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|---|----------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 1 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|---|

Product Name: MobileLite WIRELESS G3  
 Model No.: MLWG3, MLWG3/64  
 Applicant: Kingston Digital, Inc.  
 17600 Newhope Street Fountain Valley, CA 92708, U.S.A  
 Date of Receipt: Oct. 21, 2015  
 Finished date of Test: Dec. 22, 2015  
 Applicable Standards: 47 CFR Part 15, Subpart C, 15.247  
 ANSI C63.4: 2003  
 FCC publication KDB 558074 D01 v03r03 Measurement on  
 Digital Transmission Systems (DTS) Operating under  
 Section 15.247 June 9, 2015

We, **Spectrum Research & Testing Laboratory Inc.**, hereby certify that one sample of the above was tested in our laboratory with positive results according to the above-mentioned standards. The records in the report are an accurate account of the results. Details of the results are given in the subsequent pages of this report.

Tested By : Richard Lin, Date: 12/22/2015  
 (Richard Lin)

Approved By : Johnson Ho, Date: 12/22/2015  
 ( Johnson Ho, Director )



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## Revisions History

| Report No.   | Issue Date    | Revisions     |
|--------------|---------------|---------------|
| FCCA15102101 | Dec. 22, 2015 | Initial issue |

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## 1. DOCUMENT POLICY AND TEST STATEMENT

### 1.1 DOCUMENT POLICY

- The report shall not be reproduced except in full, without the written approval of SRT Lab, Inc.

### 1.2 TEST STATEMENT

- The test results in the report apply only to the unit tested by SRT Lab.
- There was no deviation from the requirements of test standards during the test.
- DC power source, DC 3.6V, 3.7V of charge battery or DC 5.0V from PC USB Port, was used during the test.

### 1.3 EUT MODIFICATION

- No modification in SRT Lab.

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## 2. DESCRIPTION OF EUT AND TEST MODE

### 2.1 GENERAL DESCRIPTION OF EUT

|                                 |   |
|---------------------------------|---|
| <b>PRODUCT</b>                  | MobileLite WIRELESS G3  |
| <b>MODEL NO.</b>                | MLWG3, MLWG3/64   |
| <b>POWER SUPPLY</b>             | DC power source, DC 3.6V, 3.7V of charge battery or DC 5.0V from PC USB Port  |
| <b>CABLE</b>                    | 0.5m unshielded   |
| <b>FREQUENCY BAND</b>           | 2.4 GHz ~ 2.4835 GHz  |
| <b>CARRIER FREQUENCY</b>        | 2.412 GHz ~ 2.462 GHz   |
| <b>NUMBER OF CHANNEL</b>        | 2.4 G band_802.11b/g/n - HT20 : 11 ch<br>2.4 G band_802.11n - HT40 : 7 ch   |
| <b>RATED RF OUTPUT POWER</b>    | 2.4G band (MLWG3)<br>802.11b : 8.51 dBm (7.10 mW)<br>802.11g : 4.73 dBm (2.97 mW)<br>802.11n - HT20 : 4.41 dBm (2.76 mW)<br>802.11n - HT40 : 0.89 dBm (1.23 mW)<br><br>2.4G band (MLWG3/64)<br>802.11b : 9.46 dBm (8.83 mW)<br>802.11g : 5.80 dBm (3.80 mW)<br>802.11n - HT20 : 5.16 dBm (3.28 mW)<br>802.11n - HT40 : 0.63 dBm (1.16 mW) |
| <b>MODULATION TYPE</b>          | IEEE802.11b DSSS(BPSK/QPSK/CCK)<br>IEEE802.11g OFDM(BPSK/16-QAM/64-QAM)<br>IEEE802.11n SISO-OFDM(BPSK/QPSK/16-QAM/64-QAM)   |
| <b>MODE OF OPERATION</b>        | Duplex  |
| <b>BIT RATE OF TRANSMISSION</b> | 2.4G band<br>802.11b : 1, 2, 5.5, 11 Mbps<br>802.11g : 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>802.11n - HT20 : MCS0 ~ MCS7 (Max. 72.2 Mbps)<br>802.11n - HT40 : MCS0 ~ MCS9 (Max. 150 Mbps)   |
| <b>ANTENNA TYPE</b>             | Printed Antenna   |
| <b>ANTENNA GAIN</b>             | 2.4G : 3.07 dBi (ANT#1)   |
| <b>OPERATING TEMPERATURE</b>    | -20 ~ 55°C  |

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## RANGE

### NOTE:

For more detailed information, please refer to the EUT's specification or user's manual provided by manufacturer.

## 2.2 DESCRIPTION OF EUT INTERNAL DEVICE

| DEVICE                  | BRAND / MAKER | MODEL #   | FCC ID / DOC | REMARK                      |
|-------------------------|---------------|-----------|--------------|-----------------------------|
| Micro USB Cable (white) | N/A           | N/A       | N/A          | 0.5m unshielded power cable |
| Micro USB Cable (black) | N/A           | N/A       | N/A          | 0.5m unshielded power cable |
| Lithium-ion Battery     | WTE           | WRTE-275A | N/A          | DC 3.6V, 6700mAh            |
| Lithium-ion Battery     | WTE           | WRTE-328  | N/A          | DC 3.7V, 5400mAh            |

## 2.3 DESCRIPTION OF TEST MODE

There are test modes for each test configuration as below:

#1\_MLG3 :

|       | Mode | Channel | Frequency (MHz) |
|-------|------|---------|-----------------|
| #1_01 | 2.4G | CH01    | 2412            |
| #1_02 |      | CH06    | 2437            |
| #1_03 |      | CH11    | 2462            |
| #1_04 |      | CH01    | 2412            |
| #1_05 |      | CH06    | 2437            |
| #1_06 |      | CH11    | 2462            |
| #1_07 |      | CH01    | 2412            |
| #1_08 |      | CH06    | 2437            |
| #1_09 |      | CH11    | 2462            |
| #1_10 |      | CH03    | 2422            |
| #1_11 |      | CH06    | 2437            |
| #1_12 |      | CH09    | 2452            |

### NOTE:

1. Below 1 GHz were pre-tested in chamber and chosen the worst case for conducted and radiated emission test.
2. Above 1 GHz were tested individually.
3. The axis X,Y and Z we evaluate in chamber, the X axis is worst case.

X axis:

Y axis:

Z axis:

# TEST REPORT



#2\_MLGW3/64 :

|       | Mode | Channel | Frequency (MHz) |
|-------|------|---------|-----------------|
| #2_01 | 2.4G | CH01    | 2412            |
| #2_02 |      | CH06    | 2437            |
| #2_03 |      | CH11    | 2462            |
| #2_04 |      | CH01    | 2412            |
| #2_05 |      | CH06    | 2437            |
| #2_06 |      | CH11    | 2462            |
| #2_07 |      | CH01    | 2412            |
| #2_08 |      | CH06    | 2437            |
| #2_09 |      | CH11    | 2462            |
| #2_10 |      | CH03    | 2422            |
| #2_11 |      | CH06    | 2437            |
| #2_12 |      | CH09    | 2452            |

**NOTE:**

1. Below 1 GHz were pre-tested in chamber and chosen the worst case for conducted and radiated emission test.
2. Above 1 GHz were tested individually.
3. The axis X,Y and Z we evaluate in chamber, the X axis is worst case.

MLWG3/64 :

X axis:



Y axis:



Z axis:



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## 2.4 EUT OPERATING CONDITION

1. Setup the EUT and all peripheral devices .
2. Turn on the power of all equipment and EUT.
3. Based on customer provided continuous program & Program instructions.
4. Set the EUT under continuous transmission mode.

## 2.5 DESCRIPTION OF SUPPORT UNIT

The EUT was configured by the requirement of ANSI C63.4:2003. All interface ports were connected to the appropriate support units via specific cables. The support units and cables are listed below.

| NO | DEVICE      | BRAND    | MODEL #     | FCC ID/DOC | CABLE   |
|----|-------------|----------|-------------|------------|---|
| 1  | PC          | ACER     | Aspire SA85 | D33142     | 1.5m unshielded power cable.                              |
| 2  | LCD Monitor | DELL     | U2412Mb     | R43002     | 1.8m unshielded power cable.<br>1.5m shielded data cable. |
| 3  | Keyboard    | WinTEK   | WM530       | T3A024     | 1.8m unshielded data cable.                               |
| 4  | Mouse       | WinTEK   | WSS30       | T3A024     | 1.5m unshielded data cable.                               |
| 5  | Printer     | HP       | C8991A      | R33001     | 1.5m unshielded power cable.<br>1.5m shielded data cable. |
| 6  | USB 2.0 HDD | TERASYS  | F12-U       | 4912A002   | 1.5m unshielded power cable.                              |
| 7  | USB Storage | Kingston | N/A         | N/A        | 8G  |
| 8  | SD Card     | SanDisk  | N/A         | N/A        | 4G  |

**NOTE:** For the actual test configuration, please refer to the photos of testing.

## 2.6 CHANNEL AND FREQUENCY TABLE

| 2.4G_802.11a/b/n - HT20 |           |         |           |
|-------------------------|-----------|---------|-----------|
| Channel                 | Frequency | Channel | Frequency |
| CH01                    | 2412 MHz  | CH07    | 2442 MHz  |
| CH02                    | 2417 MHz  | CH08    | 2447 MHz  |
| CH03                    | 2422 MHz  | CH09    | 2452 MHz  |
| CH04                    | 2427 MHz  | CH10    | 2457 MHz  |
| CH05                    | 2432 MHz  | CH11    | 2462 MHz  |
| CH06                    | 2437 MHz  | --      | --        |

| 2.4G_802.11n - HT40 |           |         |           |
|---------------------|-----------|---------|-----------|
| Channel             | Frequency | Channel | Frequency |
| CH03                | 2422 MHz  | CH07    | 2442 MHz  |
| CH04                | 2427 MHz  | CH08    | 2447 MHz  |
| CH05                | 2432 MHz  | CH09    | 2452 MHz  |
| CH06                | 2437 MHz  | --      | --        |

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## 2.7 DESCRIPTION OF MODEL DIFFERENCE

| Project         | Model | MLWG3            | MLWG3/64 |
|-----------------|-------|------------------|----------|
| RF Module       | ○     | ○                | ○        |
| Lay out         | ○     | ○                | ○        |
| Antenna         | ○     | ○                | ○        |
| I/O Port        | ○     | ○                | ○        |
| Software        | ○     | ○                | ○        |
| Battery         | ×     | DC 3.7V, 5400mAh | ×        |
| Memory          | N/A   | 64GB             | 64GB     |
| Main Board      | ○     | ○                | ○        |
| Packing         | ○     | ○                | ○        |
| Micro USB Cable | ×     | white            | black    |
| Color           | ×     | white            | black    |

**NOTE :** ○ is same , × is different

## 3. DESCRIPTION OF APPLIED STANDARDS

The EUT is a wireless product. According to the specifications provided by the applicant, it must comply with the requirements of the following standards:

47 CFR Part 15, Subpart C, 15.247

ANSI C63.4: 2003

FCC publication KDB 558074 D01 v03r03 Measurement on Digital Transmission Systems (DTS) Operating under Section 15.247 June 9, 2015

All tests have been performed and recorded as the above standards.

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### **3.1 SUMMARY OF TEST RESULTS**

The EUT has been tested according to the following specifications:

| STANDARD SECTION          | TEST TYPE AND LIMIT RESULTS                        | RESULTS |
|---------------------------|--|---------|
| 15.203<br>15.247(c)(1)(i) | Antenna requirement                                | PASS    |
| 15.207                    | AC Power Line Conducted Emission                   | PASS    |
| 15.247(a)(2)              | 6 dB Bandwidth                                     | PASS    |
| 15.247(b)                 | Maximum Peak Conducted Output Power                | PASS    |
| 15.247(d)                 | Band Edge Measurement:                             | PASS    |
| 15.247(d)                 | Transmitter Radiated Emissions Limit: Table 15.209 | PASS    |
| 15.247(e)                 | Power Density:<br>Limit: 8dBm/3kHz                 | PASS    |

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## 4. TECHNICAL CHARACTERISTICS TEST

### 4.1 CONDUCTED EMISSION TEST

#### 4.1.1 LIMIT

| Frequency (MHz) | Class A (dB $\mu$ V) |         | Class B (dB $\mu$ V) |         |
|-----------------|----------------------|---------|----------------------|---------|
|                 | Quasi-peak           | Average | Quasi-peak           | Average |
| 0.15 - 0.5      | 79                   | 66      | 66 - 56              | 56 - 46 |
| 0.50 - 5.0      | 73                   | 60      | 56                   | 46      |
| 5.0 - 30.0      | 73                   | 60      | 60                   | 50      |

**NOTE:**

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

#### 4.1.2 TEST EQUIPMENT

The following test equipment was used for the test:

| EQUIPMENT/<br>FACILITIES        | SPECIFICATIONS            | MANUFACTURER    | MODEL#/<br>SERIAL#       | DUE DATE OF CAL.<br>& CAL. CENTER |
|---------------------------------|---------------------------|-----------------|--------------------------|-----------------------------------|
| EMI TEST RECEIVER               | 9 kHz ~ 2.75 GHz          | ROHDE & SCHWARZ | ESCS30 / 100376          | JAN. 11, 2016<br>ETC              |
| EMI TEST RECEIVER               | 9 kHz ~ 30 MHz            | ROHDE & SCHWARZ | ESHS30 / 826003/008      | JAN. 16, 2016<br>ETC              |
| LISN                            | 50 $\mu$ H, 50 ohm        | FCC             | FCC-LISN-50-25-2 / 01017 | MAY. 27, 2016<br>ETC              |
| LISN                            | 50 $\mu$ H, 50 ohm        | SOLAR           | 9252-50-R-24-BNC/ 951315 | NOV. 05, 2016<br>ETC              |
| LISN                            | 50 $\mu$ H, 50 ohm        | EMCO            | 3825/2/<br>9204-1952     | MAY 26, 2016<br>ETC               |
| 50 $\Omega$ BNC TYPE TERMINATOR | 50 ohm                    | N/A             | 11593A/<br>L1TEQU005     | NOV. 22, 2016<br>ETC              |
| 50 $\Omega$ BNC TYPE TERMINATOR | 50 ohm                    | N/A             | B00-CD-357/<br>L1TEQU009 | MAY. 28, 2016<br>ETC              |
| COAXIAL CABLE                   | 5 m                       | HUBER+SUHNER    | RG214/U / #5M(L1TCAB013) | MAY. 10, 2016<br>ETC              |
| FILTER                          | 2 LINE, 30 A              | FIL.COIL        | FC-943 / 771             | NCR                               |
| GROUND PLANE                    | 2 m (H) x 3 m (W)         | SRT             | N/A                      | NCR                               |
| GROUND PLANE                    | 2.5 m (H) x 3 m (W)       | SRT             | N/A                      | NCR                               |
| THERMO-HYGR O                   | 15 - 40 °C,<br>0- 100% RH | TOP             | 20-A / 6644              | SEP. 23, 2016<br>ETC              |

**NOTE:**

The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

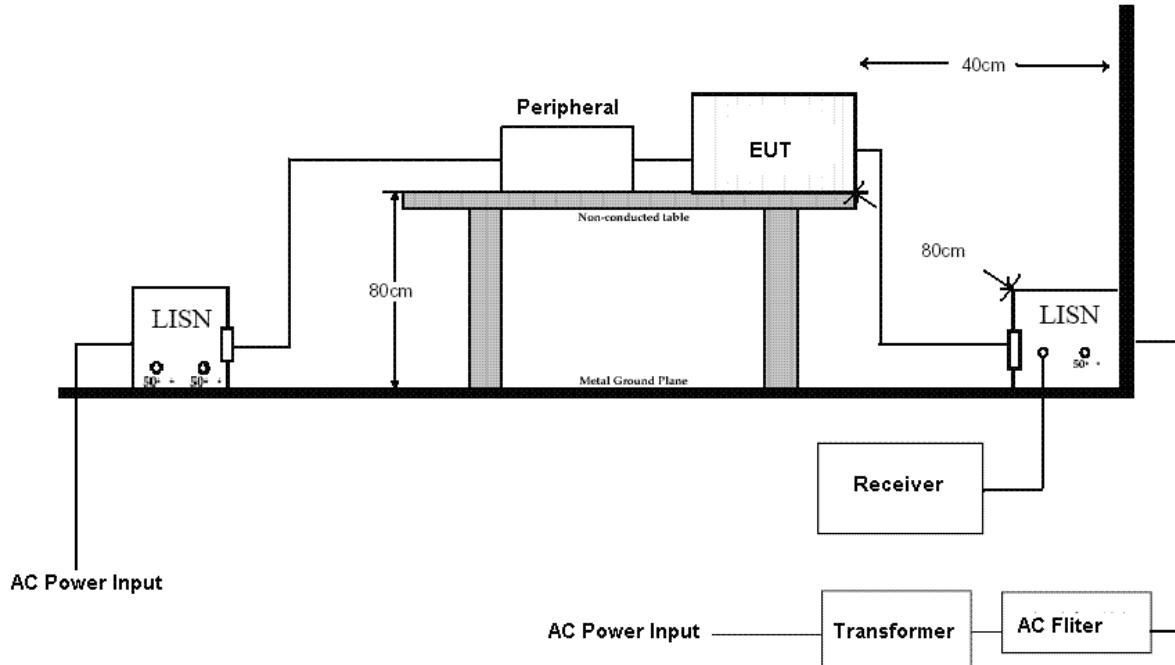


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Chung-Li City, Taoyuan County  
320, Taiwan (R.O.C.)

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## 4.1.3 TEST SETUP



### NOTE :

1. The EUT was put on a wooden table with 0.8m heights above ground plane, and 0.4m away from reference ground plane (> 2mx2m).
2. For the actual test configuration, please refer to the photos of testing.

## 4.1.4 TEST PROCEDURE

The EUT was tested according to the requirement of ANSI C63.4:2003 and CISPR22:2003. The frequency spectrum from 0.15 MHz to 30 MHz was investigated. The LISN used was 50 ohm/50 $\mu$ H as specified. All readings were quasi-peak and average values with 10 kHz resolution bandwidth of the test receiver. The EUT system was operated in all typical methods by users. Both lines of the power mains of EUT were measured and the cables connected to EUT and support units were moved to find the maximum emission levels for each frequency. First, find the margin or higher points at least 6 points by software, then use manual to find the maximum data. The procedure is referred on the test procedure of SRT LAB.

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#### 4.1.5 TEST RESULT

|                    |               |                  |                            |
|--------------------|---------------|------------------|----------------------------|
| Temperature:       | 21 °C         | Humidity:        | 59 %RH                     |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3_2.4G<br>802.11b_CH01 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | CCK                        |
| Tested By:         | Richard Lin   | Tested Date:     | Nov. 24, 2015              |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.06                       | 36.26                         | 30.14 | 36.32                          | 30.20 | 64.21                 | 54.21 | -27.89         | -24.01 |
| 0.189          | 0.06                       | 39.68                         | 31.69 | 39.74                          | 31.75 | 64.08                 | 54.08 | -24.34         | -22.33 |
| 0.879          | -0.10                      | 23.47                         | 18.59 | 23.37                          | 18.49 | 56.00                 | 46.00 | -32.63         | -27.51 |
| 1.764          | -0.08                      | 22.56                         | 16.82 | 22.48                          | 16.74 | 56.00                 | 46.00 | -33.52         | -29.26 |
| 14.947         | 0.27                       | 32.41                         | 28.95 | 32.68                          | 29.22 | 60.00                 | 50.00 | -27.32         | -20.78 |
| 17.942         | 0.35                       | 39.50                         | 38.27 | 39.85                          | 38.62 | 60.00                 | 50.00 | -20.15         | -11.38 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 38.14                         | 30.88 | 38.19                          | 30.93 | 64.21                 | 54.21 | -26.02         | -23.28 |
| 0.189          | 0.05                       | 39.62                         | 32.15 | 39.67                          | 32.20 | 64.08                 | 54.08 | -24.41         | -21.88 |
| 0.946          | -0.09                      | 31.40                         | 25.99 | 31.31                          | 25.90 | 56.00                 | 46.00 | -24.69         | -20.10 |
| 1.705          | -0.07                      | 28.00                         | 22.72 | 27.93                          | 22.65 | 56.00                 | 46.00 | -28.07         | -23.35 |
| 14.947         | 0.25                       | 35.93                         | 32.24 | 36.18                          | 32.49 | 60.00                 | 50.00 | -23.82         | -17.51 |
| 26.910         | 0.58                       | 40.24                         | 38.82 | 40.82                          | 39.40 | 60.00                 | 50.00 | -19.18         | -10.60 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 15 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                            |
|--------------------|---------------|------------------|----------------------------|
| Temperature:       | 21 °C         | Humidity:        | 59 %RH                     |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3_2.4G<br>802.11b_CH06 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | CCK                        |
| Tested By:         | Richard Lin   | Tested Date:     | Nov. 24, 2015              |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.06                       | 37.53                         | 29.53 | 37.59                          | 29.59 | 64.21                 | 54.21 | -26.62         | -24.62 |
| 0.189          | 0.06                       | 39.22                         | 31.30 | 39.28                          | 31.36 | 64.08                 | 54.08 | -24.80         | -22.72 |
| 0.884          | -0.10                      | 25.30                         | 19.33 | 25.20                          | 19.23 | 56.00                 | 46.00 | -30.80         | -26.77 |
| 1.378          | -0.09                      | 24.92                         | 16.21 | 24.83                          | 16.12 | 56.00                 | 46.00 | -31.17         | -29.88 |
| 14.612         | 0.26                       | 28.00                         | 18.50 | 28.26                          | 18.76 | 60.00                 | 50.00 | -31.74         | -31.24 |
| 17.942         | 0.35                       | 39.71                         | 38.50 | 40.06                          | 38.85 | 60.00                 | 50.00 | -19.94         | -11.15 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 38.57                         | 30.82 | 38.62                          | 30.87 | 64.21                 | 54.21 | -25.59         | -23.34 |
| 0.189          | 0.05                       | 40.19                         | 32.21 | 40.24                          | 32.26 | 64.08                 | 54.08 | -23.84         | -21.82 |
| 0.946          | -0.09                      | 26.94                         | 21.80 | 26.85                          | 21.71 | 56.00                 | 46.00 | -29.15         | -24.29 |
| 14.825         | 0.25                       | 29.69                         | 19.57 | 29.94                          | 19.82 | 60.00                 | 50.00 | -30.06         | -30.18 |
| 14.977         | 0.25                       | 30.24                         | 19.33 | 30.49                          | 19.58 | 60.00                 | 50.00 | -29.51         | -30.42 |
| 17.942         | 0.32                       | 39.44                         | 38.19 | 39.76                          | 38.51 | 60.00                 | 50.00 | -20.24         | -11.49 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 16 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                            |
|--------------------|---------------|------------------|----------------------------|
| Temperature:       | 21 °C         | Humidity:        | 59 %RH                     |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3_2.4G<br>802.11b_CH11 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | CCK                        |
| Tested By:         | Richard Lin   | Tested Date:     | Nov. 24, 2015              |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.06                       | 37.35                         | 29.51 | 37.41                          | 29.57 | 64.21                 | 54.21 | -26.80         | -24.64 |
| 0.189          | 0.06                       | 39.20                         | 31.23 | 39.26                          | 31.29 | 64.08                 | 54.08 | -24.82         | -22.79 |
| 0.946          | -0.11                      | 26.82                         | 19.77 | 26.71                          | 19.66 | 56.00                 | 46.00 | -29.29         | -26.34 |
| 1.418          | -0.09                      | 27.29                         | 22.20 | 27.20                          | 22.11 | 56.00                 | 46.00 | -28.80         | -23.89 |
| 14.947         | 0.27                       | 33.20                         | 28.28 | 33.47                          | 28.55 | 60.00                 | 50.00 | -26.53         | -21.45 |
| 17.942         | 0.35                       | 39.16                         | 37.91 | 39.51                          | 38.26 | 60.00                 | 50.00 | -20.49         | -11.74 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 38.47                         | 30.87 | 38.52                          | 30.92 | 64.21                 | 54.21 | -25.69         | -23.29 |
| 0.189          | 0.05                       | 40.15                         | 32.45 | 40.20                          | 32.50 | 64.08                 | 54.08 | -23.88         | -21.58 |
| 0.946          | -0.09                      | 27.34                         | 22.00 | 27.25                          | 21.91 | 56.00                 | 46.00 | -28.75         | -24.09 |
| 14.805         | 0.25                       | 29.60                         | 19.47 | 29.85                          | 19.72 | 60.00                 | 50.00 | -30.15         | -30.28 |
| 14.906         | 0.25                       | 30.19                         | 18.79 | 30.44                          | 19.04 | 60.00                 | 50.00 | -29.56         | -30.96 |
| 17.942         | 0.32                       | 39.42                         | 38.19 | 39.74                          | 38.51 | 60.00                 | 50.00 | -20.26         | -11.49 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 17 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                            |
|--------------------|---------------|------------------|----------------------------|
| Temperature:       | 21 °C         | Humidity:        | 59 %RH                     |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3_2.4G<br>802.11g_CH01 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                       |
| Tested By:         | Richard Lin   | Tested Date:     | Nov. 24, 2015              |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.06                       | 37.63                         | 29.57 | 37.69                          | 29.63 | 64.21                 | 54.21 | -26.52         | -24.58 |
| 0.189          | 0.06                       | 39.26                         | 31.37 | 39.32                          | 31.43 | 64.08                 | 54.08 | -24.76         | -22.65 |
| 0.946          | -0.11                      | 27.10                         | 19.94 | 26.99                          | 19.83 | 56.00                 | 46.00 | -29.01         | -26.17 |
| 1.418          | -0.09                      | 28.04                         | 22.77 | 27.95                          | 22.68 | 56.00                 | 46.00 | -28.05         | -23.32 |
| 14.947         | 0.27                       | 33.40                         | 28.22 | 33.67                          | 28.49 | 60.00                 | 50.00 | -26.33         | -21.51 |
| 17.942         | 0.35                       | 39.28                         | 38.10 | 39.63                          | 38.45 | 60.00                 | 50.00 | -20.37         | -11.55 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 38.61                         | 31.40 | 38.66                          | 31.45 | 64.21                 | 54.21 | -25.55         | -22.76 |
| 0.189          | 0.05                       | 40.21                         | 32.98 | 40.26                          | 33.03 | 64.08                 | 54.08 | -23.82         | -21.05 |
| 0.946          | -0.09                      | 27.30                         | 22.14 | 27.21                          | 22.05 | 56.00                 | 46.00 | -28.79         | -23.95 |
| 4.982          | 0.01                       | 23.94                         | 19.11 | 23.95                          | 19.12 | 56.00                 | 46.00 | -32.05         | -26.88 |
| 14.947         | 0.25                       | 31.54                         | 28.09 | 31.79                          | 28.34 | 60.00                 | 50.00 | -28.21         | -21.66 |
| 17.942         | 0.32                       | 39.26                         | 38.05 | 39.58                          | 38.37 | 60.00                 | 50.00 | -20.42         | -11.63 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 18 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                            |
|--------------------|---------------|------------------|----------------------------|
| Temperature:       | 21 °C         | Humidity:        | 59 %RH                     |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3_2.4G<br>802.11g_CH06 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                       |
| Tested By:         | Richard Lin   | Tested Date:     | Nov. 24, 2015              |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.06                       | 37.19                         | 31.20 | 37.25                          | 31.26 | 64.21                 | 54.21 | -26.96         | -22.95 |
| 0.189          | 0.06                       | 38.87                         | 33.02 | 38.93                          | 33.08 | 64.08                 | 54.08 | -25.15         | -21.00 |
| 0.994          | -0.11                      | 25.74                         | 19.68 | 25.63                          | 19.57 | 56.00                 | 46.00 | -30.37         | -26.43 |
| 1.418          | -0.09                      | 27.82                         | 22.65 | 27.73                          | 22.56 | 56.00                 | 46.00 | -28.27         | -23.44 |
| 14.947         | 0.27                       | 31.24                         | 27.81 | 31.51                          | 28.08 | 60.00                 | 50.00 | -28.49         | -21.92 |
| 17.942         | 0.35                       | 38.91                         | 37.72 | 39.26                          | 38.07 | 60.00                 | 50.00 | -20.74         | -11.93 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 38.53                         | 32.32 | 38.58                          | 32.37 | 64.21                 | 54.21 | -25.63         | -21.84 |
| 0.189          | 0.05                       | 40.27                         | 33.88 | 40.32                          | 33.93 | 64.08                 | 54.08 | -23.76         | -20.15 |
| 0.692          | -0.08                      | 26.65                         | 21.33 | 26.57                          | 21.25 | 56.00                 | 46.00 | -29.43         | -24.75 |
| 2.962          | -0.04                      | 23.79                         | 17.65 | 23.75                          | 17.61 | 56.00                 | 46.00 | -32.25         | -28.39 |
| 14.947         | 0.25                       | 31.59                         | 28.12 | 31.84                          | 28.37 | 60.00                 | 50.00 | -28.16         | -21.63 |
| 17.942         | 0.32                       | 39.18                         | 37.97 | 39.50                          | 38.29 | 60.00                 | 50.00 | -20.50         | -11.71 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

|   |                      |  |
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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 19 of 216<br>Date: Dec. 22, 2015 |
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|                    |               |                  |                            |
|--------------------|---------------|------------------|----------------------------|
| Temperature:       | 21 °C         | Humidity:        | 59 %RH                     |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3_2.4G<br>802.11g_CH11 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                       |
| Tested By:         | Richard Lin   | Tested Date:     | Nov. 24, 2015              |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.06                       | 38.28                         | 33.11 | 38.34                          | 33.17 | 64.21                 | 54.21 | -25.87         | -21.04 |
| 0.189          | 0.06                       | 39.83                         | 34.85 | 39.89                          | 34.91 | 64.08                 | 54.08 | -24.19         | -19.17 |
| 0.946          | -0.11                      | 28.96                         | 22.00 | 28.85                          | 21.89 | 56.00                 | 46.00 | -27.15         | -24.11 |
| 1.418          | -0.09                      | 29.91                         | 24.80 | 29.82                          | 24.71 | 56.00                 | 46.00 | -26.18         | -21.29 |
| 14.947         | 0.27                       | 31.85                         | 28.27 | 32.12                          | 28.54 | 60.00                 | 50.00 | -27.88         | -21.46 |
| 17.942         | 0.35                       | 38.87                         | 37.62 | 39.22                          | 37.97 | 60.00                 | 50.00 | -20.78         | -12.03 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 38.79                         | 30.92 | 38.84                          | 30.97 | 64.21                 | 54.21 | -25.37         | -23.24 |
| 0.189          | 0.05                       | 40.36                         | 32.35 | 40.41                          | 32.40 | 64.08                 | 54.08 | -23.67         | -21.68 |
| 0.884          | -0.09                      | 25.89                         | 20.59 | 25.80                          | 20.50 | 56.00                 | 46.00 | -30.20         | -25.50 |
| 2.962          | -0.04                      | 23.28                         | 17.40 | 23.24                          | 17.36 | 56.00                 | 46.00 | -32.76         | -28.64 |
| 14.947         | 0.25                       | 31.52                         | 28.07 | 31.77                          | 28.32 | 60.00                 | 50.00 | -28.23         | -21.68 |
| 17.942         | 0.32                       | 39.38                         | 38.19 | 39.70                          | 38.51 | 60.00                 | 50.00 | -20.30         | -11.49 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

