# Variant FCC Test Report

| | | |
|---|---|---|
| APPLICANT | : | Meru Networks Inc. |
| EQUIPMENT | : | Multi Radio 802.11a/b/g/n Wireless LAN Access Point |
| BRAND NAME | : | Meru Networks Inc. |
| MODEL NAME | : | AP302i, AP320i |
| FCC ID | : | RE7-AP300 |
| STANDARD | : | FCC Part 15 Subpart E |
| CLASSIFICATION | : | Unlicensed National Information Infrastructure (UNII) |

This is a variant report which is only valid combined with the original test report. The product was received on Dec. 04, 2009 and completely tested on Dec. 30, 2009. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown 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: Roy Wu / Manager

Testing Laboratory 1190

*SPORTON INTERNATIONAL INC.*
*No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.*

# TABLE OF CONTENTS

# REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|---|---|---|---|
| FR9D0408B | Rev. 01 | This is a variant report which can be referred to appendix C for product equality declaration. All the test cases were performed on original report which can be referred to appendix D. Based on the original report, only AC Conducted Emission and Radiated Emission was verified. | Jan. 14, 2010 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

# SUMMARY OF TEST RESULT

| Report Section | FCC Rule | IC Rule | Description | Limit | Result | Remark |
|---|---|---|---|---|---|---|
| 3.1 | 15.407(b) | A9.3 | Frequency Band Edges | ≤ -17, -27 dBm (depend on band)&15.209(a) | Pass | - |
| 3.2 | 15.207 | Gen 7.2.2 | AC Conducted Emission | 15.207(a) | Pass | Under limit 4.6 dB at 0.942 MHz |
| 3.3 | 15.407(b) | A9.3 | Transmitter Radiated Emission | ≤ -17, -27 dBm (depend on band)&15.209(a) | Pass | Under limit 4.49 dB at 35.94 MHz |
| 3.5 | 15.203 & 15.407(a) | A9.2 | Antenna Requirement | N/A | Pass | - |

# 1 General Description

## 1.1 Applicant

**Meru Networks Inc.**
894 Ross Drive Sunnyvale, CA 94089 USA

## 1.2 Manufacturer

**Universal Scientific Industrial (Shanghai)**
No. 1558, Zhang Dong Road, Zhangjiang Hi-Tech Park, Shanghai, P.R. China 201203

## 1.3 Feature of Equipment Under Test

| Product Feature & Specification | |
|---|---|
| **Equipment** | Multi Radio 802.11a/b/g/n Wireless LAN Access Point |
| **Brand Name** | Meru Networks Inc. |
| **Model Name** | AP302i, AP320i |
| **FCC ID** | RE7-AP300 |
| **Tx/Rx Frequency Range** | 5150 MHz ~ 5250 MHz |
| **Antenna Type** | PIFA Antenna with gain 4.0 dBi |
| **HW Version** | AP300i |
| **SW Version** | 3.6.1-41 |
| **Type of Modulation** | OFDM (BPSK / QPSK / 16QAM / 64QAM) |
| **EUT Stage** | Identical Prototype |

**Remark:**

1. For other wireless features of this EUT, test report will be issued separately.
2. This test report recorded only product characteristics and test results of Unlicensed National Information Infrastructure (UNII).
3. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

## 1.4 Testing Site

| Test Site | SPORTON INTERNATIONAL INC. | | |
|---|---|---|---|
| Test Site Location | No. 52, Hwa Ya 1st 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 | | |
| Test Site No. | Sporton Site No. | | FCC / IC Registration No. |
| | CO05-HY | 03CH07-HY | TW1022 / 4086B-1 |

## 1.5 Applied Standards

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

- FCC Part 15 Subpart E
- FCC Public Notice DA 02-2138, (Measurement Guidelines of UNII)
- ANSI C63.4-2003
- IC RSS-210 Issued 7

**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 (DoC), recorded in a separate test report.

## 1.6 Ancillary Equipment List

| Item | Equipment | Trade Name | Model Name | FCC ID | Data Cable | Power Cord |
|---|---|---|---|---|---|---|
| 1. | AC Adapter 1 | UMEC | UP0251P-05PA | N/A | N/A | Shielded, 1.8 m |
| 2. | AC Adapter 2 (for POE) | UMEC | UP0151D-48P | N/A | N/A | Shielded, 1.8 m |
| 3. | POE | PLANET | POE-152 | N/A | N/A | N/A |
| 4. | Notebook | DELL | Vostro 1510 | FCC DoC | N/A | AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m |
| 5. | Notebook | ASUS | F9E | FCC DoC | N/A | AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m |
| 6. | Notebook | Acer | MS2180 | QDS-BRCM1018 | N/A | AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m |

# 2 Test Configuration of Equipment Under Test

## 2.1 Carrier Frequency Channel

| 802.11a Carrier Frequency Channel | | | | | |
|---|---|---|---|---|---|
| Channel | Freq. (MHz) | Channel | Freq. (MHz) | Channel | Freq. (MHz) |
| 36 | 5180 | 40 | 5200 | 44 | 5220 |

| 802.11n (BW 20MHz) Carrier Frequency Channel | | | | | |
|---|---|---|---|---|---|
| Channel | Freq. (MHz) | Channel | Freq. (MHz) | Channel | Freq. (MHz) |
| 36 | 5180 | 40 | 5200 | 44 | 5220 |

| 802.11n (BW 40MHz) Carrier Frequency Channel | | | |
|---|---|---|---|
| Channel | Freq. (MHz) | Channel | Freq. (MHz) |
| 38 | 5190 | 44 | 5220 |

## 2.2 Test Mode

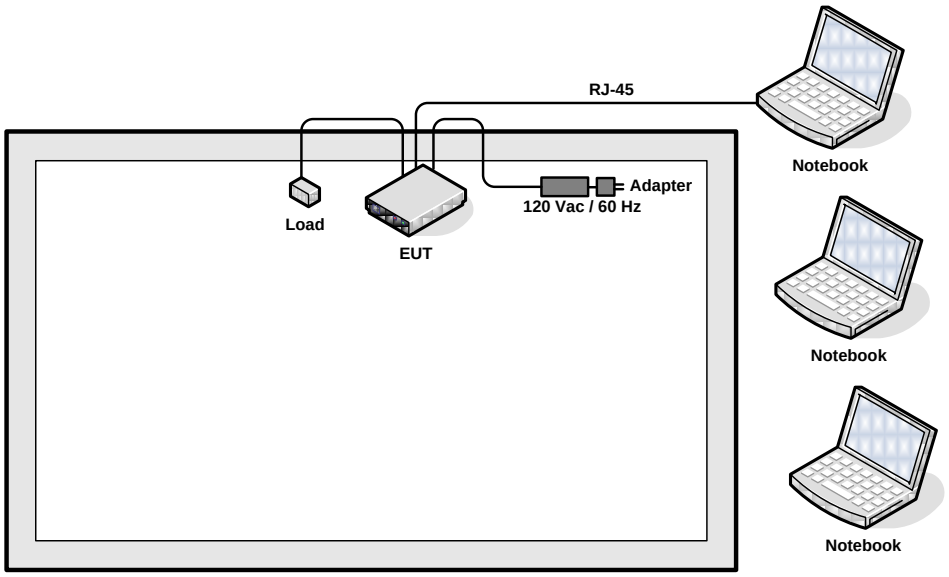
The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction (150 kHz to 30 MHz), radiation (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

| Test Cases | |
|---|---|
| **Test Item** | **802.11a (Modulation : OFDM)** |
| **Radiated TCs** | ■ Mode 1: 802.11a_CH36_5180 MHz for WLAN 1<br>■ Mode 2: 802.11a_CH40_5200 MHz for WLAN 1<br>■ Mode 3: 802.11a_CH44_5220 MHz for WLAN 1<br>■ Mode 4: 802.11a_CH36_5180 MHz for WLAN 2<br>■ Mode 5: 802.11n(a)_CH36_5180 MHz (BW 20MHz) for WLAN 1<br>■ Mode 6: 802.11n(a)_CH40_5200 MHz (BW 20MHz) for WLAN 1<br>■ Mode 7: 802.11n(a)_CH44_5220 MHz (BW 20MHz) for WLAN 1<br>■ Mode 8: 802.11n(a)_CH38_5190 MHz (BW 40MHz) for WLAN 1<br>■ Mode 9: 802.11n(a)_CH44_5220 MHz (BW 40MHz) for WLAN 1<br>■ Mode 10: 802.11a_CH36_5180 MHz for WLAN 1 + 802.11a_CH36_5180 MHz for WLAN 2 |
| **AC Conducted Emission** | Mode 1 : WLAN 1 (2.4G) Link + WLAN 2 (2.4G) Link + LAN Link + Adapter 1<br>Mode 2 : WLAN 1 (5G) Link + WLAN 2 (5G) Link + POE + LAN Link + Adapter 2 |
| **Remark:**<br>1. The worst case of AC conducted emission is mode 1; only the test data of it was reported.<br>2. The EUT has two modules which have the same design, and they can transmit simultaneously.<br>3. The WLAN 1 (module 1) was tested for full test modes, the WLAN 2 (module 2) was tested based on the worst case of WLAN 1, and the worst case for co-location was mode 10. | |

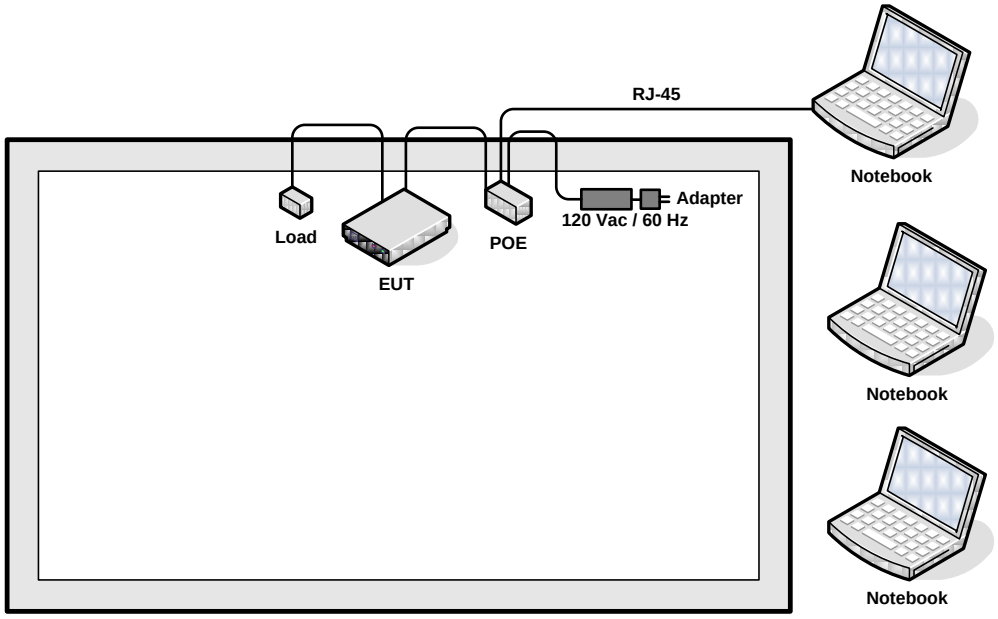
## 2.3 Connection Diagram of Test System

