

# FCC/IC RF Test Report

APPLICANT : VERTU Corporation Limited  
EQUIPMENT : Cellular Telephone  
BRAND NAME : VERTU  
MODEL NAME : ASTER  
TYPE NAME (LTE) : VM-01  
TYPE NAME (WCDMA) : VM-01C  
FCC ID : P7QVM-01  
IC : 4299A-VM01  
STANDARD : FCC Part 15 Subpart C §15.247  
IC RSS-210 issue 8  
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Jun. 23, 2014 and testing was completed on Jul. 16, 2014. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.



Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager



## SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1<sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.



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## REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| FR462340C  | Rev. 01 | Initial issue of report | Jul. 30, 2014 |
|            |         |                         |               |
|            |         |                         |               |
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|            |         |                         |               |

## SUMMARY OF TEST RESULT

| Report Section | FCC Rule           | IC Rule         | Description                                        | Limit                          | Result        | Remark                                         |
|----------------|--------------------|-----------------|----------------------------------------------------|--------------------------------|---------------|------------------------------------------------|
| -              | 15.247(a)(2)       | RSS-210 A8.2(a) | 6dB Bandwidth                                      | $\geq 0.5\text{MHz}$           | Not Performed | Please refer to Sporton Report No. : FR430469C |
| -              | -                  | RSS-Gen 4.6.1   | 99% Bandwidth                                      | -                              | Not Performed | Please refer to Sporton Report No. : FR430469C |
| -              | 15.247(b)          | RSS-210 A8.4    | Power Output Measurement                           | $\leq 30\text{dBm}$            | Not Performed | Please refer to Sporton Report No. : FR430469C |
| -              | 15.247(e)          | RSS-210 A8.2(b) | Power Spectral Density                             | $\leq 8\text{dBm}/3\text{kHz}$ | Not Performed | Please refer to Sporton Report No. : FR430469C |
| -              | 15.247(d)          | RSS-210 A8.5    | Conducted Band Edges                               | $\leq 20\text{dBc}$            | Not Performed | Please refer to Sporton Report No. : FR430469C |
|                |                    |                 | Conducted Spurious Emission                        |                                | Not Performed | Please refer to Sporton Report No. : FR430469C |
| 3.1            | 15.247(d)          | RSS-210 A8.5    | Radiated Band Edges and Radiated Spurious Emission | 15.209(a) & 15.247(d)          | Pass          | Under limit<br>6.38 dB at<br>39.450 MHz        |
| 3.2            | 15.207             | RSS-Gen 7.2.4   | AC Conducted Emission                              | 15.207(a)                      | Pass          | Under limit<br>9.00 dB at<br>0.182 MHz         |
| 3.3            | 15.203 & 15.247(b) | RSS-210 A8.4    | Antenna Requirement                                | N/A                            | Pass          | -                                              |



# 1 General Description

## 1.1 Applicant

**VERTU Corporation Limited**

Beacon Hill Road, Church Crookham, Hampshire GU52 8DY, United Kingdom

## 1.2 Manufacturer

**VERTU Corporation Limited**

Beacon Hill Road, Church Crookham, Hampshire GU52 8DY, United Kingdom

## 1.3 Product Feature of Equipment Under Test

| Product Feature                 |                                                                                                                  |
|---------------------------------|------------------------------------------------------------------------------------------------------------------|
| Equipment                       | Cellular Telephone                                                                                               |
| Brand Name                      | VERTU                                                                                                            |
| Model Name                      | ASTER                                                                                                            |
| Type Name (LTE)                 | VM-01                                                                                                            |
| Type Name (WCDMA)               | VM-01C                                                                                                           |
| Sample 1                        | LTE Sku                                                                                                          |
| Sample 2                        | WCDMA Sku                                                                                                        |
| FCC ID                          | P7QVM-01                                                                                                         |
| IC                              | 4299A-VM01                                                                                                       |
| EUT supports Radios application | GSM/EGPRS/WCDMA/HSPA/LTE/NFC<br>WLAN 11a/b/g/n HT20/HT40<br>WLAN 11ac VHT20/VHT40/VHT80<br>Bluetooth v4.0 EDR/LE |
| HW Version                      | F2                                                                                                               |
| SW Version                      | 000C_1_420                                                                                                       |
| EUT Stage                       | Identical Prototype                                                                                              |

### Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. There are two different types of EUT sample #1, and sample #2. For WWAN bands, Sample 1 support GSM, WCDMA and LTE bands. Sample #2 only support GSM and WCDMA bands, and LTE band is disabled by software.

**List of Accessory:**

| Specification of Accessory |            |          |
|----------------------------|------------|----------|
| AC Adapter                 | Brand Name | VERTU    |
|                            | Model Name | AC-32V   |
| Battery                    | Brand Name | VERTU    |
|                            | Model Name | BP-9V    |
| Car Charger                | Brand Name | VERTU    |
|                            | Model Name | DC-30V   |
| Portable Power<br>Charger  | Brand Name | VERTU    |
|                            | Model Name | DC-15V   |
| Earphone 1                 | Brand Name | VERTU    |
|                            | Model Name | WH-4V    |
| Earphone 2                 | Brand Name | VERTU    |
|                            | Model Name | WH-5V    |
| Earphone 3                 | Brand Name | VERTU    |
|                            | Model Name | HP-1V    |
| USB Cable                  | Brand Name | VERTU    |
|                            | Model Name | CA-225DV |
| Wireless<br>Charger        | Brand Name | VERTU    |
|                            | Model Name | AC-35V   |
| Wireless<br>Speaker        | Brand Name | VERTU    |
|                            | Model Name | SP-1V    |

## 1.4 Product Specification subjective to this standard

| Product Specification subjective to this standard |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tx/Rx Channel Frequency Range</b>              | 802.11b/g/n/ac : 2412 MHz ~ 2462 MHz<br>802.11a/n/ac: 5745~5825MHz.                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Maximum (Peak) Output Power to Antenna</b>     | <b>&lt;2412 MHz ~ 2462 MHz&gt;</b><br>802.11b : 18.83 dBm (0.0764 W)<br>802.11g : 21.78 dBm (0.1507 W)<br>802.11n HT20 : 19.23 dBm (0.0838 W)<br>802.11n HT40 : 19.66 dBm (0.0925 W)<br><b>&lt;5745 MHz ~ 5825 MHz&gt;</b><br>802.11a : 20.61 dBm (0.1151 W)<br>802.11n HT20 : 19.26 dBm (0.0843 W)<br>802.11n HT40 : 18.81 dBm (0.0760 W)<br>802.11ac VHT20 : 17.38 dBm (0.0547 W)<br>802.11ac VHT40 : 16.93 dBm (0.0493 W)<br>802.11ac VHT80 : 16.46 dBm (0.0443 W) |
| <b>Antenna Type</b>                               | 802.11b/g/n/ac : PIFA Antenna type with gain -2.00 dBi<br>802.11a/n/ac : PIFA Antenna type with gain -2.00 dBi                                                                                                                                                                                                                                                                                                                                                        |
| <b>Type of Modulation</b>                         | 802.11b : DSSS (DBPSK / DQPSK / CCK)<br>802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)<br>802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)                                                                                                                                                                                                                                                                                                                    |

## 1.5 Modification of EUT

No modifications are made to the EUT during all test items.

## 1.6 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

|                           |                                                                                                                                                              |         |           |                            |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------|----------------------------|
| <b>Test Site</b>          | SPORTON INTERNATIONAL INC.                                                                                                                                   |         |           |                            |
| <b>Test Site Location</b> | No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park,<br>Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.<br>TEL: +886-3-3273456 / FAX: +886-3-3284978 |         |           |                            |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b>                                                                                                                                      |         |           | <b>IC Registration No.</b> |
|                           | TH02-HY                                                                                                                                                      | CO05-HY | 03CH05-HY | 4086B-1                    |

## 1.7 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r02
- ANSI C63.4-2003
- IC RSS-210 Issue 8
- IC RSS-Gen Issue 3
- NOTICE 2012-DRS0126

### Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.
3. Per the section 2.2.3 of Notice of 2012-DRS0126, " Receivers Excluded from Industry Canada Requirements", only radiocommunication receivers operating in stand-alone mode within the band 30-960 MHz and scanner receivers are subject to Industry Canada requirements.





## 2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

The final configuration from all the combinations and the worst-case data rates were investigated by measuring the maximum power across all the data rates and modulation modes under section 2.2.

Based on the worst configuration found above, the RF power setting is set individually to meet FCC compliance limit for the final conducted and radiated tests shown in section 2.3.

### 2.1 Carrier Frequency Channel

| Frequency Band  | Channel | Freq. (MHz) | Channel | Freq. (MHz) |
|-----------------|---------|-------------|---------|-------------|
| 2400-2483.5 MHz | 1       | 2412        | 7       | 2442        |
|                 | 2       | 2417        | 8       | 2447        |
|                 | 3       | 2422        | 9       | 2452        |
|                 | 4       | 2427        | 10      | 2457        |
|                 | 5       | 2432        | 11      | 2462        |
|                 | 6       | 2437        | -       | -           |

| Frequency Band          | Channel | Freq. (MHz) | Channel | Freq. (MHz) |
|-------------------------|---------|-------------|---------|-------------|
| 5725-5850 MHz<br>Band 4 | 149     | 5745        | 157     | 5785        |
|                         | 151     | 5755        | 159     | 5795        |
|                         | 153     | 5765        | 161     | 5805        |
|                         | 155     | 5775        | 165     | 5825        |

## 2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and data rate associated with the highest power were chosen for full test shown in the following tables.