|   |                      |  |
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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 20 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                                   |
|--------------------|---------------|------------------|-----------------------------------|
| Temperature:       | 21 °C         | Humidity:        | 59 %RH                            |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3_2.4G<br>802.11n - HT20_CH01 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                              |
| Tested By:         | Richard Lin   | Tested Date:     | Nov. 24, 2015                     |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.06                       | 41.86                         | 36.19 | 41.92                          | 36.25 | 64.21                 | 54.21 | -22.29         | -17.96 |
| 0.189          | 0.06                       | 43.71                         | 37.92 | 43.77                          | 37.98 | 64.08                 | 54.08 | -20.31         | -16.10 |
| 0.946          | -0.11                      | 29.49                         | 23.03 | 29.38                          | 22.92 | 56.00                 | 46.00 | -26.62         | -23.08 |
| 1.418          | -0.09                      | 29.71                         | 24.53 | 29.62                          | 24.44 | 56.00                 | 46.00 | -26.38         | -21.56 |
| 14.947         | 0.27                       | 32.23                         | 28.89 | 32.50                          | 29.16 | 60.00                 | 50.00 | -27.50         | -20.84 |
| 17.942         | 0.35                       | 38.69                         | 37.44 | 39.04                          | 37.79 | 60.00                 | 50.00 | -20.96         | -12.21 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 38.47                         | 30.87 | 38.52                          | 30.92 | 64.21                 | 54.21 | -25.69         | -23.29 |
| 0.189          | 0.05                       | 40.15                         | 32.33 | 40.20                          | 32.38 | 64.08                 | 54.08 | -23.88         | -21.70 |
| 0.884          | -0.09                      | 25.89                         | 20.55 | 25.80                          | 20.46 | 56.00                 | 46.00 | -30.20         | -25.54 |
| 4.794          | 0.01                       | 23.18                         | 18.41 | 23.19                          | 18.42 | 56.00                 | 46.00 | -32.81         | -27.58 |
| 14.947         | 0.25                       | 31.54                         | 28.00 | 31.79                          | 28.25 | 60.00                 | 50.00 | -28.21         | -21.75 |
| 17.942         | 0.32                       | 39.38                         | 38.13 | 39.70                          | 38.45 | 60.00                 | 50.00 | -20.30         | -11.55 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 21 of 216<br>Date: Dec. 22, 2015 |
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|                    |               |                  |                                   |
|--------------------|---------------|------------------|-----------------------------------|
| Temperature:       | 21 °C         | Humidity:        | 59 %RH                            |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3_2.4G<br>802.11n - HT20_CH06 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                              |
| Tested By:         | Richard Lin   | Tested Date:     | Nov. 24, 2015                     |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.06                       | 38.12                         | 30.14 | 38.18                          | 30.20 | 64.21                 | 54.21 | -26.03         | -24.01 |
| 0.189          | 0.06                       | 39.66                         | 31.73 | 39.72                          | 31.79 | 64.08                 | 54.08 | -24.36         | -22.29 |
| 0.884          | -0.10                      | 24.40                         | 19.01 | 24.30                          | 18.91 | 56.00                 | 46.00 | -31.70         | -27.09 |
| 4.982          | 0.01                       | 23.52                         | 18.65 | 23.53                          | 18.66 | 56.00                 | 46.00 | -32.47         | -27.34 |
| 14.947         | 0.27                       | 31.48                         | 28.08 | 31.75                          | 28.35 | 60.00                 | 50.00 | -28.25         | -21.65 |
| 17.942         | 0.35                       | 39.67                         | 38.50 | 40.02                          | 38.85 | 60.00                 | 50.00 | -19.98         | -11.15 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 38.40                         | 30.92 | 38.45                          | 30.97 | 64.21                 | 54.21 | -25.76         | -23.24 |
| 0.189          | 0.05                       | 40.09                         | 32.34 | 40.14                          | 32.39 | 64.08                 | 54.08 | -23.94         | -21.69 |
| 0.692          | -0.08                      | 26.38                         | 21.15 | 26.30                          | 21.07 | 56.00                 | 46.00 | -29.70         | -24.93 |
| 2.962          | -0.04                      | 23.49                         | 17.42 | 23.45                          | 17.38 | 56.00                 | 46.00 | -32.55         | -28.62 |
| 14.947         | 0.25                       | 31.48                         | 27.99 | 31.73                          | 28.24 | 60.00                 | 50.00 | -28.27         | -21.76 |
| 17.942         | 0.32                       | 39.48                         | 38.28 | 39.80                          | 38.60 | 60.00                 | 50.00 | -20.20         | -11.40 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 22 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                                   |
|--------------------|---------------|------------------|-----------------------------------|
| Temperature:       | 21 °C         | Humidity:        | 59 %RH                            |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3_2.4G<br>802.11n - HT20_CH11 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                              |
| Tested By:         | Richard Lin   | Tested Date:     | Nov. 24, 2015                     |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.06                       | 38.16                         | 30.25 | 38.22                          | 30.31 | 64.21                 | 54.21 | -25.99         | -23.90 |
| 0.189          | 0.06                       | 39.81                         | 31.85 | 39.87                          | 31.91 | 64.08                 | 54.08 | -24.21         | -22.17 |
| 0.567          | -0.09                      | 26.01                         | 21.10 | 25.92                          | 21.01 | 56.00                 | 46.00 | -30.08         | -24.99 |
| 4.982          | 0.01                       | 23.52                         | 18.51 | 23.53                          | 18.52 | 56.00                 | 46.00 | -32.47         | -27.48 |
| 14.947         | 0.27                       | 31.57                         | 28.09 | 31.84                          | 28.36 | 60.00                 | 50.00 | -28.16         | -21.64 |
| 17.942         | 0.35                       | 39.67                         | 38.46 | 40.02                          | 38.81 | 60.00                 | 50.00 | -19.98         | -11.19 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 38.10                         | 31.64 | 38.15                          | 31.69 | 64.21                 | 54.21 | -26.06         | -22.52 |
| 0.189          | 0.05                       | 39.66                         | 33.51 | 39.71                          | 33.56 | 64.08                 | 54.08 | -24.37         | -20.52 |
| 0.946          | -0.09                      | 28.84                         | 23.08 | 28.75                          | 22.99 | 56.00                 | 46.00 | -27.25         | -23.01 |
| 1.705          | -0.07                      | 24.92                         | 19.47 | 24.85                          | 19.40 | 56.00                 | 46.00 | -31.15         | -26.60 |
| 14.947         | 0.25                       | 31.87                         | 28.49 | 32.12                          | 28.74 | 60.00                 | 50.00 | -27.88         | -21.26 |
| 17.942         | 0.32                       | 39.10                         | 37.87 | 39.42                          | 38.19 | 60.00                 | 50.00 | -20.58         | -11.81 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 23 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                                   |
|--------------------|---------------|------------------|-----------------------------------|
| Temperature:       | 21 °C         | Humidity:        | 59 %RH                            |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3_2.4G<br>802.11n - HT40_CH03 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                              |
| Tested By:         | Richard Lin   | Tested Date:     | Nov. 24, 2015                     |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.189          | 0.06                       | 39.77                         | 32.17 | 39.83                          | 32.23 | 64.08                 | 54.08 | -24.25         | -21.85 |
| 0.210          | -0.02                      | 39.10                         | 36.73 | 39.08                          | 36.71 | 63.21                 | 53.21 | -24.13         | -16.50 |
| 0.927          | -0.11                      | 30.22                         | 20.98 | 30.11                          | 20.87 | 56.00                 | 46.00 | -25.89         | -25.13 |
| 1.408          | -0.09                      | 32.06                         | 23.21 | 31.97                          | 23.12 | 56.00                 | 46.00 | -24.03         | -22.88 |
| 1.418          | -0.09                      | 34.38                         | 29.45 | 34.29                          | 29.36 | 56.00                 | 46.00 | -21.71         | -16.64 |
| 17.942         | 0.35                       | 39.77                         | 38.59 | 40.12                          | 38.94 | 60.00                 | 50.00 | -19.88         | -11.06 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 38.65                         | 31.00 | 38.70                          | 31.05 | 64.21                 | 54.21 | -25.51         | -23.16 |
| 0.189          | 0.05                       | 40.34                         | 32.41 | 40.39                          | 32.46 | 64.08                 | 54.08 | -23.69         | -21.62 |
| 0.692          | -0.08                      | 26.50                         | 21.15 | 26.42                          | 21.07 | 56.00                 | 46.00 | -29.58         | -24.93 |
| 1.764          | -0.07                      | 23.13                         | 17.68 | 23.06                          | 17.61 | 56.00                 | 46.00 | -32.94         | -28.39 |
| 14.947         | 0.25                       | 31.36                         | 27.98 | 31.61                          | 28.23 | 60.00                 | 50.00 | -28.39         | -21.77 |
| 17.942         | 0.32                       | 39.89                         | 38.72 | 40.21                          | 39.04 | 60.00                 | 50.00 | -19.79         | -10.96 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 24 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                                   |
|--------------------|---------------|------------------|-----------------------------------|
| Temperature:       | 21 °C         | Humidity:        | 59 %RH                            |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3_2.4G<br>802.11n - HT40_CH06 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                              |
| Tested By:         | Richard Lin   | Tested Date:     | Nov. 24, 2015                     |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.06                       | 38.08                         | 29.84 | 38.14                          | 29.90 | 64.21                 | 54.21 | -26.07         | -24.31 |
| 0.189          | 0.06                       | 39.60                         | 31.63 | 39.66                          | 31.69 | 64.08                 | 54.08 | -24.42         | -22.39 |
| 0.946          | -0.11                      | 26.52                         | 19.69 | 26.41                          | 19.58 | 56.00                 | 46.00 | -29.59         | -26.42 |
| 1.418          | -0.09                      | 25.47                         | 20.16 | 25.38                          | 20.07 | 56.00                 | 46.00 | -30.62         | -25.93 |
| 14.947         | 0.27                       | 31.48                         | 27.99 | 31.75                          | 28.26 | 60.00                 | 50.00 | -28.25         | -21.74 |
| 17.942         | 0.35                       | 40.03                         | 38.81 | 40.38                          | 39.16 | 60.00                 | 50.00 | -19.62         | -10.84 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 38.81                         | 31.25 | 38.86                          | 31.30 | 64.21                 | 54.21 | -25.35         | -22.91 |
| 0.189          | 0.05                       | 40.46                         | 32.67 | 40.51                          | 32.72 | 64.08                 | 54.08 | -23.57         | -21.36 |
| 0.946          | -0.09                      | 26.94                         | 21.91 | 26.85                          | 21.82 | 56.00                 | 46.00 | -29.15         | -24.18 |
| 4.794          | 0.01                       | 22.98                         | 17.98 | 22.99                          | 17.99 | 56.00                 | 46.00 | -33.01         | -28.01 |
| 14.947         | 0.25                       | 31.36                         | 27.97 | 31.61                          | 28.22 | 60.00                 | 50.00 | -28.39         | -21.78 |
| 17.942         | 0.32                       | 39.99                         | 38.71 | 40.31                          | 39.03 | 60.00                 | 50.00 | -19.69         | -10.97 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 25 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                                   |
|--------------------|---------------|------------------|-----------------------------------|
| Temperature:       | 21 °C         | Humidity:        | 59 %RH                            |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3_2.4G<br>802.11n - HT40_CH09 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                              |
| Tested By:         | Richard Lin   | Tested Date:     | Nov. 24, 2015                     |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.210          | -0.02                      | 42.40                         | 39.80 | 42.38                          | 39.78 | 63.21                 | 53.21 | -20.83         | -13.43 |
| 0.213          | -0.02                      | 40.94                         | 37.96 | 40.92                          | 37.94 | 63.09                 | 53.09 | -22.17         | -15.15 |
| 1.162          | -0.10                      | 33.51                         | 20.09 | 33.41                          | 19.99 | 56.00                 | 46.00 | -22.59         | -26.01 |
| 1.388          | -0.09                      | 35.39                         | 25.30 | 35.30                          | 25.21 | 56.00                 | 46.00 | -20.70         | -20.79 |
| 1.418          | -0.09                      | 37.01                         | 31.84 | 36.92                          | 31.75 | 56.00                 | 46.00 | -19.08         | -14.25 |
| 17.942         | 0.35                       | 39.99                         | 38.81 | 40.34                          | 39.16 | 60.00                 | 50.00 | -19.66         | -10.84 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 38.71                         | 31.17 | 38.76                          | 31.22 | 64.21                 | 54.21 | -25.45         | -22.99 |
| 0.189          | 0.05                       | 40.44                         | 32.67 | 40.49                          | 32.72 | 64.08                 | 54.08 | -23.59         | -21.36 |
| 0.692          | -0.08                      | 26.42                         | 20.95 | 26.34                          | 20.87 | 56.00                 | 46.00 | -29.66         | -25.13 |
| 1.200          | -0.08                      | 23.56                         | 17.91 | 23.48                          | 17.83 | 56.00                 | 46.00 | -32.52         | -28.17 |
| 4.912          | 0.01                       | 22.42                         | 16.18 | 22.43                          | 16.19 | 56.00                 | 46.00 | -33.57         | -29.81 |
| 17.942         | 0.32                       | 40.09                         | 38.90 | 40.41                          | 39.22 | 60.00                 | 50.00 | -19.59         | -10.78 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

|   |                      |  |
|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 26 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                               |
|--------------------|---------------|------------------|-------------------------------|
| Temperature:       | 22 °C         | Humidity:        | 56 %RH                        |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3/64_2.4G<br>802.11b_CH01 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | CCK                           |
| Tested By:         | Richard Lin   | Tested Date:     | Oct. 26, 2015                 |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.189          | 0.06                       | 39.68                         | 31.39 | 39.74                          | 31.45 | 64.08                 | 54.08 | -24.34         | -22.63 |
| 4.615          | 0.00                       | 32.60                         | 27.77 | 32.60                          | 27.77 | 56.00                 | 46.00 | -23.40         | -18.23 |
| 4.853          | 0.00                       | 30.65                         | 26.02 | 30.65                          | 26.02 | 56.00                 | 46.00 | -25.35         | -19.98 |
| 13.140         | 0.22                       | 46.18                         | 41.64 | 46.40                          | 41.86 | 60.00                 | 50.00 | -13.60         | -8.14  |
| 13.729         | 0.24                       | 47.18                         | 42.54 | 47.42                          | 42.78 | 60.00                 | 50.00 | -12.58         | -7.22  |
| 15.502         | 0.29                       | 42.19                         | 36.95 | 42.48                          | 37.24 | 60.00                 | 50.00 | -17.52         | -12.76 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.189          | 0.05                       | 40.36                         | 31.95 | 40.41                          | 32.00 | 64.08                 | 54.08 | -23.67         | -22.08 |
| 3.665          | -0.02                      | 31.05                         | 25.76 | 31.03                          | 25.74 | 56.00                 | 46.00 | -24.97         | -20.26 |
| 4.615          | 0.01                       | 32.74                         | 27.95 | 32.75                          | 27.96 | 56.00                 | 46.00 | -23.25         | -18.04 |
| 13.729         | 0.22                       | 47.16                         | 42.49 | 47.38                          | 42.71 | 60.00                 | 50.00 | -12.62         | -7.29  |
| 14.318         | 0.24                       | 46.15                         | 41.08 | 46.39                          | 41.32 | 60.00                 | 50.00 | -13.61         | -8.68  |
| 15.379         | 0.26                       | 42.33                         | 36.60 | 42.59                          | 36.86 | 60.00                 | 50.00 | -17.41         | -13.14 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 27 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                               |
|--------------------|---------------|------------------|-------------------------------|
| Temperature:       | 22 °C         | Humidity:        | 56 %RH                        |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3/64_2.4G<br>802.11b_CH06 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | CCK                           |
| Tested By:         | Richard Lin   | Tested Date:     | Oct. 26, 2015                 |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.189          | 0.06                       | 39.46                         | 31.20 | 39.52                          | 31.26 | 64.08                 | 54.08 | -24.56         | -22.82 |
| 3.546          | -0.03                      | 29.75                         | 24.45 | 29.72                          | 24.42 | 56.00                 | 46.00 | -26.28         | -21.58 |
| 4.615          | 0.00                       | 32.44                         | 27.66 | 32.44                          | 27.66 | 56.00                 | 46.00 | -23.56         | -18.34 |
| 13.140         | 0.22                       | 46.34                         | 41.70 | 46.56                          | 41.92 | 60.00                 | 50.00 | -13.44         | -8.08  |
| 13.729         | 0.24                       | 47.20                         | 42.57 | 47.44                          | 42.81 | 60.00                 | 50.00 | -12.56         | -7.19  |
| 15.379         | 0.28                       | 42.33                         | 36.61 | 42.61                          | 36.89 | 60.00                 | 50.00 | -17.39         | -13.11 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.189          | 0.05                       | 40.21                         | 33.27 | 40.26                          | 33.32 | 64.08                 | 54.08 | -23.82         | -20.76 |
| 4.615          | 0.01                       | 32.70                         | 28.11 | 32.71                          | 28.12 | 56.00                 | 46.00 | -23.29         | -17.88 |
| 4.734          | 0.01                       | 32.01                         | 28.59 | 32.02                          | 28.60 | 56.00                 | 46.00 | -23.98         | -17.40 |
| 13.140         | 0.20                       | 46.10                         | 41.51 | 46.30                          | 41.71 | 60.00                 | 50.00 | -13.70         | -8.29  |
| 13.729         | 0.22                       | 47.06                         | 42.43 | 47.28                          | 42.65 | 60.00                 | 50.00 | -12.72         | -7.35  |
| 15.389         | 0.26                       | 43.62                         | 38.66 | 43.88                          | 38.92 | 60.00                 | 50.00 | -16.12         | -11.08 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 28 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                    |               |                  |                               |
|--------------------|---------------|------------------|-------------------------------|
| Temperature:       | 22 °C         | Humidity:        | 56 %RH                        |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3/64_2.4G<br>802.11b_CH11 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | CCK                           |
| Tested By:         | Richard Lin   | Tested Date:     | Oct. 26, 2015                 |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.189          | 0.06                       | 39.62                         | 31.32 | 39.68                          | 31.38 | 64.08                 | 54.08 | -24.40         | -22.70 |
| 3.665          | -0.03                      | 31.03                         | 25.75 | 31.00                          | 25.72 | 56.00                 | 46.00 | -25.00         | -20.28 |
| 4.615          | 0.00                       | 32.36                         | 27.71 | 32.36                          | 27.71 | 56.00                 | 46.00 | -23.64         | -18.29 |
| 13.729         | 0.24                       | 46.96                         | 42.31 | 47.20                          | 42.55 | 60.00                 | 50.00 | -12.80         | -7.45  |
| 14.318         | 0.25                       | 45.97                         | 40.96 | 46.22                          | 41.21 | 60.00                 | 50.00 | -13.78         | -8.79  |
| 15.389         | 0.28                       | 43.52                         | 38.56 | 43.80                          | 38.84 | 60.00                 | 50.00 | -16.20         | -11.16 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.189          | 0.05                       | 40.25                         | 32.02 | 40.30                          | 32.07 | 64.08                 | 54.08 | -23.78         | -22.01 |
| 4.615          | 0.01                       | 32.40                         | 27.84 | 32.41                          | 27.85 | 56.00                 | 46.00 | -23.59         | -18.15 |
| 4.734          | 0.01                       | 31.89                         | 28.37 | 31.90                          | 28.38 | 56.00                 | 46.00 | -24.10         | -17.62 |
| 13.140         | 0.20                       | 45.92                         | 41.29 | 46.12                          | 41.49 | 60.00                 | 50.00 | -13.88         | -8.51  |
| 13.729         | 0.22                       | 46.92                         | 42.28 | 47.14                          | 42.50 | 60.00                 | 50.00 | -12.86         | -7.50  |
| 15.379         | 0.26                       | 42.21                         | 36.50 | 42.47                          | 36.76 | 60.00                 | 50.00 | -17.53         | -13.24 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 29 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                               |
|--------------------|---------------|------------------|-------------------------------|
| Temperature:       | 22 °C         | Humidity:        | 56 %RH                        |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3/64_2.4G<br>802.11g_CH01 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                          |
| Tested By:         | Richard Lin   | Tested Date:     | Oct. 26, 2015                 |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.189          | 0.06                       | 39.73                         | 31.40 | 39.79                          | 31.46 | 64.08                 | 54.08 | -24.29         | -22.62 |
| 4.259          | -0.01                      | 30.61                         | 26.96 | 30.60                          | 26.95 | 56.00                 | 46.00 | -25.40         | -19.05 |
| 4.734          | 0.00                       | 31.95                         | 28.32 | 31.95                          | 28.32 | 56.00                 | 46.00 | -24.05         | -17.68 |
| 13.140         | 0.22                       | 46.42                         | 41.70 | 46.64                          | 41.92 | 60.00                 | 50.00 | -13.36         | -8.08  |
| 13.729         | 0.24                       | 47.26                         | 42.54 | 47.50                          | 42.78 | 60.00                 | 50.00 | -12.50         | -7.22  |
| 15.389         | 0.28                       | 43.56                         | 38.63 | 43.84                          | 38.91 | 60.00                 | 50.00 | -16.16         | -11.09 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.189          | 0.05                       | 40.27                         | 31.90 | 40.32                          | 31.95 | 64.08                 | 54.08 | -23.76         | -22.13 |
| 3.675          | -0.02                      | 30.66                         | 25.17 | 30.64                          | 25.15 | 56.00                 | 46.00 | -25.36         | -20.85 |
| 4.853          | 0.01                       | 30.96                         | 26.20 | 30.97                          | 26.21 | 56.00                 | 46.00 | -25.03         | -19.79 |
| 13.729         | 0.22                       | 47.28                         | 42.56 | 47.50                          | 42.78 | 60.00                 | 50.00 | -12.50         | -7.22  |
| 14.318         | 0.24                       | 46.23                         | 41.14 | 46.47                          | 41.38 | 60.00                 | 50.00 | -13.53         | -8.62  |
| 15.379         | 0.26                       | 42.35                         | 36.31 | 42.61                          | 36.57 | 60.00                 | 50.00 | -17.39         | -13.43 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 30 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                               |
|--------------------|---------------|------------------|-------------------------------|
| Temperature:       | 22 °C         | Humidity:        | 56 %RH                        |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3/64_2.4G<br>802.11g_CH06 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                          |
| Tested By:         | Richard Lin   | Tested Date:     | Oct. 26, 2015                 |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.189          | 0.06                       | 39.77                         | 31.43 | 39.83                          | 31.49 | 64.08                 | 54.08 | -24.25         | -22.59 |
| 3.675          | -0.03                      | 30.80                         | 25.25 | 30.77                          | 25.22 | 56.00                 | 46.00 | -25.23         | -20.78 |
| 4.734          | 0.00                       | 33.32                         | 28.72 | 33.32                          | 28.72 | 56.00                 | 46.00 | -22.68         | -17.28 |
| 13.140         | 0.22                       | 46.81                         | 42.15 | 47.03                          | 42.37 | 60.00                 | 50.00 | -12.97         | -7.63  |
| 13.729         | 0.24                       | 47.60                         | 42.91 | 47.84                          | 43.15 | 60.00                 | 50.00 | -12.16         | -6.85  |
| 15.379         | 0.28                       | 42.65                         | 36.88 | 42.93                          | 37.16 | 60.00                 | 50.00 | -17.07         | -12.84 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.189          | 0.05                       | 40.46                         | 32.09 | 40.51                          | 32.14 | 64.08                 | 54.08 | -23.57         | -21.94 |
| 4.259          | 0.00                       | 30.81                         | 27.15 | 30.81                          | 27.15 | 56.00                 | 46.00 | -25.19         | -18.85 |
| 4.734          | 0.01                       | 33.02                         | 28.69 | 33.03                          | 28.70 | 56.00                 | 46.00 | -22.97         | -17.30 |
| 13.252         | 0.21                       | 45.76                         | 40.68 | 45.97                          | 40.89 | 60.00                 | 50.00 | -14.03         | -9.11  |
| 13.729         | 0.22                       | 47.26                         | 42.58 | 47.48                          | 42.80 | 60.00                 | 50.00 | -12.52         | -7.20  |
| 15.389         | 0.26                       | 43.62                         | 38.70 | 43.88                          | 38.96 | 60.00                 | 50.00 | -16.12         | -11.04 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

|   |                      |  |
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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 31 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                               |
|--------------------|---------------|------------------|-------------------------------|
| Temperature:       | 22 °C         | Humidity:        | 56 %RH                        |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3/64_2.4G<br>802.11g_CH11 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                          |
| Tested By:         | Richard Lin   | Tested Date:     | Oct. 26, 2015                 |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.189          | 0.06                       | 39.46                         | 31.16 | 39.52                          | 31.22 | 64.08                 | 54.08 | -24.56         | -22.86 |
| 4.615          | 0.00                       | 32.08                         | 27.44 | 32.08                          | 27.44 | 56.00                 | 46.00 | -23.92         | -18.56 |
| 4.734          | 0.00                       | 31.69                         | 28.07 | 31.69                          | 28.07 | 56.00                 | 46.00 | -24.31         | -17.93 |
| 13.140         | 0.22                       | 46.14                         | 41.48 | 46.36                          | 41.70 | 60.00                 | 50.00 | -13.64         | -8.30  |
| 13.729         | 0.24                       | 47.02                         | 42.40 | 47.26                          | 42.64 | 60.00                 | 50.00 | -12.74         | -7.36  |
| 15.389         | 0.28                       | 43.58                         | 38.62 | 43.86                          | 38.90 | 60.00                 | 50.00 | -16.14         | -11.10 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.189          | 0.05                       | 40.38                         | 32.01 | 40.43                          | 32.06 | 64.08                 | 54.08 | -23.65         | -22.02 |
| 4.259          | 0.00                       | 30.79                         | 27.04 | 30.79                          | 27.04 | 56.00                 | 46.00 | -25.21         | -18.96 |
| 4.615          | 0.01                       | 32.26                         | 27.82 | 32.27                          | 27.83 | 56.00                 | 46.00 | -23.73         | -18.17 |
| 13.729         | 0.22                       | 47.46                         | 42.83 | 47.68                          | 43.05 | 60.00                 | 50.00 | -12.32         | -6.95  |
| 14.318         | 0.24                       | 46.39                         | 41.31 | 46.63                          | 41.55 | 60.00                 | 50.00 | -13.37         | -8.45  |
| 15.389         | 0.26                       | 43.72                         | 38.72 | 43.98                          | 38.98 | 60.00                 | 50.00 | -16.02         | -11.02 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

|   |                      |  |
|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 32 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                                      |
|--------------------|---------------|------------------|--------------------------------------|
| Temperature:       | 22 °C         | Humidity:        | 56 %RH                               |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3/64_2.4G<br>802.11n - HT20_CH01 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                                 |
| Tested By:         | Richard Lin   | Tested Date:     | Oct. 26, 2015                        |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.153          | 0.06                       | 45.02                         | 33.69 | 45.08                          | 33.75 | 65.84                 | 55.84 | -20.76         | -22.09 |
| 0.156          | 0.06                       | 49.44                         | 33.28 | 49.50                          | 33.34 | 65.68                 | 55.68 | -16.18         | -22.34 |
| 0.822          | -0.10                      | 38.71                         | 28.98 | 38.61                          | 28.88 | 56.00                 | 46.00 | -17.39         | -17.12 |
| 13.252         | 0.22                       | 45.48                         | 40.16 | 45.70                          | 40.38 | 60.00                 | 50.00 | -14.30         | -9.62  |
| 13.729         | 0.24                       | 46.82                         | 41.98 | 47.06                          | 42.22 | 60.00                 | 50.00 | -12.94         | -7.78  |
| 15.389         | 0.28                       | 42.57                         | 37.72 | 42.85                          | 38.00 | 60.00                 | 50.00 | -17.15         | -12.00 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.189          | 0.05                       | 41.19                         | 32.32 | 41.24                          | 32.37 | 64.08                 | 54.08 | -22.84         | -21.71 |
| 0.822          | -0.09                      | 35.85                         | 25.89 | 35.76                          | 25.80 | 56.00                 | 46.00 | -20.24         | -20.20 |
| 4.853          | 0.01                       | 31.32                         | 27.14 | 31.33                          | 27.15 | 56.00                 | 46.00 | -24.67         | -18.85 |
| 13.140         | 0.20                       | 44.29                         | 39.64 | 44.49                          | 39.84 | 60.00                 | 50.00 | -15.51         | -10.16 |
| 13.719         | 0.22                       | 42.25                         | 36.36 | 42.47                          | 36.58 | 60.00                 | 50.00 | -17.53         | -13.42 |
| 15.389         | 0.26                       | 42.23                         | 37.32 | 42.49                          | 37.58 | 60.00                 | 50.00 | -17.51         | -12.42 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 33 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                                      |
|--------------------|---------------|------------------|--------------------------------------|
| Temperature:       | 22 °C         | Humidity:        | 56 %RH                               |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3/64_2.4G<br>802.11n - HT20_CH06 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                                 |
| Tested By:         | Richard Lin   | Tested Date:     | Oct. 26, 2015                        |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.450          | -0.09                      | 33.16                         | 24.83 | 33.07                          | 24.74 | 56.88                 | 46.88 | -23.81         | -22.14 |
| 0.501          | -0.09                      | 31.97                         | 24.35 | 31.88                          | 24.26 | 56.00                 | 46.00 | -24.12         | -21.74 |
| 3.546          | -0.03                      | 29.87                         | 25.07 | 29.84                          | 25.04 | 56.00                 | 46.00 | -26.16         | -20.96 |
| 13.252         | 0.22                       | 45.60                         | 40.50 | 45.82                          | 40.72 | 60.00                 | 50.00 | -14.18         | -9.28  |
| 13.729         | 0.24                       | 47.00                         | 42.28 | 47.24                          | 42.52 | 60.00                 | 50.00 | -12.76         | -7.48  |
| 15.379         | 0.28                       | 41.38                         | 35.74 | 41.66                          | 36.02 | 60.00                 | 50.00 | -18.34         | -13.98 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.822          | -0.09                      | 33.97                         | 26.44 | 33.88                          | 26.35 | 56.00                 | 46.00 | -22.12         | -19.65 |
| 4.615          | 0.01                       | 31.45                         | 26.39 | 31.46                          | 26.40 | 56.00                 | 46.00 | -24.54         | -19.60 |
| 4.853          | 0.01                       | 31.75                         | 27.49 | 31.76                          | 27.50 | 56.00                 | 46.00 | -24.24         | -18.50 |
| 13.729         | 0.22                       | 45.87                         | 41.22 | 46.09                          | 41.44 | 60.00                 | 50.00 | -13.91         | -8.56  |
| 14.318         | 0.24                       | 44.64                         | 39.49 | 44.88                          | 39.73 | 60.00                 | 50.00 | -15.12         | -10.27 |
| 15.389         | 0.26                       | 42.09                         | 37.19 | 42.35                          | 37.45 | 60.00                 | 50.00 | -17.65         | -12.55 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 34 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                                      |
|--------------------|---------------|------------------|--------------------------------------|
| Temperature:       | 22 °C         | Humidity:        | 56 %RH                               |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3/64_2.4G<br>802.11n - HT20_CH11 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                                 |
| Tested By:         | Richard Lin   | Tested Date:     | Oct. 26, 2015                        |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.06                       | 38.79                         | 31.01 | 38.85                          | 31.07 | 64.21                 | 54.21 | -25.36         | -23.14 |
| 0.189          | 0.06                       | 40.01                         | 32.18 | 40.07                          | 32.24 | 64.08                 | 54.08 | -24.01         | -21.84 |
| 0.942          | -0.11                      | 24.77                         | 18.73 | 24.66                          | 18.62 | 56.00                 | 46.00 | -31.34         | -27.38 |
| 14.379         | 0.25                       | 40.06                         | 34.33 | 40.31                          | 34.58 | 60.00                 | 50.00 | -19.69         | -15.42 |
| 14.927         | 0.27                       | 40.76                         | 34.66 | 41.03                          | 34.93 | 60.00                 | 50.00 | -18.97         | -15.07 |
| 16.045         | 0.30                       | 41.17                         | 34.80 | 41.47                          | 35.10 | 60.00                 | 50.00 | -18.53         | -14.90 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 39.03                         | 31.39 | 39.08                          | 31.44 | 64.21                 | 54.21 | -25.13         | -22.77 |
| 0.189          | 0.05                       | 40.11                         | 32.47 | 40.16                          | 32.52 | 64.08                 | 54.08 | -23.92         | -21.56 |
| 0.754          | -0.09                      | 26.73                         | 22.54 | 26.64                          | 22.45 | 56.00                 | 46.00 | -29.36         | -23.55 |
| 14.236         | 0.23                       | 40.27                         | 34.82 | 40.50                          | 35.05 | 60.00                 | 50.00 | -19.50         | -14.95 |
| 14.379         | 0.24                       | 40.22                         | 34.53 | 40.46                          | 34.77 | 60.00                 | 50.00 | -19.54         | -15.23 |
| 16.466         | 0.29                       | 39.65                         | 32.70 | 39.94                          | 32.99 | 60.00                 | 50.00 | -20.06         | -17.01 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

