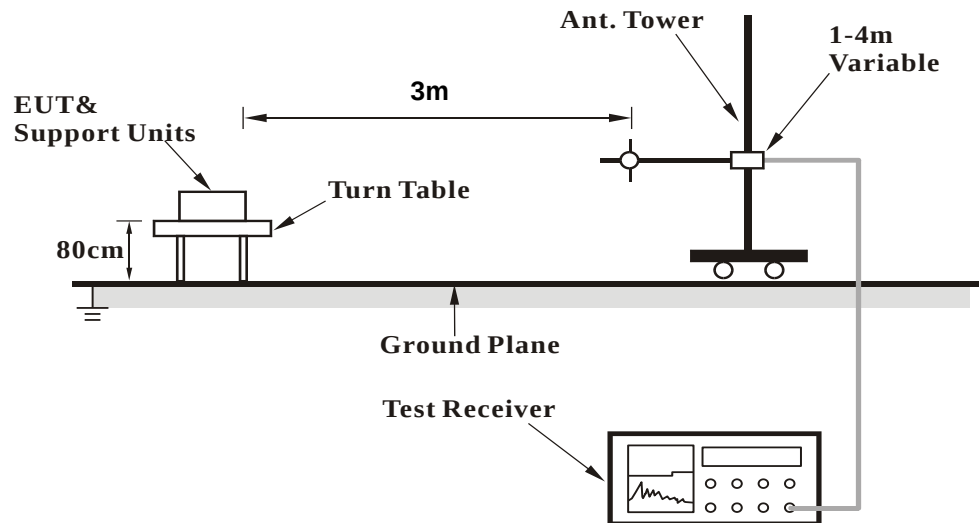
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is  $\geq 1/T$  (Duty cycle  $< 98\%$ ) or 10Hz (Duty cycle  $\geq 98\%$ ) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

#### 4.2.4 Deviation from Test Standard

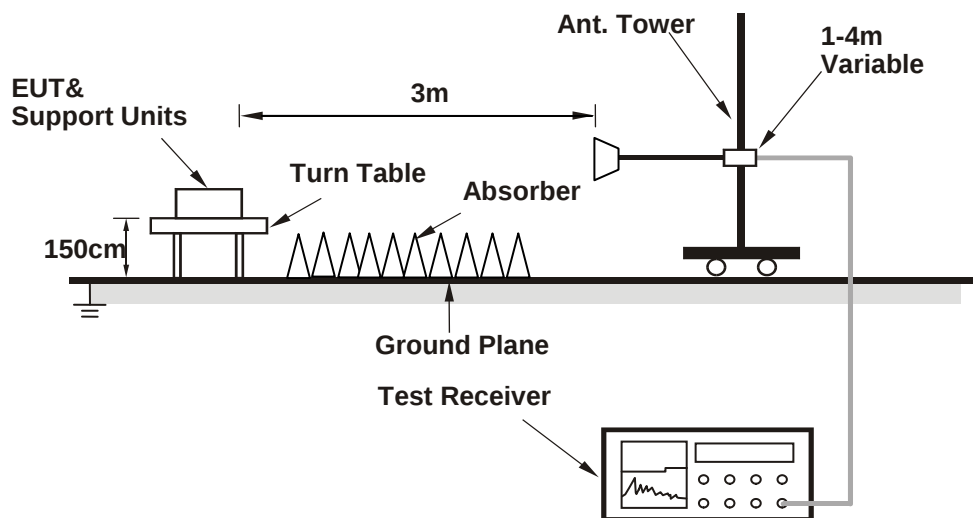
No deviation.

#### 4.2.5 Test Setup

##### <Frequency Range below 1GHz>



##### <Frequency Range above 1GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.2.6 EUT Operating Conditions

1. Connect the EUT with the support unit A (Notebook Computer) which is placed on a testing table.
2. The communication partner run test program "QCRT-CONN30033.exe" to enable EUT under transmission/receiving condition continuously at specific channel frequency.