**<Conduction Test>**

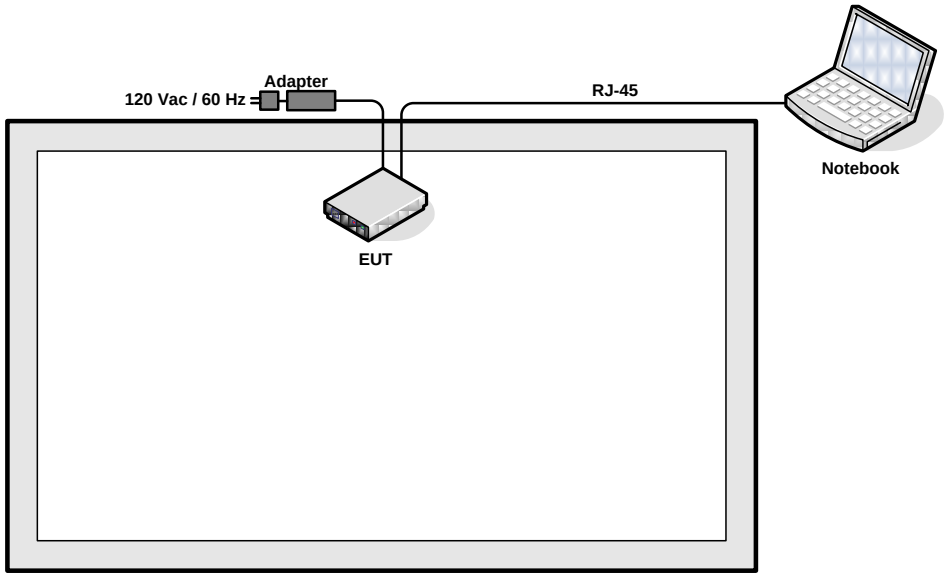
EUT with Adapter Mode




EUT with POE and Adapter Mode



**<Radiation Test>**




## 2.4 RF Utility

The programmed RF utility “ART”, is installed in notebook to provide channel selection, power level, data rate and the application type. RF utility can send transmitting signal for all testing. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

# 3 Test Result

## 3.1 Band Edges Measurement

### 3.1.1 Limit of Band Edges

(1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. Devices operating in the 5.25–5.35 GHz band that generate emissions in the 5.15–5.25 GHz band must meet all applicable technical requirements for operation in the 5.15–5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27 dBm/MHz in the 5.15–5.25 GHz band.

(2) The provisions of Section 15.205 Restricted bands of operation of this part apply to intentional radiators operating under this section.

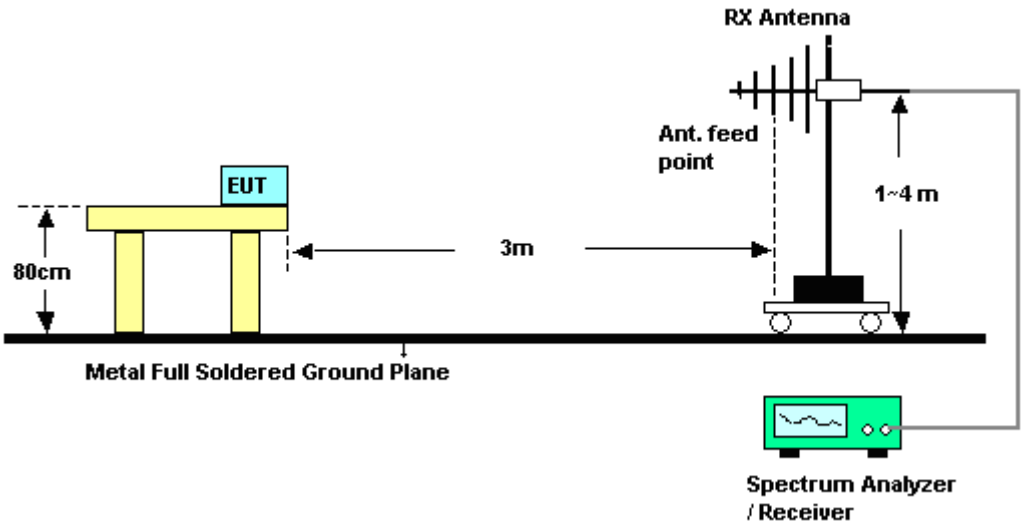
### 3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.1.3 Test Procedures

1. Set both RBW and VBW of spectrum analyzer to 1MHz with convenient frequency span including 1MHz bandwidth from band edge.
2. The band edges was measured and recorded.

### 3.1.4 Test Setup



### 3.1.5 Test Result of Radiated Band Edges

| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 1 | **Temperature :** | 20~21°C |
| **Test Band :** | 802.11a | **Relative Humidity :** | 49~50% |
| **Test Channel :** | 36 | **Test Engineer :** | Kay Wu |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Frequency ( MHz )** | **Level ( dBuV/m )** | **Over Limit ( dB )** | **Limit Line ( dBuV/m )** | **Read Level (dBuV)** | **Antenna Factor ( dB )** | **Cable Loss ( dB )** | **Preamp Factor ( dB )** | **Ant Pos ( cm )** | **Table Pos ( deg )** | **Remark** |
| 5150 | 55.35 | -18.65 | 74 | 47.26 | 34.49 | 8.07 | 34.47 | 103 | 13 | Peak |
| 5150 | 38.13 | -15.87 | 54 | 30.04 | 34.49 | 8.07 | 34.47 | 103 | 13 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Frequency ( MHz )** | **Level ( dBuV/m )** | **Over Limit ( dB )** | **Limit Line ( dBuV/m )** | **Read Level (dBuV)** | **Antenna Factor ( dB )** | **Cable Loss ( dB )** | **Preamp Factor ( dB )** | **Ant Pos ( cm )** | **Table Pos ( deg )** | **Remark** |
| 5150 | 60.28 | -13.72 | 74 | 52.19 | 34.49 | 8.07 | 34.47 | 166 | 296 | Peak |
| 5150 | 41.85 | -12.15 | 54 | 33.76 | 34.49 | 8.07 | 34.47 | 166 | 296 | Average |

| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 3 | **Temperature :** | 20~21°C |
| **Test Band :** | 802.11a | **Relative Humidity :** | 49~50% |
| **Test Channel :** | 44 | **Test Engineer :** | Kay Wu |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Frequency ( MHz )** | **Level ( dBuV/m )** | **Over Limit ( dB )** | **Limit Line ( dBuV/m )** | **Read Level (dBuV)** | **Antenna Factor ( dB )** | **Cable Loss ( dB )** | **Preamp Factor ( dB )** | **Ant Pos ( cm )** | **Table Pos ( deg )** | **Remark** |
| 5350 | 49.43 | -24.57 | 74 | 41.02 | 34.61 | 8.23 | 34.43 | 100 | 17 | Peak |
| 5350 | 37.79 | -16.21 | 54 | 29.38 | 34.61 | 8.23 | 34.43 | 100 | 17 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Frequency ( MHz )** | **Level ( dBuV/m )** | **Over Limit ( dB )** | **Limit Line ( dBuV/m )** | **Read Level (dBuV)** | **Antenna Factor ( dB )** | **Cable Loss ( dB )** | **Preamp Factor ( dB )** | **Ant Pos ( cm )** | **Table Pos ( deg )** | **Remark** |
| 5350 | 49.22 | -24.78 | 74 | 40.81 | 34.61 | 8.23 | 34.43 | 190 | 285 | Peak |
| 5350 | 37.87 | -16.13 | 54 | 29.46 | 34.61 | 8.23 | 34.43 | 190 | 285 | Average |

| Test Mode : | Mode 4 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Band : | 802.11a | Relative Humidity : | 49~50% |
| Test Channel : | 36 | Test Engineer : | Kay Wu |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5150 | 49.47 | -24.53 | 74 | 41.38 | 34.49 | 8.07 | 34.47 | 192 | 307 | Peak |
| 5150 | 38.06 | -15.94 | 54 | 29.97 | 34.49 | 8.07 | 34.47 | 192 | 307 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5150 | 50.28 | -23.72 | 74 | 42.19 | 34.49 | 8.07 | 34.47 | 103 | 233 | Peak |
| 5150 | 38.01 | -15.99 | 54 | 29.92 | 34.49 | 8.07 | 34.47 | 103 | 233 | Average |

| Test Mode : | Mode 5 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Band : | 802.11n(a) (BW 20MHz) | Relative Humidity : | 49~50% |
| Test Channel : | 36 | Test Engineer : | Kay Wu |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5150 | 49.66 | -24.34 | 74 | 41.57 | 34.49 | 8.07 | 34.47 | 100 | 360 | Peak |
| 5150 | 37.94 | -16.06 | 54 | 29.85 | 34.49 | 8.07 | 34.47 | 100 | 360 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5150 | 52.22 | -21.78 | 74 | 44.13 | 34.49 | 8.07 | 34.47 | 136 | 295 | Peak |
| 5150 | 39.69 | -14.31 | 54 | 31.6 | 34.49 | 8.07 | 34.47 | 136 | 295 | Average |

| Test Mode : | Mode 7 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Band : | 802.11n(a) (BW 20MHz) | Relative Humidity : | 49~50% |
| Test Channel : | 44 | Test Engineer : | Kay Wu |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5350 | 49.27 | -24.73 | 74 | 40.86 | 34.61 | 8.23 | 34.43 | 104 | 302 | Peak |
| 5350 | 37.85 | -16.15 | 54 | 29.44 | 34.61 | 8.23 | 34.43 | 104 | 302 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5350 | 49.57 | -24.43 | 74 | 41.16 | 34.61 | 8.23 | 34.43 | 137 | 293 | Peak |
| 5350 | 37.87 | -16.13 | 54 | 29.46 | 34.61 | 8.23 | 34.43 | 137 | 293 | Average |

| Test Mode : | Mode 8 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Band : | 802.11n(a) (BW 40MHz) | Relative Humidity : | 49~50% |
| Test Channel : | 38 | Test Engineer : | Kay Wu |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5150 | 56.42 | -17.58 | 74 | 48.33 | 34.49 | 8.07 | 34.47 | 113 | 17 | Peak |
| 5150 | 40.57 | -13.43 | 54 | 32.48 | 34.49 | 8.07 | 34.47 | 113 | 17 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5150 | 65.56 | -8.44 | 74 | 57.47 | 34.49 | 8.07 | 34.47 | 108 | 295 | Peak |
| 5150 | 46.5 | -7.5 | 54 | 38.41 | 34.49 | 8.07 | 34.47 | 108 | 295 | Average |

| Test Mode : | Mode 9 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Band : | 802.11n(a) (BW 40MHz) | Relative Humidity : | 49~50% |
| Test Channel : | 44 | Test Engineer : | Kay Wu |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5350 | 49.26 | -24.74 | 74 | 40.85 | 34.61 | 8.23 | 34.43 | 104 | 305 | Peak |
| 5350 | 38.11 | -15.89 | 54 | 29.7 | 34.61 | 8.23 | 34.43 | 104 | 305 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5350 | 49.89 | -24.11 | 74 | 41.48 | 34.61 | 8.23 | 34.43 | 138 | 294 | Peak |
| 5350 | 38.15 | -15.85 | 54 | 29.74 | 34.61 | 8.23 | 34.43 | 138 | 294 | Average |

| Test Mode : | Mode 10 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Band : | 802.11a | Relative Humidity : | 49~50% |
| Test Channel : | 36 | Test Engineer : | Kay Wu |

| ANTENNA POLARITY : HORIZONTAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5150 | 54.7 | -19.3 | 74 | 46.61 | 34.49 | 8.07 | 34.47 | 100 | 15 | Peak |
| 5150 | 38.63 | -15.37 | 54 | 30.54 | 34.49 | 8.07 | 34.47 | 100 | 15 | Average |

| ANTENNA POLARITY : VERTICAL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
| 5150 | 61.84 | -12.16 | 74 | 53.75 | 34.49 | 8.07 | 34.47 | 150 | 296 | Peak |
| 5150 | 42.84 | -11.16 | 54 | 34.75 | 34.49 | 8.07 | 34.47 | 150 | 296 | Average |

## 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 (MHz) | Conducted limit (dBuV) | |
|---|---|---|
| | 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.