|   |                      |  |
|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 35 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                                      |
|--------------------|---------------|------------------|--------------------------------------|
| Temperature:       | 22 °C         | Humidity:        | 56 %RH                               |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3/64_2.4G<br>802.11n - HT40_CH03 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                                 |
| Tested By:         | Richard Lin   | Tested Date:     | Oct. 26, 2015                        |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.06                       | 38.81                         | 30.92 | 38.87                          | 30.98 | 64.21                 | 54.21 | -25.34         | -23.23 |
| 0.189          | 0.06                       | 39.85                         | 32.17 | 39.91                          | 32.23 | 64.08                 | 54.08 | -24.17         | -21.85 |
| 0.505          | -0.09                      | 25.44                         | 20.80 | 25.35                          | 20.71 | 56.00                 | 46.00 | -30.65         | -25.29 |
| 14.236         | 0.25                       | 40.05                         | 34.78 | 40.30                          | 35.03 | 60.00                 | 50.00 | -19.70         | -14.97 |
| 14.927         | 0.27                       | 40.76                         | 34.73 | 41.03                          | 35.00 | 60.00                 | 50.00 | -18.97         | -15.00 |
| 15.492         | 0.29                       | 42.07                         | 36.17 | 42.36                          | 36.46 | 60.00                 | 50.00 | -17.64         | -13.54 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 38.85                         | 31.58 | 38.90                          | 31.63 | 64.21                 | 54.21 | -25.31         | -22.58 |
| 0.189          | 0.05                       | 40.05                         | 32.78 | 40.10                          | 32.83 | 64.08                 | 54.08 | -23.98         | -21.25 |
| 0.942          | -0.09                      | 26.39                         | 21.24 | 26.30                          | 21.15 | 56.00                 | 46.00 | -29.70         | -24.85 |
| 14.379         | 0.24                       | 40.20                         | 34.51 | 40.44                          | 34.75 | 60.00                 | 50.00 | -19.56         | -15.25 |
| 14.896         | 0.25                       | 40.92                         | 27.77 | 41.17                          | 28.02 | 60.00                 | 50.00 | -18.83         | -21.98 |
| 16.045         | 0.28                       | 41.37                         | 34.90 | 41.65                          | 35.18 | 60.00                 | 50.00 | -18.35         | -14.82 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 36 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                                      |
|--------------------|---------------|------------------|--------------------------------------|
| Temperature:       | 22 °C         | Humidity:        | 56 %RH                               |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3/64_2.4G<br>802.11n - HT40_CH06 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                                 |
| Tested By:         | Richard Lin   | Tested Date:     | Oct. 26, 2015                        |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.06                       | 37.75                         | 30.76 | 37.81                          | 30.82 | 64.21                 | 54.21 | -26.40         | -23.39 |
| 0.189          | 0.06                       | 38.81                         | 31.90 | 38.87                          | 31.96 | 64.08                 | 54.08 | -25.21         | -22.12 |
| 3.952          | -0.02                      | 26.91                         | 23.63 | 26.89                          | 23.61 | 56.00                 | 46.00 | -29.11         | -22.39 |
| 14.155         | 0.25                       | 31.69                         | 28.36 | 31.94                          | 28.61 | 60.00                 | 50.00 | -28.06         | -21.39 |
| 14.216         | 0.25                       | 32.36                         | 28.85 | 32.61                          | 29.10 | 60.00                 | 50.00 | -27.39         | -20.90 |
| 17.696         | 0.34                       | 39.59                         | 35.53 | 39.93                          | 35.87 | 60.00                 | 50.00 | -20.07         | -14.13 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 38.95                         | 30.85 | 39.00                          | 30.90 | 64.21                 | 54.21 | -25.21         | -23.31 |
| 0.189          | 0.05                       | 39.99                         | 32.11 | 40.04                          | 32.16 | 64.08                 | 54.08 | -24.04         | -21.92 |
| 4.408          | 0.00                       | 28.12                         | 24.08 | 28.12                          | 24.08 | 56.00                 | 46.00 | -27.88         | -21.92 |
| 5.233          | 0.02                       | 32.23                         | 29.76 | 32.25                          | 29.78 | 60.00                 | 50.00 | -27.75         | -20.22 |
| 14.703         | 0.25                       | 32.43                         | 28.58 | 32.68                          | 28.83 | 60.00                 | 50.00 | -27.32         | -21.17 |
| 17.696         | 0.31                       | 39.78                         | 35.78 | 40.09                          | 36.09 | 60.00                 | 50.00 | -19.91         | -13.91 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 37 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                    |               |                  |                                      |
|--------------------|---------------|------------------|--------------------------------------|
| Temperature:       | 22 °C         | Humidity:        | 56 %RH                               |
| Frequency Range:   | 0.15 – 30 MHz | Tested Mode:     | MLWG3/64_2.4G<br>802.11n - HT40_CH09 |
| Receiver Detector: | Q.P. and AV.  | Modulation Type: | OFDM                                 |
| Tested By:         | Richard Lin   | Tested Date:     | Oct. 26, 2015                        |

Power Line Measured : Line

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.06                       | 38.83                         | 30.89 | 38.89                          | 30.95 | 64.21                 | 54.21 | -25.32         | -23.26 |
| 0.189          | 0.06                       | 39.93                         | 31.95 | 39.99                          | 32.01 | 64.08                 | 54.08 | -24.09         | -22.07 |
| 3.952          | -0.02                      | 27.92                         | 24.49 | 27.90                          | 24.47 | 56.00                 | 46.00 | -28.10         | -21.53 |
| 5.233          | 0.01                       | 31.99                         | 29.62 | 32.00                          | 29.63 | 60.00                 | 50.00 | -28.00         | -20.37 |
| 14.216         | 0.25                       | 33.03                         | 29.33 | 33.28                          | 29.58 | 60.00                 | 50.00 | -26.72         | -20.42 |
| 16.230         | 0.31                       | 40.60                         | 36.63 | 40.91                          | 36.94 | 60.00                 | 50.00 | -19.09         | -13.06 |

Power Line Measured : Neutral

| Freq.<br>(MHz) | Correct.<br>Factor<br>(dB) | Reading Value<br>(dB $\mu$ V) |       | Emission Level<br>(dB $\mu$ V) |       | Limit<br>(dB $\mu$ V) |       | Margin<br>(dB) |        |
|----------------|----------------------------|-------------------------------|-------|--------------------------------|-------|-----------------------|-------|----------------|--------|
|                |                            | Q.P.                          | AV.   | Q.P.                           | AV.   | Q.P.                  | AV.   | Q.P.           | AV.    |
| 0.186          | 0.05                       | 38.95                         | 31.67 | 39.00                          | 31.72 | 64.21                 | 54.21 | -25.21         | -22.49 |
| 0.189          | 0.05                       | 40.07                         | 32.69 | 40.12                          | 32.74 | 64.08                 | 54.08 | -23.96         | -21.34 |
| 4.408          | 0.00                       | 27.63                         | 23.96 | 27.63                          | 23.96 | 56.00                 | 46.00 | -28.37         | -22.04 |
| 14.216         | 0.23                       | 33.39                         | 29.73 | 33.62                          | 29.96 | 60.00                 | 50.00 | -26.38         | -20.04 |
| 14.338         | 0.24                       | 32.26                         | 28.59 | 32.50                          | 28.83 | 60.00                 | 50.00 | -27.50         | -21.17 |
| 16.230         | 0.28                       | 40.72                         | 36.79 | 41.00                          | 37.07 | 60.00                 | 50.00 | -19.00         | -12.93 |

**NOTE :**

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN  
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

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|---|----------------------|--|
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## 4.2 RADIATED EMISSION TEST

### 4.2.1 LIMIT

FCC Part15, Subpart C Section 15.209 limit of radiated emission for frequency below1000MHz. The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

| FREQUENCY (MHz) | FIELD STRENGTH (microvolts/meter) | DISTANCE (m) | FIELD STRENGTH (dB $\mu$ V/m) |
|-----------------|-----------------------------------|--------------|-------------------------------|
| 0.009 - 0.490   | 2400/F(kHz)                       | 300          | 67.6-20log(kHz)               |
| 0.490 - 1.705   | 24000/F(kHz)                      | 30           | 87.6-20log(kHz)               |
| 1.705 - 30      | 30                                | 30           | 30                            |
| 30 - 88         | 100                               | 3            | 40.0                          |
| 88 - 216        | 150                               | 3            | 43.5                          |
| 216 - 960       | 200                               | 3            | 46.0                          |
| Above 960       | 500                               | 3            | 54.0                          |

**NOTE:**

1. 30 dB $\mu$ V (in 30m) = 70 dB $\mu$ V (in 3m).
2. In the emission tables above , the tighter limit applies at the band edges.
3. Distance refers to the distance between measuring instrument, antemma, and the closest point of any part of the device or system.

FCC Part 15, Section15.35(b) limit of radiated emission for frequency above 1000 MHz

| FREQUENCY (MHz) | Class A (dB $\mu$ V/m) (at 3m) |         | Class B (dB $\mu$ V/m) (at 3m) |         |
|-----------------|--------------------------------|---------|--------------------------------|---------|
|                 | PEAK                           | AVERAGE | PEAK                           | AVERAGE |
| Above 1000      | 80.0                           | 60.0    | 74.0                           | 54.0    |

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## 4.2.2 TEST EQUIPMENT

The following test equipment was used during the radiated emission test:

| EQUIPMENT/<br>FACILITIES | SPECIFICATIONS       | MANUFACTURER    | MODEL#/<br>SERIAL#           | DUE DATE OF CAL. &<br>CAL. CENTER |
|--------------------------|----------------------|-----------------|------------------------------|-----------------------------------|
| EMI TEST RECEIVER        | 9 kHz ~ 2.75 GHz     | ROHDE & SCHWARZ | ESCS30 / 100376              | JAN. 11, 2016<br>ETC              |
| EMI TEST RECEIVER        | 20 MHz ~ 1000 MHz    | ROHDE & SCHWARZ | ESVS30 / 841977/003          | NOV. 18, 2016<br>ETC              |
| SPECTRUM ANALYZER        | 9 kHz ~ 7GHz         | ROHDE & SCHWARZ | FSP7 / 100289                | JUN. 12, 2016<br>ETC              |
| SPECTRUM ANALYZER        | 9 kHz ~ 40GHz        | ROHDE & SCHWARZ | FSP40 / 100093               | JAN. 24, 2016<br>ETC              |
| BI-LOG ANTENNA           | 30 MHz ~ 2 GHz       | SCHAFFNER       | CBL6141A / 4181              | JUN. 15, 2016<br>ETC              |
| BICONICAL ANTENNA        | 30 MHz ~ 200 MHz     | EMCO            | 3110/ 11966C                 | FEB. 15, 2017<br>ETC              |
| LOG PERIODIC ANTENNA     | 200 MHz ~ 1 GHz      | EMCO            | 3146/ 9002-2686              | JAN. 11, 2017<br>ETC              |
| HORN ANTENNA             | 1 GHz ~ 18 GHz       | EMCO            | 3115/ 9602-4681              | JAN. 17, 2016<br>ETC              |
| HORN ANTENNA             | 18 ~ 40 GHz          | ETS-LINDGREN    | 3116 /00032255               | JAN. 06, 2016                     |
| PRE-AMPLIFIER            | 1 GHz ~ 26.5 GHz     | AGILENT         | 8449B/ 3008A01995            | JAN. 23, 2016<br>ETC              |
| OPEN AREA TEST SITE      | 3 – 10 M MEASUREMENT | SRT             | A02 / SRT002                 | MAR. 06, 2016<br>SRT              |
| ANECHOIC CHAMBER         | 3 M MEASUREMENT      | SRT             | A01 / SRT001                 | NOV. 20, 2016<br>SRT              |
| COAXIAL CABLE            | 30 M                 | TIMES           | LMR-400 / #30M(L1TCAB014 )   | MAY. 17, 2016<br>ETC              |
| FILTER                   | 2 LINE, 30 A         | FIL.COIL        | FC-943 / 869                 | NCR                               |
| K-TYPE CABLE             | UP TO 40 GHz<br>3 m  | HUBER+SUHNE R   | SF102-46/2*11SK252 /MY2611/2 | MAR. 03, 2016<br>ETC              |
| K-TYPE CABLE             | UP TO 40 GHz,<br>1 m | HUBER+SUHNE R   | SF102/2*11SK252 /MY3331/2    | OCT. 05, 2016<br>ETC              |
| CDN                      | 0.15 MHz ~ 300 MHz   | LUTHI           | CDN L-801<br>M2/M3 / 2790    | MAY. 17, 2016<br>ETC              |

**NOTE:** The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.



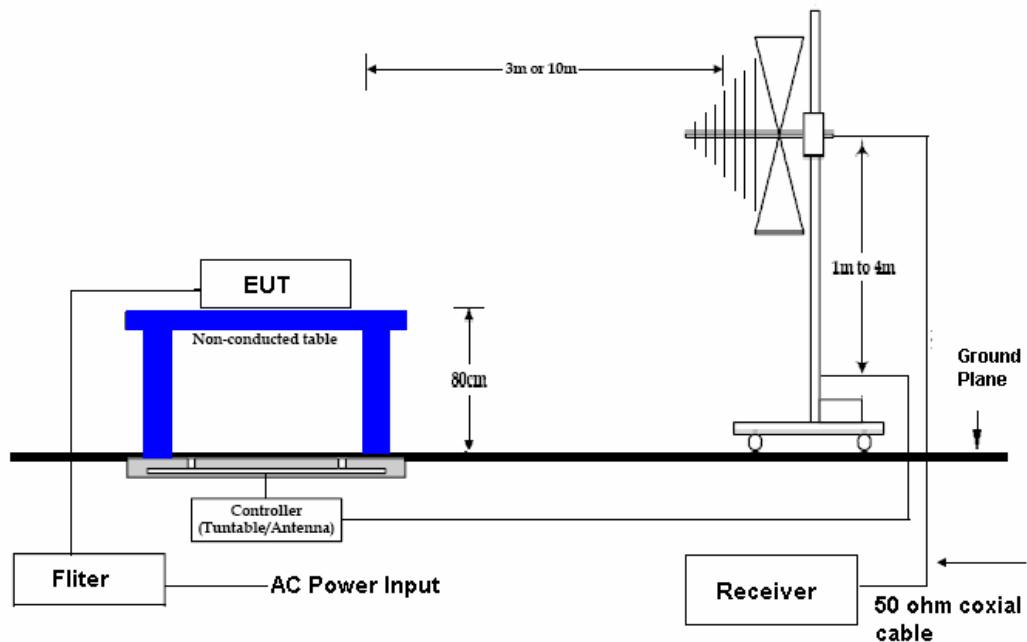
**Spectrum Research &  
Testing Lab., Inc.**  
No.167,Ln. 780, Shan-Tong  
Rd.,Ling 8, Shan-Tong Li,  
Chung-Li City, Taoyuan County  
320, Taiwan (R.O.C.)

# TEST REPORT

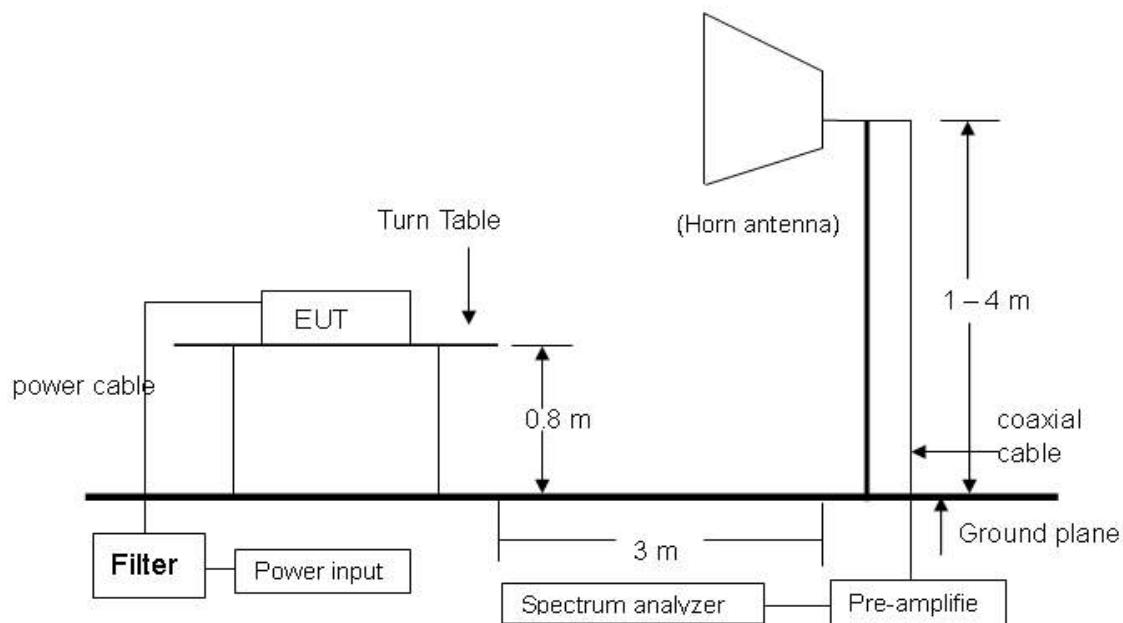
Reference No.: A15102101  
Report No.: FCCA15102101  
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## 4.2.3 TEST SET-UP

30 MHz ~ 1 GHz



Above 1 GHz



**NOTE:** The EUT system was put on a wooden table with 0.8m heights above a ground plane.  
For the actual test configuration, please refer to the photos of testing.

|  |                    |  |
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#### 4.2.4 TEST PROCEDURE

The EUT was tested according to the requirement of ANSI C63.4:2003 and CISPR 22:2003. The measurements were made at an open area test site with 3 meter measurement distance under 1 GHz and with 3m distance above 1GHz. The frequency spectrum measured started from 30 MHz to 1 GHz, all readings were quasi-peak values with 120 kHz resolution bandwidth of the test receiver. Above 1 GHz, the measurements were made at an open area test site with 3 meter measurement distance and all readings were peak or average values with 1 MHz resolution bandwidth of the test receiver. The EUT system was operated in all typical methods by users. The cables connected to EUT and support units were moved to find the maximum emission levels for each frequency. First, find the margin or higher points at least 6 points by software, then use manual to find the maximum data. The procedure is referred on the test procedure of SRT LAB.

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#### 4.2.5 TEST RESULT

|                  |              |               |                            |
|------------------|--------------|---------------|----------------------------|
| Temperature:     | 21 °C        | Humidity:     | 62 %RH                     |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11b_CH01 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                    |
| Tested By:       | Richard Lin  | Tested Date:  | Nov. 24, 2015              |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ(°) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|-------|-------|
| 70.42           | 1.56            | 8.40                  | 23.45                     | 33.41                         | 40                   | -6.59       | 308   | 3.49  |
| 85.99           | 1.69            | 8.35                  | 19.94                     | 29.98                         | 40                   | -10.03      | 123   | 3.45  |
| 150.18          | 2.14            | 12.50                 | 15.62                     | 30.26                         | 44                   | -13.24      | 299   | 3.21  |
| 514.56          | 4.43            | 18.08                 | 14.55                     | 37.05                         | 46                   | -8.95       | 171   | 2.52  |
| 647.27          | 5.08            | 20.16                 | 5.61                      | 30.84                         | 46                   | -15.16      | 28    | 2.07  |
| 758.03          | 5.64            | 21.63                 | 3.79                      | 31.06                         | 46                   | -14.94      | 110   | 1.73  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ(°) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|-------|-------|
| 66.74           | 1.54            | 9.56                  | 15.26                     | 26.36                         | 40                   | -13.64      | 133   | 1.14  |
| 74.88           | 1.59            | 8.20                  | 16.62                     | 26.41                         | 40                   | -13.59      | 264   | 1.18  |
| 399.25          | 3.80            | 16.27                 | 5.58                      | 25.65                         | 46                   | -20.35      | 78    | 2.19  |
| 514.07          | 4.43            | 18.08                 | 16.15                     | 38.65                         | 46                   | -7.35       | 218   | 2.53  |
| 742.48          | 5.56            | 21.36                 | 5.69                      | 32.61                         | 46                   | -13.39      | 56    | 3.22  |
| 935.19          | 6.46            | 24.71                 | 3.93                      | 35.10                         | 46                   | -10.90      | 175   | 3.47  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

|   |                      |  |
|---|----------------------|--|
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|---|----------------------|--|

|                  |              |               |                            |
|------------------|--------------|---------------|----------------------------|
| Temperature:     | 21 °C        | Humidity:     | 62 %RH                     |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11b_CH06 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                    |
| Tested By:       | Richard Lin  | Tested Date:  | Nov. 24, 2015              |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 75.85           | 1.60            | 8.15                  | 25.38                     | 35.13                         | 40                   | -4.87       | 173              | 3.49  |
| 155.60          | 2.18            | 12.35                 | 15.82                     | 30.35                         | 44                   | -13.16      | 292              | 3.21  |
| 380.26          | 3.67            | 15.66                 | 12.18                     | 31.51                         | 46                   | -14.49      | 80               | 2.93  |
| 400.14          | 3.81            | 16.30                 | 11.70                     | 31.81                         | 46                   | -14.19      | 317              | 2.85  |
| 515.83          | 4.43            | 18.11                 | 15.16                     | 37.70                         | 46                   | -8.30       | 275              | 2.51  |
| 648.05          | 5.08            | 20.17                 | 4.73                      | 29.98                         | 46                   | -16.02      | 46               | 2.07  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 58.52           | 1.51            | 11.94                 | 11.14                     | 24.59                         | 40                   | -15.41      | 55               | 1.08  |
| 65.17           | 1.54            | 9.85                  | 14.08                     | 25.47                         | 40                   | -14.53      | 216              | 1.13  |
| 83.94           | 1.67            | 8.17                  | 20.53                     | 30.37                         | 40                   | -9.63       | 305              | 1.20  |
| 497.48          | 4.34            | 17.57                 | 8.48                      | 30.39                         | 46                   | -15.62      | 342              | 2.44  |
| 518.58          | 4.45            | 18.21                 | 12.54                     | 35.20                         | 46                   | -10.80      | 169              | 2.57  |
| 936.85          | 6.47            | 24.74                 | 3.78                      | 34.98                         | 46                   | -11.02      | 29               | 3.46  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

|   |                      |  |
|---|----------------------|--|
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|---|----------------------|--|

|                  |              |               |                            |
|------------------|--------------|---------------|----------------------------|
| Temperature:     | 21 °C        | Humidity:     | 62 %RH                     |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11b_CH11 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                    |
| Tested By:       | Richard Lin  | Tested Date:  | Nov. 24, 2015              |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 58.05           | 1.51            | 11.94                 | 12.08                     | 25.53                         | 40                   | -14.47      | 313              | 3.40  |
| 74.25           | 1.59            | 8.20                  | 20.38                     | 30.17                         | 40                   | -9.83       | 102              | 3.28  |
| 151.42          | 2.15            | 12.47                 | 15.55                     | 30.17                         | 44                   | -13.33      | 197              | 3.21  |
| 315.78          | 3.21            | 13.86                 | 11.44                     | 28.51                         | 46                   | -17.50      | 159              | 3.15  |
| 515.44          | 4.43            | 18.11                 | 14.66                     | 37.20                         | 46                   | -8.80       | 278              | 2.54  |
| 648.60          | 5.08            | 20.17                 | 4.23                      | 29.48                         | 46                   | -16.52      | 75               | 2.10  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 58.60           | 1.51            | 11.94                 | 12.15                     | 25.60                         | 40                   | -14.40      | 248              | 1.08  |
| 65.68           | 1.54            | 9.85                  | 13.70                     | 25.09                         | 40                   | -14.91      | 194              | 1.12  |
| 81.83           | 1.65            | 7.99                  | 14.76                     | 24.40                         | 40                   | -15.60      | 288              | 1.14  |
| 350.21          | 3.45            | 14.70                 | 12.16                     | 30.31                         | 46                   | -15.69      | 331              | 1.95  |
| 450.29          | 4.10            | 17.10                 | 10.35                     | 31.55                         | 46                   | -14.45      | 55               | 2.37  |
| 759.94          | 5.64            | 21.64                 | 3.73                      | 31.01                         | 46                   | -14.99      | 173              | 3.29  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

|   |                      |  |
|---|----------------------|--|
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|---|----------------------|--|

|                  |              |               |                            |
|------------------|--------------|---------------|----------------------------|
| Temperature:     | 21 °C        | Humidity:     | 62 %RH                     |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11g_CH01 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                    |
| Tested By:       | Richard Lin  | Tested Date:  | Nov. 24, 2015              |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 58.81           | 1.51            | 11.94                 | 11.78                     | 25.23                         | 40                   | -14.77      | 96               | 3.47  |
| 76.06           | 1.61            | 8.10                  | 19.94                     | 29.65                         | 40                   | -10.35      | 144              | 3.30  |
| 151.41          | 2.15            | 12.47                 | 15.43                     | 30.05                         | 44                   | -13.45      | 38               | 3.22  |
| 316.57          | 3.21            | 13.88                 | 11.86                     | 28.96                         | 46                   | -17.04      | 293              | 3.05  |
| 495.20          | 4.33            | 17.55                 | 7.91                      | 29.79                         | 46                   | -16.22      | 321              | 2.59  |
| 522.18          | 4.47            | 18.35                 | 9.74                      | 32.56                         | 46                   | -13.44      | 246              | 2.46  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 59.84           | 1.52            | 11.62                 | 11.88                     | 25.02                         | 40                   | -14.98      | 168              | 1.10  |
| 66.12           | 1.54            | 9.56                  | 15.24                     | 26.34                         | 40                   | -13.66      | 264              | 1.13  |
| 341.86          | 3.39            | 14.48                 | 5.15                      | 23.02                         | 46                   | -22.98      | 73               | 1.95  |
| 370.69          | 3.59            | 15.34                 | 5.20                      | 24.13                         | 46                   | -21.87      | 215              | 2.06  |
| 517.39          | 4.45            | 18.18                 | 14.30                     | 36.92                         | 46                   | -9.08       | 117              | 2.54  |
| 743.54          | 5.56            | 21.39                 | 3.53                      | 30.48                         | 46                   | -15.52      | 307              | 3.28  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

|   |                      |  |
|---|----------------------|--|
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|---|----------------------|--|

|                  |              |               |                            |
|------------------|--------------|---------------|----------------------------|
| Temperature:     | 21 °C        | Humidity:     | 62 %RH                     |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11g_CH06 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                    |
| Tested By:       | Richard Lin  | Tested Date:  | Nov. 24, 2015              |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 58.77           | 1.51            | 11.94                 | 11.13                     | 24.58                         | 40                   | -15.42      | 87               | 3.47  |
| 75.25           | 1.60            | 8.15                  | 23.86                     | 33.61                         | 40                   | -6.39       | 314              | 3.25  |
| 151.16          | 2.15            | 12.47                 | 15.49                     | 30.11                         | 44                   | -13.39      | 129              | 3.18  |
| 327.15          | 3.29            | 14.15                 | 10.91                     | 28.35                         | 46                   | -17.65      | 172              | 3.08  |
| 515.76          | 4.43            | 18.11                 | 12.72                     | 35.26                         | 46                   | -10.74      | 278              | 2.51  |
| 696.86          | 5.30            | 20.11                 | 4.06                      | 29.47                         | 46                   | -16.53      | 295              | 1.93  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 58.95           | 1.51            | 11.94                 | 12.77                     | 26.22                         | 40                   | -13.78      | 145              | 1.08  |
| 70.87           | 1.56            | 8.40                  | 18.49                     | 28.45                         | 40                   | -11.55      | 342              | 1.12  |
| 79.35           | 1.63            | 7.95                  | 23.67                     | 33.25                         | 40                   | -6.75       | 260              | 1.17  |
| 250.05          | 2.79            | 12.70                 | 9.34                      | 24.83                         | 46                   | -21.17      | 107              | 1.69  |
| 514.56          | 4.43            | 18.08                 | 12.74                     | 35.24                         | 46                   | -10.76      | 45               | 2.48  |
| 759.88          | 5.64            | 21.64                 | 3.31                      | 30.59                         | 46                   | -15.41      | 194              | 3.27  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