#### 4.2.7 Test Results

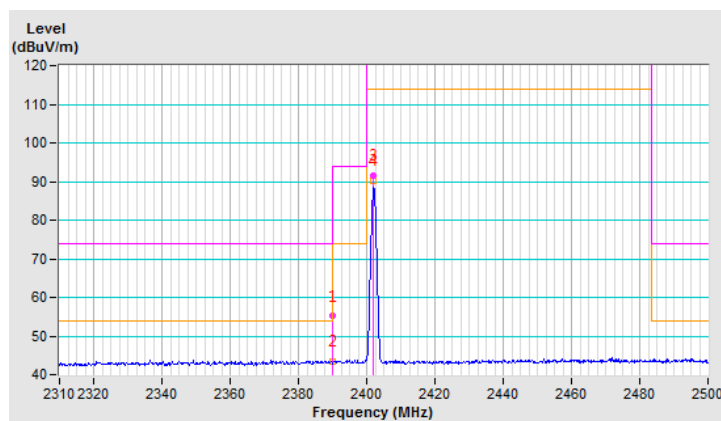
##### ABOVE 1GHz DATA

|                        |              |                          |              |
|------------------------|--------------|--------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 0 | <b>DETECTOR FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 25GHz |                          | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |             |                         |                |             |                    |                      |                  |                          |
|-----------------------------------------------------|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| NO.                                                 | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1                                                   | 2390.00     | 55.1 PK                 | 74.0           | -18.9       | 3.05 H             | 319                  | 56.7             | -1.6                     |
| 2                                                   | 2390.00     | 43.5 AV                 | 54.0           | -10.5       | 3.05 H             | 319                  | 45.1             | -1.6                     |
| 3                                                   | *2402.00    | 91.5 PK                 |                |             | 3.05 H             | 319                  | 93.0             | -1.5                     |
| 4                                                   | *2402.00    | 90.3 AV                 |                |             | 3.05 H             | 319                  | 91.8             | -1.5                     |

##### REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency.

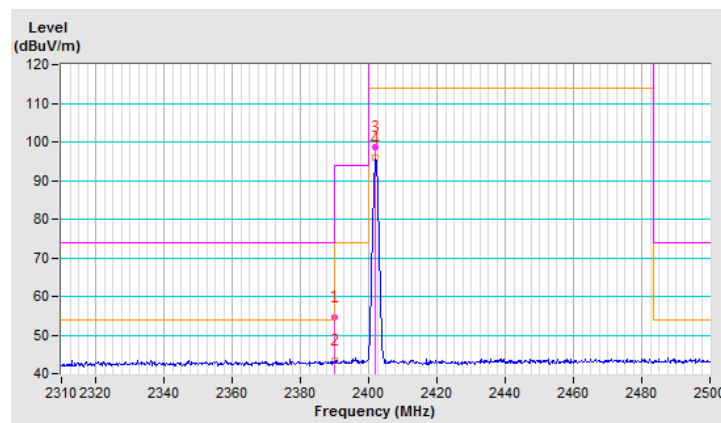


|                        |              |                              |              |
|------------------------|--------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 0 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 25GHz |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 2390.00        | 54.7 PK                       | 74.0              | -19.3          | 1.25 V                   | 191                        | 56.3                   | -1.6                           |
| 2                                                 | 2390.00        | 43.5 AV                       | 54.0              | -10.5          | 1.25 V                   | 191                        | 45.1                   | -1.6                           |
| 3                                                 | *2402.00       | 98.8 PK                       |                   |                | 1.25 V                   | 191                        | 100.3                  | -1.5                           |
| 4                                                 | *2402.00       | 95.8 AV                       |                   |                | 1.25 V                   | 191                        | 97.3                   | -1.5                           |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency.

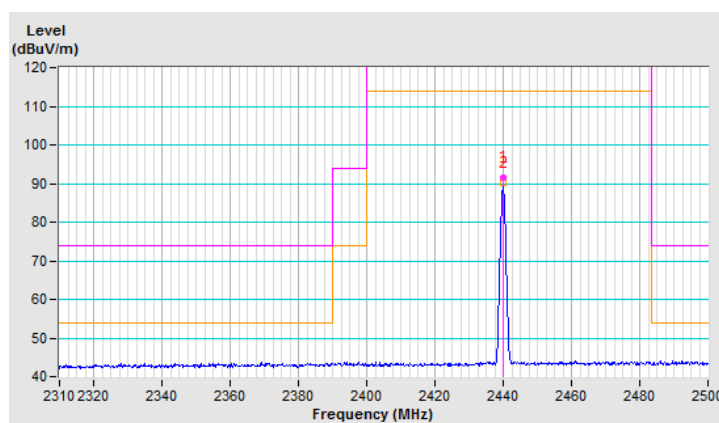


|                        |               |                          |              |
|------------------------|---------------|--------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 19 | <b>DETECTOR FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 25GHz  |                          | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |             |                         |                |             |                    |                      |                  |                          |
|-----------------------------------------------------|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| NO.                                                 | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1                                                   | *2440.00    | 91.6 PK                 |                |             | 3.08 H             | 303                  | 92.8             | -1.2                     |
| 2                                                   | *2440.00    | 90.3 AV                 |                |             | 3.08 H             | 303                  | 91.5             | -1.2                     |

#### REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency.

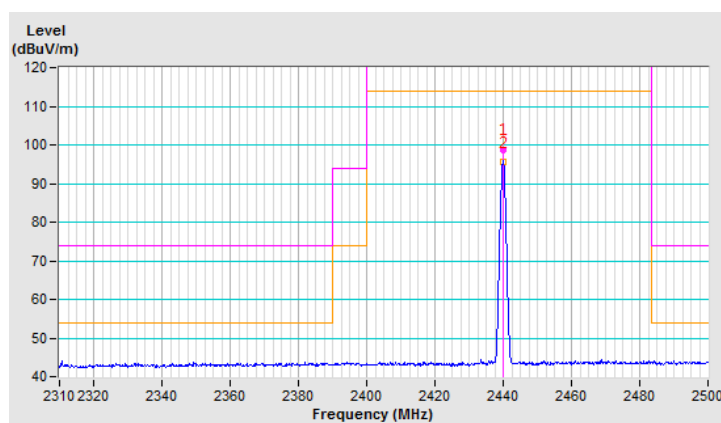


|                        |               |                          |              |
|------------------------|---------------|--------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 19 | <b>DETECTOR FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 25GHz  |                          | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |             |                         |                |             |                    |                      |                  |                          |
|---------------------------------------------------|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| NO.                                               | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1                                                 | *2440.00    | 98.6 PK                 |                |             | 1.26 V             | 182                  | 100.1            | -1.5                     |
| 2                                                 | *2440.00    | 95.5 AV                 |                |             | 1.26 V             | 182                  | 97.0             | -1.5                     |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency.

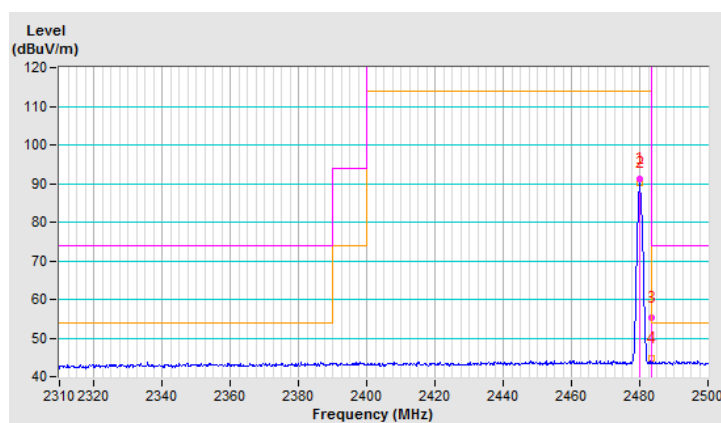


|                        |               |                              |              |
|------------------------|---------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 39 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 25GHz  |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | *2480.00       | 91.3 PK                       |                   |                | 3.04 H                   | 325                        | 92.7                   | -1.4                           |
| 2                                                   | *2480.00       | 90.2 AV                       |                   |                | 3.04 H                   | 325                        | 91.6                   | -1.4                           |
| 3                                                   | 2483.50        | 55.4 PK                       | 74.0              | -18.6          | 3.04 H                   | 325                        | 56.8                   | -1.4                           |
| 4                                                   | 2483.50        | 44.7 AV                       | 54.0              | -9.3           | 3.04 H                   | 325                        | 46.1                   | -1.4                           |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency.