| 2.4GHz 802.11b mode |              |        |          |         |
|---------------------|--------------|--------|----------|---------|
| Data Rate (MHz)     | 1M bps       | 2M bps | 5.5M bps | 11M bps |
| Peak Power (dBm)    | <b>18.83</b> | 18.77  | 18.81    | 18.72   |

| 2.4GHz 802.11g mode |              |        |         |         |         |         |         |         |
|---------------------|--------------|--------|---------|---------|---------|---------|---------|---------|
| Data Rate (MHz)     | 6M bps       | 9M bps | 12M bps | 18M bps | 24M bps | 36M bps | 48M bps | 54M bps |
| Peak Power (dBm)    | <b>21.78</b> | 21.73  | 21.69   | 21.76   | 21.74   | 21.71   | 21.68   | 21.66   |

| 2.4GHz 802.11n HT20 mode |              |       |       |       |       |       |       |       |
|--------------------------|--------------|-------|-------|-------|-------|-------|-------|-------|
| Data Rate (MHz)          | MCS0         | MCS1  | MCS2  | MCS3  | MCS4  | MCS5  | MCS6  | MCS7  |
| Peak Power (dBm)         | <b>19.23</b> | 19.06 | 19.09 | 19.11 | 18.96 | 18.94 | 19.02 | 19.09 |

| 2.4GHz 802.11n HT40 mode |              |       |       |       |       |       |       |       |
|--------------------------|--------------|-------|-------|-------|-------|-------|-------|-------|
| Data Rate (MHz)          | MCS0         | MCS1  | MCS2  | MCS3  | MCS4  | MCS5  | MCS6  | MCS7  |
| Peak Power (dBm)         | <b>19.66</b> | 19.63 | 19.57 | 19.64 | 19.52 | 19.49 | 19.52 | 19.55 |



| 5GHz 802.11a mode |        |        |         |         |         |         |         |         |
|-------------------|--------|--------|---------|---------|---------|---------|---------|---------|
| Data Rate (MHz)   | 6M bps | 9M bps | 12M bps | 18M bps | 24M bps | 36M bps | 48M bps | 54M bps |
| Peak Power (dBm)  | 20.61  | 20.58  | 20.52   | 20.35   | 20.41   | 20.44   | 20.56   | 20.37   |

| 5GHz 802.11n HT20 mode |       |       |       |       |       |       |       |       |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Data Rate (MHz)        | MCS0  | MCS1  | MCS2  | MCS3  | MCS4  | MCS5  | MCS6  | MCS7  |
| Peak Power (dBm)       | 19.26 | 19.23 | 19.16 | 19.21 | 19.18 | 19.12 | 19.04 | 19.20 |

| 5GHz 802.11n HT40 mode |       |       |       |       |       |       |       |       |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Data Rate (MHz)        | MCS0  | MCS1  | MCS2  | MCS3  | MCS4  | MCS5  | MCS6  | MCS7  |
| Peak Power (dBm)       | 18.81 | 18.56 | 18.62 | 18.38 | 18.54 | 18.29 | 18.39 | 18.64 |

| 5GHz 802.11ac VHT20 mode |       |       |       |       |       |       |       |       |       |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Data Rate (MHz)          | MCS0  | MCS1  | MCS2  | MCS3  | MCS4  | MCS5  | MCS6  | MCS7  | MCS8  |
| Peak Power (dBm)         | 17.38 | 17.26 | 16.99 | 17.03 | 17.35 | 17.06 | 16.93 | 16.97 | 17.36 |

| 5GHz 802.11ac VHT40 mode |       |       |       |       |       |       |       |       |       |       |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Data Rate (MHz)          | MCS0  | MCS1  | MCS2  | MCS3  | MCS4  | MCS5  | MCS6  | MCS7  | MCS8  | MCS9  |
| Peak Power (dBm)         | 16.93 | 16.76 | 16.83 | 16.87 | 16.90 | 16.82 | 16.69 | 16.73 | 16.91 | 16.89 |

| 5GHz 802.11ac VHT80 mode |       |       |       |       |       |       |       |       |       |       |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Data Rate (MHz)          | MCS0  | MCS1  | MCS2  | MCS3  | MCS4  | MCS5  | MCS6  | MCS7  | MCS8  | MCS9  |
| Peak Power (dBm)         | 16.46 | 15.89 | 15.98 | 16.05 | 16.03 | 15.95 | 15.73 | 15.95 | 16.03 | 16.11 |

## 2.3 Test Mode

Final results of test modes, data rates and test channels are shown as following table.

### <2.4GHz>

| Test Cases      |                               |              |           |              |
|-----------------|-------------------------------|--------------|-----------|--------------|
| Radiated<br>TCs | Test Items                    | Mode         | Data Rate | Test Channel |
|                 | Radiated Band Edge            | 802.11b      | 1 Mbps    | 1/11         |
|                 |                               | 802.11g      | 6 Mbps    | 1/11         |
|                 |                               | 802.11n HT20 | MCS0      | 1/11         |
|                 |                               | 802.11n HT40 | MCS0      | 3/9          |
|                 | Radiated Spurious<br>Emission | 802.11b      | 1 Mbps    | 1/6/11       |
|                 |                               | 802.11g      | 6 Mbps    | 1/6/11       |
|                 |                               | 802.11n HT20 | MCS0      | 1/6/11       |
|                 |                               | 802.11n HT40 | MCS0      | 3/6/9        |

### <5GHz>

| Test Cases      |                               |                  |           |              |
|-----------------|-------------------------------|------------------|-----------|--------------|
| Radiated<br>TCs | Test Items                    | Mode             | Data Rate | Test Channel |
|                 | Radiated Spurious<br>Emission | 802.11a          | 6 Mbps    | 149/157/165  |
|                 |                               | 802.11a WPC Mode | 6 Mbps    | 165          |
|                 |                               | 802.11n HT20     | MCS0      | 149/157/165  |
|                 |                               | 802.11n HT40     | MCS0      | 151/159      |
|                 |                               | 802.11ac VHT80   | MCS0      | 155          |

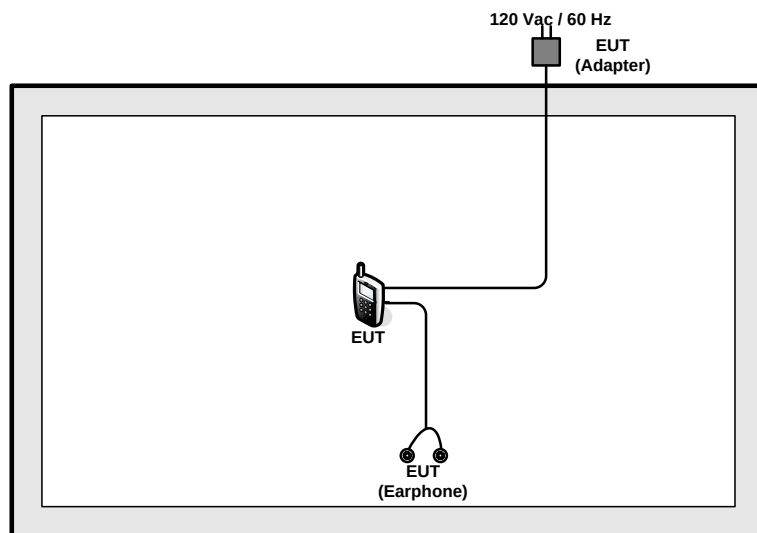
| Test Cases                       |                                                                                                                                          |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AC Conducted<br/>Emission</b> | Mode 1 : LTE Band 7 Idle + WLAN (2.4GHz) Link + Bluetooth Link + NFC On + Earphone 1 + Battery + USB Cable (Data Link with Notebook)     |
|                                  | Mode 2 : LTE Band VII Idle + WLAN (5GHz) Link + Bluetooth Link + NFC On + Earphone 1 + Battery + USB Cable (Data Link with Notebook)     |
|                                  | Mode 3 : GSM1900 Idle + WLAN (2.4GHz) Idle + Bluetooth Idle + WPC Charging + MP3 + Earphone 2 + Wireless Charger (Charging from Adapter) |

#### Remark:

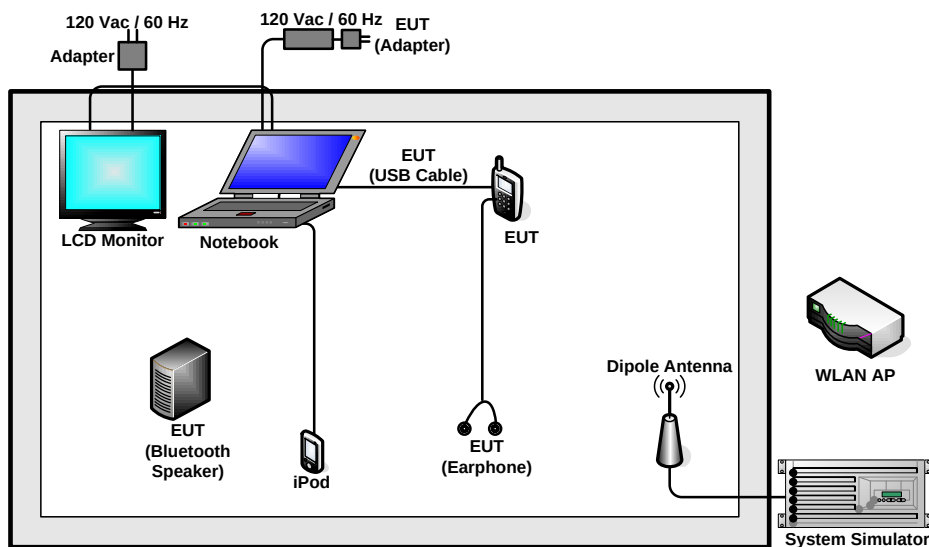
1. The worst case of conducted emission is mode 1; only the test data of it was reported.
2. All the radiated test cases were performance with Sample 1.

## 2.4 Connection Diagram of Test System

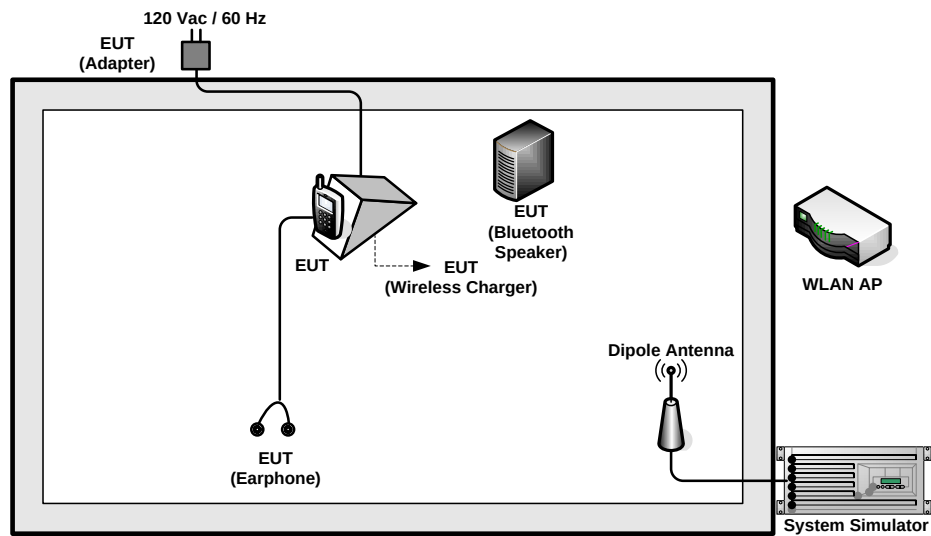
### <WLAN Tx Mode>



### <AC Conducted Emission Mode>



<EUT with WPC Mode>



## 2.5 Support Unit used in test configuration and system

| Item | Equipment        | Trade Name   | Model Name     | FCC ID                                       | Data Cable      | Power Cord                                                 |
|------|------------------|--------------|----------------|----------------------------------------------|-----------------|------------------------------------------------------------|
| 1.   | System Simulator | R&S          | CMU 200        | N/A                                          | N/A             | Unshielded, 1.8 m                                          |
| 2.   | System Simulator | R&S          | CMW 500        | N/A                                          | N/A             | Unshielded, 1.8 m                                          |
| 3.   | WLAN AP          | D-Link       | DIR-628        | KA2DIR628A2                                  | N/A             | Unshielded, 1.8 m                                          |
| 4.   | Notebook         | DELL         | Latitude E6320 | FCC DoC/<br>Contains FCC ID:<br>QDS-BRCM1054 | N/A             | AC I/P:<br>Unshielded, 1.2 m<br>DC O/P:<br>Shielded, 1.8 m |
| 5.   | LCD Monitor      | DELL         | U2410          | FCC DoC                                      | Shielded, 1.6 m | Unshielded, 1.8 m                                          |
| 6.   | iPod             | Apple        | A1285          | FCC DoC                                      | Shielded, 1.0 m | N/A                                                        |
| 7.   | SD Card          | SanDisk      | MicroSD HC     | FCC DoC                                      | N/A             | N/A                                                        |
| 8.   | NFC Card         | Metro Taipei | Easy Card      | N/A                                          | N/A             | N/A                                                        |

## 2.6 EUT Operation Test Setup

For WLAN function, programmed RF utility, “adb” installed in the notebook make the EUT provide functions like channel selection and power level for continuous transmitting and receiving signals.