|   |                      |  |
|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 47 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                  |              |               |                            |
|------------------|--------------|---------------|----------------------------|
| Temperature:     | 21 °C        | Humidity:     | 62 %RH                     |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11g_CH11 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                    |
| Tested By:       | Richard Lin  | Tested Date:  | Nov. 24, 2015              |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 75.33           | 1.60            | 8.15                  | 20.83                     | 30.58                         | 40                   | -9.42       | 242              | 3.45  |
| 85.73           | 1.69            | 8.35                  | 23.92                     | 33.96                         | 40                   | -6.05       | 108              | 3.41  |
| 151.66          | 2.15            | 12.47                 | 17.73                     | 32.35                         | 44                   | -11.15      | 54               | 3.20  |
| 380.27          | 3.67            | 15.66                 | 10.67                     | 30.00                         | 46                   | -16.00      | 323              | 2.93  |
| 493.09          | 4.32            | 17.53                 | 8.70                      | 30.55                         | 46                   | -15.46      | 173              | 2.58  |
| 515.17          | 4.43            | 18.11                 | 18.44                     | 40.98                         | 46                   | -5.02       | 145              | 2.51  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 55.58           | 1.51            | 12.90                 | 12.41                     | 26.82                         | 40                   | -13.19      | 218              | 1.07  |
| 73.17           | 1.58            | 8.25                  | 18.44                     | 28.27                         | 40                   | -11.73      | 182              | 1.12  |
| 81.54           | 1.65            | 7.99                  | 24.49                     | 34.13                         | 40                   | -5.87       | 307              | 1.17  |
| 333.26          | 3.33            | 14.29                 | 5.61                      | 23.23                         | 46                   | -22.77      | 113              | 1.96  |
| 350.41          | 3.45            | 14.70                 | 5.95                      | 24.10                         | 46                   | -21.90      | 261              | 2.00  |
| 522.16          | 4.47            | 18.35                 | 13.10                     | 35.92                         | 46                   | -10.08      | 320              | 2.59  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 48 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                  |              |               |                                   |
|------------------|--------------|---------------|-----------------------------------|
| Temperature:     | 21 °C        | Humidity:     | 62 %RH                            |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT20_CH01 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                           |
| Tested By:       | Richard Lin  | Tested Date:  | Nov. 24, 2015                     |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 59.90           | 1.52            | 11.62                 | 12.05                     | 25.19                         | 40                   | -14.81      | 342              | 3.49  |
| 74.12           | 1.59            | 8.20                  | 20.66                     | 30.45                         | 40                   | -9.55       | 174              | 3.42  |
| 151.39          | 2.15            | 12.47                 | 16.75                     | 31.37                         | 44                   | -12.13      | 252              | 3.21  |
| 380.46          | 3.67            | 15.66                 | 10.35                     | 29.68                         | 46                   | -16.32      | 140              | 2.95  |
| 400.91          | 3.81            | 16.30                 | 9.37                      | 29.48                         | 46                   | -16.52      | 167              | 2.84  |
| 516.28          | 4.44            | 18.14                 | 6.88                      | 29.46                         | 46                   | -16.54      | 58               | 2.57  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 65.66           | 1.54            | 9.85                  | 14.48                     | 25.87                         | 40                   | -14.13      | 162              | 1.12  |
| 76.38           | 1.61            | 8.10                  | 17.28                     | 26.99                         | 40                   | -13.01      | 116              | 1.16  |
| 341.27          | 3.39            | 14.48                 | 6.54                      | 24.41                         | 46                   | -21.59      | 336              | 1.95  |
| 380.90          | 3.67            | 15.66                 | 12.87                     | 32.20                         | 46                   | -13.80      | 70               | 2.08  |
| 400.72          | 3.81            | 16.30                 | 13.13                     | 33.24                         | 46                   | -12.76      | 238              | 2.17  |
| 520.30          | 4.46            | 18.28                 | 11.55                     | 34.29                         | 46                   | -11.71      | 197              | 2.53  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/> No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 49 of 216<br>Date: Dec. 22, 2015 |
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|                  |              |               |                                   |
|------------------|--------------|---------------|-----------------------------------|
| Temperature:     | 21 °C        | Humidity:     | 62 %RH                            |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT20_CH06 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                           |
| Tested By:       | Richard Lin  | Tested Date:  | Nov. 24, 2015                     |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 58.58           | 1.51            | 11.94                 | 12.35                     | 25.80                         | 40                   | -14.20      | 291              | 3.48  |
| 68.47           | 1.55            | 8.98                  | 18.60                     | 29.13                         | 40                   | -10.87      | 312              | 3.40  |
| 76.66           | 1.61            | 8.10                  | 23.17                     | 32.88                         | 40                   | -7.12       | 199              | 3.27  |
| 151.70          | 2.15            | 12.47                 | 15.32                     | 29.94                         | 44                   | -13.56      | 190              | 3.10  |
| 350.50          | 3.45            | 14.70                 | 10.14                     | 28.29                         | 46                   | -17.71      | 32               | 3.01  |
| 515.43          | 4.43            | 18.11                 | 15.11                     | 37.65                         | 46                   | -8.35       | 168              | 2.52  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 65.18           | 1.54            | 9.85                  | 13.76                     | 25.15                         | 40                   | -14.85      | 162              | 1.13  |
| 81.19           | 1.65            | 7.99                  | 20.27                     | 29.91                         | 40                   | -10.09      | 287              | 1.17  |
| 384.91          | 3.69            | 15.79                 | 11.49                     | 30.97                         | 46                   | -15.03      | 32               | 2.11  |
| 400.93          | 3.81            | 16.30                 | 14.43                     | 34.54                         | 46                   | -11.46      | 81               | 2.16  |
| 450.32          | 4.10            | 17.10                 | 6.19                      | 27.39                         | 46                   | -18.61      | 321              | 2.30  |
| 743.68          | 5.56            | 21.39                 | 3.20                      | 30.15                         | 46                   | -15.85      | 249              | 3.20  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 50 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                  |              |               |                                   |
|------------------|--------------|---------------|-----------------------------------|
| Temperature:     | 21 °C        | Humidity:     | 62 %RH                            |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT20_CH11 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                           |
| Tested By:       | Richard Lin  | Tested Date:  | Nov. 24, 2015                     |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 74.31           | 1.59            | 8.20                  | 17.76                     | 27.55                         | 40                   | -12.45      | 263              | 3.48  |
| 151.86          | 2.15            | 12.47                 | 16.19                     | 30.81                         | 44                   | -12.69      | 42               | 3.20  |
| 300.48          | 3.10            | 13.50                 | 11.60                     | 28.20                         | 46                   | -17.80      | 80               | 2.97  |
| 522.61          | 4.47            | 18.35                 | 8.45                      | 31.27                         | 46                   | -14.73      | 298              | 2.46  |
| 648.72          | 5.08            | 20.17                 | 5.72                      | 30.97                         | 46                   | -15.03      | 328              | 2.08  |
| 743.10          | 5.56            | 21.39                 | 3.17                      | 30.12                         | 46                   | -15.88      | 115              | 1.76  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 55.19           | 1.51            | 12.90                 | 12.86                     | 27.27                         | 40                   | -12.74      | 62               | 1.09  |
| 79.25           | 1.63            | 7.95                  | 15.91                     | 25.49                         | 40                   | -14.51      | 37               | 1.13  |
| 370.63          | 3.59            | 15.34                 | 9.87                      | 28.80                         | 46                   | -17.20      | 139              | 2.06  |
| 400.75          | 3.81            | 16.30                 | 18.84                     | 38.95                         | 46                   | -7.05       | 316              | 2.18  |
| 425.67          | 3.96            | 16.70                 | 10.81                     | 31.47                         | 46                   | -14.54      | 216              | 2.25  |
| 516.18          | 4.44            | 18.14                 | 14.06                     | 36.64                         | 46                   | -9.36       | 299              | 2.49  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 51 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                  |              |               |                                   |
|------------------|--------------|---------------|-----------------------------------|
| Temperature:     | 21 °C        | Humidity:     | 62 %RH                            |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT40_CH03 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                           |
| Tested By:       | Richard Lin  | Tested Date:  | Nov. 24, 2015                     |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 57.70           | 1.51            | 12.26                 | 11.53                     | 25.30                         | 40                   | -14.70      | 254              | 3.46  |
| 72.82           | 1.58            | 8.30                  | 21.09                     | 30.97                         | 40                   | -9.03       | 131              | 3.25  |
| 150.94          | 2.14            | 12.50                 | 16.29                     | 30.93                         | 44                   | -12.57      | 196              | 3.20  |
| 349.73          | 3.44            | 14.68                 | 13.27                     | 31.39                         | 46                   | -14.61      | 103              | 3.02  |
| 399.05          | 3.80            | 16.27                 | 12.93                     | 33.00                         | 46                   | -13.00      | 55               | 2.87  |
| 515.67          | 4.43            | 18.11                 | 18.19                     | 40.73                         | 46                   | -5.27       | 342              | 2.52  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 55.39           | 1.51            | 12.90                 | 10.89                     | 25.30                         | 40                   | -14.71      | 184              | 1.09  |
| 64.04           | 1.54            | 10.14                 | 15.29                     | 26.97                         | 40                   | -13.03      | 76               | 1.10  |
| 77.28           | 1.62            | 8.05                  | 16.74                     | 26.41                         | 40                   | -13.59      | 43               | 1.18  |
| 513.99          | 4.42            | 18.04                 | 12.86                     | 35.32                         | 46                   | -10.68      | 318              | 2.51  |
| 520.51          | 4.46            | 18.28                 | 7.78                      | 30.52                         | 46                   | -15.48      | 297              | 2.55  |
| 758.63          | 5.64            | 21.63                 | 3.20                      | 30.47                         | 46                   | -15.53      | 245              | 3.24  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

|   |                      |  |
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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 52 of 216<br>Date: Dec. 22, 2015 |
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|                  |              |               |                                   |
|------------------|--------------|---------------|-----------------------------------|
| Temperature:     | 21 °C        | Humidity:     | 62 %RH                            |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT40_CH06 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                           |
| Tested By:       | Richard Lin  | Tested Date:  | Nov. 24, 2015                     |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 56.30           | 1.51            | 12.58                 | 12.48                     | 26.57                         | 40                   | -13.43      | 65               | 3.45  |
| 72.86           | 1.58            | 8.30                  | 20.16                     | 30.04                         | 40                   | -9.96       | 237              | 3.20  |
| 100.12          | 1.80            | 9.80                  | 15.51                     | 27.11                         | 44                   | -16.39      | 130              | 3.18  |
| 150.07          | 2.14            | 12.50                 | 16.30                     | 30.94                         | 44                   | -12.56      | 313              | 3.07  |
| 491.95          | 4.31            | 17.51                 | 11.32                     | 33.14                         | 46                   | -12.87      | 281              | 2.55  |
| 514.09          | 4.43            | 18.08                 | 15.82                     | 38.32                         | 46                   | -7.68       | 181              | 2.51  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 54.37           | 1.50            | 13.22                 | 10.53                     | 25.25                         | 40                   | -14.75      | 72               | 1.09  |
| 77.01           | 1.62            | 8.05                  | 18.60                     | 28.27                         | 40                   | -11.73      | 103              | 1.16  |
| 379.55          | 3.66            | 15.63                 | 7.43                      | 26.72                         | 46                   | -19.28      | 320              | 2.07  |
| 490.92          | 4.30            | 17.50                 | 8.13                      | 29.93                         | 46                   | -16.07      | 253              | 2.44  |
| 516.83          | 4.44            | 18.14                 | 11.44                     | 34.02                         | 46                   | -11.98      | 198              | 2.52  |
| 742.02          | 5.56            | 21.36                 | 3.55                      | 30.47                         | 46                   | -15.53      | 146              | 3.25  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

|   |                      |  |
|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 53 of 216<br>Date: Dec. 22, 2015 |
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|                  |              |               |                                   |
|------------------|--------------|---------------|-----------------------------------|
| Temperature:     | 21 °C        | Humidity:     | 62 %RH                            |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT40_CH09 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                           |
| Tested By:       | Richard Lin  | Tested Date:  | Nov. 24, 2015                     |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 57.05           | 1.51            | 12.26                 | 10.36                     | 24.13                         | 40                   | -15.87      | 317              | 3.48  |
| 70.63           | 1.56            | 8.40                  | 17.20                     | 27.16                         | 40                   | -12.84      | 144              | 3.36  |
| 100.18          | 1.80            | 9.80                  | 16.45                     | 28.05                         | 44                   | -15.45      | 263              | 3.29  |
| 150.97          | 2.14            | 12.50                 | 15.07                     | 29.71                         | 44                   | -13.79      | 53               | 3.21  |
| 488.70          | 4.29            | 17.48                 | 10.27                     | 32.04                         | 46                   | -13.96      | 109              | 2.55  |
| 515.23          | 4.43            | 18.11                 | 15.76                     | 38.30                         | 46                   | -7.70       | 258              | 2.52  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 57.40           | 1.51            | 12.26                 | 13.18                     | 26.95                         | 40                   | -13.05      | 71               | 1.09  |
| 74.93           | 1.59            | 8.20                  | 16.13                     | 25.92                         | 40                   | -14.08      | 190              | 1.13  |
| 407.17          | 3.85            | 16.41                 | 7.45                      | 27.71                         | 46                   | -18.29      | 256              | 2.15  |
| 517.28          | 4.45            | 18.18                 | 17.22                     | 39.84                         | 46                   | -6.16       | 122              | 2.56  |
| 742.94          | 5.56            | 21.36                 | 3.10                      | 30.02                         | 46                   | -15.98      | 57               | 3.21  |
| 791.70          | 5.78            | 21.76                 | 3.42                      | 30.96                         | 46                   | -15.04      | 225              | 3.34  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 54 of 216<br>Date: Dec. 22, 2015 |
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|                  |              |               |                                |
|------------------|--------------|---------------|--------------------------------|
| Temperature:     | 24 °C        | Humidity:     | 61 %RH                         |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11b _CH01 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                        |
| Tested By:       | Richard Lin  | Tested Date:  | Oct. 30, 2015                  |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 77.24           | 1.62            | 8.05                  | 18.08                     | 27.75                         | 40                   | -12.25      | 129              | 3.55  |
| 180.76          | 2.32            | 10.30                 | 20.34                     | 32.96                         | 44                   | -10.54      | 41               | 3.41  |
| 197.35          | 2.43            | 11.37                 | 22.49                     | 36.29                         | 44                   | -7.21       | 240              | 3.27  |
| 326.02          | 3.28            | 14.12                 | 14.62                     | 32.03                         | 46                   | -13.97      | 167              | 3.04  |
| 349.97          | 3.44            | 14.68                 | 13.48                     | 31.60                         | 46                   | -14.40      | 58               | 2.88  |
| 516.41          | 4.44            | 18.14                 | 10.00                     | 32.58                         | 46                   | -13.42      | 302              | 2.46  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 49.52           | 1.49            | 14.97                 | 8.96                      | 25.42                         | 40                   | -14.59      | 118              | 1.05  |
| 59.84           | 1.52            | 11.62                 | 15.40                     | 28.54                         | 40                   | -11.46      | 272              | 1.13  |
| 82.02           | 1.66            | 8.08                  | 20.09                     | 29.83                         | 40                   | -10.17      | 180              | 1.35  |
| 312.71          | 3.18            | 13.79                 | 16.54                     | 33.51                         | 46                   | -12.49      | 255              | 1.86  |
| 332.45          | 3.32            | 14.27                 | 17.68                     | 35.27                         | 46                   | -10.73      | 41               | 1.92  |
| 352.08          | 3.46            | 14.76                 | 15.63                     | 33.86                         | 46                   | -12.14      | 321              | 2.04  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

|   |                      |  |
|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 55 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                  |              |               |                                |
|------------------|--------------|---------------|--------------------------------|
| Temperature:     | 24 °C        | Humidity:     | 61 %RH                         |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11b _CH06 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                        |
| Tested By:       | Richard Lin  | Tested Date:  | Oct. 30, 2015                  |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 78.15           | 1.62            | 8.00                  | 17.97                     | 27.59                         | 40                   | -12.41      | 229              | 3.61  |
| 148.80          | 2.13            | 12.48                 | 16.64                     | 31.25                         | 44                   | -12.25      | 330              | 3.52  |
| 180.35          | 2.32            | 10.30                 | 23.75                     | 36.37                         | 44                   | -7.13       | 241              | 3.38  |
| 197.99          | 2.43            | 11.37                 | 24.01                     | 37.81                         | 44                   | -5.69       | 105              | 3.12  |
| 208.04          | 2.51            | 11.94                 | 20.06                     | 34.51                         | 44                   | -8.99       | 91               | 2.97  |
| 515.63          | 4.43            | 18.11                 | 14.12                     | 36.66                         | 46                   | -9.34       | 167              | 2.54  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 59.96           | 1.52            | 11.62                 | 15.95                     | 29.09                         | 40                   | -10.91      | 357              | 1.08  |
| 83.13           | 1.67            | 8.17                  | 18.76                     | 28.60                         | 40                   | -11.40      | 47               | 1.18  |
| 197.02          | 2.43            | 11.37                 | 16.72                     | 30.52                         | 44                   | -12.98      | 128              | 1.53  |
| 306.77          | 3.14            | 13.64                 | 16.46                     | 33.25                         | 46                   | -12.75      | 59               | 1.84  |
| 337.92          | 3.36            | 14.39                 | 17.70                     | 35.45                         | 46                   | -10.55      | 193              | 1.97  |
| 352.51          | 3.46            | 14.76                 | 15.14                     | 33.37                         | 46                   | -12.63      | 224              | 2.04  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 56 of 216<br>Date: Dec. 22, 2015 |
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|                  |              |               |                                |
|------------------|--------------|---------------|--------------------------------|
| Temperature:     | 24 °C        | Humidity:     | 61 %RH                         |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11b _CH11 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                        |
| Tested By:       | Richard Lin  | Tested Date:  | Oct. 30, 2015                  |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 59.90           | 1.52            | 11.62                 | 12.90                     | 26.04                         | 40                   | -13.96      | 219              | 3.62  |
| 78.43           | 1.62            | 8.00                  | 19.13                     | 28.75                         | 40                   | -11.25      | 305              | 3.44  |
| 180.52          | 2.32            | 10.30                 | 25.04                     | 37.66                         | 44                   | -5.84       | 74               | 3.35  |
| 197.46          | 2.43            | 11.37                 | 24.01                     | 37.81                         | 44                   | -5.69       | 184              | 3.21  |
| 222.85          | 2.59            | 12.68                 | 16.56                     | 31.83                         | 46                   | -14.17      | 330              | 3.06  |
| 256.07          | 2.83            | 12.82                 | 16.14                     | 31.79                         | 46                   | -14.21      | 246              | 2.88  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 58.99           | 1.51            | 11.94                 | 15.66                     | 29.11                         | 40                   | -10.89      | 132              | 1.10  |
| 83.08           | 1.67            | 8.17                  | 19.74                     | 29.58                         | 40                   | -10.42      | 78               | 1.25  |
| 192.72          | 2.39            | 10.82                 | 18.09                     | 31.30                         | 44                   | -12.20      | 44               | 1.53  |
| 198.85          | 2.44            | 11.48                 | 17.31                     | 31.23                         | 44                   | -12.27      | 162              | 1.76  |
| 310.30          | 3.17            | 13.74                 | 16.53                     | 33.44                         | 46                   | -12.56      | 78               | 1.92  |
| 331.26          | 3.32            | 14.24                 | 16.65                     | 34.21                         | 46                   | -11.79      | 250              | 2.13  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 57 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                  |              |               |                                |
|------------------|--------------|---------------|--------------------------------|
| Temperature:     | 24 °C        | Humidity:     | 61 %RH                         |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11g _CH01 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                        |
| Tested By:       | Richard Lin  | Tested Date:  | Oct. 30, 2015                  |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 57.44           | 1.51            | 12.26                 | 12.65                     | 26.42                         | 40                   | -13.58      | 300              | 3.62  |
| 78.78           | 1.62            | 8.00                  | 20.84                     | 30.46                         | 40                   | -9.54       | 152              | 3.51  |
| 149.90          | 2.13            | 12.49                 | 16.28                     | 30.90                         | 44                   | -12.60      | 137              | 3.38  |
| 164.21          | 2.23            | 11.76                 | 20.09                     | 34.08                         | 44                   | -9.42       | 67               | 3.10  |
| 184.37          | 2.34            | 10.42                 | 24.07                     | 36.83                         | 44                   | -6.67       | 244              | 2.97  |
| 198.54          | 2.44            | 11.48                 | 24.47                     | 38.39                         | 44                   | -5.11       | 308              | 2.75  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 58.84           | 1.51            | 11.94                 | 14.74                     | 28.19                         | 40                   | -11.81      | 90               | 1.08  |
| 78.96           | 1.62            | 8.00                  | 18.55                     | 28.17                         | 40                   | -11.83      | 267              | 1.19  |
| 198.51          | 2.44            | 11.48                 | 17.45                     | 31.37                         | 44                   | -12.13      | 42               | 1.53  |
| 329.84          | 3.30            | 14.20                 | 17.20                     | 34.70                         | 46                   | -11.30      | 350              | 1.92  |
| 341.62          | 3.39            | 14.48                 | 16.56                     | 34.43                         | 46                   | -11.57      | 155              | 2.04  |
| 447.30          | 4.08            | 17.05                 | 15.90                     | 37.03                         | 46                   | -8.97       | 70               | 2.28  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 58 of 216<br>Date: Dec. 22, 2015 |
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|                  |              |               |                                |
|------------------|--------------|---------------|--------------------------------|
| Temperature:     | 24 °C        | Humidity:     | 61 %RH                         |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11g _CH06 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                        |
| Tested By:       | Richard Lin  | Tested Date:  | Oct. 30, 2015                  |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 78.50           | 1.62            | 8.00                  | 19.62                     | 29.24                         | 40                   | -10.76      | 225              | 3.65  |
| 148.81          | 2.13            | 12.48                 | 15.27                     | 29.88                         | 44                   | -13.62      | 337              | 3.41  |
| 176.34          | 2.30            | 10.62                 | 26.00                     | 38.92                         | 44                   | -4.58       | 61               | 3.28  |
| 198.69          | 2.44            | 11.48                 | 25.43                     | 39.35                         | 44                   | -4.15       | 245              | 3.01  |
| 320.54          | 3.24            | 13.98                 | 15.38                     | 32.60                         | 46                   | -13.40      | 148              | 2.95  |
| 514.88          | 4.43            | 18.08                 | 13.89                     | 36.39                         | 46                   | -9.61       | 75               | 2.52  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 58.49           | 1.51            | 11.94                 | 15.12                     | 28.57                         | 40                   | -11.43      | 91               | 1.08  |
| 79.92           | 1.63            | 7.95                  | 19.17                     | 28.75                         | 40                   | -11.25      | 137              | 1.17  |
| 198.14          | 2.44            | 11.48                 | 16.34                     | 30.26                         | 44                   | -13.24      | 286              | 1.54  |
| 317.60          | 3.22            | 13.91                 | 16.92                     | 34.05                         | 46                   | -11.95      | 140              | 1.87  |
| 339.38          | 3.37            | 14.44                 | 16.16                     | 33.97                         | 46                   | -12.03      | 350              | 1.99  |
| 796.54          | 5.80            | 21.78                 | 4.62                      | 32.21                         | 46                   | -13.79      | 281              | 3.02  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 59 of 216<br>Date: Dec. 22, 2015 |
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|                  |              |               |                                |
|------------------|--------------|---------------|--------------------------------|
| Temperature:     | 24 °C        | Humidity:     | 61 %RH                         |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11g _CH11 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                        |
| Tested By:       | Richard Lin  | Tested Date:  | Oct. 30, 2015                  |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 78.70           | 1.62            | 8.00                  | 19.41                     | 29.03                         | 40                   | -10.97      | 105              | 3.62  |
| 164.61          | 2.23            | 11.76                 | 16.68                     | 30.67                         | 44                   | -12.83      | 72               | 3.50  |
| 175.84          | 2.30            | 10.70                 | 24.30                     | 37.30                         | 44                   | -6.21       | 341              | 3.37  |
| 185.97          | 2.35            | 10.45                 | 25.14                     | 37.94                         | 44                   | -5.56       | 94               | 3.29  |
| 198.23          | 2.44            | 11.48                 | 23.30                     | 37.22                         | 44                   | -6.28       | 244              | 3.02  |
| 322.16          | 3.25            | 14.03                 | 14.76                     | 32.04                         | 46                   | -13.96      | 197              | 2.94  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 56.35           | 1.51            | 12.58                 | 15.09                     | 29.18                         | 40                   | -10.82      | 332              | 1.08  |
| 82.18           | 1.66            | 8.08                  | 19.30                     | 29.04                         | 40                   | -10.96      | 67               | 1.19  |
| 197.96          | 2.43            | 11.37                 | 17.25                     | 31.05                         | 44                   | -12.45      | 289              | 1.50  |
| 329.05          | 3.30            | 14.20                 | 16.96                     | 34.46                         | 46                   | -11.54      | 140              | 1.78  |
| 343.44          | 3.40            | 14.53                 | 16.70                     | 34.63                         | 46                   | -11.37      | 269              | 1.96  |
| 423.82          | 3.94            | 16.67                 | 14.01                     | 34.62                         | 46                   | -11.38      | 155              | 2.22  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 60 of 216<br>Date: Dec. 22, 2015 |
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|                  |              |               |                                       |
|------------------|--------------|---------------|---------------------------------------|
| Temperature:     | 24 °C        | Humidity:     | 61 %RH                                |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT20 _CH01 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                               |
| Tested By:       | Richard Lin  | Tested Date:  | Oct. 30, 2015                         |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 56.58           | 1.51            | 12.58                 | 12.71                     | 26.80                         | 40                   | -13.20      | 115              | 3.60  |
| 77.94           | 1.62            | 8.05                  | 20.49                     | 30.16                         | 40                   | -9.84       | 62               | 3.54  |
| 151.10          | 2.15            | 12.47                 | 14.27                     | 28.89                         | 44                   | -14.61      | 80               | 3.39  |
| 181.57          | 2.33            | 10.33                 | 25.86                     | 38.52                         | 44                   | -4.98       | 147              | 3.15  |
| 197.22          | 2.43            | 11.37                 | 24.75                     | 38.55                         | 44                   | -4.95       | 249              | 3.02  |
| 314.46          | 3.20            | 13.84                 | 14.41                     | 31.44                         | 46                   | -14.56      | 125              | 2.88  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 56.63           | 1.51            | 12.58                 | 15.29                     | 29.38                         | 40                   | -10.62      | 331              | 1.08  |
| 82.07           | 1.66            | 8.08                  | 19.53                     | 29.27                         | 40                   | -10.73      | 236              | 1.19  |
| 197.75          | 2.43            | 11.37                 | 17.06                     | 30.86                         | 44                   | -12.64      | 49               | 1.46  |
| 331.33          | 3.32            | 14.24                 | 16.87                     | 34.43                         | 46                   | -11.57      | 272              | 1.85  |
| 347.08          | 3.43            | 14.63                 | 15.33                     | 33.39                         | 46                   | -12.61      | 350              | 1.99  |
| 514.69          | 4.43            | 18.08                 | 10.92                     | 33.42                         | 46                   | -12.58      | 160              | 2.46  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

|   |                      |  |
|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 61 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                  |              |               |                                       |
|------------------|--------------|---------------|---------------------------------------|
| Temperature:     | 24 °C        | Humidity:     | 61 %RH                                |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT20 _CH06 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                               |
| Tested By:       | Richard Lin  | Tested Date:  | Oct. 30, 2015                         |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 59.53           | 1.52            | 11.62                 | 13.75                     | 26.89                         | 40                   | -13.11      | 216              | 3.61  |
| 77.19           | 1.62            | 8.05                  | 19.39                     | 29.06                         | 40                   | -10.94      | 329              | 3.57  |
| 177.04          | 2.31            | 10.54                 | 23.94                     | 36.79                         | 44                   | -6.72       | 344              | 3.41  |
| 198.83          | 2.44            | 11.48                 | 23.57                     | 37.49                         | 44                   | -6.01       | 157              | 3.28  |
| 222.67          | 2.59            | 12.68                 | 15.56                     | 30.83                         | 46                   | -15.17      | 88               | 3.02  |
| 690.95          | 5.27            | 20.12                 | 10.13                     | 35.52                         | 46                   | -10.48      | 190              | 1.88  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 56.60           | 1.51            | 12.58                 | 15.49                     | 29.58                         | 40                   | -10.42      | 132              | 1.13  |
| 79.58           | 1.63            | 7.95                  | 18.74                     | 28.32                         | 40                   | -11.68      | 307              | 1.27  |
| 150.14          | 2.14            | 12.50                 | 20.90                     | 35.54                         | 44                   | -7.96       | 66               | 1.39  |
| 198.98          | 2.44            | 11.48                 | 17.88                     | 31.80                         | 44                   | -11.70      | 129              | 1.52  |
| 330.91          | 3.31            | 14.22                 | 18.66                     | 36.19                         | 46                   | -9.81       | 155              | 1.90  |
| 341.37          | 3.39            | 14.48                 | 16.16                     | 34.03                         | 46                   | -11.97      | 272              | 2.13  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 62 of 216<br>Date: Dec. 22, 2015 |
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|                  |              |               |                                       |
|------------------|--------------|---------------|---------------------------------------|
| Temperature:     | 24 °C        | Humidity:     | 61 %RH                                |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT20 _CH11 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                               |
| Tested By:       | Richard Lin  | Tested Date:  | Oct. 30, 2015                         |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 56.60           | 1.51            | 12.58                 | 11.61                     | 25.70                         | 40                   | -14.30      | 318              | 3.57  |
| 77.87           | 1.62            | 8.05                  | 21.20                     | 30.87                         | 40                   | -9.13       | 125              | 3.39  |
| 184.35          | 2.34            | 10.42                 | 24.45                     | 37.21                         | 44                   | -6.29       | 43               | 3.31  |
| 198.19          | 2.44            | 11.48                 | 23.82                     | 37.74                         | 44                   | -5.76       | 227              | 3.16  |
| 211.72          | 2.53            | 12.07                 | 16.94                     | 31.54                         | 44                   | -11.96      | 109              | 3.08  |
| 316.88          | 3.21            | 13.88                 | 14.72                     | 31.82                         | 46                   | -14.18      | 64               | 2.89  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 56.50           | 1.51            | 12.58                 | 15.78                     | 29.87                         | 40                   | -10.13      | 287              | 1.09  |
| 83.78           | 1.67            | 8.17                  | 20.26                     | 30.10                         | 40                   | -9.90       | 114              | 1.18  |
| 197.19          | 2.43            | 11.37                 | 16.78                     | 30.58                         | 44                   | -12.92      | 53               | 1.54  |
| 319.29          | 3.23            | 13.96                 | 15.76                     | 32.95                         | 46                   | -13.05      | 149              | 1.86  |
| 334.47          | 3.34            | 14.32                 | 16.58                     | 34.23                         | 46                   | -11.77      | 256              | 1.97  |
| 796.07          | 5.80            | 21.78                 | 3.90                      | 31.49                         | 46                   | -14.51      | 80               | 3.02  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 63 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                  |              |               |                                       |
|------------------|--------------|---------------|---------------------------------------|
| Temperature:     | 24 °C        | Humidity:     | 61 %RH                                |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT40 _CH03 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                               |
| Tested By:       | Richard Lin  | Tested Date:  | Oct. 30, 2015                         |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 57.40           | 1.51            | 12.26                 | 12.86                     | 26.63                         | 40                   | -13.37      | 212              | 3.62  |
| 77.13           | 1.62            | 8.05                  | 19.19                     | 28.86                         | 40                   | -11.14      | 77               | 3.50  |
| 185.78          | 2.35            | 10.45                 | 24.31                     | 37.11                         | 44                   | -6.39       | 245              | 3.39  |
| 197.34          | 2.43            | 11.37                 | 23.58                     | 37.38                         | 44                   | -6.12       | 140              | 3.21  |
| 212.95          | 2.53            | 12.14                 | 16.85                     | 31.52                         | 44                   | -11.98      | 68               | 3.02  |
| 338.60          | 3.37            | 14.41                 | 13.71                     | 31.49                         | 46                   | -14.51      | 249              | 2.88  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 57.94           | 1.51            | 12.26                 | 15.97                     | 29.74                         | 40                   | -10.26      | 332              | 1.07  |
| 82.01           | 1.66            | 8.08                  | 20.45                     | 30.19                         | 40                   | -9.81       | 57               | 1.15  |
| 188.34          | 2.37            | 10.54                 | 17.92                     | 30.83                         | 44                   | -12.67      | 193              | 1.47  |
| 198.90          | 2.44            | 11.48                 | 17.64                     | 31.56                         | 44                   | -11.94      | 284              | 1.50  |
| 319.22          | 3.23            | 13.96                 | 16.22                     | 33.41                         | 46                   | -12.59      | 125              | 1.83  |
| 331.71          | 3.32            | 14.24                 | 17.37                     | 34.93                         | 46                   | -11.07      | 61               | 1.98  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 64 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                  |              |               |                                       |
|------------------|--------------|---------------|---------------------------------------|
| Temperature:     | 24 °C        | Humidity:     | 61 %RH                                |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT40 _CH06 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                               |
| Tested By:       | Richard Lin  | Tested Date:  | Oct. 30, 2015                         |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 60.34           | 1.52            | 11.30                 | 13.20                     | 26.02                         | 40                   | -13.98      | 220              | 3.61  |
| 77.01           | 1.62            | 8.05                  | 18.17                     | 27.84                         | 40                   | -12.16      | 86               | 3.48  |
| 149.97          | 2.13            | 12.49                 | 15.13                     | 29.75                         | 44                   | -13.75      | 130              | 3.37  |
| 185.25          | 2.35            | 10.45                 | 24.91                     | 37.71                         | 44                   | -5.79       | 243              | 3.20  |
| 197.28          | 2.43            | 11.37                 | 24.59                     | 38.39                         | 44                   | -5.11       | 340              | 3.09  |
| 331.41          | 3.32            | 14.24                 | 14.47                     | 32.03                         | 46                   | -13.97      | 148              | 2.89  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 60.84           | 1.52            | 11.30                 | 16.66                     | 29.48                         | 40                   | -10.52      | 233              | 1.11  |
| 82.92           | 1.66            | 8.08                  | 18.78                     | 28.52                         | 40                   | -11.48      | 137              | 1.24  |
| 312.35          | 3.18            | 13.79                 | 16.63                     | 33.60                         | 46                   | -12.40      | 258              | 1.80  |
| 336.02          | 3.35            | 14.36                 | 17.75                     | 35.47                         | 46                   | -10.53      | 61               | 1.93  |
| 348.94          | 3.44            | 14.65                 | 15.64                     | 33.73                         | 46                   | -12.27      | 350              | 2.05  |
| 366.17          | 3.57            | 15.21                 | 16.25                     | 35.03                         | 46                   | -10.97      | 156              | 2.17  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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|---|----------------------|--|

|                  |              |               |                                       |
|------------------|--------------|---------------|---------------------------------------|
| Temperature:     | 24 °C        | Humidity:     | 61 %RH                                |
| Frequency Range: | 30 M – 1 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT40 _CH09 |
| Detector Type:   | Quasi-peak   | IF Bandwidth: | 120 kHz                               |
| Tested By:       | Richard Lin  | Tested Date:  | Oct. 30, 2015                         |