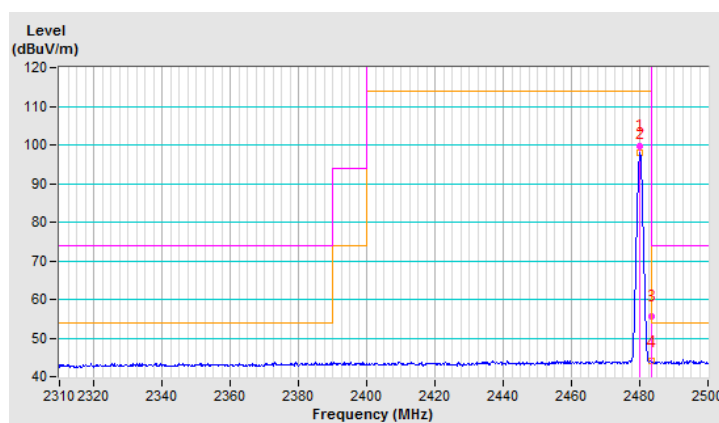


|                        |               |                              |              |
|------------------------|---------------|------------------------------|--------------|
| <b>CHANNEL</b>         | TX Channel 39 | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 25GHz  |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | *2480.00       | 99.8 PK                       |                   |                | 1.31 V                   | 184                        | 101.2                  | -1.4                           |
| 2                                                 | *2480.00       | 97.8 AV                       |                   |                | 1.31 V                   | 184                        | 99.2                   | -1.4                           |
| 3                                                 | 2483.50        | 55.7 PK                       | 74.0              | -18.3          | 1.31 V                   | 184                        | 57.1                   | -1.4                           |
| 4                                                 | 2483.50        | 43.9 AV                       | 54.0              | -10.1          | 1.31 V                   | 184                        | 45.3                   | -1.4                           |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " \* ": Fundamental frequency.

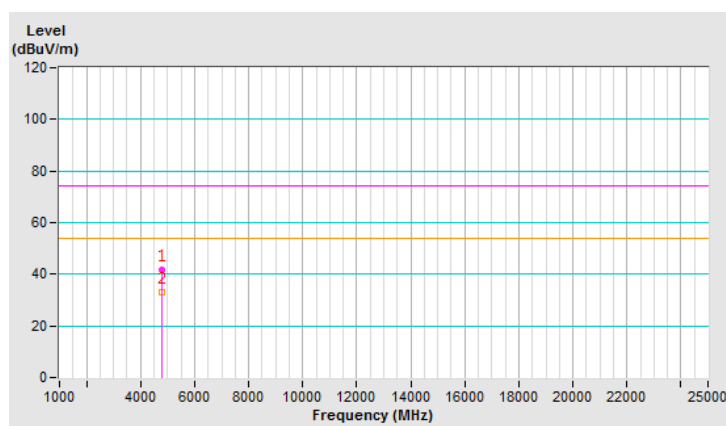


|                 |                |                      |              |
|-----------------|----------------|----------------------|--------------|
| CHANNEL         | RX Channel 0   | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 12.5GHz |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4804.00        | 41.8 PK                       | 74.0              | -32.2          | 1.36 H                   | 256                        | 38.8                   | 3.0                            |
| 2                                                   | 4804.00        | 32.9 AV                       | 54.0              | -21.1          | 1.36 H                   | 256                        | 29.9                   | 3.0                            |

#### REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

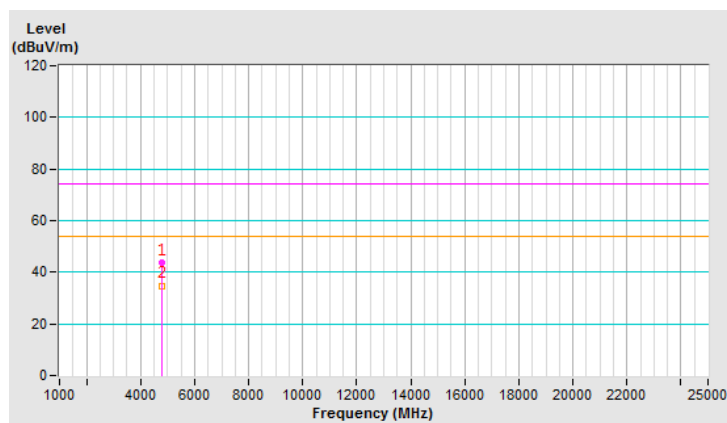


|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | RX Channel 0   | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 12.5GHz |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 4804.00        | 43.5 PK                       | 74.0              | -30.5          | 3.43 V                   | 128                        | 40.5                   | 3.0                            |
| 2                                                 | 4804.00        | 34.7 AV                       | 54.0              | -19.3          | 3.43 V                   | 128                        | 31.7                   | 3.0                            |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