## 2.7 Measurement Results Explanation Example

**For all conducted test items:**

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

*Offset = RF cable loss + attenuator factor.*

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\
 &= 4.2 + 10 = 14.2 \text{ (dB)}
 \end{aligned}$$

### 3 Test Result

#### 3.1 Radiated Band Edges and Spurious Emission Measurement

##### 3.1.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

| Frequency<br>(MHz) | Field Strength<br>(microvolts/meter) | Measurement Distance<br>(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                                |

##### 3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.



### 3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r02.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
  - (1) Span shall wide enough to fully capture the emission being measured;
  - (2) Set RBW=100 kHz for  $f < 1$  GHz;  $VBW \geq RBW$ ; Sweep = auto; Detector function = peak; Trace = max hold;
  - (3) Set RBW = 1 MHz, VBW= 3MHz for  $f \geq 1$  GHz for peak measurement.

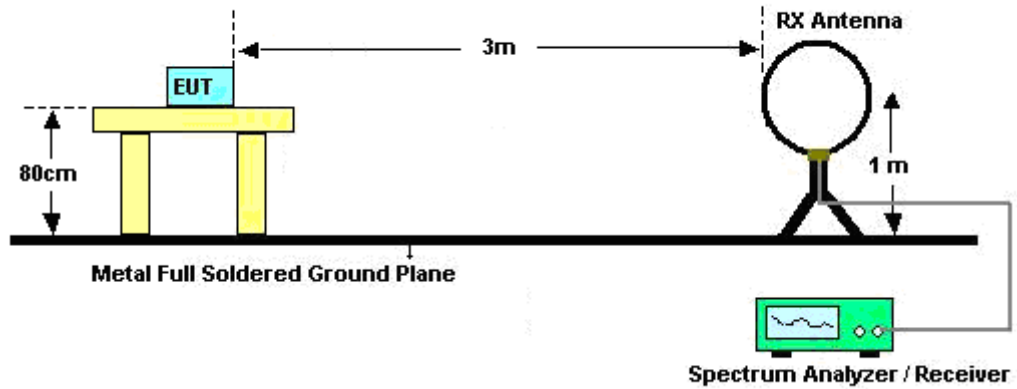
For average measurement:

  - $VBW = 10$  Hz, when duty cycle is no less than 98 percent.
  - $VBW \geq 1/T$ , when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

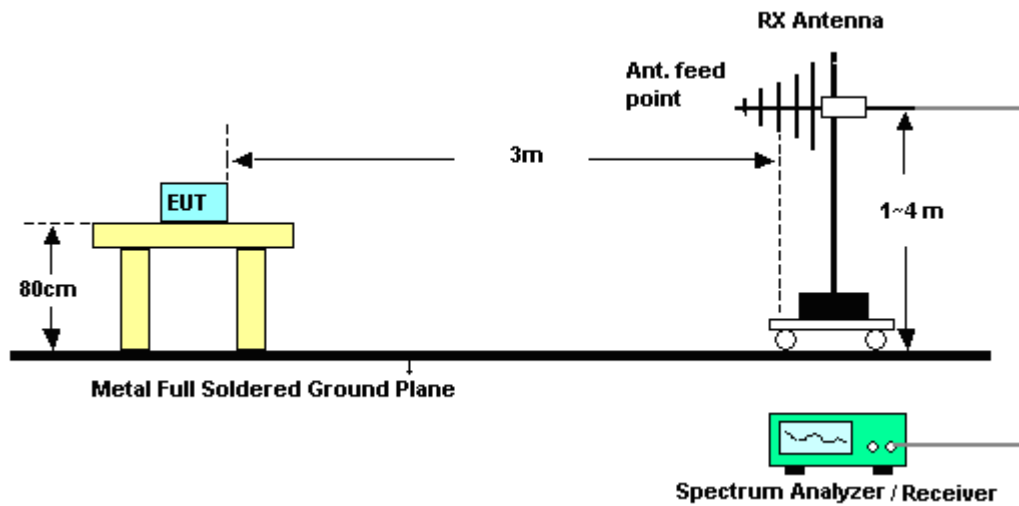
| Band                | Duty Cycle(%) | T( $\mu$ s) | 1/T(kHz) | VBW Setting |
|---------------------|---------------|-------------|----------|-------------|
| 802.11b             | 97.63         | 8240        | 0.12     | 300Hz       |
| 802.11g             | 87.24         | 1368        | 0.73     | 1kHz        |
| 2.4GHz 802.11n HT20 | 86.49         | 1280        | 0.78     | 1kHz        |
| 2.4GHz 802.11n HT40 | 75.71         | 496         | 2.02     | 3kHz        |
| 802.11a             | 87.26         | 1370        | 0.73     | 1kHz        |
| 5GHz 802.11n HT20   | 85.95         | 1272        | 0.79     | 1kHz        |
| 5GHz 802.11n HT40   | 75.71         | 636         | 1.57     | 3kHz        |
| 5GHz 802.11ac VHT20 | 82.74         | 978         | 1.02     | 3kHz        |
| 5GHz 802.11ac VHT40 | 71.26         | 496         | 2.02     | 3kHz        |
| 5GHz 802.11ac VHT80 | 54.87         | 248         | 4.03     | 10kHz       |

### 3.1.4 Test Setup

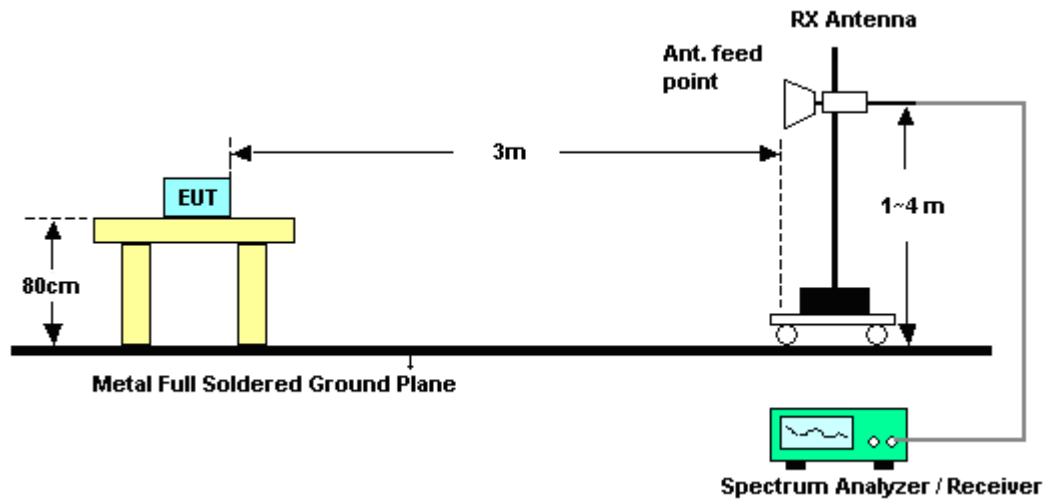
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz





## 3.1.5 Test Results of Radiated Spurious Emissions (9kHz ~ 30MHz)

&lt;Below 30MHz&gt;

|                 |                                         |                     |         |
|-----------------|-----------------------------------------|---------------------|---------|
| Test Mode :     | 802.11a Tx CH165 with WPC Charging Mode | Temperature :       | 25~26°C |
| Test Engineer : | Jet Lu                                  | Relative Humidity : | 50~51%  |
| Polarization :  | Horizontal                              |                     |         |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------|-------------------------|---------|
| 0.01808              | 31.8                | -90.66                  | 122.46                      | 11.23                     | 20.28                       | 0.29                    | -                    | -                       | Average |
| 0.07158              | 25.95               | -84.56                  | 110.51                      | 5.59                      | 20.07                       | 0.29                    | -                    | -                       | Average |
| 0.10728              | 20.21               | -86.78                  | 106.99                      | -0.13                     | 20.05                       | 0.29                    | -                    | -                       | QP      |
| 0.1258               | 26.88               | -78.73                  | 105.61                      | 6.57                      | 20.02                       | 0.29                    | -                    | -                       | Average |
| 0.14332              | 52.91               | -51.57                  | 104.48                      | 32.6                      | 20.02                       | 0.29                    | -                    | -                       | Average |
| 0.40534              | 41.19               | -54.26                  | 95.45                       | 20.99                     | 19.91                       | 0.29                    | -                    | -                       | Average |
| 1.196                | 39.87               | -26.18                  | 66.05                       | 19.63                     | 19.93                       | 0.31                    | 100                  | 25                      | QP      |
| 14.44                | 36.08               | -33.92                  | 70                          | 16.07                     | 19.61                       | 0.4                     | -                    | -                       | QP      |
| 20.374               | 37.11               | -32.89                  | 70                          | 16.63                     | 20.05                       | 0.43                    | -                    | -                       | QP      |
| 27.59                | 36.17               | -33.83                  | 70                          | 15.34                     | 20.33                       | 0.5                     | -                    | -                       | QP      |



|                        |                                         |                            |         |
|------------------------|-----------------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11a Tx CH165 with WPC Charging Mode | <b>Temperature :</b>       | 25~26°C |
| <b>Test Engineer :</b> | Jet Lu                                  | <b>Relative Humidity :</b> | 50~51%  |
| <b>Polarization :</b>  | Vertical                                |                            |         |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------|-------------------------|---------|
| 0.01252              | 32.47               | -93.18                  | 125.65                      | 11.9                    | 20.28                       | 0.29                    | -                    | -                       | Average |
| 0.06693              | 25.46               | -85.63                  | 111.09                      | 5.1                     | 20.07                       | 0.29                    | -                    | -                       | Average |
| 0.1029               | 21.17               | -86.19                  | 107.36                      | 0.83                    | 20.05                       | 0.29                    | -                    | -                       | QP      |
| 0.14176              | 23.5                | -81.07                  | 104.57                      | 3.19                    | 20.02                       | 0.29                    | -                    | -                       | Average |
| 0.14808              | 47.63               | -56.56                  | 104.19                      | 27.34                   | 20                          | 0.29                    | -                    | -                       | Average |
| 0.40704              | 41.31               | -54.1                   | 95.41                       | 21.11                   | 19.91                       | 0.29                    | -                    | -                       | Average |
| 1.196                | 40.16               | -25.89                  | 66.05                       | 19.92                   | 19.93                       | 0.31                    | 100                  | 244                     | QP      |
| 12.04                | 36.45               | -33.55                  | 70                          | 16.36                   | 19.69                       | 0.4                     | -                    | -                       | QP      |
| 21.13                | 37.48               | -32.52                  | 70                          | 16.94                   | 20.11                       | 0.43                    | -                    | -                       | QP      |
| 28.395               | 35.79               | -34.21                  | 70                          | 14.97                   | 20.32                       | 0.5                     | -                    | -                       | QP      |