Antenna Polarization : Horizontal

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 77.02           | 1.62            | 8.05                  | 18.55                     | 28.22                         | 40                   | -11.78      | 346              | 3.65  |
| 183.73          | 2.34            | 10.39                 | 25.07                     | 37.80                         | 44                   | -5.70       | 104              | 3.51  |
| 190.96          | 2.38            | 10.60                 | 25.10                     | 38.08                         | 44                   | -5.42       | 75               | 3.38  |
| 222.52          | 2.59            | 12.68                 | 18.27                     | 33.54                         | 46                   | -12.46      | 249              | 3.19  |
| 312.87          | 3.18            | 13.79                 | 15.44                     | 32.41                         | 46                   | -13.59      | 140              | 3.10  |
| 515.30          | 4.43            | 18.11                 | 14.95                     | 37.49                         | 46                   | -8.51       | 311              | 2.67  |

Antenna Polarization : Vertical

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Reading Data (dB $\mu$ V) | Emission Level (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | AZ( $^{\circ}$ ) | EL(m) |
|-----------------|-----------------|-----------------------|---------------------------|-------------------------------|----------------------|-------------|------------------|-------|
| 56.26           | 1.51            | 12.58                 | 15.08                     | 29.17                         | 40                   | -10.83      | 71               | 1.13  |
| 82.14           | 1.66            | 8.08                  | 19.46                     | 29.20                         | 40                   | -10.80      | 98               | 1.25  |
| 190.99          | 2.38            | 10.60                 | 17.76                     | 30.74                         | 44                   | -12.76      | 292              | 1.49  |
| 198.53          | 2.44            | 11.48                 | 17.61                     | 31.53                         | 44                   | -11.97      | 193              | 1.57  |
| 328.65          | 3.30            | 14.17                 | 16.89                     | 34.36                         | 46                   | -11.64      | 57               | 1.94  |
| 513.50          | 4.42            | 18.04                 | 12.87                     | 35.33                         | 46                   | -10.67      | 162              | 2.45  |

**NOTE :**

1. Measurement uncertainty is 4.20 dB.
2. \*\*: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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|                  |                |               |                            |
|------------------|----------------|---------------|----------------------------|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH                     |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11b_CH01 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                      |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015              |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2000.26            | -31.48                    | 27.60                    | 44.37                           | 33.48 | 40.49                               | 29.60 | 74                      | 54  | -33.51         | -24.40 | 283       | 2.22      |
| 3110.93            | -30.46                    | 30.30                    | 44.36                           | 34.20 | 44.20                               | 34.04 | 74                      | 54  | -29.80         | -19.96 | 317       | 1.85      |
| 3789.06            | -29.38                    | 31.69                    | 43.24                           | 33.27 | 45.56                               | 35.59 | 74                      | 54  | -28.44         | -18.41 | 41        | 1.63      |
| 4145.24            | -28.82                    | 32.20                    | 43.15                           | 33.39 | 46.53                               | 36.77 | 74                      | 54  | -27.47         | -17.23 | 217       | 1.54      |
| 4555.48            | -28.41                    | 32.33                    | 43.48                           | 32.16 | 47.41                               | 36.09 | 74                      | 54  | -26.59         | -17.91 | 129       | 1.42      |
| 5139.14            | -27.53                    | 33.51                    | 41.22                           | 31.25 | 47.20                               | 37.23 | 74                      | 54  | -26.80         | -16.77 | 160       | 1.21      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1655.86            | -32.00                    | 26.01                    | 45.69                           | 34.66 | 39.70                               | 28.67 | 74                      | 54  | -34.30         | -25.33 | 181       | 1.20      |
| 2009.96            | -31.47                    | 27.61                    | 49.14                           | 40.67 | 45.28                               | 36.81 | 74                      | 54  | -28.72         | -17.19 | 292       | 1.33      |
| 3000.34            | -30.61                    | 30.10                    | 44.75                           | 35.80 | 44.24                               | 35.29 | 74                      | 54  | -29.76         | -18.71 | 53        | 1.62      |
| 4114.83            | -28.86                    | 32.20                    | 43.77                           | 32.42 | 47.11                               | 35.76 | 74                      | 54  | -26.89         | -18.24 | 203       | 1.95      |
| 4420.10            | -28.55                    | 32.20                    | 43.66                           | 32.33 | 47.31                               | 35.98 | 74                      | 54  | -26.69         | -18.02 | 188       | 2.07      |
| 5565.33            | -26.70                    | 33.80                    | 41.37                           | 31.60 | 48.47                               | 38.70 | 74                      | 54  | -25.53         | -15.30 | 76        | 2.39      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 67 of 216<br>Date: Dec. 22, 2015 |
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|                  |                |               |   |
|------------------|----------------|---------------|---|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH  |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11b_CH01<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz   |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015   |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2412.00 (F)        | -31.00                    | 28.09                    | 95.62                           | 85.81 | 92.71                               | 82.90 | 114                     | 94  | -21.29         | -11.10 | 22        | 1.56      |
| 4824.00            | -28.09                    | 32.98                    | 43.85                           | 32.92 | 48.73                               | 37.80 | 74                      | 54  | -25.27         | -16.20 | 312       | 1.38      |
| 7236.00            | -25.91                    | 35.77                    | 38.73                           | 27.40 | 48.59                               | 37.26 | 74                      | 54  | -25.41         | -16.74 | 98        | 1.43      |
| 9648.00            | -24.83                    | 37.86                    | 36.42                           | 27.05 | 49.45                               | 40.08 | 74                      | 54  | -24.55         | -13.92 | 148       | 1.62      |
| 12060.00           | -22.98                    | 39.14                    | 34.63                           | 24.62 | 50.79                               | 40.78 | 74                      | 54  | -23.21         | -13.22 | 236       | 1.69      |
| 14472.00           | -20.00                    | 42.27                    | 31.34                           | 20.80 | 53.61                               | 43.07 | 74                      | 54  | -20.39         | -10.93 | 190       | 1.53      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2412.00 (F)        | -31.00                    | 28.09                    | 95.29                           | 84.46 | 92.38                               | 81.55 | 114                     | 94  | -21.62         | -12.45 | 156       | 1.60      |
| 4824.00            | -28.09                    | 32.98                    | 44.46                           | 33.31 | 49.34                               | 38.19 | 74                      | 54  | -24.66         | -15.81 | 301       | 1.42      |
| 7236.00            | -25.91                    | 35.77                    | 37.37                           | 27.08 | 47.23                               | 36.94 | 74                      | 54  | -26.77         | -17.06 | 254       | 1.49      |
| 9648.00            | -24.83                    | 37.86                    | 36.05                           | 26.95 | 49.08                               | 39.98 | 74                      | 54  | -24.92         | -14.02 | 92        | 1.38      |
| 12060.00           | -22.98                    | 39.14                    | 36.82                           | 24.50 | 52.98                               | 40.66 | 74                      | 54  | -21.02         | -13.34 | 343       | 1.54      |
| 14472.00           | -20.00                    | 42.27                    | 30.58                           | 20.63 | 52.85                               | 42.90 | 74                      | 54  | -21.15         | -11.10 | 120       | 1.66      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|  |                      |  |
|--|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd.,Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 68 of 216<br>Date: Dec. 22, 2015 |
|--|----------------------|--|

|                  |                |               |                            |
|------------------|----------------|---------------|----------------------------|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH                     |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11b_CH06 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                      |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015              |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1854.42            | -31.70                    | 26.93                    | 45.65                           | 35.75 | 40.88                               | 30.98 | 74                      | 54  | -33.12         | -23.02 | 225       | 2.21      |
| 2135.78            | -31.32                    | 27.76                    | 45.69                           | 35.42 | 42.13                               | 31.86 | 74                      | 54  | -31.87         | -22.14 | 97        | 2.14      |
| 3034.59            | -30.56                    | 30.16                    | 44.17                           | 33.53 | 43.77                               | 33.13 | 74                      | 54  | -30.23         | -20.87 | 337       | 1.88      |
| 4084.28            | -28.89                    | 32.20                    | 42.35                           | 31.84 | 45.66                               | 35.15 | 74                      | 54  | -28.34         | -18.85 | 64        | 1.56      |
| 4420.44            | -28.55                    | 32.20                    | 42.27                           | 33.85 | 45.92                               | 37.50 | 74                      | 54  | -28.08         | -16.50 | 308       | 1.43      |
| 5305.39            | -27.11                    | 33.64                    | 41.25                           | 31.51 | 47.78                               | 38.04 | 74                      | 54  | -26.22         | -15.96 | 206       | 1.20      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1910.53            | -31.62                    | 27.19                    | 45.06                           | 36.36 | 40.63                               | 31.93 | 74                      | 54  | -33.37         | -22.07 | 150       | 1.26      |
| 2139.09            | -31.32                    | 27.77                    | 45.43                           | 36.92 | 41.88                               | 33.37 | 74                      | 54  | -32.12         | -20.63 | 320       | 1.35      |
| 3105.49            | -30.47                    | 30.29                    | 44.10                           | 34.49 | 43.92                               | 34.31 | 74                      | 54  | -30.08         | -19.69 | 100       | 1.64      |
| 3674.58            | -29.60                    | 31.42                    | 43.35                           | 33.85 | 45.17                               | 35.67 | 74                      | 54  | -28.83         | -18.33 | 217       | 1.82      |
| 4290.90            | -28.68                    | 32.20                    | 42.79                           | 31.47 | 46.31                               | 34.99 | 74                      | 54  | -27.69         | -19.01 | 57        | 1.97      |
| 5519.06            | -26.64                    | 33.80                    | 40.18                           | 31.81 | 47.34                               | 38.97 | 74                      | 54  | -26.66         | -15.03 | 182       | 2.34      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 69 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |   |
|------------------|----------------|---------------|---|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH  |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11b_CH06<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz   |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015   |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 94.40                           | 85.66 | 91.55                               | 82.81 | 114                     | 94  | -22.45         | -11.19 | 188       | 1.56      |
| 4874.00            | -28.04                    | 33.10                    | 40.81                           | 29.04 | 45.87                               | 34.10 | 74                      | 54  | -28.13         | -19.90 | 327       | 1.51      |
| 7311.00            | -25.85                    | 35.95                    | 38.45                           | 27.51 | 48.55                               | 37.61 | 74                      | 54  | -25.45         | -16.39 | 233       | 1.52      |
| 9748.00            | -24.76                    | 37.90                    | 39.80                           | 27.02 | 52.94                               | 40.16 | 74                      | 54  | -21.06         | -13.84 | 67        | 1.48      |
| 12185.00           | -22.61                    | 39.02                    | 33.10                           | 23.89 | 49.51                               | 40.30 | 74                      | 54  | -24.49         | -13.70 | 129       | 1.63      |
| 14622.00           | -20.02                    | 41.81                    | 31.08                           | 19.21 | 52.87                               | 41.00 | 74                      | 54  | -21.13         | -13.00 | 303       | 1.59      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 94.52                           | 82.51 | 91.67                               | 79.66 | 114                     | 94  | -22.33         | -14.34 | 186       | 1.53      |
| 4874.00            | -28.04                    | 33.10                    | 43.33                           | 31.19 | 48.39                               | 36.25 | 74                      | 54  | -25.61         | -17.75 | 205       | 1.48      |
| 7311.00            | -25.85                    | 35.95                    | 37.48                           | 27.67 | 47.58                               | 37.77 | 74                      | 54  | -26.42         | -16.23 | 293       | 1.62      |
| 9748.00            | -24.76                    | 37.90                    | 38.71                           | 27.15 | 51.85                               | 40.29 | 74                      | 54  | -22.15         | -13.71 | 335       | 1.66      |
| 12185.00           | -22.61                    | 39.02                    | 34.70                           | 23.94 | 51.11                               | 40.35 | 74                      | 54  | -22.89         | -13.65 | 105       | 1.67      |
| 14622.00           | -20.02                    | 41.81                    | 29.31                           | 19.25 | 51.10                               | 41.04 | 74                      | 54  | -22.90         | -12.96 | 151       | 1.45      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|  |                      |  |
|--|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd.,Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 70 of 216<br>Date: Dec. 22, 2015 |
|--|----------------------|--|

|                  |                |               |                            |
|------------------|----------------|---------------|----------------------------|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH                     |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11b_CH11 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                      |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015              |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1810.45            | -31.77                    | 26.73                    | 44.92                           | 34.23 | 39.88                               | 29.19 | 74                      | 54  | -34.12         | -24.81 | 292       | 2.29      |
| 2134.33            | -31.32                    | 27.76                    | 45.88                           | 36.50 | 42.32                               | 32.94 | 74                      | 54  | -31.68         | -21.06 | 86        | 2.14      |
| 3094.43            | -30.48                    | 30.27                    | 44.70                           | 32.29 | 44.49                               | 32.08 | 74                      | 54  | -29.51         | -21.92 | 104       | 1.83      |
| 3920.09            | -29.12                    | 32.01                    | 43.25                           | 32.57 | 46.13                               | 35.45 | 74                      | 54  | -27.87         | -18.55 | 167       | 1.62      |
| 4590.40            | -28.37                    | 32.42                    | 42.13                           | 32.43 | 46.18                               | 36.48 | 74                      | 54  | -27.82         | -17.52 | 303       | 1.41      |
| 5539.27            | -26.66                    | 33.80                    | 40.06                           | 30.40 | 47.20                               | 37.54 | 74                      | 54  | -26.80         | -16.46 | 139       | 1.15      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1809.48            | -31.77                    | 26.72                    | 46.17                           | 35.32 | 41.12                               | 30.27 | 74                      | 54  | -32.88         | -23.73 | 25        | 1.26      |
| 2125.06            | -31.34                    | 27.75                    | 46.62                           | 35.75 | 43.04                               | 32.17 | 74                      | 54  | -30.97         | -21.84 | 304       | 1.37      |
| 2725.73            | -30.77                    | 29.06                    | 47.80                           | 37.22 | 46.09                               | 35.51 | 74                      | 54  | -27.91         | -18.49 | 167       | 1.53      |
| 3045.36            | -30.55                    | 30.18                    | 44.30                           | 35.50 | 43.93                               | 35.13 | 74                      | 54  | -30.07         | -18.87 | 56        | 1.62      |
| 3440.94            | -30.01                    | 30.89                    | 44.06                           | 35.53 | 44.94                               | 36.41 | 74                      | 54  | -29.06         | -17.59 | 253       | 1.74      |
| 4074.35            | -28.90                    | 32.20                    | 43.11                           | 32.74 | 46.41                               | 36.04 | 74                      | 54  | -27.59         | -17.96 | 142       | 1.95      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                      |  |
|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 71 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                  |                |               |   |
|------------------|----------------|---------------|---|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH  |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11b_CH11<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz   |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015   |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2462.00 (F)        | -30.94                    | 28.15                    | 94.17                           | 83.85 | 91.38                               | 81.06 | 114                     | 94  | -22.62         | -12.94 | 73        | 1.62      |
| 4924.00            | -27.98                    | 33.22                    | 42.47                           | 31.68 | 47.71                               | 36.92 | 74                      | 54  | -26.29         | -17.08 | 176       | 1.67      |
| 7386.00            | -25.79                    | 36.13                    | 39.21                           | 27.55 | 49.55                               | 37.89 | 74                      | 54  | -24.45         | -16.11 | 315       | 1.55      |
| 9848.00            | -24.69                    | 37.94                    | 38.61                           | 27.03 | 51.86                               | 40.28 | 74                      | 54  | -22.14         | -13.72 | 285       | 1.59      |
| 12310.00           | -22.24                    | 38.89                    | 33.39                           | 23.19 | 50.04                               | 39.84 | 74                      | 54  | -23.96         | -14.16 | 46        | 1.60      |
| 14772.00           | -20.06                    | 41.21                    | 31.14                           | 19.45 | 52.30                               | 40.61 | 74                      | 54  | -21.70         | -13.39 | 105       | 1.48      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2462.00 (F)        | -30.94                    | 28.15                    | 94.36                           | 84.05 | 91.57                               | 81.26 | 114                     | 94  | -22.43         | -12.74 | 302       | 1.45      |
| 4924.00            | -27.98                    | 33.22                    | 43.27                           | 31.29 | 48.51                               | 36.53 | 74                      | 54  | -25.49         | -17.47 | 81        | 1.57      |
| 7386.00            | -25.79                    | 36.13                    | 38.33                           | 27.32 | 48.67                               | 37.66 | 74                      | 54  | -25.33         | -16.34 | 245       | 1.55      |
| 9848.00            | -24.69                    | 37.94                    | 36.45                           | 26.90 | 49.70                               | 40.15 | 74                      | 54  | -24.30         | -13.85 | 122       | 1.38      |
| 12310.00           | -22.24                    | 38.89                    | 35.32                           | 23.26 | 51.97                               | 39.91 | 74                      | 54  | -22.03         | -14.09 | 46        | 1.43      |
| 14772.00           | -20.06                    | 41.21                    | 30.88                           | 19.73 | 52.04                               | 40.89 | 74                      | 54  | -21.96         | -13.11 | 158       | 1.46      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|  |                      |  |
|--|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 72 of 216<br>Date: Dec. 22, 2015 |
|--|----------------------|--|

|                  |                |               |                            |
|------------------|----------------|---------------|----------------------------|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH                     |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11g_CH01 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                      |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015              |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2134.93            | -31.32                    | 27.76                    | 46.16                           | 36.11 | 42.60                               | 32.55 | 74                      | 54  | -31.40         | -21.45 | 201       | 2.15      |
| 3015.84            | -30.59                    | 30.13                    | 44.26                           | 35.81 | 43.80                               | 35.35 | 74                      | 54  | -30.20         | -18.65 | 46        | 1.87      |
| 3454.66            | -29.99                    | 30.92                    | 43.39                           | 34.17 | 44.31                               | 35.09 | 74                      | 54  | -29.69         | -18.91 | 140       | 1.75      |
| 4274.22            | -28.70                    | 32.20                    | 43.29                           | 32.70 | 46.79                               | 36.20 | 74                      | 54  | -27.21         | -17.80 | 312       | 1.54      |
| 5145.33            | -27.52                    | 33.52                    | 41.90                           | 30.33 | 47.90                               | 36.33 | 74                      | 54  | -26.10         | -17.67 | 245       | 1.25      |
| 5780.10            | -27.00                    | 33.80                    | 41.11                           | 31.15 | 47.91                               | 37.95 | 74                      | 54  | -26.09         | -16.05 | 125       | 1.06      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1624.92            | -32.05                    | 25.87                    | 46.68                           | 35.30 | 40.50                               | 29.12 | 74                      | 54  | -33.50         | -24.88 | 161       | 1.18      |
| 3054.83            | -30.54                    | 30.20                    | 44.09                           | 33.95 | 43.75                               | 33.61 | 74                      | 54  | -30.25         | -20.39 | 343       | 1.63      |
| 3445.41            | -30.00                    | 30.90                    | 43.42                           | 33.72 | 44.32                               | 34.62 | 74                      | 54  | -29.68         | -19.38 | 190       | 1.74      |
| 4075.80            | -28.90                    | 32.20                    | 42.36                           | 32.51 | 45.67                               | 35.82 | 74                      | 54  | -28.34         | -18.19 | 69        | 1.95      |
| 4375.47            | -28.60                    | 32.20                    | 42.73                           | 31.67 | 46.34                               | 35.28 | 74                      | 54  | -27.67         | -18.73 | 281       | 2.02      |
| 5460.23            | -26.71                    | 33.77                    | 40.20                           | 30.82 | 47.26                               | 37.88 | 74                      | 54  | -26.74         | -16.12 | 221       | 2.36      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 73 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |   |
|------------------|----------------|---------------|---|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH  |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11g_CH01<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz   |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015   |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2412.00 (F)        | -31.00                    | 28.09                    | 96.85                           | 85.54 | 93.94                               | 82.63 | 114                     | 94  | -20.06         | -11.37 | 74        | 1.55      |
| 4824.00            | -28.09                    | 32.98                    | 41.81                           | 31.73 | 46.69                               | 36.61 | 74                      | 54  | -27.31         | -17.39 | 156       | 1.36      |
| 7236.00            | -25.91                    | 35.77                    | 35.75                           | 26.91 | 45.61                               | 36.77 | 74                      | 54  | -28.39         | -17.23 | 217       | 1.46      |
| 9648.00            | -24.83                    | 37.86                    | 36.80                           | 26.79 | 49.83                               | 39.82 | 74                      | 54  | -24.17         | -14.18 | 253       | 1.60      |
| 12060.00           | -22.98                    | 39.14                    | 35.77                           | 23.62 | 51.93                               | 39.78 | 74                      | 54  | -22.07         | -14.22 | 173       | 1.72      |
| 14472.00           | -20.00                    | 42.27                    | 31.46                           | 20.82 | 53.73                               | 43.09 | 74                      | 54  | -20.27         | -10.91 | 310       | 1.53      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2412.00 (F)        | -31.00                    | 28.09                    | 96.71                           | 84.33 | 93.80                               | 81.42 | 114                     | 94  | -20.20         | -12.58 | 109       | 1.56      |
| 4824.00            | -28.09                    | 32.98                    | 42.31                           | 31.92 | 47.19                               | 36.80 | 74                      | 54  | -26.81         | -17.20 | 225       | 1.47      |
| 7236.00            | -25.91                    | 35.77                    | 37.60                           | 27.18 | 47.46                               | 37.04 | 74                      | 54  | -26.54         | -16.96 | 61        | 1.48      |
| 9648.00            | -24.83                    | 37.86                    | 36.83                           | 26.89 | 49.86                               | 39.92 | 74                      | 54  | -24.14         | -14.08 | 195       | 1.36      |
| 12060.00           | -22.98                    | 39.14                    | 32.87                           | 23.47 | 49.03                               | 39.63 | 74                      | 54  | -24.97         | -14.37 | 102       | 1.55      |
| 14472.00           | -20.00                    | 42.27                    | 32.17                           | 20.82 | 54.44                               | 43.09 | 74                      | 54  | -19.56         | -10.91 | 321       | 1.64      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 74 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |                            |
|------------------|----------------|---------------|----------------------------|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH                     |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11g_CH06 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                      |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015              |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2139.40            | -31.32                    | 27.77                    | 45.06                           | 35.43 | 41.51                               | 31.88 | 74                      | 54  | -32.49         | -22.12 | 83        | 2.18      |
| 3025.69            | -30.58                    | 30.15                    | 44.42                           | 35.19 | 43.99                               | 34.76 | 74                      | 54  | -30.01         | -19.24 | 235       | 1.88      |
| 3460.15            | -29.98                    | 30.93                    | 44.10                           | 35.40 | 45.04                               | 36.34 | 74                      | 54  | -28.96         | -17.66 | 339       | 1.77      |
| 4009.37            | -28.96                    | 32.20                    | 42.49                           | 31.05 | 45.73                               | 34.29 | 74                      | 54  | -28.27         | -19.71 | 258       | 1.61      |
| 4390.81            | -28.58                    | 32.20                    | 42.89                           | 32.84 | 46.51                               | 36.46 | 74                      | 54  | -27.49         | -17.54 | 216       | 1.49      |
| 5395.48            | -26.88                    | 33.72                    | 39.67                           | 29.45 | 46.51                               | 36.29 | 74                      | 54  | -27.49         | -17.71 | 148       | 1.15      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1860.64            | -31.69                    | 26.96                    | 45.26                           | 34.81 | 40.52                               | 30.07 | 74                      | 54  | -33.48         | -23.93 | 278       | 1.23      |
| 3169.77            | -30.38                    | 30.40                    | 44.17                           | 33.57 | 44.19                               | 33.59 | 74                      | 54  | -29.81         | -20.41 | 163       | 1.64      |
| 3405.07            | -30.06                    | 30.83                    | 43.32                           | 33.62 | 44.09                               | 34.39 | 74                      | 54  | -29.91         | -19.61 | 53        | 1.73      |
| 3800.83            | -29.35                    | 31.72                    | 42.95                           | 32.41 | 45.32                               | 34.78 | 74                      | 54  | -28.68         | -19.22 | 307       | 1.85      |
| 4275.51            | -28.70                    | 32.20                    | 42.55                           | 33.29 | 46.06                               | 36.80 | 74                      | 54  | -27.95         | -17.21 | 90        | 1.96      |
| 5385.78            | -26.90                    | 33.71                    | 40.29                           | 31.28 | 47.09                               | 38.08 | 74                      | 54  | -26.91         | -15.92 | 121       | 2.30      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 75 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |   |
|------------------|----------------|---------------|---|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH  |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11g_CH06<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz   |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015   |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 95.31                           | 83.91 | 92.46                               | 81.06 | 114                     | 94  | -21.54         | -12.94 | 53        | 1.48      |
| 4874.00            | -28.04                    | 33.10                    | 39.65                           | 28.75 | 44.71                               | 33.81 | 74                      | 54  | -29.29         | -20.19 | 326       | 1.62      |
| 7311.00            | -25.85                    | 35.95                    | 38.21                           | 27.52 | 48.31                               | 37.62 | 74                      | 54  | -25.69         | -16.38 | 201       | 1.60      |
| 9748.00            | -24.76                    | 37.90                    | 36.14                           | 26.88 | 49.28                               | 40.02 | 74                      | 54  | -24.72         | -13.98 | 47        | 1.57      |
| 12185.00           | -22.61                    | 39.02                    | 35.48                           | 23.86 | 51.89                               | 40.27 | 74                      | 54  | -22.11         | -13.73 | 175       | 1.59      |
| 14622.00           | -20.02                    | 41.81                    | 30.72                           | 19.25 | 52.51                               | 41.04 | 74                      | 54  | -21.49         | -12.96 | 260       | 1.33      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 96.28                           | 85.86 | 93.43                               | 83.01 | 114                     | 94  | -20.57         | -10.99 | 104       | 1.74      |
| 4874.00            | -28.04                    | 33.10                    | 40.08                           | 30.81 | 45.14                               | 35.87 | 74                      | 54  | -28.86         | -18.13 | 328       | 1.70      |
| 7311.00            | -25.85                    | 35.95                    | 39.68                           | 27.48 | 49.78                               | 37.58 | 74                      | 54  | -24.22         | -16.42 | 73        | 1.68      |
| 9748.00            | -24.76                    | 37.90                    | 39.56                           | 27.02 | 52.70                               | 40.16 | 74                      | 54  | -21.30         | -13.84 | 223       | 1.54      |
| 12185.00           | -22.61                    | 39.02                    | 33.17                           | 23.78 | 49.58                               | 40.19 | 74                      | 54  | -24.42         | -13.81 | 185       | 1.59      |
| 14622.00           | -20.02                    | 41.81                    | 29.25                           | 19.21 | 51.04                               | 41.00 | 74                      | 54  | -22.96         | -13.00 | 245       | 1.39      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 76 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |                            |
|------------------|----------------|---------------|----------------------------|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH                     |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11g_CH11 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                      |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015              |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2125.94            | -31.34                    | 27.75                    | 45.61                           | 34.10 | 42.03                               | 30.52 | 74                      | 54  | -31.98         | -23.49 | 260       | 2.17      |
| 3030.83            | -30.57                    | 30.15                    | 43.57                           | 33.65 | 43.15                               | 33.23 | 74                      | 54  | -30.85         | -20.77 | 326       | 1.88      |
| 3504.54            | -29.92                    | 31.01                    | 43.38                           | 33.38 | 44.47                               | 34.47 | 74                      | 54  | -29.53         | -19.53 | 105       | 1.73      |
| 3945.75            | -29.08                    | 32.07                    | 43.70                           | 32.26 | 46.69                               | 35.25 | 74                      | 54  | -27.31         | -18.75 | 65        | 1.60      |
| 4765.92            | -28.16                    | 32.84                    | 42.03                           | 33.15 | 46.70                               | 37.82 | 74                      | 54  | -27.30         | -16.18 | 153       | 1.36      |
| 5464.84            | -26.70                    | 33.77                    | 40.74                           | 30.08 | 47.81                               | 37.15 | 74                      | 54  | -26.19         | -16.85 | 310       | 1.15      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2124.50            | -31.34                    | 27.75                    | 44.92                           | 34.44 | 41.33                               | 30.85 | 74                      | 54  | -32.67         | -23.15 | 192       | 1.33      |
| 3055.55            | -30.54                    | 30.20                    | 43.57                           | 32.21 | 43.23                               | 31.87 | 74                      | 54  | -30.77         | -22.13 | 134       | 1.65      |
| 3765.80            | -29.42                    | 31.64                    | 42.84                           | 33.49 | 45.05                               | 35.70 | 74                      | 54  | -28.95         | -18.30 | 26        | 1.84      |
| 4410.95            | -28.56                    | 32.20                    | 42.60                           | 33.73 | 46.24                               | 37.37 | 74                      | 54  | -27.76         | -16.63 | 243       | 2.07      |
| 5459.41            | -26.71                    | 33.77                    | 40.61                           | 30.40 | 47.66                               | 37.45 | 74                      | 54  | -26.34         | -16.55 | 321       | 2.39      |
| 5775.82            | -26.99                    | 33.80                    | 40.58                           | 29.59 | 47.39                               | 36.40 | 74                      | 54  | -26.61         | -17.60 | 184       | 2.46      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|  |                      |  |
|--|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 77 of 216<br>Date: Dec. 22, 2015 |
|--|----------------------|--|