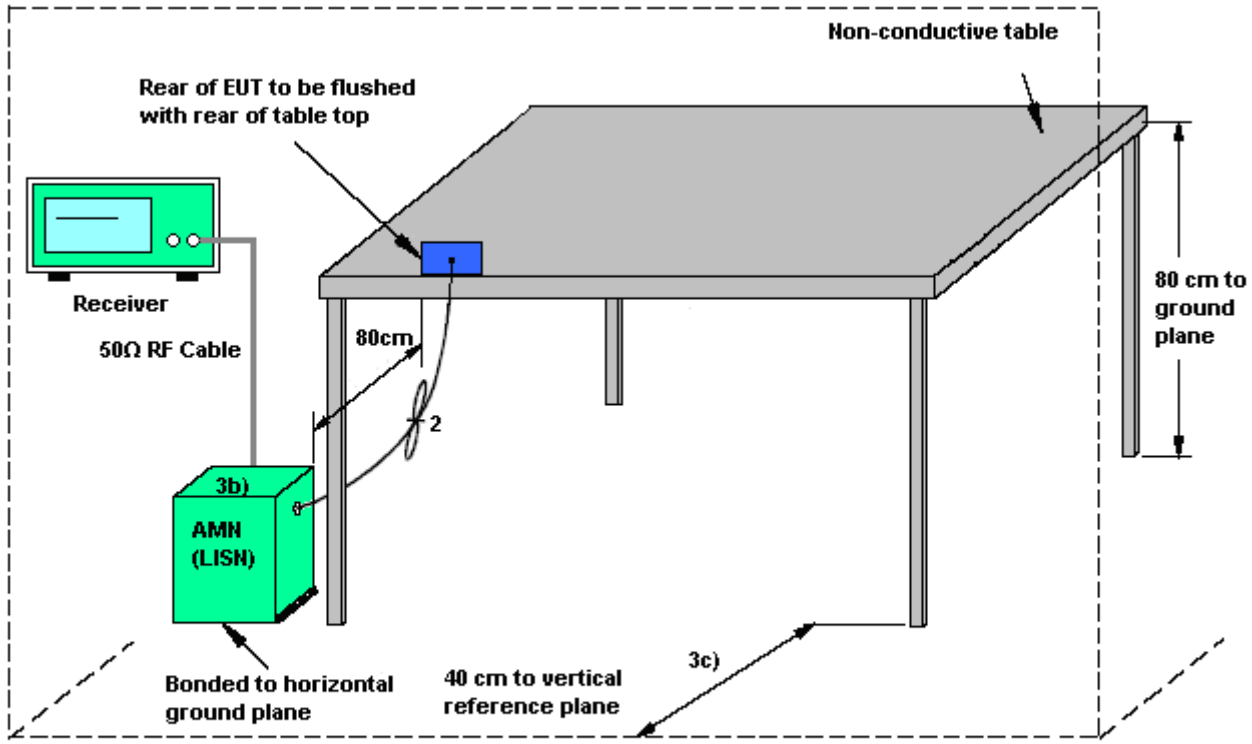
### 3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.2.3 Test Procedures

1. Please follow the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 kHz to 30 MHz was searched.
9. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

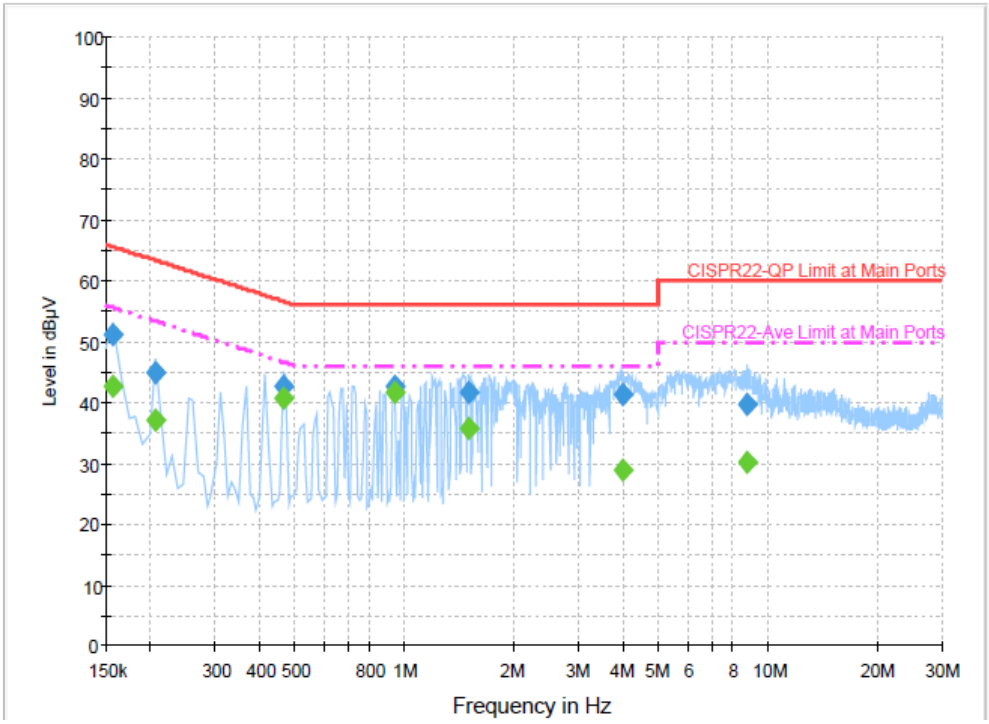
### 3.2.4 Test Setup




AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

### 3.2.5 Test Result of AC Conducted Emission

| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 1 | **Temperature :** | 22~24℃ |
| **Test Engineer :** | Hayden Wu | **Relative Humidity :** | 42~45% |
| **Test Voltage :** | 120Vac / 60Hz | **Phase :** | Line |
| **Function Type :** | WLAN 1 (2.4G) Link + WLAN 2 (2.4G) Link + LAN Link + Adapter 1 | | |
| **Remark :** | All emissions not reported here are more than 10 dB below the prescribed limit. | | |



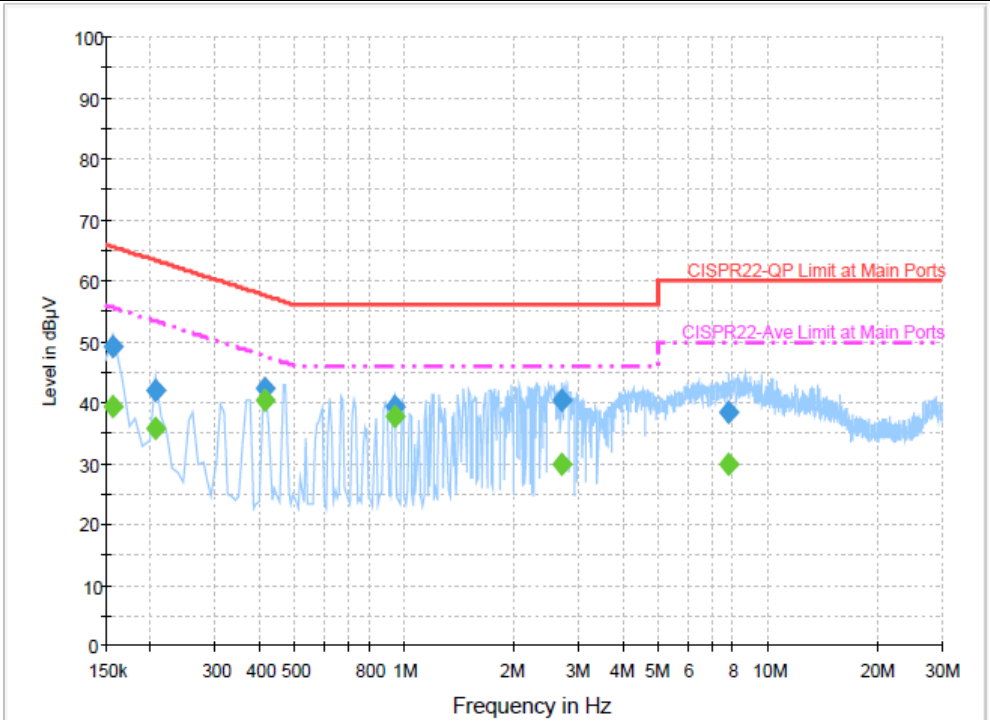

**Final Result 1**

| Frequency (MHz) | QuasiPeak (dBµV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|---|---|---|---|---|---|---|
| 0.158000 | 51.1 | Off | L1 | 19.5 | 14.5 | 65.6 |
| 0.206000 | 44.8 | Off | L1 | 19.6 | 18.6 | 63.4 |
| 0.462000 | 42.8 | Off | L1 | 19.4 | 13.9 | 56.7 |
| 0.942000 | 42.5 | Off | L1 | 19.4 | 13.5 | 56.0 |
| 1.494000 | 41.7 | Off | L1 | 19.5 | 14.3 | 56.0 |
| 3.966000 | 41.2 | Off | L1 | 19.5 | 14.8 | 56.0 |
| 8.718000 | 39.8 | Off | L1 | 19.6 | 20.2 | 60.0 |

**Final Result 2**

| Frequency (MHz) | Average (dBµV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|---|---|---|---|---|---|---|
| 0.158000 | 42.8 | Off | L1 | 19.5 | 12.8 | 55.6 |
| 0.206000 | 37.1 | Off | L1 | 19.6 | 16.3 | 53.4 |
| 0.462000 | 40.8 | Off | L1 | 19.4 | 5.9 | 46.7 |
| 0.942000 | 41.6 | Off | L1 | 19.4 | 4.6 | 46.0 |
| 1.494000 | 35.8 | Off | L1 | 19.5 | 10.2 | 46.0 |
| 3.966000 | 28.7 | Off | L1 | 19.5 | 17.3 | 46.0 |
| 8.718000 | 30.3 | Off | L1 | 19.6 | 19.7 | 50.0 |

| Test Mode : | Mode 1 | Temperature : | 22~24℃ |
|---|---|---|---|
| Test Engineer : | Hayden Wu | Relative Humidity : | 42~45% |
| Test Voltage : | 120Vac / 60Hz | Phase : | Neutral |
| Function Type : | WLAN 1 (2.4G) Link + WLAN 2 (2.4G) Link + LAN Link + Adapter 1 | | |
| Remark : | All emissions not reported here are more than 10 dB below the prescribed limit. | | |




**Final Result 1**

| Frequency (MHz) | QuasiPeak (dBµV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|---|---|---|---|---|---|---|
| 0.158000 | 49.1 | Off | N | 19.5 | 16.5 | 65.6 |
| 0.206000 | 41.9 | Off | N | 19.5 | 21.5 | 63.4 |
| 0.414000 | 42.1 | Off | N | 19.4 | 15.5 | 57.6 |
| 0.934000 | 39.4 | Off | N | 19.4 | 16.6 | 56.0 |
| 2.702000 | 40.2 | Off | N | 19.5 | 15.8 | 56.0 |
| 7.750000 | 38.2 | Off | N | 19.6 | 21.8 | 60.0 |

**Final Result 2**

| Frequency (MHz) | Average (dBµV) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) |
|---|---|---|---|---|---|---|
| 0.158000 | 39.2 | Off | N | 19.5 | 16.4 | 55.6 |
| 0.206000 | 35.6 | Off | N | 19.5 | 17.8 | 53.4 |
| 0.414000 | 40.5 | Off | N | 19.4 | 7.1 | 47.6 |
| 0.934000 | 37.7 | Off | N | 19.4 | 8.3 | 46.0 |
| 2.702000 | 29.8 | Off | N | 19.5 | 16.2 | 46.0 |
| 7.750000 | 29.9 | Off | N | 19.6 | 20.1 | 50.0 |

## 3.3 Radiated Emission Measurement

### 3.3.1 Limit of Radiated Emission

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.