## 3.1.6 Test Result of Radiated Spurious at Band Edges

|                |         |                     |         |
|----------------|---------|---------------------|---------|
| Test Mode :    | 802.11b | Temperature :       | 25~26°C |
| Test Band :    | Low     | Relative Humidity : | 50~51%  |
| Test Channel : | 01      | Test Engineer :     | Jet Lu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2388.48                       | 43.78               | -30.22                  | 74                          | 45.88                     | 26.93                       | 4.62                    | 33.65                      | 105                  | 20                      | Peak    |
| 2390                          | 34.28               | -19.72                  | 54                          | 36.38                     | 26.93                       | 4.62                    | 33.65                      | 105                  | 20                      | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2387.22                     | 43.55               | -30.45                  | 74                          | 45.65                     | 26.93                       | 4.62                    | 33.65                      | 100                  | 353                     | Peak    |
| 2387.76                     | 34.56               | -19.44                  | 54                          | 36.66                     | 26.93                       | 4.62                    | 33.65                      | 100                  | 353                     | Average |

|                |         |                     |         |
|----------------|---------|---------------------|---------|
| Test Mode :    | 802.11b | Temperature :       | 25~26°C |
| Test Band :    | High    | Relative Humidity : | 50~51%  |
| Test Channel : | 11      | Test Engineer :     | Jet Lu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2484.8                        | 45.05               | -28.95                  | 74                          | 46.73                     | 27.16                       | 4.73                    | 33.57                      | 123                  | 207                     | Peak    |
| 2484.4                        | 31.61               | -22.39                  | 54                          | 33.29                     | 27.16                       | 4.73                    | 33.57                      | 123                  | 207                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2484.88                     | 44.25               | -29.75                  | 74                          | 45.93                     | 27.16                       | 4.73                    | 33.57                      | 100                  | 0                       | Peak    |
| 2483.82                     | 31.26               | -22.74                  | 54                          | 32.94                     | 27.16                       | 4.73                    | 33.57                      | 100                  | 0                       | Average |



|                |         |                     |         |
|----------------|---------|---------------------|---------|
| Test Mode :    | 802.11g | Temperature :       | 25~26°C |
| Test Band :    | Low     | Relative Humidity : | 50~51%  |
| Test Channel : | 01      | Test Engineer :     | Jet Lu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2390                          | 60.23               | -13.77                  | 74                          | 62.33                     | 26.93                       | 4.62                    | 33.65                      | 104                  | 227                     | Peak    |
| 2390                          | 39.95               | -14.05                  | 54                          | 42.05                     | 26.93                       | 4.62                    | 33.65                      | 104                  | 227                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2390                        | 60.45               | -13.55                  | 74                          | 62.55                     | 26.93                       | 4.62                    | 33.65                      | 108                  | 195                     | Peak    |
| 2390                        | 40.18               | -13.82                  | 54                          | 42.28                     | 26.93                       | 4.62                    | 33.65                      | 108                  | 195                     | Average |

|                |         |                     |         |
|----------------|---------|---------------------|---------|
| Test Mode :    | 802.11g | Temperature :       | 25~26°C |
| Test Band :    | High    | Relative Humidity : | 50~51%  |
| Test Channel : | 11      | Test Engineer :     | Jet Lu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2483.74                       | 61.19               | -12.81                  | 74                          | 62.87                     | 27.16                       | 4.73                    | 33.57                      | 100                  | 0                       | Peak    |
| 2483.71                       | 40.83               | -13.17                  | 54                          | 42.51                     | 27.16                       | 4.73                    | 33.57                      | 100                  | 0                       | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2484.46                     | 61.04               | -12.96                  | 74                          | 62.72                     | 27.16                       | 4.73                    | 33.57                      | 104                  | 114                     | Peak    |
| 2483.5                      | 42.04               | -11.96                  | 54                          | 43.72                     | 27.16                       | 4.73                    | 33.57                      | 104                  | 114                     | Average |



|                |              |                     |         |
|----------------|--------------|---------------------|---------|
| Test Mode :    | 802.11n HT20 | Temperature :       | 25~26°C |
| Test Band :    | Low          | Relative Humidity : | 50~51%  |
| Test Channel : | 01           | Test Engineer :     | Jet Lu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2389.74                       | 53.62               | -20.38                  | 74                          | 55.72                     | 26.93                       | 4.62                    | 33.65                      | 103                  | 228                     | Peak    |
| 2390                          | 35.39               | -18.61                  | 54                          | 37.49                     | 26.93                       | 4.62                    | 33.65                      | 103                  | 228                     | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2389.83                     | 53.59               | -20.41                  | 74                          | 55.69                     | 26.93                       | 4.62                    | 33.65                      | 109                  | 194                     | Peak    |
| 2390                        | 35.81               | -18.19                  | 54                          | 37.91                     | 26.93                       | 4.62                    | 33.65                      | 109                  | 194                     | Average |

|                |              |                     |         |
|----------------|--------------|---------------------|---------|
| Test Mode :    | 802.11n HT20 | Temperature :       | 25~26°C |
| Test Band :    | High         | Relative Humidity : | 50~51%  |
| Test Channel : | 11           | Test Engineer :     | Jet Lu  |

| ANTENNA POLARITY : HORIZONTAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-------------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )          | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2483.89                       | 58.34               | -15.66                  | 74                          | 60.02                     | 27.16                       | 4.73                    | 33.57                      | 100                  | 15                      | Peak    |
| 2483.74                       | 40.77               | -13.23                  | 54                          | 42.45                     | 27.16                       | 4.73                    | 33.57                      | 100                  | 15                      | Average |

| ANTENNA POLARITY : VERTICAL |                     |                         |                             |                           |                             |                         |                            |                      |                         |         |
|-----------------------------|---------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| Frequency<br>( MHz )        | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
| 2484.58                     | 49.01               | -24.99                  | 74                          | 50.69                     | 27.16                       | 4.73                    | 33.57                      | 100                  | 360                     | Peak    |
| 2483.56                     | 33.73               | -20.27                  | 54                          | 35.41                     | 27.16                       | 4.73                    | 33.57                      | 100                  | 360                     | Average |



### 3.1.7 Test Result of Radiated Spurious Emission (30MHz ~ 10<sup>th</sup> Harmonic)

**Note:** Pre-scanned all test modes and only choose the worst case mode recorded in the test report for radiated spurious emission below 1GHz.

|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11b                                                                                                                                              | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 01                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 2414 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2414                 | 100.02              | -                       | -                           | 126.14                  | 26.98                       | 4.65                    | 57.75                      | 105                  | 20                      | Average |
| 2414                 | 104.74              | -                       | -                           | 130.86                  | 26.98                       | 4.65                    | 57.75                      | 105                  | 20                      | Peak    |
| 4824                 | 47                  | -27                     | 74                          | 68.18                   | 31.22                       | 6.54                    | 58.94                      | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11b                                                                                                                                              | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 01                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 2414 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2414                 | 98.04               | -                       | -                           | 100.04                  | 26.98                       | 4.65                    | 33.63                      | 100                  | 353                     | Average |
| 2414                 | 102.5               | -                       | -                           | 104.5                   | 26.98                       | 4.65                    | 33.63                      | 100                  | 353                     | Peak    |
| 4824                 | 48.45               | -25.55                  | 74                          | 69.63                   | 31.22                       | 6.54                    | 58.94                      | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11b                                                                                                                                              | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 06                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 2436 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2436                 | 99.3                | -                       | -                           | 125.34                  | 27.02                       | 4.68                    | 57.74                      | 100                  | 98                      | Average |
| 2436                 | 102.78              | -                       | -                           | 128.82                  | 27.02                       | 4.68                    | 57.74                      | 100                  | 98                      | Peak    |
| 4875                 | 41.07               | -32.93                  | 74                          | 62.07                   | 31.31                       | 6.56                    | 58.87                      | 100                  | 0                       | Peak    |
| 7311                 | 41.73               | -32.27                  | 74                          | 55.81                   | 36.14                       | 8.24                    | 58.46                      | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11b                                                                                                                                              | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 06                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 2436 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2436                 | 97.32               | -                       | -                           | 99.24                   | 27.02                       | 4.68                    | 33.62                      | 100                  | 360                     | Average |
| 2436                 | 101.05              | -                       | -                           | 102.97                  | 27.02                       | 4.68                    | 33.62                      | 100                  | 360                     | Peak    |
| 4875                 | 46.99               | -27.01                  | 74                          | 67.99                   | 31.31                       | 6.56                    | 58.87                      | 100                  | 0                       | Peak    |
| 7311                 | 41.73               | -32.27                  | 74                          | 55.81                   | 36.14                       | 8.24                    | 58.46                      | 100                  | 0                       | Peak    |



|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11b                                                                                                                                              | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 11                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 2462 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2462                 | 96.05               | -                       | -                           | 121.96                  | 27.11                       | 4.7                     | 57.72                      | 123                  | 207                     | Average |
| 2462                 | 99.65               | -                       | -                           | 125.56                  | 27.11                       | 4.7                     | 57.72                      | 123                  | 207                     | Peak    |
| 4923                 | 40.91               | -33.09                  | 74                          | 61.73                   | 31.39                       | 6.59                    | 58.8                       | 100                  | 0                       | Peak    |
| 7386                 | 42.7                | -31.3                   | 74                          | 56.65                   | 36.35                       | 8.31                    | 58.61                      | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11b                                                                                                                                              | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 11                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 2462 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2462                 | 95.45               | -                       | -                           | 97.23                   | 27.11                       | 4.7                     | 33.59                      | 100                  | 0                       | Average |
| 2462                 | 99.59               | -                       | -                           | 101.37                  | 27.11                       | 4.7                     | 33.59                      | 100                  | 0                       | Peak    |
| 4925                 | 41.11               | -32.89                  | 74                          | 61.92                   | 31.39                       | 6.6                     | 58.8                       | 100                  | 0                       | Peak    |
| 7386                 | 42.7                | -31.3                   | 74                          | 56.65                   | 36.35                       | 8.31                    | 58.61                      | 100                  | 0                       | Peak    |