|                  |                |               |   |
|------------------|----------------|---------------|---|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH  |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11g_CH11<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz   |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015   |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2462.00 (F)        | -30.94                    | 28.15                    | 95.54                           | 84.73 | 92.75                               | 81.94 | 114                     | 94  | -21.25         | -12.06 | 221       | 1.47      |
| 4924.00            | -27.98                    | 33.22                    | 41.29                           | 30.10 | 46.53                               | 35.34 | 74                      | 54  | -27.47         | -18.66 | 39        | 1.62      |
| 7386.00            | -25.79                    | 36.13                    | 38.30                           | 27.55 | 48.64                               | 37.89 | 74                      | 54  | -25.36         | -16.11 | 326       | 1.55      |
| 9848.00            | -24.69                    | 37.94                    | 39.19                           | 27.03 | 52.44                               | 40.28 | 74                      | 54  | -21.56         | -13.72 | 58        | 1.60      |
| 12310.00           | -22.24                    | 38.89                    | 35.05                           | 23.14 | 51.70                               | 39.79 | 74                      | 54  | -22.30         | -14.21 | 232       | 1.57      |
| 14772.00           | -20.06                    | 41.21                    | 29.37                           | 19.68 | 50.53                               | 40.84 | 74                      | 54  | -23.47         | -13.16 | 149       | 1.49      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2462.00 (F)        | -30.94                    | 28.15                    | 95.63                           | 83.49 | 92.84                               | 80.70 | 114                     | 94  | -21.16         | -13.30 | 204       | 1.45      |
| 4924.00            | -27.98                    | 33.22                    | 40.13                           | 28.18 | 45.37                               | 33.42 | 74                      | 54  | -28.63         | -20.58 | 319       | 1.51      |
| 7386.00            | -25.79                    | 36.13                    | 38.86                           | 27.70 | 49.20                               | 38.04 | 74                      | 54  | -24.80         | -15.96 | 74        | 1.64      |
| 9848.00            | -24.69                    | 37.94                    | 37.50                           | 26.87 | 50.75                               | 40.12 | 74                      | 54  | -23.25         | -13.88 | 126       | 1.67      |
| 12310.00           | -22.24                    | 38.89                    | 33.38                           | 23.23 | 50.03                               | 39.88 | 74                      | 54  | -23.97         | -14.12 | 188       | 1.53      |
| 14772.00           | -20.06                    | 41.21                    | 31.42                           | 19.46 | 52.58                               | 40.62 | 74                      | 54  | -21.42         | -13.38 | 261       | 1.58      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 78 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |                                   |
|------------------|----------------|---------------|-----------------------------------|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH                            |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT20_CH01 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                             |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015                     |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1664.20            | -31.99                    | 26.05                    | 45.82                           | 35.85 | 39.88                               | 29.91 | 74                      | 54  | -34.12         | -24.09 | 317       | 2.32      |
| 2930.90            | -30.65                    | 29.83                    | 44.55                           | 35.36 | 43.73                               | 34.54 | 74                      | 54  | -30.27         | -19.46 | 270       | 1.91      |
| 3479.11            | -29.96                    | 30.96                    | 43.82                           | 34.90 | 44.82                               | 35.90 | 74                      | 54  | -29.18         | -18.10 | 133       | 1.75      |
| 4074.63            | -28.90                    | 32.20                    | 42.40                           | 31.25 | 45.70                               | 34.55 | 74                      | 54  | -28.30         | -19.45 | 102       | 1.56      |
| 4435.60            | -28.54                    | 32.20                    | 43.15                           | 33.21 | 46.82                               | 36.88 | 74                      | 54  | -27.18         | -17.12 | 73        | 1.48      |
| 5595.31            | -26.74                    | 33.80                    | 40.06                           | 30.29 | 47.12                               | 37.35 | 74                      | 54  | -26.88         | -16.65 | 218       | 1.13      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1100.66            | -33.66                    | 25.22                    | 51.31                           | 42.68 | 42.87                               | 34.24 | 74                      | 54  | -31.13         | -19.76 | 211       | 1.05      |
| 2134.64            | -31.32                    | 27.76                    | 45.73                           | 36.79 | 42.17                               | 33.23 | 74                      | 54  | -31.83         | -20.77 | 309       | 1.33      |
| 3130.10            | -30.43                    | 30.33                    | 43.95                           | 33.64 | 43.85                               | 33.54 | 74                      | 54  | -30.15         | -20.46 | 119       | 1.62      |
| 3844.83            | -29.27                    | 31.83                    | 42.67                           | 32.49 | 45.23                               | 35.05 | 74                      | 54  | -28.77         | -18.95 | 81        | 1.84      |
| 4230.44            | -28.74                    | 32.20                    | 42.77                           | 31.66 | 46.23                               | 35.12 | 74                      | 54  | -27.77         | -18.88 | 151       | 1.98      |
| 5510.36            | -26.62                    | 33.80                    | 40.42                           | 30.54 | 47.60                               | 37.72 | 74                      | 54  | -26.40         | -16.28 | 241       | 2.31      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 79 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |  |
|------------------|----------------|---------------|--|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH   |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT20_CH01<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz  |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015  |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2412.00 (F)        | -31.00                    | 28.09                    | 96.47                           | 85.36 | 93.56                               | 82.45 | 114                     | 94  | -20.44         | -11.55 | 35        | 1.57      |
| 4824.00            | -28.09                    | 32.98                    | 41.34                           | 31.31 | 46.22                               | 36.19 | 74                      | 54  | -27.78         | -17.81 | 312       | 1.56      |
| 7236.00            | -25.91                    | 35.77                    | 38.13                           | 26.72 | 47.99                               | 36.58 | 74                      | 54  | -26.01         | -17.42 | 293       | 1.43      |
| 9648.00            | -24.83                    | 37.86                    | 36.54                           | 26.73 | 49.57                               | 39.76 | 74                      | 54  | -24.43         | -14.24 | 55        | 1.49      |
| 12060.00           | -22.98                    | 39.14                    | 34.79                           | 23.47 | 50.95                               | 39.63 | 74                      | 54  | -23.05         | -14.37 | 161       | 1.60      |
| 14472.00           | -20.00                    | 42.27                    | 32.57                           | 20.82 | 54.84                               | 43.09 | 74                      | 54  | -19.16         | -10.91 | 268       | 1.64      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2412.00 (F)        | -31.00                    | 28.09                    | 96.84                           | 86.90 | 93.93                               | 83.99 | 114                     | 94  | -20.07         | -10.01 | 318       | 1.58      |
| 4824.00            | -28.09                    | 32.98                    | 40.81                           | 29.07 | 45.69                               | 33.95 | 74                      | 54  | -28.31         | -20.05 | 162       | 1.45      |
| 7236.00            | -25.91                    | 35.77                    | 38.88                           | 26.84 | 48.74                               | 36.70 | 74                      | 54  | -25.26         | -17.30 | 219       | 1.51      |
| 9648.00            | -24.83                    | 37.86                    | 37.74                           | 26.64 | 50.77                               | 39.67 | 74                      | 54  | -23.23         | -14.33 | 53        | 1.75      |
| 12060.00           | -22.98                    | 39.14                    | 34.59                           | 23.47 | 50.75                               | 39.63 | 74                      | 54  | -23.25         | -14.37 | 261       | 1.66      |
| 14472.00           | -20.00                    | 42.27                    | 30.30                           | 20.81 | 52.57                               | 43.08 | 74                      | 54  | -21.43         | -10.92 | 339       | 1.53      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|  |                      |  |
|--|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 80 of 216<br>Date: Dec. 22, 2015 |
|--|----------------------|--|

|                  |                |               |                                   |
|------------------|----------------|---------------|-----------------------------------|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH                            |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT20_CH06 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                             |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015                     |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2125.34            | -31.34                    | 27.75                    | 45.49                           | 35.10 | 41.91                               | 31.52 | 74                      | 54  | -32.10         | -22.49 | 336       | 2.18      |
| 3029.26            | -30.57                    | 30.15                    | 44.86                           | 33.75 | 44.44                               | 33.33 | 74                      | 54  | -29.56         | -20.67 | 163       | 1.87      |
| 3490.19            | -29.94                    | 30.98                    | 45.90                           | 34.95 | 46.94                               | 35.99 | 74                      | 54  | -27.06         | -18.01 | 186       | 1.73      |
| 4075.55            | -28.90                    | 32.20                    | 43.16                           | 34.65 | 46.47                               | 37.96 | 74                      | 54  | -27.54         | -16.05 | 70        | 1.57      |
| 4600.74            | -28.35                    | 32.44                    | 42.34                           | 33.22 | 46.43                               | 37.31 | 74                      | 54  | -27.57         | -16.69 | 287       | 1.43      |
| 5354.08            | -26.98                    | 33.68                    | 40.41                           | 29.06 | 47.11                               | 35.76 | 74                      | 54  | -26.89         | -18.24 | 121       | 1.16      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2130.57            | -31.33                    | 27.76                    | 45.76                           | 35.52 | 42.19                               | 31.95 | 74                      | 54  | -31.81         | -22.05 | 306       | 1.35      |
| 2919.75            | -30.66                    | 29.79                    | 44.18                           | 33.37 | 43.32                               | 32.51 | 74                      | 54  | -30.68         | -21.49 | 243       | 1.59      |
| 3279.52            | -30.23                    | 30.60                    | 43.87                           | 33.76 | 44.24                               | 34.13 | 74                      | 54  | -29.76         | -19.87 | 110       | 1.66      |
| 3900.55            | -29.16                    | 31.96                    | 43.56                           | 34.87 | 46.36                               | 37.67 | 74                      | 54  | -27.64         | -16.33 | 153       | 1.87      |
| 4505.56            | -28.46                    | 32.21                    | 42.66                           | 33.93 | 46.41                               | 37.68 | 74                      | 54  | -27.59         | -16.32 | 291       | 2.03      |
| 5395.13            | -26.88                    | 33.72                    | 40.80                           | 30.50 | 47.64                               | 37.34 | 74                      | 54  | -26.36         | -16.66 | 183       | 2.31      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 81 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |  |
|------------------|----------------|---------------|--|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH   |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT20_CH06<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz  |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015  |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 95.13                           | 82.77 | 92.28                               | 79.92 | 114                     | 94  | -21.72         | -14.08 | 295       | 1.48      |
| 4874.00            | -28.04                    | 33.10                    | 40.49                           | 29.14 | 45.55                               | 34.20 | 74                      | 54  | -28.45         | -19.80 | 93        | 1.61      |
| 7311.00            | -25.85                    | 35.95                    | 39.16                           | 27.43 | 49.26                               | 37.53 | 74                      | 54  | -24.74         | -16.47 | 177       | 1.65      |
| 9748.00            | -24.76                    | 37.90                    | 36.61                           | 26.84 | 49.75                               | 39.98 | 74                      | 54  | -24.25         | -14.02 | 281       | 1.56      |
| 12185.00           | -22.61                    | 39.02                    | 36.77                           | 23.58 | 53.18                               | 39.99 | 74                      | 54  | -20.82         | -14.01 | 228       | 1.55      |
| 14622.00           | -20.02                    | 41.81                    | 31.12                           | 19.29 | 52.91                               | 41.08 | 74                      | 54  | -21.09         | -12.92 | 329       | 1.47      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 96.88                           | 85.17 | 94.03                               | 82.32 | 114                     | 94  | -19.97         | -11.68 | 164       | 1.51      |
| 4874.00            | -28.04                    | 33.10                    | 39.71                           | 28.92 | 44.77                               | 33.98 | 74                      | 54  | -29.23         | -20.02 | 235       | 1.49      |
| 7311.00            | -25.85                    | 35.95                    | 37.21                           | 27.55 | 47.31                               | 37.65 | 74                      | 54  | -26.69         | -16.35 | 63        | 1.70      |
| 9748.00            | -24.76                    | 37.90                    | 36.61                           | 26.69 | 49.75                               | 39.83 | 74                      | 54  | -24.25         | -14.17 | 338       | 1.68      |
| 12185.00           | -22.61                    | 39.02                    | 35.84                           | 24.05 | 52.25                               | 40.46 | 74                      | 54  | -21.75         | -13.54 | 116       | 1.62      |
| 14622.00           | -20.02                    | 41.81                    | 30.49                           | 19.05 | 52.28                               | 40.84 | 74                      | 54  | -21.72         | -13.16 | 289       | 1.59      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|   |                      |  |
|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 82 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                  |                |               |                                   |
|------------------|----------------|---------------|-----------------------------------|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH                            |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT20_CH11 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                             |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015                     |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2080.71            | -31.39                    | 27.70                    | 45.67                           | 35.62 | 41.98                               | 31.93 | 74                      | 54  | -32.02         | -22.07 | 89        | 2.20      |
| 3024.21            | -30.58                    | 30.14                    | 45.33                           | 36.26 | 44.90                               | 35.83 | 74                      | 54  | -29.10         | -18.17 | 217       | 1.88      |
| 3900.14            | -29.16                    | 31.96                    | 42.86                           | 33.57 | 45.66                               | 36.37 | 74                      | 54  | -28.34         | -17.63 | 35        | 1.64      |
| 4085.08            | -28.89                    | 32.20                    | 43.40                           | 32.13 | 46.72                               | 35.45 | 74                      | 54  | -27.29         | -18.55 | 242       | 1.54      |
| 4270.63            | -28.70                    | 32.20                    | 42.62                           | 31.91 | 46.12                               | 35.41 | 74                      | 54  | -27.88         | -18.59 | 107       | 1.50      |
| 5389.45            | -26.89                    | 33.71                    | 40.84                           | 30.88 | 47.66                               | 37.70 | 74                      | 54  | -26.34         | -16.30 | 315       | 1.17      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2855.76            | -30.69                    | 29.55                    | 44.87                           | 32.24 | 43.72                               | 31.09 | 74                      | 54  | -30.28         | -22.91 | 239       | 1.52      |
| 3360.49            | -30.12                    | 30.75                    | 43.51                           | 33.06 | 44.14                               | 33.69 | 74                      | 54  | -29.86         | -20.31 | 178       | 1.70      |
| 4065.57            | -28.91                    | 32.20                    | 42.23                           | 32.75 | 45.53                               | 36.05 | 74                      | 54  | -28.48         | -17.96 | 93        | 1.94      |
| 4320.71            | -28.65                    | 32.20                    | 42.56                           | 31.55 | 46.11                               | 35.10 | 74                      | 54  | -27.89         | -18.90 | 303       | 2.01      |
| 5134.89            | -27.55                    | 33.51                    | 41.90                           | 30.93 | 47.86                               | 36.89 | 74                      | 54  | -26.14         | -17.11 | 204       | 2.22      |
| 5734.13            | -26.93                    | 33.80                    | 40.05                           | 31.45 | 46.92                               | 38.32 | 74                      | 54  | -27.08         | -15.68 | 266       | 2.40      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 83 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |  |
|------------------|----------------|---------------|--|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH   |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT20_CH11<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz  |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015  |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2462.00 (F)        | -30.94                    | 28.15                    | 94.88                           | 84.49 | 92.09                               | 81.70 | 114                     | 94  | -21.91         | -12.30 | 190       | 1.44      |
| 4924.00            | -27.98                    | 33.22                    | 39.84                           | 28.59 | 45.08                               | 33.83 | 74                      | 54  | -28.92         | -20.17 | 277       | 1.52      |
| 7386.00            | -25.79                    | 36.13                    | 39.27                           | 27.32 | 49.61                               | 37.66 | 74                      | 54  | -24.39         | -16.34 | 324       | 1.71      |
| 9848.00            | -24.69                    | 37.94                    | 38.23                           | 26.89 | 51.48                               | 40.14 | 74                      | 54  | -22.52         | -13.86 | 128       | 1.66      |
| 12310.00           | -22.24                    | 38.89                    | 33.70                           | 23.44 | 50.35                               | 40.09 | 74                      | 54  | -23.65         | -13.91 | 77        | 1.48      |
| 14772.00           | -20.06                    | 41.21                    | 30.69                           | 19.30 | 51.85                               | 40.46 | 74                      | 54  | -22.15         | -13.54 | 295       | 1.55      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2462.00 (F)        | -30.94                    | 28.15                    | 95.76                           | 84.60 | 92.97                               | 81.81 | 114                     | 94  | -21.03         | -12.19 | 325       | 1.53      |
| 4924.00            | -27.98                    | 33.22                    | 41.91                           | 30.19 | 47.15                               | 35.43 | 74                      | 54  | -26.85         | -18.57 | 53        | 1.66      |
| 7386.00            | -25.79                    | 36.13                    | 37.37                           | 27.29 | 47.71                               | 37.63 | 74                      | 54  | -26.29         | -16.37 | 146       | 1.62      |
| 9848.00            | -24.69                    | 37.94                    | 36.06                           | 26.98 | 49.31                               | 40.23 | 74                      | 54  | -24.69         | -13.77 | 303       | 1.53      |
| 12310.00           | -22.24                    | 38.89                    | 34.77                           | 23.28 | 51.42                               | 39.93 | 74                      | 54  | -22.58         | -14.07 | 120       | 1.54      |
| 14772.00           | -20.06                    | 41.21                    | 31.80                           | 19.40 | 52.96                               | 40.56 | 74                      | 54  | -21.04         | -13.44 | 264       | 1.60      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|  |                      |  |
|--|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 84 of 216<br>Date: Dec. 22, 2015 |
|--|----------------------|--|

|                  |                |               |                                   |
|------------------|----------------|---------------|-----------------------------------|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH                            |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT40_CH03 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                             |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015                     |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1445.12            | -32.43                    | 25.29                    | 47.69                           | 38.06 | 40.54                               | 30.91 | 74                      | 54  | -33.46         | -23.09 | 175       | 2.35      |
| 3054.35            | -30.54                    | 30.20                    | 45.35                           | 36.70 | 45.01                               | 36.36 | 74                      | 54  | -28.99         | -17.64 | 322       | 1.89      |
| 3780.26            | -29.39                    | 31.67                    | 44.23                           | 34.64 | 46.51                               | 36.92 | 74                      | 54  | -27.49         | -17.08 | 191       | 1.64      |
| 4304.40            | -28.67                    | 32.20                    | 44.32                           | 34.50 | 47.85                               | 38.03 | 74                      | 54  | -26.15         | -15.97 | 82        | 1.50      |
| 4580.80            | -28.38                    | 32.39                    | 43.38                           | 32.92 | 47.39                               | 36.93 | 74                      | 54  | -26.61         | -17.07 | 168       | 1.42      |
| 5434.89            | -26.78                    | 33.75                    | 41.47                           | 31.26 | 48.44                               | 38.23 | 74                      | 54  | -25.56         | -15.77 | 177       | 1.13      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2220.08            | -31.22                    | 27.86                    | 46.90                           | 36.24 | 43.54                               | 32.88 | 74                      | 54  | -30.46         | -21.12 | 39        | 1.38      |
| 3219.87            | -30.31                    | 30.49                    | 44.94                           | 32.72 | 45.12                               | 32.90 | 74                      | 54  | -28.88         | -21.10 | 180       | 1.68      |
| 3774.91            | -29.40                    | 31.66                    | 43.19                           | 32.48 | 45.44                               | 34.73 | 74                      | 54  | -28.56         | -19.27 | 333       | 1.84      |
| 4110.19            | -28.86                    | 32.20                    | 44.06                           | 34.06 | 47.40                               | 37.40 | 74                      | 54  | -26.60         | -16.60 | 118       | 1.92      |
| 5224.12            | -27.32                    | 33.58                    | 42.44                           | 33.46 | 48.70                               | 39.72 | 74                      | 54  | -25.30         | -14.28 | 257       | 2.25      |
| 5725.64            | -26.92                    | 33.80                    | 41.48                           | 30.75 | 48.36                               | 37.63 | 74                      | 54  | -25.64         | -16.37 | 160       | 2.47      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

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|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 85 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |  |
|------------------|----------------|---------------|--|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH   |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT40_CH03<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz  |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015  |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2422.00 (F)        | -30.99                    | 28.11                    | 93.85                           | 82.58 | 90.97                               | 79.70 | 114                     | 94  | -23.03         | -14.30 | 302       | 1.57      |
| 4844.00            | -28.07                    | 33.03                    | 40.33                           | 30.09 | 45.28                               | 35.04 | 74                      | 54  | -28.72         | -18.96 | 255       | 1.44      |
| 7266.00            | -25.89                    | 35.84                    | 38.88                           | 28.72 | 48.83                               | 38.67 | 74                      | 54  | -25.17         | -15.33 | 108       | 1.58      |
| 9688.00            | -24.80                    | 37.88                    | 38.66                           | 27.90 | 51.73                               | 40.97 | 74                      | 54  | -22.27         | -13.03 | 222       | 1.50      |
| 12110.00           | -22.83                    | 39.09                    | 37.72                           | 25.08 | 53.98                               | 41.34 | 74                      | 54  | -20.02         | -12.66 | 57        | 1.41      |
| 14532.00           | -20.00                    | 42.17                    | 32.36                           | 20.17 | 54.53                               | 42.34 | 74                      | 54  | -19.47         | -11.66 | 187       | 1.67      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2422.00 (F)        | -30.99                    | 28.11                    | 92.39                           | 80.20 | 89.51                               | 77.32 | 114                     | 94  | -24.49         | -16.68 | 123       | 1.60      |
| 4844.00            | -28.07                    | 33.03                    | 40.84                           | 28.90 | 45.79                               | 33.85 | 74                      | 54  | -28.21         | -20.15 | 57        | 1.53      |
| 7266.00            | -25.89                    | 35.84                    | 38.29                           | 28.26 | 48.24                               | 38.21 | 74                      | 54  | -25.76         | -15.79 | 292       | 1.61      |
| 9688.00            | -24.80                    | 37.88                    | 37.36                           | 27.52 | 50.43                               | 40.59 | 74                      | 54  | -23.57         | -13.41 | 152       | 1.75      |
| 12110.00           | -22.83                    | 39.09                    | 35.92                           | 24.95 | 52.18                               | 41.21 | 74                      | 54  | -21.82         | -12.79 | 230       | 1.57      |
| 14532.00           | -20.00                    | 42.17                    | 31.33                           | 20.31 | 53.50                               | 42.48 | 74                      | 54  | -20.50         | -11.52 | 345       | 1.54      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|  |                      |  |
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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 86 of 216<br>Date: Dec. 22, 2015 |
|--|----------------------|--|

|                  |                |               |                                   |
|------------------|----------------|---------------|-----------------------------------|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH                            |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT40_CH06 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                             |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015                     |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2084.13            | -31.38                    | 27.70                    | 46.30                           | 35.77 | 42.62                               | 32.09 | 74                      | 54  | -31.38         | -21.91 | 339       | 2.16      |
| 3095.67            | -30.48                    | 30.27                    | 44.83                           | 34.60 | 44.62                               | 34.39 | 74                      | 54  | -29.38         | -19.61 | 106       | 1.85      |
| 3765.09            | -29.42                    | 31.64                    | 44.19                           | 34.69 | 46.40                               | 36.90 | 74                      | 54  | -27.60         | -17.10 | 184       | 1.66      |
| 4110.56            | -28.86                    | 32.20                    | 43.95                           | 34.85 | 47.29                               | 38.19 | 74                      | 54  | -26.71         | -15.81 | 60        | 1.55      |
| 5290.46            | -27.15                    | 33.63                    | 42.04                           | 31.50 | 48.52                               | 37.98 | 74                      | 54  | -25.48         | -16.02 | 212       | 1.24      |
| 5764.27            | -26.97                    | 33.80                    | 41.62                           | 31.71 | 48.45                               | 38.54 | 74                      | 54  | -25.55         | -15.46 | 192       | 1.03      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1705.64            | -31.93                    | 26.24                    | 47.28                           | 35.21 | 41.59                               | 29.52 | 74                      | 54  | -32.41         | -24.48 | 337       | 1.22      |
| 2860.23            | -30.69                    | 29.57                    | 45.02                           | 33.26 | 43.90                               | 32.14 | 74                      | 54  | -30.10         | -21.86 | 291       | 1.57      |
| 3670.20            | -29.60                    | 31.41                    | 44.46                           | 34.24 | 46.26                               | 36.04 | 74                      | 54  | -27.74         | -17.96 | 121       | 1.82      |
| 4394.51            | -28.58                    | 32.20                    | 43.25                           | 33.85 | 46.87                               | 37.47 | 74                      | 54  | -27.13         | -16.53 | 308       | 2.03      |
| 4664.45            | -28.28                    | 32.59                    | 43.39                           | 32.76 | 47.70                               | 37.07 | 74                      | 54  | -26.30         | -16.93 | 218       | 2.11      |
| 5580.10            | -26.72                    | 33.80                    | 41.91                           | 31.56 | 48.99                               | 38.64 | 74                      | 54  | -25.01         | -15.36 | 84        | 2.35      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|  |                      |  |
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|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 87 of 216<br>Date: Dec. 22, 2015 |
|--|----------------------|--|

|                  |                |               |   |
|------------------|----------------|---------------|---|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH  |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT40_CH06<br>(Fundamental and<br>Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz   |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015   |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 92.32                           | 80.29 | 89.47                               | 77.44 | 114                     | 94  | -24.53         | -16.56 | 42        | 1.52      |
| 4874.00            | -28.04                    | 33.10                    | 41.44                           | 29.37 | 46.50                               | 34.43 | 74                      | 54  | -27.50         | -19.57 | 240       | 1.28      |
| 7311.00            | -25.85                    | 35.95                    | 39.68                           | 28.22 | 49.78                               | 38.32 | 74                      | 54  | -24.22         | -15.68 | 104       | 1.47      |
| 9748.00            | -24.76                    | 37.90                    | 38.90                           | 27.73 | 52.04                               | 40.87 | 74                      | 54  | -21.96         | -13.13 | 57        | 1.36      |
| 12185.00           | -22.61                    | 39.02                    | 35.44                           | 24.69 | 51.85                               | 41.10 | 74                      | 54  | -22.15         | -12.90 | 326       | 1.74      |
| 14622.00           | -20.02                    | 41.81                    | 31.95                           | 19.55 | 53.74                               | 41.34 | 74                      | 54  | -20.26         | -12.66 | 194       | 1.57      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 88.05                           | 77.63 | 85.20                               | 74.78 | 114                     | 94  | -28.80         | -19.22 | 319       | 1.42      |
| 4874.00            | -28.04                    | 33.10                    | 40.18                           | 30.44 | 45.24                               | 35.50 | 74                      | 54  | -28.76         | -18.50 | 147       | 1.52      |
| 7311.00            | -25.85                    | 35.95                    | 38.76                           | 28.30 | 48.86                               | 38.40 | 74                      | 54  | -25.14         | -15.60 | 69        | 1.64      |
| 9748.00            | -24.76                    | 37.90                    | 38.71                           | 27.62 | 51.85                               | 40.76 | 74                      | 54  | -22.15         | -13.24 | 211       | 1.65      |
| 12185.00           | -22.61                    | 39.02                    | 35.37                           | 24.87 | 51.78                               | 41.28 | 74                      | 54  | -22.22         | -12.72 | 118       | 1.57      |
| 14622.00           | -20.02                    | 41.81                    | 29.94                           | 19.53 | 51.73                               | 41.32 | 74                      | 54  | -22.27         | -12.68 | 298       | 1.59      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 88 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |                                   |
|------------------|----------------|---------------|-----------------------------------|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH                            |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT40_CH09 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                             |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015                     |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1999.29            | -31.48                    | 27.60                    | 45.54                           | 35.49 | 41.65                               | 31.60 | 74                      | 54  | -32.35         | -22.40 | 253       | 2.21      |
| 2945.79            | -30.64                    | 29.89                    | 44.67                           | 33.38 | 43.92                               | 32.63 | 74                      | 54  | -30.08         | -21.37 | 81        | 1.93      |
| 3139.33            | -30.42                    | 30.35                    | 44.81                           | 32.12 | 44.74                               | 32.05 | 74                      | 54  | -29.26         | -21.95 | 316       | 1.85      |
| 3921.63            | -29.12                    | 32.01                    | 43.39                           | 34.68 | 46.28                               | 37.57 | 74                      | 54  | -27.72         | -16.43 | 138       | 1.64      |
| 4375.94            | -28.60                    | 32.20                    | 43.36                           | 34.51 | 46.97                               | 38.12 | 74                      | 54  | -27.04         | -15.89 | 233       | 1.47      |
| 5485.82            | -26.65                    | 33.79                    | 41.32                           | 30.62 | 48.46                               | 37.76 | 74                      | 54  | -25.54         | -16.24 | 34        | 1.13      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2000.92            | -31.48                    | 27.60                    | 45.04                           | 35.34 | 41.16                               | 31.46 | 74                      | 54  | -32.84         | -22.54 | 335       | 1.32      |
| 3084.55            | -30.50                    | 30.25                    | 44.34                           | 34.25 | 44.10                               | 34.01 | 74                      | 54  | -29.90         | -19.99 | 42        | 1.64      |
| 3605.22            | -29.73                    | 31.25                    | 44.69                           | 33.77 | 46.21                               | 35.29 | 74                      | 54  | -27.79         | -18.71 | 202       | 1.79      |
| 3914.87            | -29.14                    | 31.99                    | 43.63                           | 32.45 | 46.49                               | 35.31 | 74                      | 54  | -27.51         | -18.69 | 276       | 1.85      |
| 4825.05            | -28.09                    | 32.98                    | 43.21                           | 34.35 | 48.10                               | 39.24 | 74                      | 54  | -25.90         | -14.76 | 113       | 2.16      |
| 5854.43            | -27.10                    | 33.80                    | 41.67                           | 29.42 | 48.37                               | 36.12 | 74                      | 54  | -25.63         | -17.88 | 141       | 2.44      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|   |                      |  |
|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 89 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                  |                |               |  |
|------------------|----------------|---------------|--|
| Temperature:     | 20 °C          | Humidity:     | 64 %RH   |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT40_CH09<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz  |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 25, 2015  |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2452.00 (F)        | -30.96                    | 28.14                    | 91.85                           | 80.24 | 89.04                               | 77.43 | 114                     | 94  | -24.96         | -16.57 | 142       | 1.44      |
| 4904.00            | -28.00                    | 33.17                    | 41.12                           | 30.31 | 46.29                               | 35.48 | 74                      | 54  | -27.71         | -18.52 | 87        | 1.58      |
| 7356.00            | -25.82                    | 36.05                    | 40.82                           | 28.31 | 51.06                               | 38.55 | 74                      | 54  | -22.94         | -15.45 | 290       | 1.51      |
| 9808.00            | -24.72                    | 37.92                    | 38.81                           | 27.59 | 52.01                               | 40.79 | 74                      | 54  | -21.99         | -13.21 | 340       | 1.57      |
| 12260.00           | -22.39                    | 38.94                    | 36.17                           | 24.46 | 52.72                               | 41.01 | 74                      | 54  | -21.28         | -12.99 | 116       | 1.46      |
| 14712.00           | -20.04                    | 41.45                    | 31.73                           | 19.15 | 53.14                               | 40.56 | 74                      | 54  | -20.86         | -13.44 | 227       | 1.73      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2452.00 (F)        | -30.96                    | 28.14                    | 88.92                           | 76.32 | 86.11                               | 73.51 | 114                     | 94  | -27.89         | -20.49 | 306       | 1.68      |
| 4904.00            | -28.00                    | 33.17                    | 41.89                           | 30.42 | 47.06                               | 35.59 | 74                      | 54  | -26.94         | -18.41 | 50        | 1.60      |
| 7356.00            | -25.82                    | 36.05                    | 40.08                           | 28.19 | 50.32                               | 38.43 | 74                      | 54  | -23.68         | -15.57 | 176       | 1.57      |
| 9808.00            | -24.72                    | 37.92                    | 37.60                           | 27.59 | 50.80                               | 40.79 | 74                      | 54  | -23.20         | -13.21 | 245       | 1.51      |
| 12260.00           | -22.39                    | 38.94                    | 34.54                           | 24.46 | 51.09                               | 41.01 | 74                      | 54  | -22.91         | -12.99 | 107       | 1.48      |
| 14712.00           | -20.04                    | 41.45                    | 31.73                           | 19.54 | 53.14                               | 40.95 | 74                      | 54  | -20.86         | -13.05 | 197       | 1.70      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|  |                      |  |
|--|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 90 of 216<br>Date: Dec. 22, 2015 |
|--|----------------------|--|