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

(1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. (2) For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. Devices operating in the 5.25–5.35 GHz band that generate emissions in the 5.15–5.25 GHz band must meet all applicable technical requirements for operation in the 5.15–5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27 dBm/MHz in the 5.15–5.25 GHz band. (3) For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.

(2) The provisions of Section 15.205 Restricted bands of operation of this part apply to intentional radiators operating under this section.

### 3.3.2 Measuring Instruments

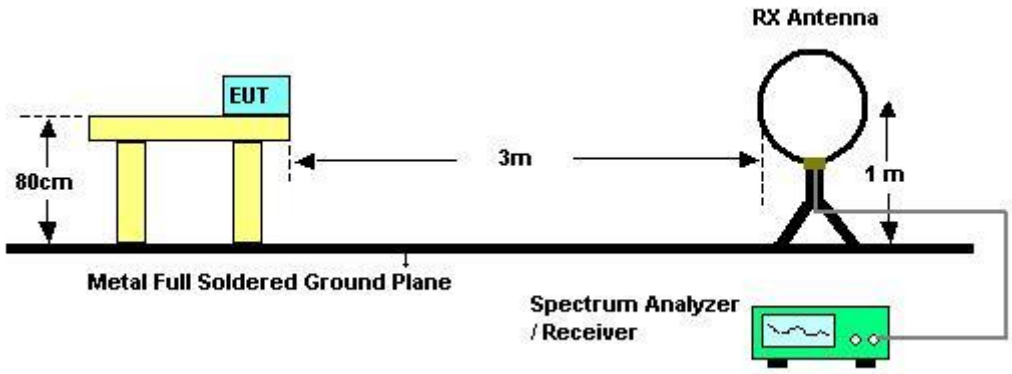
See list of measuring instruments of this test report.

### 3.3.3 Test Procedures

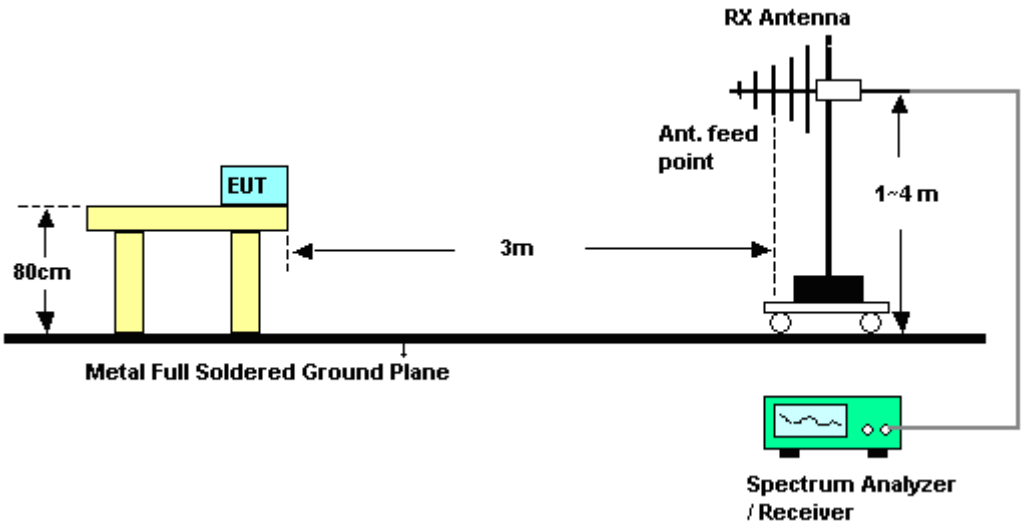
1. The testing follows the guidelines in FCC Public Notice DA 02-2138, (Measurement Guidelines of UNII)
2. The EUT was placed on a rotatable table top 0.8 meter above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest radiation.
5. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
6. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
7. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
8. For testing below 1GHz, If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the quasi-peak method and reported.
9. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

### 3.3.4 Test Setup

**For radiated emissions below 30MHz**




**For radiated emissions above 30MH**



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

| Temperature | 20~21°C | Humidity | 49~50% |
|---|---|---|---|
| Test Engineer | Kay Wu | | |

| Freq. (MHz) | Level (dBuV) | Over Limit (dB) | Limit Line (dBuV) | Remark |
|---|---|---|---|---|
| - | - | - | - | See Note |

**Note:**

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

### 3.3.6 Test Result of Radiated Emission

| | | | |
|---|---|---|---|
| **Test Mode :** | Mode 1 | **Temperature :** | 20~21°C |
| **Test Channel :** | 36 | **Relative Humidity :** | 49~50% |
| **Test Engineer :** | Kay Wu | **Polarization :** | Horizontal |
| **Remark :** | 5180 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 51.33 | 26.48 | -13.52 | 40 | 49.57 | 7.77 | 0.84 | 31.7 | - | - | Peak |
| 122.61 | 31.35 | -12.15 | 43.5 | 49.66 | 12.06 | 1.31 | 31.68 | 100 | 236 | Peak |
| 250.05 | 26.13 | -19.87 | 46 | 42.94 | 12.77 | 1.92 | 31.5 | - | - | Peak |
| 629.7 | 31.11 | -14.89 | 46 | 38.45 | 20.29 | 3.34 | 30.97 | - | - | Peak |
| 673.8 | 26.94 | -19.06 | 46 | 33.75 | 20.64 | 3.48 | 30.93 | - | - | Peak |
| 897.8 | 30.97 | -15.03 | 46 | 34.36 | 23.16 | 4.15 | 30.7 | - | - | Peak |
| 5150 | 38.13 | -15.87 | 54 | 30.04 | 34.49 | 8.07 | 34.47 | 103 | 13 | Average |
| 5150 | 55.35 | -18.65 | 74 | 47.26 | 34.49 | 8.07 | 34.47 | 103 | 13 | Peak |
| 5180 | 100.09 | - | - | 91.94 | 34.51 | 8.1 | 34.46 | 103 | 13 | Peak |
| 5180 | 89.45 | - | - | 81.3 | 34.51 | 8.1 | 34.46 | 103 | 13 | Average |
| 5350 | 37.27 | -16.73 | 54 | 28.86 | 34.61 | 8.23 | 34.43 | 103 | 13 | Average |
| 5350 | 48.45 | -25.55 | 74 | 40.04 | 34.61 | 8.23 | 34.43 | 103 | 13 | Peak |
| 8836 | 54.53 | -19.47 | 74 | 43.21 | 36.2 | 10.29 | 35.17 | 100 | 237 | Peak |
| 8836 | 41.02 | -12.98 | 54 | 29.7 | 36.2 | 10.29 | 35.17 | 100 | 237 | Average |
| 10360 | 39.88 | -28.42 | 68.3 | 72.48 | -8.72 | 11.07 | 34.95 | 100 | 0 | Peak |

| Test Mode : | Mode 1 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 36 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Vertical |
| Remark : | 5180 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 35.94 | 35.51 | -4.49 | 40 | 50.32 | 16.2 | 0.69 | 31.7 | 100 | 94 | Peak |
| 64.56 | 33.38 | -6.62 | 40 | 57.88 | 6.26 | 0.94 | 31.7 | - | - | Peak |
| 109.65 | 37.39 | -6.11 | 43.5 | 56.62 | 11.24 | 1.22 | 31.69 | - | - | Peak |
| 464.5 | 21.17 | -24.83 | 46 | 32.04 | 17.44 | 2.83 | 31.14 | - | - | Peak |
| 626.9 | 28 | -18 | 46 | 35.37 | 20.27 | 3.33 | 30.97 | - | - | Peak |
| 897.8 | 29.85 | -16.15 | 46 | 33.24 | 23.16 | 4.15 | 30.7 | - | - | Peak |
| 5150 | 41.85 | -12.15 | 54 | 33.76 | 34.49 | 8.07 | 34.47 | 166 | 296 | Average |
| 5150 | 60.28 | -13.72 | 74 | 52.19 | 34.49 | 8.07 | 34.47 | 166 | 296 | Peak |
| 5180 | 109.55 | - | - | 101.4 | 34.51 | 8.1 | 34.46 | 166 | 296 | Peak |
| 5180 | 99.31 | - | - | 91.16 | 34.51 | 8.1 | 34.46 | 166 | 296 | Average |
| 5350 | 37.79 | -16.21 | 54 | 29.38 | 34.61 | 8.23 | 34.43 | 166 | 296 | Average |
| 5350 | 48.41 | -25.59 | 74 | 40 | 34.61 | 8.23 | 34.43 | 166 | 296 | Peak |
| 8924 | 54.48 | -19.52 | 74 | 43.11 | 36.25 | 10.31 | 35.19 | 100 | 73 | Peak |
| 8924 | 42.08 | -11.92 | 54 | 30.71 | 36.25 | 10.31 | 35.19 | 100 | 73 | Average |
| 10360 | 45.37 | -22.93 | 68.3 | 77.97 | -8.72 | 11.07 | 34.95 | 100 | 0 | Peak |
| 15540 | 40.85 | -33.15 | 74 | 68.63 | -7.19 | 14.34 | 34.93 | 100 | 0 | Peak |

| Test Mode : | Mode 2 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 40 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Horizontal |
| Remark : | 5200 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 51.33 | 28.48 | -11.52 | 40 | 51.57 | 7.77 | 0.84 | 31.7 | 100 | 141 | Peak |
| 122.61 | 29.35 | -14.15 | 43.5 | 47.66 | 12.06 | 1.31 | 31.68 | - | - | Peak |
| 238.98 | 24.08 | -21.92 | 46 | 42.36 | 11.37 | 1.87 | 31.52 | - | - | Peak |
| 405.7 | 23.23 | -22.77 | 46 | 35.61 | 16.23 | 2.58 | 31.19 | - | - | Peak |
| 609.4 | 29.57 | -16.43 | 46 | 37.14 | 20.14 | 3.28 | 30.99 | - | - | Peak |
| 897.1 | 30.13 | -15.87 | 46 | 33.53 | 23.15 | 4.15 | 30.7 | - | - | Peak |
| 5150 | 50.33 | -23.67 | 74 | 42.24 | 34.49 | 8.07 | 34.47 | 100 | 14 | Peak |
| 5150 | 37.84 | -16.16 | 54 | 29.75 | 34.49 | 8.07 | 34.47 | 100 | 14 | Average |
| 5200 | 99.56 | - | - | 91.39 | 34.52 | 8.11 | 34.46 | 100 | 14 | Peak |
| 5200 | 88.98 | - | - | 80.81 | 34.52 | 8.11 | 34.46 | 100 | 14 | Average |
| 5350 | 37.79 | -16.21 | 54 | 29.38 | 34.61 | 8.23 | 34.43 | 100 | 14 | Average |
| 5350 | 49.1 | -24.9 | 74 | 40.69 | 34.61 | 8.23 | 34.43 | 100 | 14 | Peak |
| 8876 | 54.61 | -19.39 | 74 | 43.26 | 36.22 | 10.3 | 35.17 | 100 | 63 | Peak |
| 8876 | 42.04 | -11.96 | 54 | 30.69 | 36.22 | 10.3 | 35.17 | 100 | 63 | Average |
| 10400 | 40.14 | -28.16 | 68.3 | 72.63 | -8.66 | 11.07 | 34.9 | 100 | 0 | Peak |
| 15600 | 40.43 | -33.57 | 74 | 67.82 | -6.7 | 14.29 | 34.98 | 100 | 0 | Peak |