|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11g                                                                                                                                              | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 01                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 2410 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2410                 | 90.07               | -                       | -                           | 116.19                  | 26.98                       | 4.65                    | 57.75                      | 104                  | 227                     | Average |
| 2410                 | 99.46               | -                       | -                           | 125.58                  | 26.98                       | 4.65                    | 57.75                      | 104                  | 227                     | Peak    |
| 4823                 | 40.03               | -33.97                  | 74                          | 61.21                   | 31.22                       | 6.54                    | 58.94                      | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11g                                                                                                                                              | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 01                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 2410 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2410                 | 90.72               | -                       | -                           | 92.72                   | 26.98                       | 4.65                    | 33.63                      | 108                  | 195                     | Average |
| 2410                 | 99.57               | -                       | -                           | 101.57                  | 26.98                       | 4.65                    | 33.63                      | 108                  | 195                     | Peak    |
| 4825                 | 44.06               | -29.94                  | 74                          | 65.24                   | 31.22                       | 6.54                    | 58.94                      | 100                  | 0                       | Peak    |



|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11g                                                                                                                                              | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 06                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 2435 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2435                 | 88.51               | -                       | -                           | 114.55                  | 27.02                       | 4.68                    | 57.74                      | 100                  | 228                     | Average |
| 2435                 | 97.04               | -                       | -                           | 123.08                  | 27.02                       | 4.68                    | 57.74                      | 100                  | 228                     | Peak    |
| 4875                 | 37.55               | -36.45                  | 74                          | 58.55                   | 31.31                       | 6.56                    | 58.87                      | 100                  | 0                       | Peak    |
| 7311                 | 41.47               | -32.53                  | 74                          | 55.55                   | 36.14                       | 8.24                    | 58.46                      | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11g                                                                                                                                              | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 06                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 2435 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2435                 | 90.33               | -                       | -                           | 92.25                   | 27.02                       | 4.68                    | 33.62                      | 105                  | 113                     | Average |
| 2435                 | 99.15               | -                       | -                           | 101.07                  | 27.02                       | 4.68                    | 33.62                      | 105                  | 113                     | Peak    |
| 4875                 | 39.15               | -34.85                  | 74                          | 60.15                   | 31.31                       | 6.56                    | 58.87                      | 100                  | 0                       | Peak    |
| 7311                 | 41.47               | -32.53                  | 74                          | 55.55                   | 36.14                       | 8.24                    | 58.46                      | 100                  | 0                       | Peak    |



|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11g                                                                                                                                              | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 11                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 2460 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 32.97                | 24.34               | -15.66                  | 40                          | 38.09                   | 17.34                       | 0.72                    | 31.81                      | 125                  | 332                     | Peak    |
| 135.3                | 14.26               | -29.24                  | 43.5                        | 33.29                   | 11.5                        | 1.25                    | 31.78                      | -                    | -                       | Peak    |
| 245.73               | 20.12               | -25.88                  | 46                          | 38.36                   | 11.9                        | 1.63                    | 31.77                      | -                    | -                       | Peak    |
| 829.2                | 25.61               | -20.39                  | 46                          | 31.64                   | 22.87                       | 2.88                    | 31.78                      | -                    | -                       | Peak    |
| 915.3                | 26.58               | -19.42                  | 46                          | 31.15                   | 23.72                       | 3.02                    | 31.31                      | -                    | -                       | Peak    |
| 975.5                | 28.01               | -25.99                  | 54                          | 30.82                   | 24.86                       | 3.16                    | 30.83                      | -                    | -                       | Peak    |
| 2460                 | 88.71               | -                       | -                           | 90.49                   | 27.11                       | 4.7                     | 33.59                      | 100                  | 0                       | Average |
| 2460                 | 97.98               | -                       | -                           | 99.76                   | 27.11                       | 4.7                     | 33.59                      | 100                  | 0                       | Peak    |
| 4923                 | 36.96               | -37.04                  | 74                          | 57.78                   | 31.39                       | 6.59                    | 58.8                       | 100                  | 0                       | Peak    |
| 7386                 | 42.82               | -31.18                  | 74                          | 56.77                   | 36.35                       | 8.31                    | 58.61                      | 100                  | 0                       | Peak    |



|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11g                                                                                                                                              | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 11                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 2460 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 34.86                | 29.12               | -10.88                  | 40                          | 43.9                    | 16.3                        | 0.73                    | 31.81                      | 138                  | 224                     | Peak    |
| 42.42                | 29.01               | -10.99                  | 40                          | 48.29                   | 11.76                       | 0.77                    | 31.81                      | -                    | -                       | Peak    |
| 233.04               | 17.63               | -28.37                  | 46                          | 37.35                   | 10.46                       | 1.59                    | 31.77                      | -                    | -                       | Peak    |
| 762                  | 24.51               | -21.49                  | 46                          | 31.53                   | 22.18                       | 2.77                    | 31.97                      | -                    | -                       | Peak    |
| 862.8                | 26.13               | -19.87                  | 46                          | 31.73                   | 23.07                       | 2.94                    | 31.61                      | -                    | -                       | Peak    |
| 962.9                | 27.72               | -26.28                  | 54                          | 30.67                   | 24.87                       | 3.11                    | 30.93                      | -                    | -                       | Peak    |
| 2460                 | 89.23               | -                       | -                           | 91.01                   | 27.11                       | 4.7                     | 33.59                      | 104                  | 114                     | Average |
| 2460                 | 98.21               | -                       | -                           | 99.99                   | 27.11                       | 4.7                     | 33.59                      | 104                  | 114                     | Peak    |
| 4923                 | 36.38               | -37.62                  | 74                          | 57.2                    | 31.39                       | 6.59                    | 58.8                       | 100                  | 0                       | Peak    |
| 7386                 | 41.66               | -32.34                  | 74                          | 55.61                   | 36.35                       | 8.31                    | 58.61                      | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 2.4GHz 802.11n HT20                                                                                                                                  | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 01                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 2410 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2410                 | 88.28               | -                       | -                           | 114.4                   | 26.98                       | 4.65                    | 57.75                      | 103                  | 228                     | Average |
| 2410                 | 96.27               | -                       | -                           | 122.39                  | 26.98                       | 4.65                    | 57.75                      | 103                  | 228                     | Peak    |
| 4824                 | 36.72               | -37.28                  | 74                          | 57.9                    | 31.22                       | 6.54                    | 58.94                      | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 2.4GHz 802.11n HT20                                                                                                                                  | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 01                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 2414 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2414                 | 87.72               | -                       | -                           | 89.72                   | 26.98                       | 4.65                    | 33.63                      | 109                  | 194                     | Average |
| 2414                 | 96.85               | -                       | -                           | 98.85                   | 26.98                       | 4.65                    | 33.63                      | 109                  | 194                     | Peak    |
| 4824                 | 36.14               | -37.86                  | 74                          | 57.32                   | 31.22                       | 6.54                    | 58.94                      | 100                  | 0                       | Peak    |





|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 2.4GHz 802.11n HT20                                                                                                                                  | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 06                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 2435 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2435                 | 87.58               | -                       | -                           | 113.62                  | 27.02                       | 4.68                    | 57.74                      | 102                  | 15                      | Average |
| 2435                 | 97.05               | -                       | -                           | 123.09                  | 27.02                       | 4.68                    | 57.74                      | 102                  | 15                      | Peak    |
| 4875                 | 35.81               | -38.19                  | 74                          | 56.81                   | 31.31                       | 6.56                    | 58.87                      | 100                  | 0                       | Peak    |
| 7311                 | 40.65               | -33.35                  | 74                          | 54.73                   | 36.14                       | 8.24                    | 58.46                      | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 2.4GHz 802.11n HT20                                                                                                                                  | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 06                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 2439 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2439                 | 86.65               | -                       | -                           | 88.5                    | 27.07                       | 4.68                    | 33.6                       | 100                  | 353                     | Average |
| 2439                 | 92.8                | -                       | -                           | 94.65                   | 27.07                       | 4.68                    | 33.6                       | 100                  | 353                     | Peak    |
| 4875                 | 35.83               | -38.17                  | 74                          | 56.83                   | 31.31                       | 6.56                    | 58.87                      | 100                  | 0                       | Peak    |
| 7311                 | 40.65               | -33.35                  | 74                          | 54.73                   | 36.14                       | 8.24                    | 58.46                      | 100                  | 0                       | Peak    |



|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 2.4GHz 802.11n HT20                                                                                                                                  | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 11                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 2460 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2460                 | 88.58               | -                       | -                           | 114.49                  | 27.11                       | 4.7                     | 57.72                      | 100                  | 15                      | Average |
| 2460                 | 97.41               | -                       | -                           | 123.32                  | 27.11                       | 4.7                     | 57.72                      | 100                  | 15                      | Peak    |
| 4923                 | 36.59               | -37.41                  | 74                          | 57.41                   | 31.39                       | 6.59                    | 58.8                       | 100                  | 0                       | Peak    |
| 7386                 | 42.29               | -31.71                  | 74                          | 56.24                   | 36.35                       | 8.31                    | 58.61                      | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 2.4GHz 802.11n HT20                                                                                                                                  | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 11                                                                                                                                                   | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 2462 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 2462                 | 84.57               | -                       | -                           | 86.35                   | 27.11                       | 4.7                     | 33.59                      | 100                  | 360                     | Average |
| 2462                 | 92.28               | -                       | -                           | 94.06                   | 27.11                       | 4.7                     | 33.59                      | 100                  | 360                     | Peak    |
| 4923                 | 35.54               | -38.46                  | 74                          | 56.36                   | 31.39                       | 6.59                    | 58.8                       | 100                  | 0                       | Peak    |
| 7386                 | 42.29               | -31.71                  | 74                          | 56.24                   | 36.35                       | 8.31                    | 58.61                      | 100                  | 0                       | Peak    |



|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11a                                                                                                                                              | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 149                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 5745 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5745                 | 93.81               | -                       | -                           | 86.5                    | 32.24                       | 7.18                    | 32.11                      | 106                  | 31                      | Average |
| 5745                 | 104.14              | -                       | -                           | 96.83                   | 32.24                       | 7.18                    | 32.11                      | 106                  | 31                      | Peak    |
| 11490                | 44.93               | -29.07                  | 74                          | 51.7                    | 40.21                       | 10.33                   | 57.31                      | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11a                                                                                                                                              | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 149                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 5745 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5745                 | 97.95               | -                       | -                           | 90.64                   | 32.24                       | 7.18                    | 32.11                      | 102                  | 328                     | Average |
| 5745                 | 108.66              | -                       | -                           | 101.35                  | 32.24                       | 7.18                    | 32.11                      | 102                  | 328                     | Peak    |
| 11490                | 44.5                | -29.5                   | 74                          | 51.27                   | 40.21                       | 10.33                   | 57.31                      | 100                  | 0                       | Peak    |