|                  |                |               |                               |
|------------------|----------------|---------------|-------------------------------|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH                        |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11b_CH01 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                         |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015                 |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1847.88            | -31.71                    | 26.90                    | 44.81                           | 34.35 | 39.99                               | 29.53 | 74                      | 54  | -34.01         | -24.47 | 225       | 2.26      |
| 2184.95            | -31.27                    | 27.82                    | 44.79                           | 34.27 | 41.34                               | 30.82 | 74                      | 54  | -32.66         | -23.18 | 71        | 2.13      |
| 2839.87            | -30.70                    | 29.49                    | 44.40                           | 33.95 | 43.18                               | 32.73 | 74                      | 54  | -30.82         | -21.27 | 60        | 1.97      |
| 3646.01            | -29.65                    | 31.35                    | 42.95                           | 32.41 | 44.65                               | 34.11 | 74                      | 54  | -29.35         | -19.89 | 308       | 1.75      |
| 4318.13            | -28.65                    | 32.20                    | 41.76                           | 31.36 | 45.31                               | 34.91 | 74                      | 54  | -28.69         | -19.09 | 195       | 1.52      |
| 5772.49            | -26.99                    | 33.80                    | 40.65                           | 30.18 | 47.46                               | 36.99 | 74                      | 54  | -26.54         | -17.01 | 48        | 1.08      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1569.92            | -32.14                    | 25.62                    | 48.59                           | 38.03 | 42.07                               | 31.51 | 74                      | 54  | -31.93         | -22.49 | 124       | 1.19      |
| 2117.23            | -31.34                    | 27.74                    | 44.93                           | 34.48 | 41.33                               | 30.88 | 74                      | 54  | -32.67         | -23.12 | 93        | 1.35      |
| 3102.47            | -30.47                    | 30.28                    | 44.51                           | 34.03 | 44.32                               | 33.84 | 74                      | 54  | -29.68         | -20.16 | 315       | 1.68      |
| 3548.85            | -29.84                    | 31.12                    | 43.38                           | 32.86 | 44.66                               | 34.14 | 74                      | 54  | -29.34         | -19.86 | 102       | 1.92      |
| 4088.90            | -28.88                    | 32.20                    | 42.53                           | 31.98 | 45.85                               | 35.30 | 74                      | 54  | -28.15         | -18.70 | 225       | 2.03      |
| 5161.72            | -27.48                    | 33.53                    | 41.18                           | 30.65 | 47.23                               | 36.70 | 74                      | 54  | -26.77         | -17.30 | 89        | 2.27      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 91 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |  |
|------------------|----------------|---------------|--|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH   |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11b_CH01<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz  |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015  |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2412.00 (F)        | -31.00                    | 28.09                    | 96.38                           | 83.69 | 93.47                               | 80.78 | 114                     | 94  | -20.53         | -13.22 | 144       | 1.55      |
| 4824.00            | -28.09                    | 32.98                    | 44.21                           | 33.78 | 49.09                               | 38.66 | 74                      | 54  | -24.91         | -15.34 | 351       | 1.69      |
| 7236.00            | -25.91                    | 35.77                    | 36.85                           | 26.35 | 46.71                               | 36.21 | 74                      | 54  | -27.29         | -17.79 | 92        | 1.61      |
| 9648.00            | -24.83                    | 37.86                    | 36.61                           | 26.17 | 49.64                               | 39.20 | 74                      | 54  | -24.36         | -14.80 | 118       | 1.57      |
| 12060.00           | -22.98                    | 39.14                    | 33.99                           | 23.50 | 50.15                               | 39.66 | 74                      | 54  | -23.85         | -14.34 | 257       | 1.43      |
| 14472.00           | -20.00                    | 42.27                    | 30.42                           | 19.90 | 52.69                               | 42.17 | 74                      | 54  | -21.31         | -11.83 | 294       | 1.49      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2412.00 (F)        | -31.00                    | 28.09                    | 93.07                           | 80.19 | 90.16                               | 77.28 | 114                     | 94  | -23.84         | -16.72 | 135       | 1.52      |
| 4824.00            | -28.09                    | 32.98                    | 40.78                           | 30.22 | 45.66                               | 35.10 | 74                      | 54  | -28.34         | -18.90 | 64        | 1.56      |
| 7236.00            | -25.91                    | 35.77                    | 36.94                           | 26.42 | 46.80                               | 36.28 | 74                      | 54  | -27.20         | -17.72 | 39        | 1.63      |
| 9648.00            | -24.83                    | 37.86                    | 36.41                           | 25.99 | 49.44                               | 39.02 | 74                      | 54  | -24.56         | -14.98 | 177       | 1.66      |
| 12060.00           | -22.98                    | 39.14                    | 34.26                           | 23.83 | 50.42                               | 39.99 | 74                      | 54  | -23.58         | -14.01 | 255       | 1.53      |
| 14472.00           | -20.00                    | 42.27                    | 30.48                           | 19.98 | 52.75                               | 42.25 | 74                      | 54  | -21.25         | -11.75 | 83        | 1.49      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 92 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |                               |
|------------------|----------------|---------------|-------------------------------|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH                        |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11b_CH06 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                         |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015                 |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1776.89            | -31.82                    | 26.57                    | 44.73                           | 34.27 | 39.48                               | 29.02 | 74                      | 54  | -34.52         | -24.98 | 325       | 2.29      |
| 3024.40            | -30.58                    | 30.14                    | 43.72                           | 33.15 | 43.29                               | 32.72 | 74                      | 54  | -30.71         | -21.28 | 211       | 1.93      |
| 3332.21            | -30.16                    | 30.70                    | 43.50                           | 33.01 | 44.04                               | 33.55 | 74                      | 54  | -29.96         | -20.45 | 204       | 1.81      |
| 3651.57            | -29.64                    | 31.36                    | 42.94                           | 32.48 | 44.66                               | 34.20 | 74                      | 54  | -29.34         | -19.80 | 108       | 1.70      |
| 4279.63            | -28.69                    | 32.20                    | 42.24                           | 31.79 | 45.75                               | 35.30 | 74                      | 54  | -28.25         | -18.70 | 112       | 1.53      |
| 5133.82            | -27.55                    | 33.51                    | 40.46                           | 30.03 | 46.42                               | 35.99 | 74                      | 54  | -27.58         | -18.01 | 310       | 1.28      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1558.64            | -32.15                    | 25.57                    | 46.92                           | 36.45 | 40.33                               | 29.86 | 74                      | 54  | -33.67         | -24.14 | 42        | 1.14      |
| 1642.93            | -32.02                    | 25.95                    | 46.89                           | 36.39 | 40.82                               | 30.32 | 74                      | 54  | -33.18         | -23.68 | 145       | 1.18      |
| 3274.50            | -30.24                    | 30.59                    | 43.36                           | 32.84 | 43.72                               | 33.20 | 74                      | 54  | -30.28         | -20.80 | 346       | 1.67      |
| 4061.77            | -28.91                    | 32.20                    | 41.79                           | 31.29 | 45.08                               | 34.58 | 74                      | 54  | -28.92         | -19.42 | 202       | 1.95      |
| 4639.02            | -28.31                    | 32.53                    | 41.90                           | 31.44 | 46.12                               | 35.66 | 74                      | 54  | -27.88         | -18.34 | 197       | 2.07      |
| 5008.31            | -27.87                    | 33.41                    | 41.81                           | 31.35 | 47.35                               | 36.89 | 74                      | 54  | -26.65         | -17.11 | 290       | 2.23      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|   |                      |  |
|---|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 93 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|--|

|                  |                |               |  |
|------------------|----------------|---------------|--|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH   |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11b_CH06<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz  |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015  |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 95.03                           | 81.94 | 92.18                               | 79.09 | 114                     | 94  | -21.82         | -14.91 | 199       | 1.52      |
| 4874.00            | -28.04                    | 33.10                    | 41.43                           | 30.96 | 46.49                               | 36.02 | 74                      | 54  | -27.51         | -17.98 | 304       | 1.59      |
| 7311.00            | -25.85                    | 35.95                    | 37.14                           | 26.69 | 47.24                               | 36.79 | 74                      | 54  | -26.76         | -17.21 | 152       | 1.43      |
| 9748.00            | -24.76                    | 37.90                    | 36.50                           | 26.01 | 49.64                               | 39.15 | 74                      | 54  | -24.36         | -14.85 | 117       | 1.48      |
| 12185.00           | -22.61                    | 39.02                    | 33.79                           | 23.26 | 50.20                               | 39.67 | 74                      | 54  | -23.80         | -14.33 | 65        | 1.52      |
| 14622.00           | -20.02                    | 41.81                    | 28.75                           | 18.42 | 50.54                               | 40.21 | 74                      | 54  | -23.46         | -13.79 | 188       | 1.57      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 92.18                           | 79.36 | 89.33                               | 76.51 | 114                     | 94  | -24.67         | -17.49 | 44        | 1.63      |
| 4874.00            | -28.04                    | 33.10                    | 39.40                           | 28.93 | 44.46                               | 33.99 | 74                      | 54  | -29.54         | -20.01 | 252       | 1.64      |
| 7311.00            | -25.85                    | 35.95                    | 37.30                           | 26.85 | 47.40                               | 36.95 | 74                      | 54  | -26.60         | -17.05 | 217       | 1.55      |
| 9748.00            | -24.76                    | 37.90                    | 36.74                           | 26.22 | 49.88                               | 39.36 | 74                      | 54  | -24.12         | -14.64 | 95        | 1.48      |
| 12185.00           | -22.61                    | 39.02                    | 33.62                           | 23.19 | 50.03                               | 39.60 | 74                      | 54  | -23.97         | -14.40 | 315       | 1.67      |
| 14622.00           | -20.02                    | 41.81                    | 28.85                           | 18.26 | 50.64                               | 40.05 | 74                      | 54  | -23.36         | -13.95 | 89        | 1.53      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 94 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |                               |
|------------------|----------------|---------------|-------------------------------|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH                        |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11b_CH11 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                         |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015                 |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1927.25            | -31.59                    | 27.26                    | 44.37                           | 33.89 | 40.04                               | 29.56 | 74                      | 54  | -33.96         | -24.44 | 335       | 2.25      |
| 3054.80            | -30.54                    | 30.20                    | 43.92                           | 33.45 | 43.58                               | 33.11 | 74                      | 54  | -30.42         | -20.89 | 210       | 1.89      |
| 3638.96            | -29.67                    | 31.33                    | 42.65                           | 32.11 | 44.32                               | 33.78 | 74                      | 54  | -29.68         | -20.22 | 107       | 1.72      |
| 4351.55            | -28.62                    | 32.20                    | 41.91                           | 31.47 | 45.49                               | 35.05 | 74                      | 54  | -28.51         | -18.95 | 92        | 1.45      |
| 5077.42            | -27.69                    | 33.46                    | 41.28                           | 30.76 | 47.05                               | 36.53 | 74                      | 54  | -26.95         | -17.47 | 115       | 1.29      |
| 5459.71            | -26.71                    | 33.77                    | 39.65                           | 29.18 | 46.70                               | 36.23 | 74                      | 54  | -27.30         | -17.77 | 75        | 1.12      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1672.62            | -31.98                    | 26.09                    | 46.96                           | 36.48 | 41.07                               | 30.59 | 74                      | 54  | -32.93         | -23.41 | 142       | 1.24      |
| 2644.04            | -30.82                    | 28.75                    | 43.76                           | 33.22 | 41.69                               | 31.15 | 74                      | 54  | -32.31         | -22.85 | 219       | 1.51      |
| 3091.59            | -30.49                    | 30.26                    | 43.33                           | 32.84 | 43.11                               | 32.62 | 74                      | 54  | -30.89         | -21.38 | 63        | 1.69      |
| 3578.32            | -29.78                    | 31.19                    | 42.92                           | 32.49 | 44.33                               | 33.90 | 74                      | 54  | -29.67         | -20.10 | 158       | 1.83      |
| 4176.88            | -28.79                    | 32.20                    | 41.96                           | 31.42 | 45.37                               | 34.83 | 74                      | 54  | -28.63         | -19.17 | 202       | 1.97      |
| 5301.51            | -27.12                    | 33.64                    | 40.08                           | 29.55 | 46.60                               | 36.07 | 74                      | 54  | -27.40         | -17.93 | 287       | 2.27      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 95 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |  |
|------------------|----------------|---------------|--|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH   |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11b_CH11<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz  |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015  |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2462.00 (F)        | -30.94                    | 28.15                    | 93.91                           | 80.20 | 91.12                               | 77.41 | 114                     | 94  | -22.88         | -16.59 | 125       | 1.62      |
| 4924.00            | -27.98                    | 33.22                    | 41.72                           | 31.24 | 46.96                               | 36.48 | 74                      | 54  | -27.04         | -17.52 | 327       | 1.60      |
| 7386.00            | -25.79                    | 36.13                    | 37.12                           | 26.67 | 47.46                               | 37.01 | 74                      | 54  | -26.54         | -16.99 | 188       | 1.64      |
| 9848.00            | -24.69                    | 37.94                    | 36.65                           | 26.12 | 49.90                               | 39.37 | 74                      | 54  | -24.10         | -14.63 | 60        | 1.51      |
| 12310.00           | -22.24                    | 38.89                    | 32.97                           | 22.50 | 49.62                               | 39.15 | 74                      | 54  | -24.38         | -14.85 | 237       | 1.59      |
| 14772.00           | -20.06                    | 41.21                    | 29.04                           | 18.53 | 50.20                               | 39.69 | 74                      | 54  | -23.80         | -14.31 | 213       | 1.66      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2462.00 (F)        | -30.94                    | 28.15                    | 92.03                           | 79.08 | 89.24                               | 76.29 | 114                     | 94  | -24.76         | -17.71 | 196       | 1.50      |
| 4924.00            | -27.98                    | 33.22                    | 40.87                           | 30.32 | 46.11                               | 35.56 | 74                      | 54  | -27.89         | -18.44 | 57        | 1.47      |
| 7386.00            | -25.79                    | 36.13                    | 37.36                           | 26.84 | 47.70                               | 37.18 | 74                      | 54  | -26.30         | -16.82 | 312       | 1.45      |
| 9848.00            | -24.69                    | 37.94                    | 36.81                           | 26.30 | 50.06                               | 39.55 | 74                      | 54  | -23.94         | -14.45 | 339       | 1.62      |
| 12310.00           | -22.24                    | 38.89                    | 33.19                           | 22.65 | 49.84                               | 39.30 | 74                      | 54  | -24.16         | -14.70 | 227       | 1.59      |
| 14772.00           | -20.06                    | 41.21                    | 28.95                           | 18.48 | 50.11                               | 39.64 | 74                      | 54  | -23.89         | -14.36 | 49        | 1.45      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|  |                      |  |
|--|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 96 of 216<br>Date: Dec. 22, 2015 |
|--|----------------------|--|

|                  |                |               |                               |
|------------------|----------------|---------------|-------------------------------|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH                        |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11g_CH01 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                         |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015                 |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1851.22            | -31.71                    | 26.91                    | 44.45                           | 33.96 | 39.66                               | 29.17 | 74                      | 54  | -34.34         | -24.83 | 219       | 2.25      |
| 2913.36            | -30.66                    | 29.77                    | 43.83                           | 33.32 | 42.94                               | 32.43 | 74                      | 54  | -31.06         | -21.57 | 45        | 1.92      |
| 4018.57            | -28.95                    | 32.20                    | 41.35                           | 30.87 | 44.60                               | 34.12 | 74                      | 54  | -29.40         | -19.88 | 103       | 1.55      |
| 4254.01            | -28.72                    | 32.20                    | 42.15                           | 31.62 | 45.63                               | 35.10 | 74                      | 54  | -28.37         | -18.90 | 300       | 1.37      |
| 5143.29            | -27.52                    | 33.51                    | 40.60                           | 30.10 | 46.59                               | 36.09 | 74                      | 54  | -27.41         | -17.91 | 137       | 1.20      |
| 5369.48            | -26.95                    | 33.70                    | 40.57                           | 30.02 | 47.32                               | 36.77 | 74                      | 54  | -26.68         | -17.23 | 63        | 1.04      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1577.70            | -32.12                    | 25.65                    | 48.09                           | 37.51 | 41.62                               | 31.04 | 74                      | 54  | -32.38         | -22.96 | 244       | 1.18      |
| 3044.29            | -30.55                    | 30.18                    | 44.67                           | 34.13 | 44.30                               | 33.76 | 74                      | 54  | -29.70         | -20.24 | 84        | 1.62      |
| 3259.75            | -30.26                    | 30.57                    | 42.82                           | 32.30 | 43.13                               | 32.61 | 74                      | 54  | -30.87         | -21.39 | 107       | 1.74      |
| 4173.10            | -28.80                    | 32.20                    | 41.91                           | 31.42 | 45.31                               | 34.82 | 74                      | 54  | -28.69         | -19.18 | 208       | 1.91      |
| 4432.89            | -28.54                    | 32.20                    | 41.98                           | 31.52 | 45.64                               | 35.18 | 74                      | 54  | -28.36         | -18.82 | 192       | 2.02      |
| 5532.61            | -26.65                    | 33.80                    | 40.87                           | 30.39 | 48.02                               | 37.54 | 74                      | 54  | -25.98         | -16.46 | 280       | 2.38      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 97 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |  |
|------------------|----------------|---------------|--|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH   |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11g_CH01<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz  |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015  |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2412.00 (F)        | -31.00                    | 28.09                    | 95.73                           | 82.28 | 92.82                               | 79.37 | 114                     | 94  | -21.18         | -14.63 | 155       | 1.59      |
| 4824.00            | -28.09                    | 32.98                    | 42.60                           | 32.04 | 47.48                               | 36.92 | 74                      | 54  | -26.52         | -17.08 | 192       | 1.45      |
| 7236.00            | -25.91                    | 35.77                    | 36.51                           | 26.07 | 46.37                               | 35.93 | 74                      | 54  | -27.63         | -18.07 | 202       | 1.53      |
| 9648.00            | -24.83                    | 37.86                    | 36.32                           | 25.85 | 49.35                               | 38.88 | 74                      | 54  | -24.65         | -15.12 | 75        | 1.67      |
| 12060.00           | -22.98                    | 39.14                    | 33.78                           | 23.29 | 49.94                               | 39.45 | 74                      | 54  | -24.06         | -14.55 | 93        | 1.57      |
| 14472.00           | -20.00                    | 42.27                    | 30.24                           | 19.72 | 52.51                               | 41.99 | 74                      | 54  | -21.49         | -12.01 | 126       | 1.50      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2412.00 (F)        | -31.00                    | 28.09                    | 94.25                           | 81.30 | 91.34                               | 78.39 | 114                     | 94  | -22.66         | -15.61 | 314       | 1.43      |
| 4824.00            | -28.09                    | 32.98                    | 39.56                           | 29.02 | 44.44                               | 33.90 | 74                      | 54  | -29.56         | -20.10 | 288       | 1.63      |
| 7236.00            | -25.91                    | 35.77                    | 36.69                           | 26.13 | 46.55                               | 35.99 | 74                      | 54  | -27.45         | -18.01 | 335       | 1.59      |
| 9648.00            | -24.83                    | 37.86                    | 36.21                           | 25.80 | 49.24                               | 38.83 | 74                      | 54  | -24.76         | -15.17 | 146       | 1.58      |
| 12060.00           | -22.98                    | 39.14                    | 33.65                           | 23.19 | 49.81                               | 39.35 | 74                      | 54  | -24.19         | -14.65 | 82        | 1.62      |
| 14472.00           | -20.00                    | 42.27                    | 30.20                           | 19.79 | 52.47                               | 42.06 | 74                      | 54  | -21.53         | -11.94 | 227       | 1.49      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|  |                      |  |
|--|----------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 98 of 216<br>Date: Dec. 22, 2015 |
|--|----------------------|--|

|                  |                |               |                               |
|------------------|----------------|---------------|-------------------------------|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH                        |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11g_CH06 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                         |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015                 |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1644.79            | -32.02                    | 25.96                    | 44.76                           | 34.25 | 38.70                               | 28.19 | 74                      | 54  | -35.30         | -25.81 | 320       | 2.32      |
| 3031.32            | -30.57                    | 30.16                    | 43.45                           | 32.98 | 43.04                               | 32.57 | 74                      | 54  | -30.96         | -21.43 | 217       | 1.88      |
| 3873.55            | -29.21                    | 31.90                    | 41.39                           | 30.82 | 44.07                               | 33.50 | 74                      | 54  | -29.93         | -20.50 | 104       | 1.62      |
| 4339.48            | -28.63                    | 32.20                    | 41.33                           | 30.87 | 44.90                               | 34.44 | 74                      | 54  | -29.10         | -19.56 | 92        | 1.51      |
| 5214.27            | -27.34                    | 33.57                    | 40.25                           | 29.76 | 46.48                               | 35.99 | 74                      | 54  | -27.52         | -18.01 | 75        | 1.27      |
| 5658.98            | -26.83                    | 33.80                    | 39.49                           | 28.91 | 46.46                               | 35.88 | 74                      | 54  | -27.54         | -18.12 | 173       | 1.12      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1576.15            | -32.12                    | 25.65                    | 47.59                           | 37.01 | 41.12                               | 30.54 | 74                      | 54  | -32.88         | -23.46 | 246       | 1.19      |
| 3039.36            | -30.56                    | 30.17                    | 43.48                           | 32.97 | 43.09                               | 32.58 | 74                      | 54  | -30.91         | -21.42 | 91        | 1.62      |
| 3467.94            | -29.97                    | 30.94                    | 42.40                           | 31.86 | 43.37                               | 32.83 | 74                      | 54  | -30.63         | -21.17 | 102       | 1.77      |
| 4228.56            | -28.74                    | 32.20                    | 41.51                           | 31.02 | 44.97                               | 34.48 | 74                      | 54  | -29.03         | -19.52 | 193       | 1.93      |
| 5271.88            | -27.20                    | 33.62                    | 40.18                           | 29.67 | 46.60                               | 36.09 | 74                      | 54  | -27.40         | -17.91 | 328       | 2.21      |
| 5796.32            | -27.02                    | 33.80                    | 39.73                           | 29.26 | 46.51                               | 36.04 | 74                      | 54  | -27.49         | -17.96 | 288       | 2.45      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|   |                    |  |
|---|--------------------|--|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 99 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|--|

|                  |                |               |  |
|------------------|----------------|---------------|--|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH   |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11g_CH06<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz  |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015  |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 95.93                           | 81.74 | 93.08                               | 78.89 | 114                     | 94  | -20.92         | -15.11 | 196       | 1.47      |
| 4874.00            | -28.04                    | 33.10                    | 39.59                           | 29.07 | 44.65                               | 34.13 | 74                      | 54  | -29.35         | -19.87 | 251       | 1.52      |
| 7311.00            | -25.85                    | 35.95                    | 37.02                           | 26.54 | 47.12                               | 36.64 | 74                      | 54  | -26.88         | -17.36 | 123       | 1.55      |
| 9748.00            | -24.76                    | 37.90                    | 36.41                           | 25.97 | 49.55                               | 39.11 | 74                      | 54  | -24.45         | -14.89 | 311       | 1.51      |
| 12185.00           | -22.61                    | 39.02                    | 33.27                           | 22.74 | 49.68                               | 39.15 | 74                      | 54  | -24.32         | -14.85 | 46        | 1.49      |
| 14622.00           | -20.02                    | 41.81                    | 28.72                           | 18.27 | 50.51                               | 40.06 | 74                      | 54  | -23.49         | -13.94 | 87        | 1.63      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 92.37                           | 78.39 | 89.52                               | 75.54 | 114                     | 94  | -24.48         | -18.46 | 294       | 1.68      |
| 4874.00            | -28.04                    | 33.10                    | 39.73                           | 29.24 | 44.79                               | 34.30 | 74                      | 54  | -29.21         | -19.70 | 60        | 1.61      |
| 7311.00            | -25.85                    | 35.95                    | 36.89                           | 26.38 | 46.99                               | 36.48 | 74                      | 54  | -27.01         | -17.52 | 135       | 1.52      |
| 9748.00            | -24.76                    | 37.90                    | 36.57                           | 26.07 | 49.71                               | 39.21 | 74                      | 54  | -24.29         | -14.79 | 338       | 1.56      |
| 12185.00           | -22.61                    | 39.02                    | 33.35                           | 22.88 | 49.76                               | 39.29 | 74                      | 54  | -24.24         | -14.71 | 82        | 1.44      |
| 14622.00           | -20.02                    | 41.81                    | 28.91                           | 18.37 | 50.70                               | 40.16 | 74                      | 54  | -23.30         | -13.84 | 167       | 1.62      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                    |   |
|---|--------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 100 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|---|

|                  |                |               |                               |
|------------------|----------------|---------------|-------------------------------|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH                        |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11g_CH11 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                         |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015                 |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2123.34            | -31.34                    | 27.75                    | 45.45                           | 34.97 | 41.86                               | 31.38 | 74                      | 54  | -32.14         | -22.62 | 166       | 2.19      |
| 3038.19            | -30.56                    | 30.17                    | 44.01                           | 33.52 | 43.62                               | 33.13 | 74                      | 54  | -30.38         | -20.87 | 207       | 1.88      |
| 3675.25            | -29.59                    | 31.42                    | 43.11                           | 32.67 | 44.94                               | 34.50 | 74                      | 54  | -29.06         | -19.50 | 108       | 1.70      |
| 3999.88            | -28.97                    | 32.20                    | 42.25                           | 31.79 | 45.48                               | 35.02 | 74                      | 54  | -28.52         | -18.98 | 43        | 1.62      |
| 5247.07            | -27.26                    | 33.60                    | 40.27                           | 29.71 | 46.61                               | 36.05 | 74                      | 54  | -27.39         | -17.95 | 256       | 1.24      |
| 5776.48            | -26.99                    | 33.80                    | 40.18                           | 29.65 | 46.99                               | 36.46 | 74                      | 54  | -27.01         | -17.54 | 79        | 1.07      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1598.40            | -32.09                    | 25.75                    | 46.94                           | 36.44 | 40.60                               | 30.10 | 74                      | 54  | -33.40         | -23.90 | 41        | 1.19      |
| 3057.17            | -30.53                    | 30.20                    | 43.38                           | 32.88 | 43.05                               | 32.55 | 74                      | 54  | -30.95         | -21.45 | 318       | 1.53      |
| 3549.32            | -29.84                    | 31.12                    | 42.94                           | 32.46 | 44.22                               | 33.74 | 74                      | 54  | -29.78         | -20.26 | 102       | 1.77      |
| 3866.51            | -29.23                    | 31.88                    | 43.04                           | 32.50 | 45.69                               | 35.15 | 74                      | 54  | -28.31         | -18.85 | 234       | 1.89      |
| 4352.79            | -28.62                    | 32.20                    | 41.83                           | 31.37 | 45.41                               | 34.95 | 74                      | 54  | -28.59         | -19.05 | 78        | 2.02      |
| 5074.25            | -27.70                    | 33.46                    | 41.10                           | 30.64 | 46.86                               | 36.40 | 74                      | 54  | -27.14         | -17.60 | 299       | 2.23      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|   |                      |   |
|---|----------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 101 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|---|

|                  |                |               |  |
|------------------|----------------|---------------|--|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH   |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11g_CH11<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz  |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015  |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2462.00 (F)        | -30.94                    | 28.15                    | 95.82                           | 82.33 | 93.03                               | 79.54 | 114                     | 94  | -20.97         | -14.46 | 172       | 1.52      |
| 4924.00            | -27.98                    | 33.22                    | 41.36                           | 30.84 | 46.60                               | 36.08 | 74                      | 54  | -27.40         | -17.92 | 225       | 1.55      |
| 7386.00            | -25.79                    | 36.13                    | 37.62                           | 27.10 | 47.96                               | 37.44 | 74                      | 54  | -26.04         | -16.56 | 103       | 1.48      |
| 9848.00            | -24.69                    | 37.94                    | 37.07                           | 26.53 | 50.32                               | 39.78 | 74                      | 54  | -23.68         | -14.22 | 196       | 1.49      |
| 12310.00           | -22.24                    | 38.89                    | 33.40                           | 22.96 | 50.05                               | 39.61 | 74                      | 54  | -23.95         | -14.39 | 315       | 1.59      |
| 14772.00           | -20.06                    | 41.21                    | 29.17                           | 18.64 | 50.33                               | 39.80 | 74                      | 54  | -23.67         | -14.20 | 346       | 1.53      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2462.00 (F)        | -30.94                    | 28.15                    | 93.35                           | 80.17 | 90.56                               | 77.38 | 114                     | 94  | -23.44         | -16.62 | 221       | 1.66      |
| 4924.00            | -27.98                    | 33.22                    | 40.15                           | 29.66 | 45.39                               | 34.90 | 74                      | 54  | -28.61         | -19.10 | 126       | 1.61      |
| 7386.00            | -25.79                    | 36.13                    | 37.78                           | 27.21 | 48.12                               | 37.55 | 74                      | 54  | -25.88         | -16.45 | 59        | 1.50      |
| 9848.00            | -24.69                    | 37.94                    | 36.89                           | 26.45 | 50.14                               | 39.70 | 74                      | 54  | -23.86         | -14.30 | 83        | 1.63      |
| 12310.00           | -22.24                    | 38.89                    | 33.34                           | 22.93 | 49.99                               | 39.58 | 74                      | 54  | -24.01         | -14.42 | 329       | 1.39      |
| 14772.00           | -20.06                    | 41.21                    | 28.81                           | 18.49 | 49.97                               | 39.65 | 74                      | 54  | -24.03         | -14.35 | 101       | 1.51      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|   |                    |   |
|---|--------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 102 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|---|