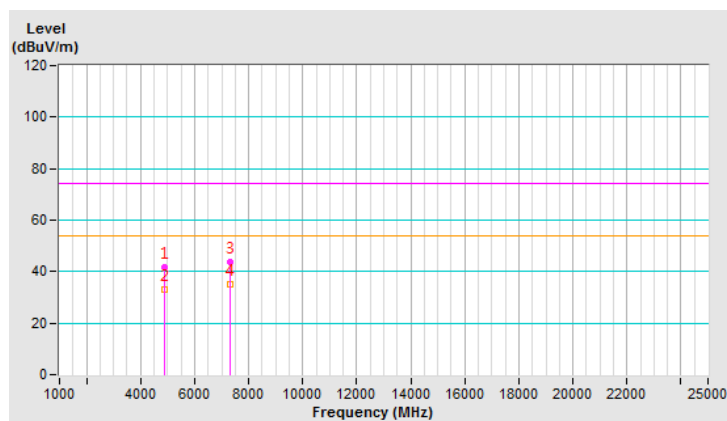


|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | RX Channel 19  | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 12.5GHz |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4880.00        | 41.9 PK                       | 74.0              | -32.1          | 1.32 H                   | 268                        | 38.7                   | 3.2                            |
| 2                                                   | 4880.00        | 33.0 AV                       | 54.0              | -21.0          | 1.32 H                   | 268                        | 29.8                   | 3.2                            |
| 3                                                   | 7320.00        | 43.8 PK                       | 74.0              | -30.2          | 1.46 H                   | 298                        | 34.9                   | 8.9                            |
| 4                                                   | 7320.00        | 35.0 AV                       | 54.0              | -19.0          | 1.46 H                   | 298                        | 26.1                   | 8.9                            |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

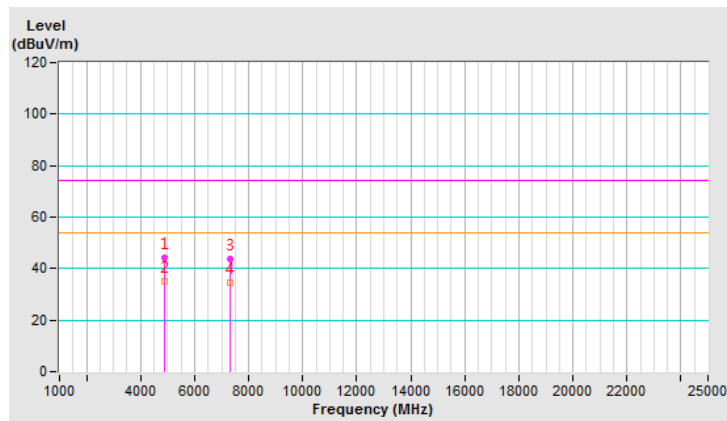


|                 |                |                      |              |
|-----------------|----------------|----------------------|--------------|
| CHANNEL         | RX Channel 19  | DETECTOR<br>FUNCTION | Peak (PK)    |
| FREQUENCY RANGE | 1GHz ~ 12.5GHz |                      | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 4880.00        | 44.1 PK                       | 74.0              | -29.9          | 3.46 V                   | 140                        | 40.9                   | 3.2                            |
| 2                                                 | 4880.00        | 35.2 AV                       | 54.0              | -18.8          | 3.46 V                   | 140                        | 32.0                   | 3.2                            |
| 3                                                 | 7320.00        | 43.7 PK                       | 74.0              | -30.3          | 1.68 V                   | 311                        | 34.8                   | 8.9                            |
| 4                                                 | 7320.00        | 34.6 AV                       | 54.0              | -19.4          | 1.68 V                   | 311                        | 25.7                   | 8.9                            |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