| Test Mode : | Mode 2 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 40 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Vertical |
| Remark : | 5220 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 53.49 | 31.53 | -8.47 | 40 | 55.02 | 7.36 | 0.85 | 31.7 | 100 | 55 | Peak |
| 106.41 | 31.15 | -12.35 | 43.5 | 50.67 | 10.97 | 1.2 | 31.69 | - | - | Peak |
| 127.74 | 33.88 | -9.62 | 43.5 | 52.4 | 11.79 | 1.36 | 31.67 | - | - | Peak |
| 416.2 | 21.11 | -24.89 | 46 | 33.2 | 16.45 | 2.64 | 31.18 | - | - | Peak |
| 525.4 | 23.24 | -22.76 | 46 | 32.63 | 18.66 | 3.02 | 31.07 | - | - | Peak |
| 875.4 | 28.81 | -17.19 | 46 | 32.5 | 22.95 | 4.06 | 30.7 | - | - | Peak |
| 5150 | 38.73 | -15.27 | 54 | 30.64 | 34.49 | 8.07 | 34.47 | 190 | 285 | Average |
| 5150 | 50.02 | -23.98 | 74 | 41.93 | 34.49 | 8.07 | 34.47 | 190 | 285 | Peak |
| 5220 | 107.87 | - | - | 99.68 | 34.53 | 8.12 | 34.46 | 190 | 285 | Peak |
| 5220 | 97.28 | - | - | 89.09 | 34.53 | 8.12 | 34.46 | 190 | 285 | Average |
| 5350 | 37.87 | -16.13 | 54 | 29.46 | 34.61 | 8.23 | 34.43 | 190 | 285 | Average |
| 5350 | 49.22 | -24.78 | 74 | 40.81 | 34.61 | 8.23 | 34.43 | 190 | 285 | Peak |
| 8908 | 55 | -19 | 74 | 43.63 | 36.24 | 10.31 | 35.18 | 100 | 66 | Peak |
| 8908 | 41.68 | -12.32 | 54 | 30.31 | 36.24 | 10.31 | 35.18 | 100 | 66 | Average |
| 10440 | 45.32 | -22.98 | 68.3 | 77.72 | -8.6 | 11.08 | 34.88 | 100 | 0 | Peak |
| 15660 | 39.96 | -34.04 | 74 | 67.05 | -6.28 | 14.25 | 35.06 | 100 | 0 | Peak |

| Test Mode : | Mode 3 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 44 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Horizontal |
| Remark : | 5220 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 33.24 | 28.15 | -11.85 | 40 | 41.35 | 17.84 | 0.66 | 31.7 | 100 | 196 | Peak |
| 97.5 | 28.28 | -15.22 | 43.5 | 48.78 | 10.05 | 1.15 | 31.7 | - | - | Peak |
| 145.02 | 30.1 | -13.4 | 43.5 | 48.88 | 11.43 | 1.44 | 31.65 | - | - | Peak |
| 610.1 | 29.66 | -16.34 | 46 | 37.23 | 20.14 | 3.28 | 30.99 | - | - | Peak |
| 674.5 | 26.91 | -19.09 | 46 | 33.72 | 20.64 | 3.48 | 30.93 | - | - | Peak |
| 875.4 | 31.61 | -14.39 | 46 | 35.3 | 22.95 | 4.06 | 30.7 | - | - | Peak |
| 5150 | 38.17 | -15.83 | 54 | 30.08 | 34.49 | 8.07 | 34.47 | 100 | 17 | Average |
| 5150 | 49.15 | -24.85 | 74 | 41.06 | 34.49 | 8.07 | 34.47 | 100 | 17 | Peak |
| 5220 | 100.64 | - | - | 92.45 | 34.53 | 8.12 | 34.46 | 100 | 17 | Peak |
| 5220 | 89.65 | - | - | 81.46 | 34.53 | 8.12 | 34.46 | 100 | 17 | Average |
| 5350 | 37.79 | -16.21 | 54 | 29.38 | 34.61 | 8.23 | 34.43 | 100 | 17 | Average |
| 5350 | 49.43 | -24.57 | 74 | 41.02 | 34.61 | 8.23 | 34.43 | 100 | 17 | Peak |
| 8862 | 54.4 | -19.6 | 74 | 43.07 | 36.21 | 10.29 | 35.17 | 100 | 32 | Peak |
| 8862 | 41.09 | -12.91 | 54 | 29.76 | 36.21 | 10.29 | 35.17 | 100 | 32 | Average |
| 10440 | 41.45 | -26.85 | 68.3 | 73.85 | -8.6 | 11.08 | 34.88 | 100 | 0 | Peak |
| 15660 | 41.15 | -32.85 | 74 | 68.31 | -6.35 | 14.25 | 35.06 | 100 | 0 | Peak |

| Test Mode : | Mode 3 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 44 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Vertical |
| Remark : | 5220 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 34.05 | 35.14 | -4.86 | 40 | 48.88 | 17.29 | 0.67 | 31.7 | 100 | 27 | Peak |
| 47.82 | 34.11 | -5.89 | 40 | 55.59 | 9.45 | 0.77 | 31.7 | - | - | Peak |
| 92.37 | 32.46 | -11.04 | 43.5 | 53.87 | 9.17 | 1.12 | 31.7 | - | - | Peak |
| 531 | 23.54 | -22.46 | 46 | 32.83 | 18.75 | 3.03 | 31.07 | - | - | Peak |
| 802.6 | 26.25 | -19.75 | 46 | 30.86 | 22.24 | 3.85 | 30.7 | - | - | Peak |
| 875.4 | 30.34 | -15.66 | 46 | 34.03 | 22.95 | 4.06 | 30.7 | - | - | Peak |
| 5150 | 38.73 | -15.27 | 54 | 30.64 | 34.49 | 8.07 | 34.47 | 190 | 285 | Average |
| 5150 | 50.02 | -23.98 | 74 | 41.93 | 34.49 | 8.07 | 34.47 | 190 | 285 | Peak |
| 5220 | 107.87 | - | - | 99.68 | 34.53 | 8.12 | 34.46 | 190 | 285 | Peak |
| 5220 | 97.28 | - | - | 89.09 | 34.53 | 8.12 | 34.46 | 190 | 285 | Average |
| 5350 | 37.87 | -16.13 | 54 | 29.46 | 34.61 | 8.23 | 34.43 | 190 | 285 | Average |
| 5350 | 49.22 | -24.78 | 74 | 40.81 | 34.61 | 8.23 | 34.43 | 190 | 285 | Peak |
| 8908 | 55 | -19 | 74 | 43.63 | 36.24 | 10.31 | 35.18 | 100 | 66 | Peak |
| 8908 | 41.68 | -12.32 | 54 | 30.31 | 36.24 | 10.31 | 35.18 | 100 | 66 | Average |
| 10440 | 45.32 | -22.98 | 68.3 | 77.72 | -8.6 | 11.08 | 34.88 | 100 | 0 | Peak |
| 15660 | 39.96 | -34.04 | 74 | 67.05 | -6.28 | 14.25 | 35.06 | 100 | 0 | Peak |

| Test Mode : | Mode 4 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 36 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Horizontal |
| Remark : | 5180 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 46.74 | 29.1 | -10.9 | 40 | 50.1 | 9.94 | 0.76 | 31.7 | 100 | 55 | Peak |
| 126.66 | 31.68 | -11.82 | 43.5 | 50.19 | 11.8 | 1.36 | 31.67 | - | - | Peak |
| 168.78 | 28.07 | -15.43 | 43.5 | 48.41 | 9.74 | 1.55 | 31.63 | - | - | Peak |
| 609.4 | 27.57 | -18.43 | 46 | 35.14 | 20.14 | 3.28 | 30.99 | - | - | Peak |
| 696.9 | 28.47 | -17.53 | 46 | 35.01 | 20.82 | 3.54 | 30.9 | - | - | Peak |
| 874.7 | 30.47 | -15.53 | 46 | 34.17 | 22.94 | 4.06 | 30.7 | - | - | Peak |
| 5150 | 38.06 | -15.94 | 54 | 29.97 | 34.49 | 8.07 | 34.47 | 192 | 307 | Average |
| 5150 | 49.47 | -24.53 | 74 | 41.38 | 34.49 | 8.07 | 34.47 | 192 | 307 | Peak |
| 5180 | 98.89 | - | - | 90.74 | 34.51 | 8.1 | 34.46 | 192 | 307 | Peak |
| 5180 | 88.42 | - | - | 80.27 | 34.51 | 8.1 | 34.46 | 192 | 307 | Average |
| 5350 | 37.49 | -16.51 | 54 | 29.08 | 34.61 | 8.23 | 34.43 | 192 | 307 | Average |
| 5350 | 48.91 | -25.09 | 74 | 40.5 | 34.61 | 8.23 | 34.43 | 192 | 307 | Peak |
| 8860 | 54.12 | -19.88 | 74 | 42.79 | 36.21 | 10.29 | 35.17 | 100 | 56 | Peak |
| 8860 | 41.43 | -12.57 | 54 | 30.1 | 36.21 | 10.29 | 35.17 | 100 | 56 | Average |
| 10360 | 40.29 | -28.01 | 68.3 | 72.89 | -8.72 | 11.07 | 34.95 | 100 | 0 | Peak |
| 15540 | 39.54 | -34.46 | 74 | 67.25 | -7.12 | 14.34 | 34.93 | 100 | 0 | Peak |

| Test Mode : | Mode 4 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 36 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Vertical |
| Remark : | 5180 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 47.82 | 35.11 | -4.89 | 40 | 56.59 | 9.45 | 0.77 | 31.7 | 100 | 57 | Peak |
| 64.29 | 29.71 | -10.29 | 40 | 54.29 | 6.19 | 0.93 | 31.7 | - | - | Peak |
| 85.62 | 33.55 | -6.45 | 40 | 55.96 | 8.23 | 1.06 | 31.7 | - | - | Peak |
| 525.4 | 24.24 | -21.76 | 46 | 33.63 | 18.66 | 3.02 | 31.07 | - | - | Peak |
| 618.5 | 27.67 | -18.33 | 46 | 35.13 | 20.21 | 3.31 | 30.98 | - | - | Peak |
| 688.5 | 26.35 | -19.65 | 46 | 32.99 | 20.75 | 3.52 | 30.91 | - | - | Peak |
| 5150 | 38.01 | -15.99 | 54 | 29.92 | 34.49 | 8.07 | 34.47 | 103 | 233 | Average |
| 5150 | 50.28 | -23.72 | 74 | 42.19 | 34.49 | 8.07 | 34.47 | 103 | 233 | Peak |
| 5180 | 99.73 | - | - | 91.58 | 34.51 | 8.1 | 34.46 | 103 | 233 | Peak |
| 5180 | 88.91 | - | - | 80.76 | 34.51 | 8.1 | 34.46 | 103 | 233 | Average |
| 5350 | 37.29 | -16.71 | 54 | 28.88 | 34.61 | 8.23 | 34.43 | 103 | 233 | Average |
| 5350 | 49.63 | -24.37 | 74 | 41.22 | 34.61 | 8.23 | 34.43 | 103 | 233 | Peak |
| 8860 | 54.53 | -19.47 | 74 | 43.2 | 36.21 | 10.29 | 35.17 | 100 | 75 | Peak |
| 8860 | 42.55 | -11.45 | 54 | 31.22 | 36.21 | 10.29 | 35.17 | 100 | 75 | Average |
| 10360 | 40.63 | -27.67 | 68.3 | 73.26 | -8.74 | 11.06 | 34.95 | 100 | 0 | Peak |