|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11a                                                                                                                                              | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 157                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 5786 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5786                 | 92.86               | -                       | -                           | 85.45                   | 32.31                       | 7.2                     | 32.1                       | 106                  | 356                     | Average |
| 5786                 | 103.49              | -                       | -                           | 96.08                   | 32.31                       | 7.2                     | 32.1                       | 106                  | 356                     | Peak    |
| 11571                | 44.3                | -29.7                   | 74                          | 51.19                   | 40.05                       | 10.36                   | 57.3                       | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11a                                                                                                                                              | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 157                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 5784 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5784                 | 95.02               | -                       | -                           | 87.63                   | 32.29                       | 7.2                     | 32.1                       | 102                  | 330                     | Average |
| 5784                 | 106.2               | -                       | -                           | 98.81                   | 32.29                       | 7.2                     | 32.1                       | 102                  | 330                     | Peak    |
| 11571                | 44.11               | -29.89                  | 74                          | 51                      | 40.05                       | 10.36                   | 57.3                       | 100                  | 0                       | Peak    |



|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 802.11a                                                                                                                                              | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 165                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 5826 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 142.86               | 30.77               | -12.73                  | 43.5                        | 49.79                   | 11.5                        | 1.26                    | 31.78                      | -                    | -                       | Peak    |
| 214.41               | 31.37               | -12.13                  | 43.5                        | 52.39                   | 9.24                        | 1.52                    | 31.78                      | -                    | -                       | Peak    |
| 275.43               | 30.75               | -15.25                  | 46                          | 47.94                   | 12.85                       | 1.72                    | 31.76                      | -                    | -                       | Peak    |
| 309.8                | 30.46               | -15.54                  | 46                          | 47.12                   | 13.3                        | 1.8                     | 31.76                      | -                    | -                       | Peak    |
| 524.7                | 25.13               | -20.87                  | 46                          | 36.63                   | 18.15                       | 2.28                    | 31.93                      | -                    | -                       | Peak    |
| 913.2                | 37.35               | -8.65                   | 46                          | 42                      | 23.65                       | 3.02                    | 31.32                      | 124                  | 220                     | Peak    |
| 5826                 | 92.78               | -                       | -                           | 85.27                   | 32.36                       | 7.24                    | 32.09                      | 107                  | 356                     | Average |
| 5826                 | 103.07              | -                       | -                           | 95.56                   | 32.36                       | 7.24                    | 32.09                      | 107                  | 356                     | Peak    |
| 11649                | 45.57               | -28.43                  | 74                          | 52.56                   | 39.9                        | 10.41                   | 57.3                       | 100                  | 0                       | Peak    |



|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 802.11a                                                                                                                                              | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 165                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 5823 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 39.45                | 33.62               | -6.38                   | 40                          | 50.88                   | 13.8                        | 0.75                    | 31.81                      | 110                  | 221                     | Peak    |
| 212.25               | 25.91               | -17.59                  | 43.5                        | 46.95                   | 9.22                        | 1.52                    | 31.78                      | -                    | -                       | Peak    |
| 244.38               | 25.42               | -20.58                  | 46                          | 43.76                   | 11.8                        | 1.63                    | 31.77                      | -                    | -                       | Peak    |
| 377.7                | 20.98               | -25.02                  | 46                          | 35.77                   | 15.04                       | 1.96                    | 31.79                      | -                    | -                       | Peak    |
| 529.6                | 23.94               | -22.06                  | 46                          | 35.39                   | 18.2                        | 2.29                    | 31.94                      | -                    | -                       | Peak    |
| 913.2                | 32.56               | -13.44                  | 46                          | 37.21                   | 23.65                       | 3.02                    | 31.32                      | -                    | -                       | Peak    |
| 5823                 | 94.36               | -                       | -                           | 86.85                   | 32.36                       | 7.24                    | 32.09                      | 101                  | 329                     | Average |
| 5823                 | 105.09              | -                       | -                           | 97.58                   | 32.36                       | 7.24                    | 32.09                      | 101                  | 329                     | Peak    |
| 11649                | 44.74               | -29.26                  | 74                          | 51.73                   | 39.9                        | 10.41                   | 57.3                       | 100                  | 0                       | Peak    |



|                        |                                         |                            |         |
|------------------------|-----------------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11a Tx CH165 with WPC Charging Mode | <b>Temperature :</b>       | 25~26°C |
| <b>Test Engineer :</b> | Jet Lu                                  | <b>Relative Humidity :</b> | 50~51%  |
| <b>Polarization :</b>  | Horizontal                              |                            |         |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 87.51                | 21.26               | -18.74                  | 40                          | 43.65                   | 8.38                        | 1.02                    | 31.79                      | -                    | -                       | Peak    |
| 196.32               | 31.52               | -11.98                  | 43.5                        | 52.98                   | 8.86                        | 1.46                    | 31.78                      | 113                  | 74                      | Peak    |
| 283.8                | 28.03               | -17.97                  | 46                          | 45.13                   | 12.92                       | 1.74                    | 31.76                      | -                    | -                       | Peak    |
| 323.8                | 24.79               | -21.21                  | 46                          | 41.16                   | 13.56                       | 1.84                    | 31.77                      | -                    | -                       | Peak    |
| 523.3                | 17.5                | -28.5                   | 46                          | 29                      | 18.14                       | 2.28                    | 31.92                      | -                    | -                       | Peak    |
| 873.3                | 21.46               | -24.54                  | 46                          | 27.06                   | 23                          | 2.96                    | 31.56                      | -                    | -                       | Peak    |
| 5825                 | 83                  | -                       | -                           | 75.49                   | 32.36                       | 7.24                    | 32.09                      | 100                  | 338                     | Average |
| 5825                 | 93.06               | -                       | -                           | 85.55                   | 32.36                       | 7.24                    | 32.09                      | 100                  | 338                     | Peak    |
| 11649                | 41.96               | -32.04                  | 74                          | 48.95                   | 39.9                        | 10.41                   | 57.3                       | 100                  | 0                       | Peak    |



|                        |                                         |                            |         |
|------------------------|-----------------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | 802.11a Tx CH165 with WPC Charging Mode | <b>Temperature :</b>       | 25~26°C |
| <b>Test Engineer :</b> | Jet Lu                                  | <b>Relative Humidity :</b> | 50~51%  |
| <b>Polarization :</b>  | Vertical                                |                            |         |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 45.39                | 31.58               | -8.42                   | 40                          | 52.55                   | 10.05                       | 0.78                    | 31.8                       | -                    | -                       | Peak    |
| 130.17               | 25.61               | -17.89                  | 43.5                        | 44.06                   | 12.1                        | 1.23                    | 31.78                      | -                    | -                       | Peak    |
| 282.72               | 27.09               | -18.91                  | 46                          | 44.22                   | 12.89                       | 1.74                    | 31.76                      | -                    | -                       | Peak    |
| 323.8                | 23.06               | -22.94                  | 46                          | 39.43                   | 13.56                       | 1.84                    | 31.77                      | -                    | -                       | Peak    |
| 514.9                | 16.19               | -29.81                  | 46                          | 27.74                   | 18.1                        | 2.26                    | 31.91                      | -                    | -                       | Peak    |
| 913.2                | 39.22               | -6.78                   | 46                          | 43.87                   | 23.65                       | 3.02                    | 31.32                      | 130                  | 40                      | Peak    |
| 5830                 | 84.42               | -                       | -                           | 76.91                   | 32.36                       | 7.24                    | 32.09                      | 153                  | 234                     | Average |
| 5830                 | 94.73               | -                       | -                           | 87.22                   | 32.36                       | 7.24                    | 32.09                      | 153                  | 234                     | Peak    |
| 11649                | 42.74               | -31.26                  | 74                          | 49.73                   | 39.9                        | 10.41                   | 57.3                       | 100                  | 0                       | Peak    |





|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 5GHz 802.11n HT20                                                                                                                                    | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 149                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 5746 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5746                 | 89.99               | -                       | -                           | 82.68                   | 32.24                       | 7.18                    | 32.11                      | 108                  | 355                     | Average |
| 5746                 | 100.15              | -                       | -                           | 92.84                   | 32.24                       | 7.18                    | 32.11                      | 108                  | 355                     | Peak    |
| 11490                | 44.61               | -29.39                  | 74                          | 51.38                   | 40.21                       | 10.33                   | 57.31                      | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 5GHz 802.11n HT20                                                                                                                                    | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 149                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 5743 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5743                 | 89.21               | -                       | -                           | 81.9                    | 32.24                       | 7.18                    | 32.11                      | 100                  | 280                     | Average |
| 5743                 | 99.52               | -                       | -                           | 92.21                   | 32.24                       | 7.18                    | 32.11                      | 100                  | 280                     | Peak    |
| 11490                | 43.76               | -30.24                  | 74                          | 50.53                   | 40.21                       | 10.33                   | 57.31                      | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 5GHz 802.11n HT20                                                                                                                                    | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 157                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 5786 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5786                 | 90.47               | -                       | -                           | 83.06                   | 32.31                       | 7.2                     | 32.1                       | 118                  | 356                     | Average |
| 5786                 | 100.75              | -                       | -                           | 93.34                   | 32.31                       | 7.2                     | 32.1                       | 118                  | 356                     | Peak    |
| 11571                | 43.92               | -30.08                  | 74                          | 50.81                   | 40.05                       | 10.36                   | 57.3                       | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 5GHz 802.11n HT20                                                                                                                                    | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 157                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 5787 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5787                 | 92.45               | -                       | -                           | 85.04                   | 32.31                       | 7.2                     | 32.1                       | 112                  | 328                     | Average |
| 5787                 | 102.77              | -                       | -                           | 95.36                   | 32.31                       | 7.2                     | 32.1                       | 112                  | 328                     | Peak    |
| 11571                | 44.49               | -29.51                  | 74                          | 51.38                   | 40.05                       | 10.36                   | 57.3                       | 100                  | 0                       | Peak    |



|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 5GHz 802.11n HT20                                                                                                                                    | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 165                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 5824 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5824                 | 90.27               | -                       | -                           | 82.76                   | 32.36                       | 7.24                    | 32.09                      | 107                  | 356                     | Average |
| 5824                 | 101.59              | -                       | -                           | 94.08                   | 32.36                       | 7.24                    | 32.09                      | 107                  | 356                     | Peak    |
| 11649                | 43.93               | -30.07                  | 74                          | 50.92                   | 39.9                        | 10.41                   | 57.3                       | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 5GHz 802.11n HT20                                                                                                                                    | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 165                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 5824 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5824                 | 92.41               | -                       | -                           | 84.9                    | 32.36                       | 7.24                    | 32.09                      | 100                  | 327                     | Average |
| 5824                 | 103.01              | -                       | -                           | 95.5                    | 32.36                       | 7.24                    | 32.09                      | 100                  | 327                     | Peak    |
| 11649                | 44.06               | -29.94                  | 74                          | 51.05                   | 39.9                        | 10.41                   | 57.3                       | 100                  | 0                       | Peak    |