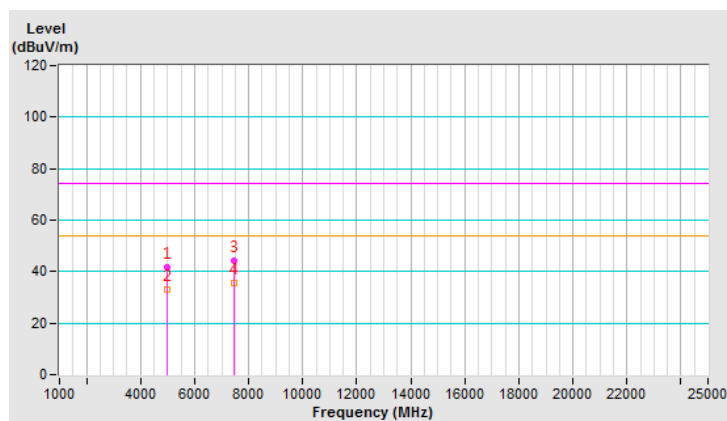


|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | RX Channel 39  | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 12.5GHz |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 4960.00        | 41.8 PK                       | 74.0              | -32.2          | 1.34 H                   | 246                        | 38.6                   | 3.2                            |
| 2                                                   | 4960.00        | 33.2 AV                       | 54.0              | -20.8          | 1.34 H                   | 246                        | 30.0                   | 3.2                            |
| 3                                                   | 7440.00        | 44.3 PK                       | 74.0              | -29.7          | 1.38 H                   | 308                        | 35.1                   | 9.2                            |
| 4                                                   | 7440.00        | 35.7 AV                       | 54.0              | -18.3          | 1.38 H                   | 308                        | 26.5                   | 9.2                            |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

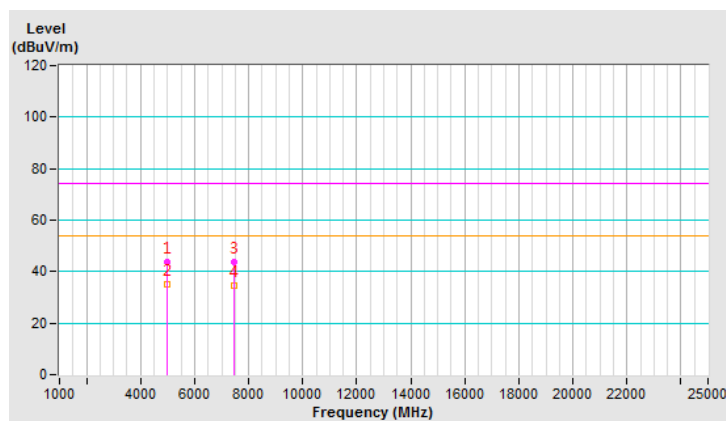


|                        |                |                              |              |
|------------------------|----------------|------------------------------|--------------|
| <b>CHANNEL</b>         | RX Channel 39  | <b>DETECTOR<br/>FUNCTION</b> | Peak (PK)    |
| <b>FREQUENCY RANGE</b> | 1GHz ~ 12.5GHz |                              | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 4960.00        | 43.8 PK                       | 74.0              | -30.2          | 3.47 V                   | 115                        | 40.6                   | 3.2                            |
| 2                                                 | 4960.00        | 35.1 AV                       | 54.0              | -18.9          | 3.47 V                   | 115                        | 31.9                   | 3.2                            |
| 3                                                 | 7440.00        | 43.6 PK                       | 74.0              | -30.4          | 1.63 V                   | 303                        | 34.4                   | 9.2                            |
| 4                                                 | 7440.00        | 34.7 AV                       | 54.0              | -19.3          | 1.63 V                   | 303                        | 25.5                   | 9.2                            |