| Test Mode : | Mode 5 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 36 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Horizontal |
| Remark : | 5180 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 53.49 | 25.09 | -14.91 | 40 | 48.58 | 7.36 | 0.85 | 31.7 | - | - | Peak |
| 126.66 | 31.2 | -12.3 | 43.5 | 49.71 | 11.8 | 1.36 | 31.67 | 100 | 117 | Peak |
| 178.77 | 24.42 | -19.08 | 43.5 | 45.31 | 9.13 | 1.6 | 31.62 | - | - | Peak |
| 500.2 | 25.56 | -20.44 | 46 | 35.54 | 18.18 | 2.94 | 31.1 | - | - | Peak |
| 631.8 | 29.87 | -16.13 | 46 | 37.18 | 20.31 | 3.35 | 30.97 | - | - | Peak |
| 895.7 | 31.58 | -14.42 | 46 | 35.01 | 23.13 | 4.14 | 30.7 | - | - | Peak |
| 5150 | 37.94 | -16.06 | 54 | 29.85 | 34.49 | 8.07 | 34.47 | 100 | 360 | Average |
| 5150 | 49.66 | -24.34 | 74 | 41.57 | 34.49 | 8.07 | 34.47 | 100 | 360 | Peak |
| 5180 | 99.74 | - | - | 91.59 | 34.51 | 8.1 | 34.46 | 100 | 360 | Peak |
| 5180 | 87.67 | - | - | 79.52 | 34.51 | 8.1 | 34.46 | 100 | 360 | Average |
| 5350 | 37.76 | -16.24 | 54 | 29.35 | 34.61 | 8.23 | 34.43 | 100 | 360 | Average |
| 5350 | 48.39 | -25.61 | 74 | 39.98 | 34.61 | 8.23 | 34.43 | 100 | 360 | Peak |
| 8926 | 54.99 | -19.01 | 74 | 43.62 | 36.25 | 10.31 | 35.19 | 100 | 52 | Peak |
| 8926 | 41.49 | -12.51 | 54 | 30.12 | 36.25 | 10.31 | 35.19 | 100 | 52 | Average |

| Test Mode : | Mode 5 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 36 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Vertical |
| Remark : | 5180 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 30.54 | 33.76 | -6.24 | 40 | 45.86 | 18.95 | 0.65 | 31.7 | 100 | 278 | Peak |
| 47.82 | 32.02 | -7.98 | 40 | 53.5 | 9.45 | 0.77 | 31.7 | - | - | Peak |
| 95.34 | 31.75 | -11.75 | 43.5 | 52.71 | 9.61 | 1.13 | 31.7 | - | - | Peak |
| 531 | 24.54 | -21.46 | 46 | 33.83 | 18.75 | 3.03 | 31.07 | - | - | Peak |
| 610.1 | 29.27 | -16.73 | 46 | 36.84 | 20.14 | 3.28 | 30.99 | - | - | Peak |
| 897.8 | 30.88 | -15.12 | 46 | 34.27 | 23.16 | 4.15 | 30.7 | - | - | Peak |
| 5150 | 39.69 | -14.31 | 54 | 31.6 | 34.49 | 8.07 | 34.47 | 136 | 295 | Average |
| 5150 | 52.22 | -21.78 | 74 | 44.13 | 34.49 | 8.07 | 34.47 | 136 | 295 | Peak |
| 5180 | 108.22 | - | - | 100.07 | 34.51 | 8.1 | 34.46 | 136 | 295 | Peak |
| 5180 | 96.68 | - | - | 88.53 | 34.51 | 8.1 | 34.46 | 136 | 295 | Average |
| 5350 | 37.85 | -16.15 | 54 | 29.44 | 34.61 | 8.23 | 34.43 | 136 | 295 | Average |
| 5350 | 49.65 | -24.35 | 74 | 41.24 | 34.61 | 8.23 | 34.43 | 136 | 295 | Peak |
| 8862 | 54.4 | -19.6 | 74 | 43.07 | 36.21 | 10.29 | 35.17 | 100 | 63 | Peak |
| 8862 | 41.73 | -12.27 | 54 | 30.4 | 36.21 | 10.29 | 35.17 | 100 | 63 | Average |
| 10360 | 40.33 | -27.97 | 68.3 | 72.93 | -8.72 | 11.07 | 34.95 | 100 | 0 | Peak |

| Test Mode : | Mode 6 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 40 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Horizontal |
| Remark : | 5200 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 33.24 | 28.15 | -11.85 | 40 | 41.35 | 17.84 | 0.66 | 31.7 | - | - | Peak |
| 120.18 | 31.98 | -11.52 | 43.5 | 50.15 | 12.23 | 1.28 | 31.68 | 100 | 137 | Peak |
| 168.78 | 28.07 | -15.43 | 43.5 | 48.41 | 9.74 | 1.55 | 31.63 | - | - | Peak |
| 632.5 | 29.33 | -16.67 | 46 | 36.63 | 20.32 | 3.35 | 30.97 | - | - | Peak |
| 673.8 | 27.94 | -18.06 | 46 | 34.75 | 20.64 | 3.48 | 30.93 | - | - | Peak |
| 895 | 31.6 | -14.4 | 46 | 35.03 | 23.13 | 4.14 | 30.7 | - | - | Peak |
| 5150 | 37.9 | -16.1 | 54 | 29.81 | 34.49 | 8.07 | 34.47 | 118 | 305 | Average |
| 5150 | 50.3 | -23.7 | 74 | 42.21 | 34.49 | 8.07 | 34.47 | 118 | 305 | Peak |
| 5200 | 101.73 | - | - | 93.56 | 34.52 | 8.11 | 34.46 | 118 | 305 | Peak |
| 5200 | 90.94 | - | - | 82.77 | 34.52 | 8.11 | 34.46 | 118 | 305 | Average |
| 5350 | 37.8 | -16.2 | 54 | 29.39 | 34.61 | 8.23 | 34.43 | 118 | 305 | Average |
| 5350 | 49.65 | -24.35 | 74 | 41.24 | 34.61 | 8.23 | 34.43 | 118 | 305 | Peak |
| 8870 | 54.43 | -19.57 | 74 | 43.08 | 36.22 | 10.3 | 35.17 | 100 | 37 | Peak |
| 8870 | 41.08 | -12.92 | 54 | 29.73 | 36.22 | 10.3 | 35.17 | 100 | 37 | Average |
| 10400 | 37.36 | -30.94 | 68.3 | 69.83 | -8.64 | 11.07 | 34.9 | 100 | 0 | Peak |

| Test Mode : | Mode 6 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 40 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Vertical |
| Remark : | 5200 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 34.05 | 35.14 | -4.86 | 40 | 48.88 | 17.29 | 0.67 | 31.7 | 100 | 131 | Peak |
| 42.69 | 34.16 | -5.84 | 40 | 52.96 | 12.18 | 0.72 | 31.7 | - | - | Peak |
| 64.29 | 30.71 | -9.29 | 40 | 55.29 | 6.19 | 0.93 | 31.7 | - | - | Peak |
| 618.5 | 26.67 | -19.33 | 46 | 34.13 | 20.21 | 3.31 | 30.98 | - | - | Peak |
| 825 | 26.39 | -19.61 | 46 | 30.72 | 22.46 | 3.91 | 30.7 | - | - | Peak |
| 897.8 | 29.85 | -16.15 | 46 | 33.24 | 23.16 | 4.15 | 30.7 | - | - | Peak |
| 5150 | 38.72 | -15.28 | 54 | 30.63 | 34.49 | 8.07 | 34.47 | 187 | 284 | Average |
| 5150 | 49.96 | -24.04 | 74 | 41.87 | 34.49 | 8.07 | 34.47 | 187 | 284 | Peak |
| 5200 | 107.9 | - | - | 99.73 | 34.52 | 8.11 | 34.46 | 187 | 284 | Peak |
| 5200 | 97.01 | - | - | 88.84 | 34.52 | 8.11 | 34.46 | 187 | 284 | Average |
| 5350 | 37.85 | -16.15 | 54 | 29.44 | 34.61 | 8.23 | 34.43 | 187 | 284 | Average |
| 5350 | 49.47 | -24.53 | 74 | 41.06 | 34.61 | 8.23 | 34.43 | 187 | 284 | Peak |
| 8894 | 54.72 | -19.28 | 74 | 43.37 | 36.23 | 10.3 | 35.18 | 100 | 196 | Peak |
| 8894 | 41.46 | -12.54 | 54 | 30.11 | 36.23 | 10.3 | 35.18 | 100 | 196 | Average |
| 10400 | 43.19 | -25.11 | 68.3 | 75.66 | -8.64 | 11.07 | 34.9 | 100 | 0 | Peak |

| Test Mode : | Mode 7 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 44 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Horizontal |
| Remark : | 5220 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 30.54 | 26.03 | -13.97 | 40 | 38.13 | 18.95 | 0.65 | 31.7 | - | - | Peak |
| 122.61 | 30.35 | -13.15 | 43.5 | 48.66 | 12.06 | 1.31 | 31.68 | 100 | 174 | Peak |
| 178.77 | 24.42 | -19.08 | 43.5 | 45.31 | 9.13 | 1.6 | 31.62 | - | - | Peak |
| 632.5 | 29.33 | -16.67 | 46 | 36.63 | 20.32 | 3.35 | 30.97 | - | - | Peak |
| 673.8 | 26.94 | -19.06 | 46 | 33.75 | 20.64 | 3.48 | 30.93 | - | - | Peak |
| 875.4 | 32.94 | -13.06 | 46 | 36.63 | 22.95 | 4.06 | 30.7 | - | - | Peak |
| 5150 | 38.06 | -15.94 | 54 | 29.97 | 34.49 | 8.07 | 34.47 | 104 | 302 | Average |
| 5150 | 50.02 | -23.98 | 74 | 41.93 | 34.49 | 8.07 | 34.47 | 104 | 302 | Peak |
| 5220 | 104.54 | - | - | 96.34 | 34.53 | 8.12 | 34.45 | 104 | 302 | Peak |
| 5220 | 94.48 | - | - | 86.29 | 34.53 | 8.12 | 34.46 | 104 | 302 | Average |
| 5350 | 37.85 | -16.15 | 54 | 29.44 | 34.61 | 8.23 | 34.43 | 104 | 302 | Average |
| 5350 | 49.27 | -24.73 | 74 | 40.86 | 34.61 | 8.23 | 34.43 | 104 | 302 | Peak |
| 8884 | 54.94 | -19.06 | 74 | 43.58 | 36.23 | 10.3 | 35.17 | 100 | 63 | Peak |
| 8884 | 41.1 | -12.9 | 54 | 29.74 | 36.23 | 10.3 | 35.17 | 100 | 63 | Average |
| 10440 | 37.61 | -30.69 | 68.3 | 69.99 | -8.58 | 11.08 | 34.88 | 100 | 0 | Peak |