|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 5GHz 802.11n HT40                                                                                                                                    | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 151                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 5757 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5757                 | 86.72               | -                       | -                           | 104.36                  | 32.26                       | 7.18                    | 57.08                      | 107                  | 355                     | Average |
| 5757                 | 96.19               | -                       | -                           | 113.83                  | 32.26                       | 7.18                    | 57.08                      | 107                  | 355                     | Peak    |
| 11511                | 44.55               | -29.45                  | 74                          | 51.31                   | 40.2                        | 10.34                   | 57.3                       | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 5GHz 802.11n HT40                                                                                                                                    | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 151                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 5757 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5757                 | 89.95               | -                       | -                           | 82.62                   | 32.26                       | 7.18                    | 32.11                      | 102                  | 330                     | Average |
| 5757                 | 99.43               | -                       | -                           | 92.1                    | 32.26                       | 7.18                    | 32.11                      | 102                  | 330                     | Peak    |
| 11511                | 43.65               | -30.35                  | 74                          | 50.41                   | 40.2                        | 10.34                   | 57.3                       | 100                  | 0                       | Peak    |



|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 5GHz 802.11n HT40                                                                                                                                    | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 159                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 5793 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5793                 | 86.57               | -                       | -                           | 104.05                  | 32.31                       | 7.22                    | 57.01                      | 118                  | 357                     | Average |
| 5793                 | 96.56               | -                       | -                           | 114.04                  | 32.31                       | 7.22                    | 57.01                      | 118                  | 357                     | Peak    |
| 11589                | 43.6                | -30.4                   | 74                          | 50.51                   | 40.01                       | 10.38                   | 57.3                       | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 5GHz 802.11n HT40                                                                                                                                    | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 159                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 5797 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5797                 | 89.86               | -                       | -                           | 82.43                   | 32.31                       | 7.22                    | 32.1                       | 100                  | 329                     | Average |
| 5797                 | 99.39               | -                       | -                           | 91.96                   | 32.31                       | 7.22                    | 32.1                       | 100                  | 329                     | Peak    |
| 11589                | 43.59               | -30.41                  | 74                          | 50.5                    | 40.01                       | 10.38                   | 57.3                       | 100                  | 0                       | Peak    |



|                        |                                                                                                                                                      |                            |            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Test Mode :</b>     | 5GHz 802.11ac VHT80                                                                                                                                  | <b>Temperature :</b>       | 25~26°C    |
| <b>Test Channel :</b>  | 155                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%     |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | 1. 5773 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |            |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5773                 | 82.77               | -                       | -                           | 100.33                  | 32.29                       | 7.2                     | 57.05                      | 119                  | 357                     | Average |
| 5773                 | 92.4                | -                       | -                           | 109.96                  | 32.29                       | 7.2                     | 57.05                      | 119                  | 357                     | Peak    |
| 11550                | 43.57               | -30.43                  | 74                          | 50.42                   | 40.09                       | 10.36                   | 57.3                       | 100                  | 0                       | Peak    |

|                        |                                                                                                                                                      |                            |          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Test Mode :</b>     | 5GHz 802.11ac VHT80                                                                                                                                  | <b>Temperature :</b>       | 25~26°C  |
| <b>Test Channel :</b>  | 155                                                                                                                                                  | <b>Relative Humidity :</b> | 50~51%   |
| <b>Test Engineer :</b> | Jet Lu                                                                                                                                               | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | 1. 5773 MHz is fundamental signal which can be ignored.<br>2. Average measurement was not performed if peak level went lower than the average limit. |                            |          |

| Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------------|----------------------|-------------------------|---------|
| 5773                 | 85.72               | -                       | -                           | 78.33                   | 32.29                       | 7.2                     | 32.1                       | 103                  | 329                     | Average |
| 5773                 | 95.49               | -                       | -                           | 88.1                    | 32.29                       | 7.2                     | 32.1                       | 103                  | 329                     | Peak    |
| 11550                | 43.35               | -30.65                  | 74                          | 50.2                    | 40.09                       | 10.36                   | 57.3                       | 100                  | 0                       | Peak    |

## 3.2 AC Conducted Emission Measurement

### 3.2.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

| Frequency of Emission<br>(MHz) | Conducted Limit (dB $\mu$ V) |           |
|--------------------------------|------------------------------|-----------|
|                                | Quasi-Peak                   | Average   |
| 0.15-0.5                       | 66 to 56*                    | 56 to 46* |
| 0.5-5                          | 56                           | 46        |
| 5-30                           | 60                           | 50        |

\*Decreases with the logarithm of the frequency.

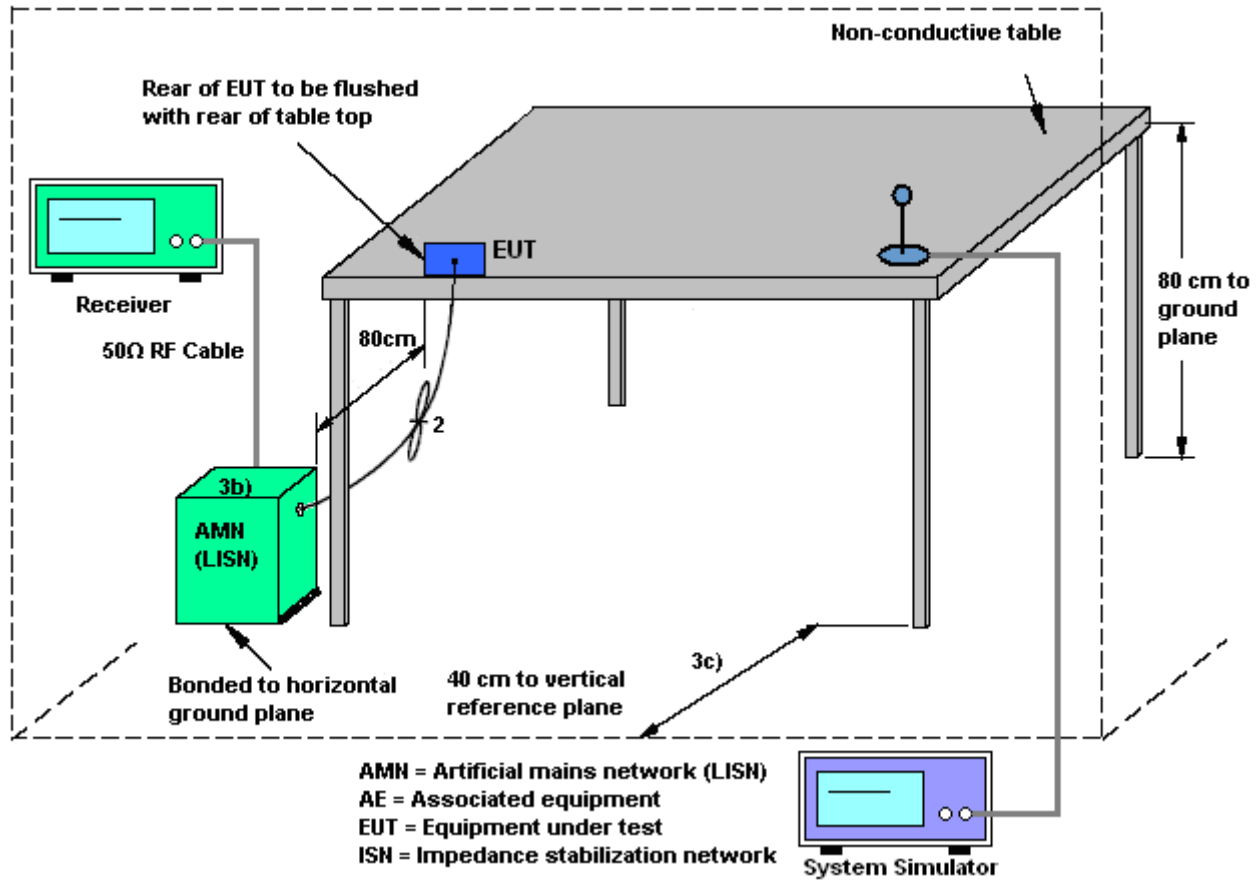
### 3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

### 3.2.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

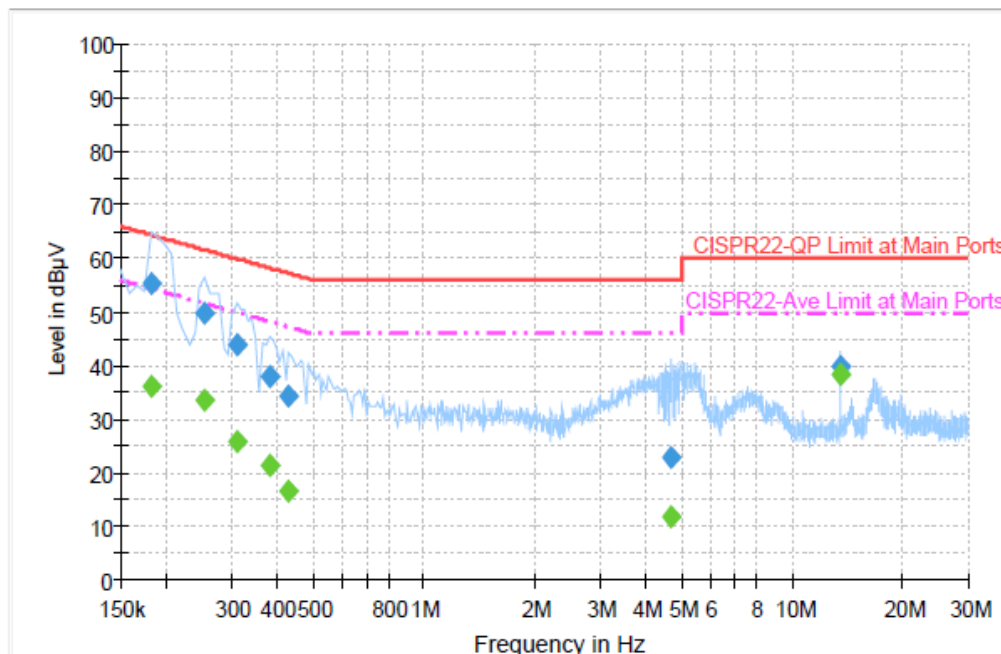
### 3.2.4 Test Setup





### 3.2.5 Test Result of AC Conducted Emission

|                        |                                                                                                                             |                            |        |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------|--------|
| <b>Test Mode :</b>     | Mode 1                                                                                                                      | <b>Temperature :</b>       | 20~22℃ |
| <b>Test Engineer :</b> | Kai-Chun Chu                                                                                                                | <b>Relative Humidity :</b> | 46~48% |
| <b>Test Voltage :</b>  | 120Vac / 60Hz                                                                                                               | <b>Phase :</b>             | Line   |
| <b>Function Type :</b> | LTE Band 7 Idle + WLAN (2.4GHz) Link + Bluetooth Link + NFC On + Earphone 1 + Battery + USB Cable (Data Link with Notebook) |                            |        |