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



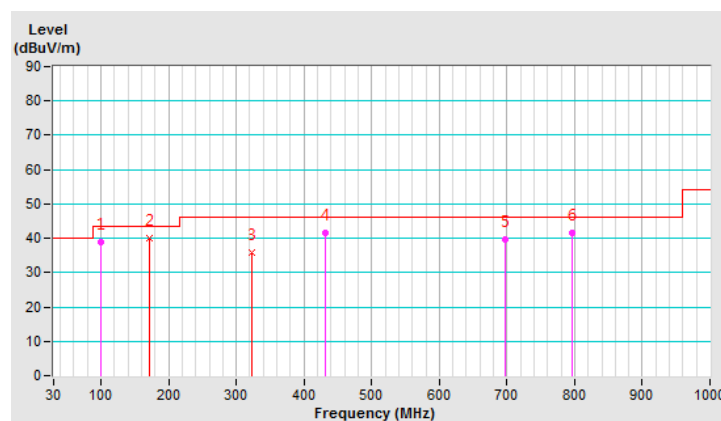
### BELOW 1GHz WORST-CASE DATA

|                 |               |                      |                 |
|-----------------|---------------|----------------------|-----------------|
| CHANNEL         | TX Channel 39 | DETECTOR<br>FUNCTION | Quasi-Peak (QP) |
| FREQUENCY RANGE | 30MHz ~ 1GHz  |                      |                 |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|-----------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                                 | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                   | 100.00         | 39.0 QP                       | 43.5              | -4.5           | 2.00 H                   | 27                         | 51.6                   | -12.6                          |
| 2                                                   | 171.00         | 40.0 QP                       | 43.5              | -3.5           | 2.00 H                   | 84                         | 49.1                   | -9.1                           |
| 3                                                   | 323.20         | 35.7 QP                       | 46.0              | -10.3          | 1.00 H                   | 191                        | 42.3                   | -6.6                           |
| 4                                                   | 431.82         | 41.4 QP                       | 46.0              | -4.6           | 2.00 H                   | 242                        | 45.5                   | -4.1                           |
| 5                                                   | 697.00         | 39.8 QP                       | 46.0              | -6.2           | 1.50 H                   | 310                        | 39.3                   | 0.5                            |
| 6                                                   | 796.60         | 41.4 QP                       | 46.0              | -4.6           | 1.00 H                   | 114                        | 39.4                   | 2.0                            |

#### REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

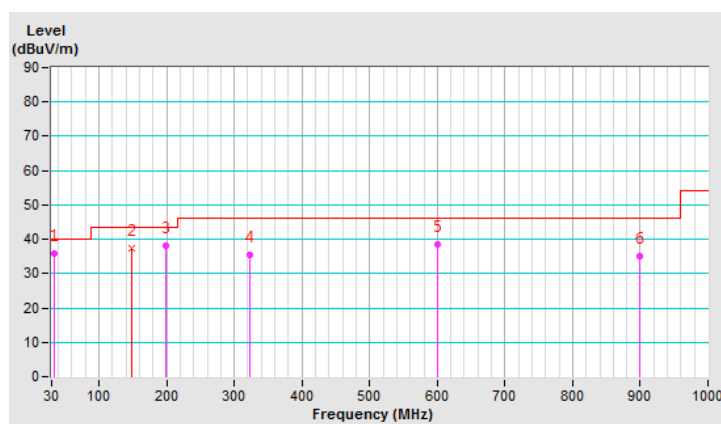


|                        |               |                              |                 |
|------------------------|---------------|------------------------------|-----------------|
| <b>CHANNEL</b>         | TX Channel 39 | <b>DETECTOR<br/>FUNCTION</b> | Quasi-Peak (QP) |
| <b>FREQUENCY RANGE</b> | 30MHz ~ 1GHz  |                              |                 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M |                |                               |                   |                |                          |                            |                        |                                |
|---------------------------------------------------|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO.                                               | FREQ.<br>(MHz) | EMISSION<br>LEVEL<br>(dBuV/m) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>HEIGHT<br>(m) | TABLE<br>ANGLE<br>(Degree) | RAW<br>VALUE<br>(dBuV) | CORRECTION<br>FACTOR<br>(dB/m) |
| 1                                                 | 34.30          | 35.8 QP                       | 40.0              | -4.2           | 1.00 V                   | 233                        | 44.8                   | -9.0                           |
| 2                                                 | 149.10         | 37.3 QP                       | 43.5              | -6.2           | 1.50 V                   | 139                        | 45.5                   | -8.2                           |
| 3                                                 | 199.20         | 38.1 QP                       | 43.5              | -5.4           | 2.00 V                   | 255                        | 49.4                   | -11.3                          |
| 4                                                 | 323.09         | 35.6 QP                       | 46.0              | -10.4          | 1.50 V                   | 199                        | 42.2                   | -6.6                           |
| 5                                                 | 599.45         | 38.5 QP                       | 46.0              | -7.5           | 1.50 V                   | 100                        | 39.4                   | -0.9                           |
| 6                                                 | 899.27         | 34.9 QP                       | 46.0              | -11.1          | 1.50 V                   | 252                        | 31.9                   | 3.0                            |

#### REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



## 5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

## Appendix – Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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The address and road map of all our labs can be found in our web site also.

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