| Test Mode : | Mode 7 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 44 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Vertical |
| Remark : | 5220 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 47.82 | 35.02 | -4.98 | 40 | 56.5 | 9.45 | 0.77 | 31.7 | 100 | 156 | Peak |
| 53.49 | 34.53 | -5.47 | 40 | 58.02 | 7.36 | 0.85 | 31.7 | - | - | Peak |
| 107.49 | 33.51 | -9.99 | 43.5 | 52.93 | 11.06 | 1.21 | 31.69 | - | - | Peak |
| 525.4 | 24.24 | -21.76 | 46 | 33.63 | 18.66 | 3.02 | 31.07 | - | - | Peak |
| 626.9 | 28 | -18 | 46 | 35.37 | 20.27 | 3.33 | 30.97 | - | - | Peak |
| 897.8 | 28.85 | -17.15 | 46 | 32.24 | 23.16 | 4.15 | 30.7 | - | - | Peak |
| 5150 | 39.86 | -14.14 | 54 | 31.77 | 34.49 | 8.07 | 34.47 | 137 | 293 | Average |
| 5150 | 51.68 | -22.32 | 74 | 43.59 | 34.49 | 8.07 | 34.47 | 137 | 293 | Peak |
| 5220 | 111.43 | - | - | 103.24 | 34.53 | 8.12 | 34.46 | 137 | 293 | Peak |
| 5220 | 99.48 | - | - | 91.29 | 34.53 | 8.12 | 34.46 | 137 | 293 | Average |
| 5350 | 37.87 | -16.13 | 54 | 29.46 | 34.61 | 8.23 | 34.43 | 137 | 293 | Average |
| 5350 | 49.57 | -24.43 | 74 | 41.16 | 34.61 | 8.23 | 34.43 | 137 | 293 | Peak |
| 8860 | 54.59 | -19.41 | 74 | 43.26 | 36.21 | 10.29 | 35.17 | 100 | 122 | Peak |
| 8860 | 41.43 | -12.57 | 54 | 30.1 | 36.21 | 10.29 | 35.17 | 100 | 122 | Average |
| 10440 | 43.43 | -24.87 | 68.3 | 75.76 | -8.56 | 11.08 | 34.85 | 100 | 0 | Peak |

| Test Mode : | Mode 8 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 38 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Horizontal |
| Remark : | 5190 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 53.49 | 26.09 | -13.91 | 40 | 49.58 | 7.36 | 0.85 | 31.7 | - | - | Peak |
| 126.66 | 30.2 | -13.3 | 43.5 | 48.71 | 11.8 | 1.36 | 31.67 | 100 | 67 | Peak |
| 189.57 | 23.11 | -20.39 | 43.5 | 44.14 | 8.92 | 1.66 | 31.61 | - | - | Peak |
| 609.4 | 29.57 | -16.43 | 46 | 37.14 | 20.14 | 3.28 | 30.99 | - | - | Peak |
| 673.8 | 26.94 | -19.06 | 46 | 33.75 | 20.64 | 3.48 | 30.93 | - | - | Peak |
| 874.7 | 30.47 | -15.53 | 46 | 34.17 | 22.94 | 4.06 | 30.7 | - | - | Peak |
| 5150 | 40.57 | -13.43 | 54 | 32.48 | 34.49 | 8.07 | 34.47 | 113 | 17 | Average |
| 5150 | 56.42 | -17.58 | 74 | 48.33 | 34.49 | 8.07 | 34.47 | 113 | 17 | Peak |
| 5190 | 98.32 | - | - | 90.17 | 34.51 | 8.1 | 34.46 | 113 | 17 | Peak |
| 5190 | 85.08 | - | - | 76.93 | 34.51 | 8.1 | 34.46 | 113 | 17 | Average |
| 5350 | 38.16 | -15.84 | 54 | 29.75 | 34.61 | 8.23 | 34.43 | 113 | 17 | Average |
| 5350 | 49.48 | -24.52 | 74 | 41.07 | 34.61 | 8.23 | 34.43 | 113 | 17 | Peak |
| 8668 | 54.5 | -19.5 | 74 | 43.3 | 36.1 | 10.23 | 35.13 | 100 | 233 | Peak |
| 8668 | 40.63 | -13.37 | 54 | 29.43 | 36.1 | 10.23 | 35.13 | 100 | 233 | Average |

| Test Mode : | Mode 8 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 38 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Vertical |
| Remark : | 5190 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 34.05 | 35.14 | -4.86 | 40 | 48.88 | 17.29 | 0.67 | 31.7 | 100 | 167 | Peak |
| 47.82 | 34.11 | -5.89 | 40 | 55.59 | 9.45 | 0.77 | 31.7 | - | - | Peak |
| 85.62 | 34.55 | -5.45 | 40 | 56.96 | 8.23 | 1.06 | 31.7 | - | - | Peak |
| 522.6 | 25.18 | -20.82 | 46 | 34.65 | 18.6 | 3.01 | 31.08 | - | - | Peak |
| 624.1 | 29.6 | -16.4 | 46 | 37 | 20.25 | 3.33 | 30.98 | - | - | Peak |
| 875.4 | 30.34 | -15.66 | 46 | 34.03 | 22.95 | 4.06 | 30.7 | - | - | Peak |
| 5150 | 46.5 | -7.5 | 54 | 38.41 | 34.49 | 8.07 | 34.47 | 108 | 295 | Average |
| 5150 | 65.56 | -8.44 | 74 | 57.47 | 34.49 | 8.07 | 34.47 | 108 | 295 | Peak |
| 5190 | 105 | - | - | 96.85 | 34.51 | 8.1 | 34.46 | 108 | 295 | Peak |
| 5190 | 92.97 | - | - | 84.82 | 34.51 | 8.1 | 34.46 | 108 | 295 | Average |
| 5350 | 38.19 | -15.81 | 54 | 29.78 | 34.61 | 8.23 | 34.43 | 108 | 295 | Average |
| 5350 | 49.33 | -24.67 | 74 | 40.92 | 34.61 | 8.23 | 34.43 | 108 | 295 | Peak |
| 8838 | 54.62 | -19.38 | 74 | 43.3 | 36.2 | 10.29 | 35.17 | 100 | 278 | Peak |
| 8838 | 41.73 | -12.27 | 54 | 30.41 | 36.2 | 10.29 | 35.17 | 100 | 278 | Average |
| 10380 | 38.92 | -29.38 | 68.3 | 71.46 | -8.69 | 11.07 | 34.92 | 100 | 0 | Peak |

| Test Mode : | Mode 9 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 44 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Horizontal |
| Remark : | 5220 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 33.24 | 28.15 | -11.85 | 40 | 41.35 | 17.84 | 0.66 | 31.7 | - | - | Peak |
| 118.02 | 31.8 | -11.7 | 43.5 | 50.16 | 12.05 | 1.27 | 31.68 | 100 | 31 | Peak |
| 145.02 | 30.1 | -13.4 | 43.5 | 48.88 | 11.43 | 1.44 | 31.65 | - | - | Peak |
| 500.2 | 25.56 | -20.44 | 46 | 35.54 | 18.18 | 2.94 | 31.1 | - | - | Peak |
| 674.5 | 26.91 | -19.09 | 46 | 33.72 | 20.64 | 3.48 | 30.93 | - | - | Peak |
| 895.7 | 31.58 | -14.42 | 46 | 35.01 | 23.13 | 4.14 | 30.7 | - | - | Peak |
| 5150 | 38.42 | -15.58 | 54 | 30.33 | 34.49 | 8.07 | 34.47 | 104 | 305 | Average |
| 5150 | 50.73 | -23.27 | 74 | 42.64 | 34.49 | 8.07 | 34.47 | 104 | 305 | Peak |
| 5220 | 99.67 | - | - | 91.47 | 34.53 | 8.12 | 34.45 | 104 | 305 | Peak |
| 5220 | 87.43 | - | - | 79.24 | 34.53 | 8.12 | 34.46 | 104 | 305 | Average |
| 5350 | 38.11 | -15.89 | 54 | 29.7 | 34.61 | 8.23 | 34.43 | 104 | 305 | Average |
| 5350 | 49.26 | -24.74 | 74 | 40.85 | 34.61 | 8.23 | 34.43 | 104 | 305 | Peak |
| 8860 | 55.11 | -18.89 | 74 | 43.78 | 36.21 | 10.29 | 35.17 | 100 | 33 | Peak |
| 8860 | 42.07 | -11.93 | 54 | 30.74 | 36.21 | 10.29 | 35.17 | 100 | 33 | Average |

| Test Mode : | Mode 9 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 44 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Vertical |
| Remark : | 5220 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 36.21 | 34.66 | -5.34 | 40 | 49.47 | 16.2 | 0.69 | 31.7 | 100 | 315 | Peak |
| 53.49 | 33.53 | -6.47 | 40 | 57.02 | 7.36 | 0.85 | 31.7 | - | - | Peak |
| 64.56 | 33.38 | -6.62 | 40 | 57.88 | 6.26 | 0.94 | 31.7 | - | - | Peak |
| 610.1 | 26.36 | -19.64 | 46 | 33.93 | 20.14 | 3.28 | 30.99 | - | - | Peak |
| 795.6 | 24.84 | -21.16 | 46 | 29.56 | 22.15 | 3.84 | 30.71 | - | - | Peak |
| 897.8 | 29.85 | -16.15 | 46 | 33.24 | 23.16 | 4.15 | 30.7 | - | - | Peak |
| 5150 | 40.7 | -13.3 | 54 | 32.61 | 34.49 | 8.07 | 34.47 | 138 | 294 | Average |
| 5150 | 53.1 | -20.9 | 74 | 45.01 | 34.49 | 8.07 | 34.47 | 138 | 294 | Peak |
| 5220 | 103.62 | - | - | 95.43 | 34.53 | 8.12 | 34.46 | 138 | 294 | Peak |
| 5220 | 92.19 | - | - | 84 | 34.53 | 8.12 | 34.46 | 138 | 294 | Average |
| 5350 | 38.15 | -15.85 | 54 | 29.74 | 34.61 | 8.23 | 34.43 | 138 | 294 | Average |
| 5350 | 49.89 | -24.11 | 74 | 41.48 | 34.61 | 8.23 | 34.43 | 138 | 294 | Peak |
| 8884 | 54.47 | -19.53 | 74 | 43.11 | 36.23 | 10.3 | 35.17 | 100 | 123 | Peak |
| 8884 | 40.36 | -13.64 | 54 | 29 | 36.23 | 10.3 | 35.17 | 100 | 123 | Average |
| 10440 | 40.84 | -27.46 | 68.3 | 73.24 | -8.6 | 11.08 | 34.88 | 100 | 0 | Peak |

| Test Mode : | Mode 10 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 36 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Horizontal |
| Remark : | 5180 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 47.82 | 27.97 | -12.03 | 40 | 49.45 | 9.45 | 0.77 | 31.7 | - | - | Peak |
| 132.87 | 31.84 | -11.66 | 43.5 | 50.38 | 11.75 | 1.38 | 31.67 | 100 | 67 | Peak |
| 250.05 | 26.13 | -19.87 | 46 | 42.94 | 12.77 | 1.92 | 31.5 | - | - | Peak |
| 626.9 | 28.48 | -17.52 | 46 | 35.85 | 20.27 | 3.33 | 30.97 | - | - | Peak |
| 673.8 | 27.94 | -18.06 | 46 | 34.75 | 20.64 | 3.48 | 30.93 | - | - | Peak |
| 874.7 | 31.47 | -14.53 | 46 | 35.17 | 22.94 | 4.06 | 30.7 | - | - | Peak |
| 5150 | 38.63 | -15.37 | 54 | 30.54 | 34.49 | 8.07 | 34.47 | 100 | 15 | Average |
| 5150 | 54.7 | -19.3 | 74 | 46.61 | 34.49 | 8.07 | 34.47 | 100 | 15 | Peak |
| 5180 | 100.5 | - | - | 92.35 | 34.51 | 8.1 | 34.46 | 100 | 15 | Peak |
| 5180 | 89.71 | - | - | 81.56 | 34.51 | 8.1 | 34.46 | 100 | 15 | Average |
| 5350 | 37.75 | -16.25 | 54 | 29.34 | 34.61 | 8.23 | 34.43 | 100 | 15 | Average |
| 5350 | 49.53 | -24.47 | 74 | 41.12 | 34.61 | 8.23 | 34.43 | 100 | 15 | Peak |
| 8854 | 55 | -19 | 74 | 43.67 | 36.21 | 10.29 | 35.17 | 100 | 211 | Peak |
| 8854 | 41.44 | -12.56 | 54 | 30.11 | 36.21 | 10.29 | 35.17 | 100 | 211 | Average |