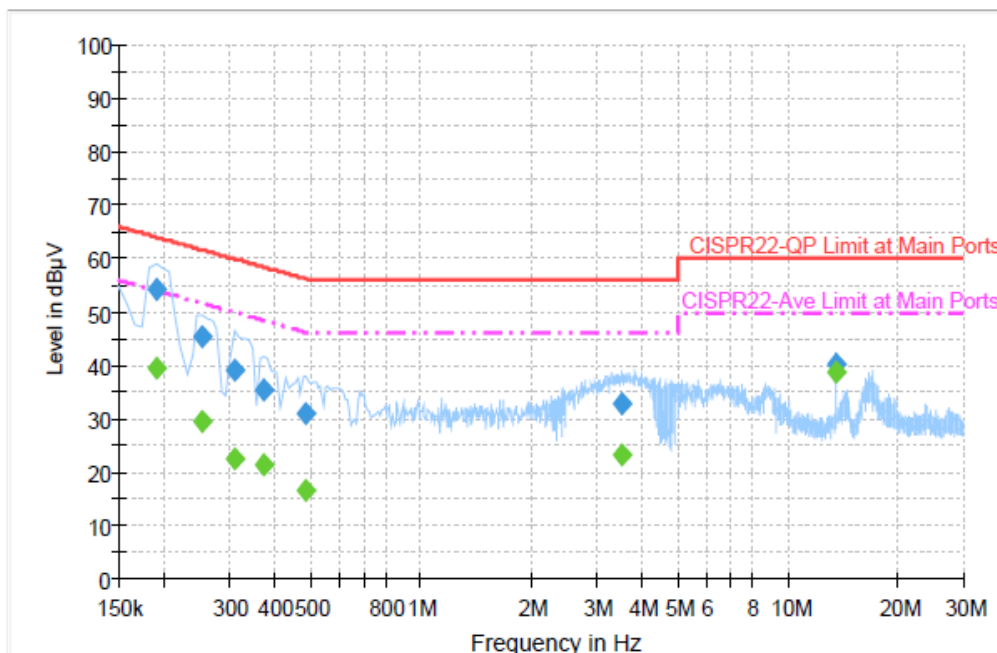
#### Final Result : Quasi-Peak

| Frequency (MHz) | Quasi-Peak (dBμV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|-------------------|--------|------|------------|-------------|--------------|
| 0.182000        | 55.4              | Off    | L1   | 19.4       | 9.0         | 64.4         |
| 0.254000        | 49.9              | Off    | L1   | 19.4       | 11.7        | 61.6         |
| 0.310000        | 43.9              | Off    | L1   | 19.4       | 16.1        | 60.0         |
| 0.382000        | 38.1              | Off    | L1   | 19.4       | 20.1        | 58.2         |
| 0.430000        | 34.4              | Off    | L1   | 19.4       | 22.9        | 57.3         |
| 4.694000        | 22.8              | Off    | L1   | 19.6       | 33.2        | 56.0         |
| 13.558000       | 40.0              | Off    | L1   | 19.8       | 20.0        | 60.0         |

#### Final Result : Average

| Frequency (MHz) | Average (dBμV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|----------------|--------|------|------------|-------------|--------------|
| 0.182000        | 36.3           | Off    | L1   | 19.4       | 18.1        | 54.4         |
| 0.254000        | 33.6           | Off    | L1   | 19.4       | 18.0        | 51.6         |
| 0.310000        | 25.9           | Off    | L1   | 19.4       | 24.1        | 50.0         |
| 0.382000        | 21.5           | Off    | L1   | 19.4       | 26.7        | 48.2         |
| 0.430000        | 16.8           | Off    | L1   | 19.4       | 30.5        | 47.3         |
| 4.694000        | 11.9           | Off    | L1   | 19.6       | 34.1        | 46.0         |
| 13.558000       | 38.3           | Off    | L1   | 19.8       | 11.7        | 50.0         |

|                        |                                                                                                                             |                            |         |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------|---------|
| <b>Test Mode :</b>     | Mode 1                                                                                                                      | <b>Temperature :</b>       | 20~22°C |
| <b>Test Engineer :</b> | Kai-Chun Chu                                                                                                                | <b>Relative Humidity :</b> | 46~48%  |
| <b>Test Voltage :</b>  | 120Vac / 60Hz                                                                                                               | <b>Phase :</b>             | Neutral |
| <b>Function Type :</b> | LTE Band 7 Idle + WLAN (2.4GHz) Link + Bluetooth Link + NFC On + Earphone 1 + Battery + USB Cable (Data Link with Notebook) |                            |         |


**Final Result : Quasi-Peak**

| Frequency (MHz) | Quasi-Peak (dBμV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|-------------------|--------|------|------------|-------------|--------------|
| 0.190000        | 54.3              | Off    | N    | 19.3       | 9.7         | 64.0         |
| 0.254000        | 45.2              | Off    | N    | 19.4       | 16.4        | 61.6         |
| 0.310000        | 39.0              | Off    | N    | 19.4       | 21.0        | 60.0         |
| 0.374000        | 35.4              | Off    | N    | 19.4       | 23.0        | 58.4         |
| 0.486000        | 31.0              | Off    | N    | 19.4       | 25.2        | 56.2         |
| 3.526000        | 32.7              | Off    | N    | 19.6       | 23.3        | 56.0         |
| 13.558000       | 40.2              | Off    | N    | 19.8       | 19.8        | 60.0         |

**Final Result : Average**

| Frequency (MHz) | Average (dBμV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|----------------|--------|------|------------|-------------|--------------|
| 0.190000        | 39.6           | Off    | N    | 19.3       | 14.4        | 54.0         |
| 0.254000        | 29.6           | Off    | N    | 19.4       | 22.0        | 51.6         |
| 0.310000        | 22.3           | Off    | N    | 19.4       | 27.7        | 50.0         |
| 0.374000        | 21.3           | Off    | N    | 19.4       | 27.1        | 48.4         |
| 0.486000        | 16.6           | Off    | N    | 19.4       | 29.6        | 46.2         |
| 3.526000        | 23.1           | Off    | N    | 19.6       | 22.9        | 46.0         |
| 13.558000       | 38.7           | Off    | N    | 19.8       | 11.3        | 50.0         |



### **3.3 Antenna Requirements**

#### **3.3.1 Standard Applicable**

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

#### **3.3.2 Antenna Anti-Replacement Construction**

An embedded-in antenna design is used.

#### **3.3.3 Antenna Gain**

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



## 4 List of Measuring Equipment

| Instrument                        | Manufacturer    | Model No.                  | Serial No.      | Characteristics | Calibration Date | Test Date                        | Due Date      | Remark                   |
|-----------------------------------|-----------------|----------------------------|-----------------|-----------------|------------------|----------------------------------|---------------|--------------------------|
| Power Meter                       | Agilent         | E4416A                     | GB412923<br>44  | 300MHz~40GHz    | Jan. 28, 2014    | Jul. 16, 2014                    | Jan. 27, 2015 | Conducted<br>(TH02-HY)   |
| Power Sensor                      | Agilent         | E9327A                     | US404415<br>48  | 300MHz~40GHz    | Jan. 28, 2014    | Jul. 16, 2014                    | Jan. 27, 2015 | Conducted<br>(TH02-HY)   |
| EMI Test Receiver                 | Rohde & Schwarz | ESCS 30                    | 100356          | 9kHz ~ 2.75GHz  | Nov. 15, 2013    | Jul. 11, 2014                    | Nov. 14, 2014 | Conduction<br>(CO05-HY)  |
| LISN<br>(for auxiliary equipment) | Rohde & Schwarz | ENV216                     | 100081          | 9kHz ~ 30MHz    | Dec. 12, 2013    | Jul. 11, 2014                    | Dec. 11, 2014 | Conduction<br>(CO05-HY)  |
| LISN                              | Rohde & Schwarz | ENV216                     | 100080          | 9kHz ~ 30MHz    | Dec. 04, 2013    | Jul. 11, 2014                    | Dec. 03, 2014 | Conduction<br>(CO05-HY)  |
| AC Power Source                   | ChainTek        | APC-1000W                  | N/A             | N/A             | N/A              | Jul. 11, 2014                    | N/A           | Conduction<br>(CO05-HY)  |
| Spectrum Analyzer                 | Rohde & Schwarz | FSP40                      | 100055          | 9kHz~40GHz      | Jun. 09, 2014    | Jul. 09, 2014 ~<br>Jul. 24, 2014 | Jun. 08, 2015 | Radiation<br>(03CH05-HY) |
| Bilog Antenna                     | Schaffner       | CBL6111C                   | 2725            | 30MHz~1GHz      | Oct. 10, 2013    | Jul. 09, 2014 ~<br>Jul. 24, 2014 | Oct. 09, 2014 | Radiation<br>(03CH05-HY) |
| Double Ridged Guide Horn Antenna  | SCHWARZBECK     | BBHA 9120 D                | 9120D-124<br>1  | 1GHz~18GHz      | Apr. 16, 2014    | Jul. 09, 2014 ~<br>Jul. 24, 2014 | Apr. 15, 2015 | Radiation<br>(03CH05-HY) |
| SHF-EHF Horn Antenna              | SCHWARZBECK     | BBHA 9170                  | BBHA9170<br>251 | 18GHz~40GHz     | Oct. 03, 2013    | Jul. 09, 2014 ~<br>Jul. 24, 2014 | Oct. 02, 2014 | Radiation<br>(03CH05-HY) |
| Preamplifier                      | MITEQ           | AMF-7D-0010<br>1800-30-10P | 1590074         | 100kHz~18GHz    | Jul. 07, 2014    | Jul. 09, 2014 ~<br>Jul. 24, 2014 | Jul. 06, 2015 | Radiation<br>(03CH05-HY) |
| Preamplifier                      | EMCI            | EMC011830                  | 980148          | DC~18GHz        | Jun. 23, 2014    | Jul. 09, 2014 ~<br>Jul. 24, 2014 | Jun. 22, 2015 | Radiation<br>(03CH05-HY) |
| Preamplifier                      | COM-POWER       | PA-103                     | 161075          | 9kHz~30MHz      | Apr. 15, 2014    | Jul. 09, 2014 ~<br>Jul. 24, 2014 | Apr. 14, 2015 | Radiation<br>(03CH05-HY) |
| Preamplifier                      | Miteq           | TTA0204                    | 1872107         | 18GHz~40GHz     | May 23, 2014     | Jul. 09, 2014 ~<br>Jul. 24, 2014 | May 22, 2015  | Radiation<br>(03CH05-HY) |
| Turn Table                        | HD              | HD100                      | 420/611         | 0 - 360 degree  | N/A              | Jul. 09, 2014 ~<br>Jul. 24, 2014 | N/A           | Radiation<br>(03CH05-HY) |
| Antenna Mast                      | HD              | HD100                      | 240/666         | 1 m - 4 m       | N/A              | Jul. 09, 2014 ~<br>Jul. 24, 2014 | N/A           | Radiation<br>(03CH05-HY) |



## 5 Uncertainty of Evaluation

### Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

|                                                                         |      |
|-------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 2.26 |
|-------------------------------------------------------------------------|------|

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

|                                                                         |      |
|-------------------------------------------------------------------------|------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.10 |
|-------------------------------------------------------------------------|------|