| Test Mode : | Mode 10 | Temperature : | 20~21°C |
|---|---|---|---|
| Test Channel : | 36 | Relative Humidity : | 49~50% |
| Test Engineer : | Kay Wu | Polarization : | Vertical |
| Remark : | 5180 MHz is Fundamental Signals which can be ignored. | | |

| Frequency ( MHz ) | Level ( dBuV/m ) | Over Limit ( dB ) | Limit Line ( dBuV/m ) | Read Level (dBuV) | Antenna Factor ( dB ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 53.49 | 34.53 | -5.47 | 40 | 58.02 | 7.36 | 0.85 | 31.7 | 100 | 66 | Peak |
| 73.74 | 31.7 | -8.3 | 40 | 55.48 | 6.95 | 0.97 | 31.7 | - | - | Peak |
| 127.74 | 32.88 | -10.62 | 43.5 | 51.4 | 11.79 | 1.36 | 31.67 | - | - | Peak |
| 626.9 | 30 | -16 | 46 | 37.37 | 20.27 | 3.33 | 30.97 | - | - | Peak |
| 696.2 | 27.79 | -18.21 | 46 | 34.34 | 20.81 | 3.54 | 30.9 | - | - | Peak |
| 883.8 | 31.25 | -14.75 | 46 | 34.84 | 23.02 | 4.09 | 30.7 | - | - | Peak |
| 5150 | 42.84 | -11.16 | 54 | 34.75 | 34.49 | 8.07 | 34.47 | 150 | 296 | Average |
| 5150 | 61.84 | -12.16 | 74 | 53.75 | 34.49 | 8.07 | 34.47 | 150 | 296 | Peak |
| 5180 | 109.86 | - | - | 101.71 | 34.51 | 8.1 | 34.46 | 150 | 296 | Peak |
| 5180 | 99.53 | - | - | 91.38 | 34.51 | 8.1 | 34.46 | 150 | 296 | Average |
| 5350 | 37.47 | -16.53 | 54 | 29.06 | 34.61 | 8.23 | 34.43 | 150 | 296 | Average |
| 5350 | 47.97 | -26.03 | 74 | 39.56 | 34.61 | 8.23 | 34.43 | 150 | 296 | Peak |
| 8894 | 54.46 | -19.54 | 74 | 43.11 | 36.23 | 10.3 | 35.18 | 100 | 121 | Peak |
| 8894 | 40.72 | -13.28 | 54 | 29.37 | 36.23 | 10.3 | 35.18 | 100 | 121 | Average |
| 10360 | 47.89 | -20.41 | 68.3 | 80.52 | -8.74 | 11.06 | 34.95 | 100 | 0 | Peak |
| 15540 | 53.38 | -20.62 | 74 | 81.09 | -7.12 | 14.34 | 34.93 | 100 | 306 | Peak |
| 15540 | 39.59 | -14.41 | 54 | 67.3 | -7.12 | 14.34 | 34.93 | 100 | 306 | Average |

## 3.4 Automatically Discontinue Transmission

### 3.4.1 Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

### 3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.4.3 Test Result of Automatically Discontinue Transmission

During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

## 3.5 Antenna Requirements

### 3.5.1 Standard Applicable

According to FCC 47 CFR Section 15.407(a)(1)(2) ,if transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### 3.5.2 Antenna Connected Construction

The antennas type used in this product is PIFA Antenna without connector and it is considered to meet antenna requirement of FCC.

### 3.5.3 Antenna Gain

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

# 4 List of Measuring Equipments

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Due Date | Remark |
|---|---|---|---|---|---|---|---|
| EMI Test Receive | R&S | ESCS 30 | 100356 | 9KHz – 2.75GHz | Aug. 05, 2009 | Aug. 04, 2010 | Conduction (CO05-HY) |
| Two-LISN | R&S | ENV216 | 11-100081 | 9kHz~30MHz | Nov. 30, 2009 | Nov. 29, 2010 | Conduction (CO05-HY) |
| Two-LISN | R&S | ENV216 | 11-100080 | 9kHz~30MHz | Nov. 23, 2009 | Nov. 22, 2010 | Conduction (CO05-HY) |
| AC Power Source | APC | APC-1000W | N/A | N/A | N/A | N/A | Conduction (CO05-HY) |
| Bilog Antenna | SCHAFFNER | CBL6111C | 2726 | 30MHz ~ 1GHz | Oct. 31, 2009 | Oct. 30, 2010 | Radiation (03CH07-HY) |
| Spectrum Analyzer | R&S | FSP | 101067 | 9KHz ~ 30GHz | Dec. 04, 2009 | Dec. 03, 2010 | Radiation (03CH07-HY) |
| Double Ridge Horn Antenna | ESCO | 3117 | 00075962 | 1GHz ~ 18GHz | Aug. 20, 2009 | Aug. 19, 2010 | Radiation (03CH07-HY) |
| SHF-EHF Horn Antenna | SCHWARZBECK | BBHA 9170 | BBHA9170251 | 15GHz- 40GHz | Oct. 14, 2009 | Oct. 13, 2010 | Radiation (03CH07-HY) |
| Pre Amplifier | Agilent | 8449B | 3008A02362 | 1GHz~ 26.5GHz | Dec.09,2009 | Dec. 08, 2010 | Radiation (03CH07-HY) |
| Pre Amplifier | COM-POWER | PA-103A | 161241 | 10-1000MHz.32 dB.GAIN | Mar. 27, 2009 | Mar. 26, 2010 | Radiation (03CH07-HY) |
| Loop Antenna | R&S | HFH2-Z2 | 860004/001 | 9 KHz~30 MHz | May 22, 2008 | May 21, 2010 | Radiation (03CH07-HY) |

# 5 Uncertainty of Evaluation

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

| Contribution | Uncertainty of $X_i$ | | $u(X_i)$ |
|---|---|---|---|
| | dB | Probability Distribution | |
| Receiver Reading | 0.10 | Normal (k=2) | 0.05 |
| Cable Loss | 0.10 | Normal (k=2) | 0.05 |
| AMN Insertion Loss | 2.50 | Rectangular | 0.63 |
| Receiver Specification | 1.50 | Rectangular | 0.43 |
| Site Imperfection | 1.39 | Rectangular | 0.80 |
| Mismatch | +0.34 / -0.35 | U-Shape | 0.24 |
| **Combined Standard Uncertainty Uc(y)** | **1.13** | | |
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **2.26** | | |

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

| Contribution | Uncertainty of $X_i$ | | $u(X_i)$ |
|---|---|---|---|
| | dB | Probability Distribution | |
| Receiver Reading | 0.41 | Normal (k=2) | 0.21 |
| Antenna Factor Calibration | 0.83 | Normal (k=2) | 0.42 |
| Cable Loss Calibration | 0.25 | Normal (k=2) | 0.13 |
| Pre-Amplifier Gain Calibration | 0.27 | Normal (k=2) | 0.14 |
| RCV/SPA Specification | 2.50 | Rectangular | 0.72 |
| Antenna Factor Interpolation for Frequency | 1.00 | Rectangular | 0.29 |
| Site Imperfection | 1.43 | Rectangular | 0.83 |
| Mismatch | +0.39 / -0.41 | U-Shape | 0.28 |
| **Combined Standard Uncertainty Uc(y)** | **1.27** | | |
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **2.54** | | |

**Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)**

| Contribution | Uncertainty of $X_i$ | | $u(X_i)$ | $C_i$ | $C_i * u(X_i)$ |
|---|---|---|---|---|---|
| | dB | Probability Distribution | | | |
| Receiver Reading | ±0.10 | Normal (k=2) | 0.10 | 1 | 0.10 |
| Antenna Factor Calibration | ±1.70 | Normal (k=2) | 0.85 | 1 | 0.85 |
| Cable Loss Calibration | ±0.50 | Normal (k=2) | 0.25 | 1 | 0.25 |
| Receiver Correction | ±2.00 | Rectangular | 1.15 | 1 | 1.15 |
| Antenna Factor Directional | ±1.50 | Rectangular | 0.87 | 1 | 0.87 |
| Site Imperfection | ±2.80 | Triangular | 1.14 | 1 | 1.14 |
| Mismatch<br>Receiver VSWR Γ1 = 0.197<br>Antenna VSWR Γ2 = 0.194<br>Uncertainty = 20Log(1-Γ1*Γ2) | +0.34 / -0.35 | U-Shape | 0.244 | 1 | 0.244 |
| **Combined Standard Uncertainty Uc(y)** | **2.36** | | | | |
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **4.72** | | | | |

# 6 Certification of TAF Accreditation

Certificate No. : L1190-100107

財團法人全國認證基金會
Taiwan Accreditation Foundation

## Certificate of Accreditation

This is to certify that

**Sporton International Inc.**
**EMC & Wireless Communications Laboratory**
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

**is accredited in respect of laboratory**

| | | |
|---|---|---|
| **Accreditation Criteria** | : | ISO/IEC 17025:2005 |
| **Accreditation Number** | : | 1190 |
| **Originally Accredited** | : | December 15, 2003 |
| **Effective Period** | : | January 10, 2010 to January 09, 2013 |
| **Accredited Scope** | : | Testing Field, see described in the Appendix |
| **Specific Accreditation Program** | : | Accreditation Program for Designated Testing Laboratory for Commodities Inspection<br>Accreditation Program for Telecommunication Equipment Testing Laboratory<br>Accreditation Program for BSMI Mutual Recognition Arrangment with Foreign Authorities |

Jay-San Chen
President, Taiwan Accreditation Foundation
Date : January 07, 2010

P1, total 21 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix

# Appendix A. Photographs of EUT

Please refer to Sporton report number EP9D0408 as below.

# Appendix C. Product Equality Declaration

**Meru Networks Inc.**
894 Ross Drive Sunnyvale, CA 94089 USA
Tel: 408 431 6032 ; Fax: 408 215 5301

Federal Communications Commission
Authorization and Evaluation Division
1435 Oakland Mills Road
Columbia, MD 21046

SUBJECT: Class II Permissive Change for FCC ID: RE7-AP300

The product, Multi Radio 802.11a/b/g/n Wireless LAN Access Point, has been granted by FCC dated 10/15/2007, FCC ID: RE7-AP300. The intension of this application is to apply for Class II Permissive Change for the modification of antenna type. Except the modification above, the other portions are remained the same as previous version.

**Contact Person:** Srinivas Sivaprakasam
**Company:** Meru Networks Inc.
**TEL:** 408 431 6032
**FAX: 408 215 5301**
**E-mail:** ssrinivas@merunetworks.com

# Appendix D. Original Report

Please refer to Sporton Report Number FZ791302A as below.