|                  |                |               |                                      |
|------------------|----------------|---------------|--------------------------------------|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH                               |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT20_CH01 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                                |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015                        |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1876.13            | -31.67                    | 27.03                    | 45.23                           | 34.76 | 40.59                               | 30.12 | 74                      | 54  | -33.41         | -23.88 | 329       | 2.25      |
| 2884.86            | -30.68                    | 29.66                    | 43.80                           | 33.32 | 42.78                               | 32.30 | 74                      | 54  | -31.22         | -21.70 | 201       | 1.94      |
| 3482.40            | -29.95                    | 30.97                    | 43.75                           | 33.27 | 44.76                               | 34.28 | 74                      | 54  | -29.24         | -19.72 | 172       | 1.71      |
| 3891.57            | -29.18                    | 31.94                    | 42.23                           | 31.74 | 44.99                               | 34.50 | 74                      | 54  | -29.01         | -19.50 | 124       | 1.65      |
| 4308.12            | -28.66                    | 32.20                    | 42.50                           | 31.95 | 46.04                               | 35.49 | 74                      | 54  | -27.96         | -18.51 | 97        | 1.53      |
| 5302.39            | -27.12                    | 33.64                    | 40.03                           | 29.51 | 46.55                               | 36.03 | 74                      | 54  | -27.45         | -17.97 | 301       | 1.20      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1608.49            | -32.08                    | 25.80                    | 47.50                           | 37.03 | 41.22                               | 30.75 | 74                      | 54  | -32.78         | -23.25 | 42        | 1.11      |
| 1721.15            | -31.90                    | 26.32                    | 48.71                           | 38.28 | 43.12                               | 32.69 | 74                      | 54  | -30.88         | -21.31 | 185       | 1.27      |
| 3117.03            | -30.45                    | 30.31                    | 43.77                           | 33.19 | 43.63                               | 33.05 | 74                      | 54  | -30.37         | -20.95 | 224       | 1.65      |
| 3552.62            | -29.83                    | 31.12                    | 43.40                           | 32.92 | 44.69                               | 34.21 | 74                      | 54  | -29.31         | -19.79 | 165       | 1.79      |
| 3924.88            | -29.12                    | 32.02                    | 42.52                           | 32.04 | 45.42                               | 34.94 | 74                      | 54  | -28.58         | -19.06 | 207       | 1.88      |
| 4196.27            | -28.77                    | 32.20                    | 42.08                           | 31.53 | 45.51                               | 34.96 | 74                      | 54  | -28.49         | -19.04 | 342       | 2.04      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|  |                    |   |
|--|--------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd.,Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 103 of 216<br>Date: Dec. 22, 2015 |
|--|--------------------|---|

|                  |                |               |   |
|------------------|----------------|---------------|---|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH  |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT20_CH01<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz   |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015   |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2412.00 (F)        | -31.00                    | 28.09                    | 97.04                           | 83.69 | 94.13                               | 80.78 | 114                     | 94  | -19.87         | -13.22 | 192       | 1.55      |
| 4824.00            | -28.09                    | 32.98                    | 42.59                           | 32.01 | 47.47                               | 36.89 | 74                      | 54  | -26.53         | -17.11 | 315       | 1.48      |
| 7236.00            | -25.91                    | 35.77                    | 36.75                           | 26.23 | 46.61                               | 36.09 | 74                      | 54  | -27.39         | -17.91 | 127       | 1.63      |
| 9648.00            | -24.83                    | 37.86                    | 36.51                           | 26.03 | 49.54                               | 39.06 | 74                      | 54  | -24.46         | -14.94 | 258       | 1.42      |
| 12060.00           | -22.98                    | 39.14                    | 33.46                           | 22.96 | 49.62                               | 39.12 | 74                      | 54  | -24.38         | -14.88 | 163       | 1.51      |
| 14472.00           | -20.00                    | 42.27                    | 29.99                           | 19.56 | 52.26                               | 41.83 | 74                      | 54  | -21.74         | -12.17 | 75        | 1.59      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2412.00 (F)        | -31.00                    | 28.09                    | 95.18                           | 81.52 | 92.27                               | 78.61 | 114                     | 94  | -21.73         | -15.39 | 52        | 1.62      |
| 4824.00            | -28.09                    | 32.98                    | 40.06                           | 29.56 | 44.94                               | 34.44 | 74                      | 54  | -29.06         | -19.56 | 211       | 1.60      |
| 7236.00            | -25.91                    | 35.77                    | 36.64                           | 26.11 | 46.50                               | 35.97 | 74                      | 54  | -27.50         | -18.03 | 340       | 1.53      |
| 9648.00            | -24.83                    | 37.86                    | 36.37                           | 25.82 | 49.40                               | 38.85 | 74                      | 54  | -24.60         | -15.15 | 189       | 1.50      |
| 12060.00           | -22.98                    | 39.14                    | 33.41                           | 22.97 | 49.57                               | 39.13 | 74                      | 54  | -24.43         | -14.87 | 261       | 1.44      |
| 14472.00           | -20.00                    | 42.27                    | 30.35                           | 19.80 | 52.62                               | 42.07 | 74                      | 54  | -21.38         | -11.93 | 103       | 1.67      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                      |   |
|---|----------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 104 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|---|

|                  |                |               |                                      |
|------------------|----------------|---------------|--------------------------------------|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH                               |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT20_CH06 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                                |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015                        |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2118.75            | -31.34                    | 27.74                    | 44.08                           | 33.57 | 40.48                               | 29.97 | 74                      | 54  | -33.52         | -24.03 | 220       | 2.18      |
| 2907.19            | -30.66                    | 29.75                    | 43.58                           | 33.02 | 42.66                               | 32.10 | 74                      | 54  | -31.34         | -21.90 | 274       | 1.95      |
| 3431.44            | -30.02                    | 30.88                    | 43.05                           | 32.59 | 43.90                               | 33.44 | 74                      | 54  | -30.10         | -20.56 | 305       | 1.74      |
| 3964.86            | -29.04                    | 32.11                    | 41.98                           | 31.41 | 45.05                               | 34.48 | 74                      | 54  | -28.95         | -19.52 | 119       | 1.60      |
| 4402.03            | -28.57                    | 32.20                    | 41.74                           | 31.38 | 45.37                               | 35.01 | 74                      | 54  | -28.63         | -18.99 | 67        | 1.43      |
| 5563.96            | -26.70                    | 33.80                    | 39.63                           | 29.15 | 46.73                               | 36.25 | 74                      | 54  | -27.27         | -17.75 | 47        | 1.12      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1609.78            | -32.07                    | 25.80                    | 47.67                           | 37.10 | 41.40                               | 30.83 | 74                      | 54  | -32.60         | -23.17 | 142       | 1.19      |
| 3017.32            | -30.59                    | 30.13                    | 43.80                           | 33.37 | 43.34                               | 32.91 | 74                      | 54  | -30.66         | -21.09 | 210       | 1.67      |
| 3712.90            | -29.52                    | 31.51                    | 42.64                           | 32.16 | 44.63                               | 34.15 | 74                      | 54  | -29.37         | -19.85 | 85        | 1.92      |
| 4396.65            | -28.57                    | 32.20                    | 41.68                           | 31.20 | 45.31                               | 34.83 | 74                      | 54  | -28.69         | -19.17 | 196       | 2.04      |
| 5341.49            | -27.02                    | 33.67                    | 40.36                           | 29.86 | 47.02                               | 36.52 | 74                      | 54  | -26.98         | -17.48 | 283       | 2.33      |
| 5624.25            | -26.78                    | 33.80                    | 39.74                           | 29.27 | 46.76                               | 36.29 | 74                      | 54  | -27.24         | -17.71 | 93        | 2.49      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|   |                    |   |
|---|--------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 105 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|---|

|                  |                |               |   |
|------------------|----------------|---------------|---|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH  |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT20_CH06<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz   |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015   |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 94.94                           | 81.24 | 92.09                               | 78.39 | 114                     | 94  | -21.91         | -15.61 | 160       | 1.57      |
| 4874.00            | -28.04                    | 33.10                    | 40.41                           | 29.83 | 45.47                               | 34.89 | 74                      | 54  | -28.53         | -19.11 | 198       | 1.59      |
| 7311.00            | -25.85                    | 35.95                    | 37.03                           | 26.54 | 47.13                               | 36.64 | 74                      | 54  | -26.87         | -17.36 | 55        | 1.51      |
| 9748.00            | -24.76                    | 37.90                    | 36.67                           | 26.14 | 49.81                               | 39.28 | 74                      | 54  | -24.19         | -14.72 | 278       | 1.44      |
| 12185.00           | -22.61                    | 39.02                    | 33.50                           | 23.00 | 49.91                               | 39.41 | 74                      | 54  | -24.09         | -14.59 | 224       | 1.48      |
| 14622.00           | -20.02                    | 41.81                    | 28.69                           | 18.14 | 50.48                               | 39.93 | 74                      | 54  | -23.52         | -14.07 | 98        | 1.49      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 92.27                           | 79.46 | 89.42                               | 76.61 | 114                     | 94  | -24.58         | -17.39 | 311       | 1.63      |
| 4874.00            | -28.04                    | 33.10                    | 38.55                           | 28.03 | 43.61                               | 33.09 | 74                      | 54  | -30.39         | -20.91 | 173       | 1.60      |
| 7311.00            | -25.85                    | 35.95                    | 37.12                           | 26.61 | 47.22                               | 36.71 | 74                      | 54  | -26.78         | -17.29 | 205       | 1.55      |
| 9748.00            | -24.76                    | 37.90                    | 36.68                           | 26.13 | 49.82                               | 39.27 | 74                      | 54  | -24.18         | -14.73 | 326       | 1.57      |
| 12185.00           | -22.61                    | 39.02                    | 33.58                           | 23.12 | 49.99                               | 39.53 | 74                      | 54  | -24.01         | -14.47 | 42        | 1.61      |
| 14622.00           | -20.02                    | 41.81                    | 28.74                           | 18.26 | 50.53                               | 40.05 | 74                      | 54  | -23.47         | -13.95 | 132       | 1.58      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                      |   |
|---|----------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 106 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|---|

|                  |                |               |                                      |
|------------------|----------------|---------------|--------------------------------------|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH                               |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT20_CH11 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                                |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015                        |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1869.30            | -31.68                    | 27.00                    | 44.38                           | 33.81 | 39.70                               | 29.13 | 74                      | 54  | -34.30         | -24.87 | 61        | 2.25      |
| 2131.53            | -31.33                    | 27.76                    | 44.30                           | 33.86 | 40.73                               | 30.29 | 74                      | 54  | -33.27         | -23.71 | 227       | 2.11      |
| 3008.11            | -30.60                    | 30.11                    | 44.38                           | 33.89 | 43.90                               | 33.41 | 74                      | 54  | -30.10         | -20.59 | 83        | 1.93      |
| 3776.39            | -29.40                    | 31.66                    | 42.49                           | 31.97 | 44.75                               | 34.23 | 74                      | 54  | -29.25         | -19.77 | 105       | 1.68      |
| 4385.97            | -28.59                    | 32.20                    | 41.04                           | 30.55 | 44.66                               | 34.17 | 74                      | 54  | -29.34         | -19.84 | 298       | 1.49      |
| 5283.62            | -27.17                    | 33.63                    | 40.36                           | 29.91 | 46.82                               | 36.37 | 74                      | 54  | -27.18         | -17.63 | 322       | 1.22      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1587.55            | -32.11                    | 25.70                    | 47.05                           | 36.54 | 40.64                               | 30.13 | 74                      | 54  | -33.36         | -23.87 | 43        | 1.12      |
| 1859.67            | -31.69                    | 26.95                    | 47.45                           | 36.99 | 42.71                               | 32.25 | 74                      | 54  | -31.29         | -21.75 | 137       | 1.27      |
| 3019.03            | -30.58                    | 30.13                    | 43.51                           | 33.01 | 43.06                               | 32.56 | 74                      | 54  | -30.94         | -21.44 | 284       | 1.63      |
| 3722.38            | -29.50                    | 31.53                    | 42.85                           | 32.36 | 44.88                               | 34.39 | 74                      | 54  | -29.12         | -19.61 | 202       | 1.89      |
| 4223.92            | -28.75                    | 32.20                    | 41.58                           | 31.06 | 45.03                               | 34.51 | 74                      | 54  | -28.97         | -19.49 | 173       | 1.99      |
| 5507.60            | -26.62                    | 33.80                    | 39.22                           | 28.74 | 46.40                               | 35.92 | 74                      | 54  | -27.60         | -18.08 | 34        | 2.34      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                    |   |
|---|--------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 107 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|---|

|                  |                |               |   |
|------------------|----------------|---------------|---|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH  |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT20_CH11<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz   |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015   |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2462.00 (F)        | -30.94                    | 28.15                    | 94.83                           | 81.15 | 92.04                               | 78.36 | 114                     | 94  | -21.96         | -15.64 | 230       | 1.53      |
| 4924.00            | -27.98                    | 33.22                    | 39.11                           | 28.63 | 44.35                               | 33.87 | 74                      | 54  | -29.65         | -20.13 | 192       | 1.50      |
| 7386.00            | -25.79                    | 36.13                    | 37.30                           | 26.82 | 47.64                               | 37.16 | 74                      | 54  | -26.36         | -16.84 | 274       | 1.44      |
| 9848.00            | -24.69                    | 37.94                    | 36.52                           | 26.07 | 49.77                               | 39.32 | 74                      | 54  | -24.23         | -14.68 | 66        | 1.63      |
| 12310.00           | -22.24                    | 38.89                    | 33.27                           | 22.75 | 49.92                               | 39.40 | 74                      | 54  | -24.08         | -14.60 | 128       | 1.61      |
| 14772.00           | -20.06                    | 41.21                    | 28.89                           | 18.35 | 50.05                               | 39.51 | 74                      | 54  | -23.95         | -14.49 | 317       | 1.49      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2462.00 (F)        | -30.94                    | 28.15                    | 91.57                           | 78.72 | 88.78                               | 75.93 | 114                     | 94  | -25.22         | -18.07 | 339       | 1.57      |
| 4924.00            | -27.98                    | 33.22                    | 39.32                           | 28.81 | 44.56                               | 34.05 | 74                      | 54  | -29.44         | -19.95 | 46        | 1.59      |
| 7386.00            | -25.79                    | 36.13                    | 37.22                           | 26.71 | 47.56                               | 37.05 | 74                      | 54  | -26.44         | -16.95 | 148       | 1.66      |
| 9848.00            | -24.69                    | 37.94                    | 36.51                           | 26.03 | 49.76                               | 39.28 | 74                      | 54  | -24.24         | -14.72 | 90        | 1.60      |
| 12310.00           | -22.24                    | 38.89                    | 32.73                           | 22.12 | 49.38                               | 38.77 | 74                      | 54  | -24.62         | -15.23 | 203       | 1.48      |
| 14772.00           | -20.06                    | 41.21                    | 28.94                           | 18.43 | 50.10                               | 39.59 | 74                      | 54  | -23.90         | -14.41 | 178       | 1.48      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|  |                      |   |
|--|----------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 108 of 216<br>Date: Dec. 22, 2015 |
|--|----------------------|---|

|                  |                |               |                                      |
|------------------|----------------|---------------|--------------------------------------|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH                               |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT40_CH03 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                                |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015                        |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1997.51            | -31.48                    | 27.59                    | 43.07                           | 32.51 | 39.17                               | 28.61 | 74                      | 54  | -34.83         | -25.39 | 224       | 2.21      |
| 2116.07            | -31.35                    | 27.74                    | 44.66                           | 34.17 | 41.05                               | 30.56 | 74                      | 54  | -32.95         | -23.44 | 323       | 2.15      |
| 3452.39            | -30.00                    | 30.91                    | 42.91                           | 32.45 | 43.83                               | 33.37 | 74                      | 54  | -30.17         | -20.63 | 105       | 1.76      |
| 4078.63            | -28.89                    | 32.20                    | 41.35                           | 30.88 | 44.66                               | 34.19 | 74                      | 54  | -29.34         | -19.81 | 61        | 1.53      |
| 4651.94            | -28.29                    | 32.56                    | 41.74                           | 31.29 | 46.01                               | 35.56 | 74                      | 54  | -27.99         | -18.44 | 97        | 1.41      |
| 5298.23            | -27.13                    | 33.64                    | 39.69                           | 29.19 | 46.20                               | 35.70 | 74                      | 54  | -27.80         | -18.30 | 132       | 1.27      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1589.78            | -32.10                    | 25.71                    | 46.88                           | 36.34 | 40.48                               | 29.94 | 74                      | 54  | -33.52         | -24.06 | 167       | 1.19      |
| 1672.15            | -31.98                    | 26.09                    | 47.41                           | 36.95 | 41.52                               | 31.06 | 74                      | 54  | -32.48         | -22.94 | 81        | 1.25      |
| 2796.47            | -30.73                    | 29.32                    | 43.15                           | 32.63 | 41.75                               | 31.23 | 74                      | 54  | -32.25         | -22.77 | 315       | 1.57      |
| 3882.33            | -29.20                    | 31.92                    | 41.42                           | 30.91 | 44.14                               | 33.63 | 74                      | 54  | -29.86         | -20.37 | 100       | 1.80      |
| 4249.96            | -28.72                    | 32.20                    | 41.55                           | 31.07 | 45.03                               | 34.55 | 74                      | 54  | -28.97         | -19.45 | 197       | 1.96      |
| 5093.06            | -27.65                    | 33.47                    | 40.37                           | 29.86 | 46.19                               | 35.68 | 74                      | 54  | -27.81         | -18.32 | 294       | 2.29      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|  |                      |   |
|--|----------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 109 of 216<br>Date: Dec. 22, 2015 |
|--|----------------------|---|

|                  |                |               |   |
|------------------|----------------|---------------|---|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH  |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT40_CH03<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz   |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015   |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2422.00 (F)        | -30.99                    | 28.11                    | 92.85                           | 79.26 | 89.97                               | 76.38 | 114                     | 94  | -24.03         | -17.62 | 152       | 1.53      |
| 4844.00            | -28.07                    | 33.03                    | 38.62                           | 28.14 | 43.57                               | 33.09 | 74                      | 54  | -30.43         | -20.91 | 198       | 1.59      |
| 7266.00            | -25.89                    | 35.84                    | 36.89                           | 26.34 | 46.84                               | 36.29 | 74                      | 54  | -27.16         | -17.71 | 213       | 1.44      |
| 9688.00            | -24.80                    | 37.88                    | 36.30                           | 25.89 | 49.37                               | 38.96 | 74                      | 54  | -24.63         | -15.04 | 278       | 1.47      |
| 12110.00           | -22.83                    | 39.09                    | 33.18                           | 22.77 | 49.44                               | 39.03 | 74                      | 54  | -24.56         | -14.97 | 67        | 1.51      |
| 14532.00           | -20.00                    | 42.17                    | 29.34                           | 18.85 | 51.51                               | 41.02 | 74                      | 54  | -22.49         | -12.98 | 99        | 1.50      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2422.00 (F)        | -30.99                    | 28.11                    | 89.57                           | 76.71 | 86.69                               | 73.83 | 114                     | 94  | -27.31         | -20.17 | 325       | 1.63      |
| 4844.00            | -28.07                    | 33.03                    | 39.09                           | 28.53 | 44.04                               | 33.48 | 74                      | 54  | -29.96         | -20.52 | 301       | 1.67      |
| 7266.00            | -25.89                    | 35.84                    | 36.87                           | 26.31 | 46.82                               | 36.26 | 74                      | 54  | -27.18         | -17.74 | 142       | 1.66      |
| 9688.00            | -24.80                    | 37.88                    | 36.60                           | 26.13 | 49.67                               | 39.20 | 74                      | 54  | -24.33         | -14.80 | 173       | 1.55      |
| 12110.00           | -22.83                    | 39.09                    | 32.93                           | 22.55 | 49.19                               | 38.81 | 74                      | 54  | -24.81         | -15.19 | 92        | 1.58      |
| 14532.00           | -20.00                    | 42.17                    | 29.33                           | 18.80 | 51.50                               | 40.97 | 74                      | 54  | -22.50         | -13.03 | 349       | 1.47      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.

|   |                      |   |
|---|----------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>No.167,Ln. 780, Shan-Tong Rd.,Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 110 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|---|

|                  |                |               |                                      |
|------------------|----------------|---------------|--------------------------------------|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH                               |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT40_CH06 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                                |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015                        |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2132.70            | -31.33                    | 27.76                    | 44.52                           | 34.01 | 40.95                               | 30.44 | 74                      | 54  | -33.05         | -23.56 | 126       | 2.18      |
| 3043.92            | -30.55                    | 30.18                    | 43.43                           | 32.97 | 43.06                               | 32.60 | 74                      | 54  | -30.94         | -21.40 | 273       | 1.89      |
| 3479.54            | -29.96                    | 30.96                    | 43.18                           | 32.68 | 44.18                               | 33.68 | 74                      | 54  | -29.82         | -20.32 | 108       | 1.77      |
| 4237.88            | -28.73                    | 32.20                    | 41.52                           | 31.04 | 44.99                               | 34.51 | 74                      | 54  | -29.01         | -19.49 | 79        | 1.52      |
| 4648.27            | -28.30                    | 32.56                    | 40.97                           | 30.48 | 45.23                               | 34.74 | 74                      | 54  | -28.77         | -19.26 | 198       | 1.40      |
| 5421.16            | -26.81                    | 33.74                    | 39.38                           | 28.87 | 46.30                               | 35.79 | 74                      | 54  | -27.70         | -18.21 | 245       | 1.18      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1593.82            | -32.10                    | 25.73                    | 47.97                           | 37.49 | 41.60                               | 31.12 | 74                      | 54  | -32.40         | -22.88 | 72        | 1.03      |
| 3008.96            | -30.60                    | 30.11                    | 43.56                           | 33.02 | 43.08                               | 32.54 | 74                      | 54  | -30.92         | -21.46 | 119       | 1.58      |
| 3459.15            | -29.99                    | 30.93                    | 43.52                           | 33.06 | 44.46                               | 34.00 | 74                      | 54  | -29.54         | -20.00 | 307       | 1.73      |
| 4112.40            | -28.86                    | 32.20                    | 40.88                           | 30.39 | 44.22                               | 33.73 | 74                      | 54  | -29.78         | -20.27 | 196       | 1.98      |
| 4764.24            | -28.16                    | 32.83                    | 41.00                           | 30.55 | 45.67                               | 35.22 | 74                      | 54  | -28.33         | -18.78 | 297       | 2.13      |
| 5643.88            | -26.81                    | 33.80                    | 39.56                           | 29.13 | 46.55                               | 36.12 | 74                      | 54  | -27.45         | -17.88 | 280       | 2.30      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emissiom Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strenght of fundamental frequency.

|  |                      |   |
|--|----------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 111 of 216<br>Date: Dec. 22, 2015 |
|--|----------------------|---|

|                  |                |               |   |
|------------------|----------------|---------------|---|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH  |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT40_CH06<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz   |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015   |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 91.63                           | 78.25 | 88.78                               | 75.40 | 114                     | 94  | -25.22         | -18.60 | 177       | 1.56      |
| 4874.00            | -28.04                    | 33.10                    | 38.79                           | 28.28 | 43.85                               | 33.34 | 74                      | 54  | -30.15         | -20.66 | 69        | 1.51      |
| 7311.00            | -25.85                    | 35.95                    | 36.95                           | 26.41 | 47.05                               | 36.51 | 74                      | 54  | -26.95         | -17.49 | 194       | 1.45      |
| 9748.00            | -24.76                    | 37.90                    | 36.32                           | 25.84 | 49.46                               | 38.98 | 74                      | 54  | -24.54         | -15.02 | 220       | 1.61      |
| 12185.00           | -22.61                    | 39.02                    | 32.87                           | 22.50 | 49.28                               | 38.91 | 74                      | 54  | -24.72         | -15.09 | 258       | 1.63      |
| 14622.00           | -20.02                    | 41.81                    | 28.64                           | 18.15 | 50.43                               | 39.94 | 74                      | 54  | -23.57         | -14.06 | 317       | 1.59      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2437.00 (F)        | -30.97                    | 28.12                    | 89.14                           | 76.03 | 86.29                               | 73.18 | 114                     | 94  | -27.71         | -20.82 | 302       | 1.51      |
| 4874.00            | -28.04                    | 33.10                    | 40.08                           | 29.58 | 45.14                               | 34.64 | 74                      | 54  | -28.86         | -19.36 | 114       | 1.50      |
| 7311.00            | -25.85                    | 35.95                    | 36.99                           | 26.50 | 47.09                               | 36.60 | 74                      | 54  | -26.91         | -17.40 | 263       | 1.49      |
| 9748.00            | -24.76                    | 37.90                    | 36.21                           | 25.89 | 49.35                               | 39.03 | 74                      | 54  | -24.65         | -14.97 | 274       | 1.66      |
| 12185.00           | -22.61                    | 39.02                    | 32.85                           | 22.46 | 49.26                               | 38.87 | 74                      | 54  | -24.74         | -15.13 | 83        | 1.67      |
| 14622.00           | -20.02                    | 41.81                    | 28.57                           | 18.03 | 50.36                               | 39.82 | 74                      | 54  | -23.64         | -14.18 | 96        | 1.58      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                      |   |
|---|----------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 112 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|---|

|                  |                |               |                                      |
|------------------|----------------|---------------|--------------------------------------|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH                               |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT40_CH09 |
| Detector Type:   | PK. and AV.    | IF Bandwidth: | 1 MHz                                |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015                        |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1746.10            | -31.87                    | 26.43                    | 46.19                           | 35.67 | 40.76                               | 30.24 | 74                      | 54  | -33.24         | -23.76 | 159       | 2.29      |
| 2074.29            | -31.39                    | 27.69                    | 44.34                           | 33.89 | 40.63                               | 30.18 | 74                      | 54  | -33.37         | -23.82 | 327       | 2.10      |
| 2722.58            | -30.77                    | 29.04                    | 44.90                           | 34.31 | 43.17                               | 32.58 | 74                      | 54  | -30.83         | -21.42 | 87        | 1.96      |
| 3713.13            | -29.52                    | 31.51                    | 41.72                           | 31.28 | 43.71                               | 33.27 | 74                      | 54  | -30.29         | -20.73 | 102       | 1.68      |
| 4511.90            | -28.46                    | 32.23                    | 41.32                           | 30.86 | 45.09                               | 34.63 | 74                      | 54  | -28.91         | -19.37 | 65        | 1.44      |
| 5397.68            | -26.87                    | 33.72                    | 39.70                           | 29.22 | 46.54                               | 36.06 | 74                      | 54  | -27.46         | -17.94 | 74        | 1.17      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 1638.57            | -32.03                    | 25.93                    | 46.90                           | 36.40 | 40.80                               | 30.30 | 74                      | 54  | -33.20         | -23.70 | 240       | 1.08      |
| 2274.94            | -31.16                    | 27.93                    | 43.28                           | 32.75 | 40.05                               | 29.52 | 74                      | 54  | -33.95         | -24.48 | 331       | 1.39      |
| 3031.01            | -30.57                    | 30.16                    | 43.97                           | 33.49 | 43.56                               | 33.08 | 74                      | 54  | -30.44         | -20.92 | 163       | 1.62      |
| 3492.88            | -29.94                    | 30.99                    | 42.83                           | 32.26 | 43.87                               | 33.30 | 74                      | 54  | -30.13         | -20.70 | 199       | 1.77      |
| 4108.15            | -28.86                    | 32.20                    | 41.27                           | 30.70 | 44.61                               | 34.04 | 74                      | 54  | -29.39         | -19.96 | 255       | 1.90      |
| 5209.74            | -27.35                    | 33.57                    | 40.64                           | 30.17 | 46.85                               | 36.38 | 74                      | 54  | -27.15         | -17.62 | 78        | 2.23      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                    |   |
|---|--------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>           No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <b>TEST REPORT</b> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 113 of 216<br>Date: Dec. 22, 2015 |
|---|--------------------|---|

|                  |                |               |   |
|------------------|----------------|---------------|---|
| Temperature:     | 23 °C          | Humidity:     | 65 %RH  |
| Frequency Range: | 1 GHz – 25 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT40_CH09<br>(Fundamental and Harmonics) |
| Detector:        | PK. and AV.    | IF Bandwidth: | 1 MHz   |
| VBW:             | 3 MHz          | Tested Date:  | Nov. 02, 2015   |

Antenna Polarization : Horizontal

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2452.00 (F)        | -30.96                    | 28.14                    | 92.05                           | 78.61 | 89.24                               | 75.80 | 114                     | 94  | -24.76         | -18.20 | 150       | 1.55      |
| 4904.00            | -28.00                    | 33.17                    | 38.85                           | 28.37 | 44.02                               | 33.54 | 74                      | 54  | -29.98         | -20.46 | 119       | 1.60      |
| 7356.00            | -25.82                    | 36.05                    | 36.81                           | 26.37 | 47.05                               | 36.61 | 74                      | 54  | -26.95         | -17.39 | 326       | 1.57      |
| 9808.00            | -24.72                    | 37.92                    | 36.27                           | 25.74 | 49.47                               | 38.94 | 74                      | 54  | -24.53         | -15.06 | 308       | 1.61      |
| 12260.00           | -22.39                    | 38.94                    | 33.01                           | 22.56 | 49.56                               | 39.11 | 74                      | 54  | -24.44         | -14.89 | 246       | 1.58      |
| 14712.00           | -20.04                    | 41.45                    | 28.44                           | 17.97 | 49.85                               | 39.38 | 74                      | 54  | -24.15         | -14.62 | 290       | 1.43      |

Antenna Polarization : Vertical

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant.<br>Factor<br>(dB/m) | Reading<br>Data<br>(dB $\mu$ V) |       | Emission<br>Level<br>(dB $\mu$ V/m) |       | Limit<br>(dB $\mu$ V/m) |     | Margin<br>(dB) |        | AZ<br>(°) | EL<br>(m) |
|--------------------|---------------------------|--------------------------|---------------------------------|-------|-------------------------------------|-------|-------------------------|-----|----------------|--------|-----------|-----------|
|                    |                           |                          | PK.                             | AV.   | PK.                                 | AV.   | PK.                     | AV. | PK.            | AV.    |           |           |
| 2452.00 (F)        | -30.96                    | 28.14                    | 88.72                           | 75.29 | 85.91                               | 72.48 | 114                     | 94  | -28.09         | -21.52 | 188       | 1.49      |
| 4904.00            | -28.00                    | 33.17                    | 38.60                           | 28.04 | 43.77                               | 33.21 | 74                      | 54  | -30.23         | -20.79 | 257       | 1.51      |
| 7356.00            | -25.82                    | 36.05                    | 36.67                           | 26.13 | 46.91                               | 36.37 | 74                      | 54  | -27.09         | -17.63 | 40        | 1.57      |
| 9808.00            | -24.72                    | 37.92                    | 36.13                           | 25.69 | 49.33                               | 38.89 | 74                      | 54  | -24.67         | -15.11 | 88        | 1.62      |
| 12260.00           | -22.39                    | 38.94                    | 33.08                           | 22.52 | 49.63                               | 39.07 | 74                      | 54  | -24.37         | -14.93 | 135       | 1.60      |
| 14712.00           | -20.04                    | 41.45                    | 28.26                           | 17.74 | 49.67                               | 39.15 | 74                      | 54  | -24.33         | -14.85 | 327       | 1.55      |

**NOTE:**

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.

|   |                      |   |
|---|----------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 114 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|---|

## 4.3 BANDWIDTH TEST

### 4.3.1 LIMIT

FCC Part15, Subpart C Section 15.247 (a)(2). The minimum 6dB bandwidth shall be at least 500 kHz.

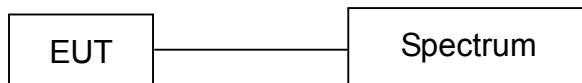
### 4.3.2 TEST EQUIPMENT

The following test equipment was used during the test :

| EQUIPMENT/<br>FACILITIES                         | SPECIFICATIONS | MANUFACTURER    | MODEL#/<br>SERIAL# | DUE DATE OF CAL. &<br>CAL. CENTER |
|--|----------------|-----------------|--------------------|-----------------------------------|
| EMI TEST RECEIVER<br>(INCLUDE SPECTRUM ANALYZER) | 9 KHz ~ 6 GHz  | ROHDE & SCHWARZ | ESL /100176        | MAY 24, 2016<br>ETC               |

**NOTE:** The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.3.3 TEST SET-UP



The EUT was connected to a spectrum through a 50Ω RF cable.

### 4.3.4 TEST PROCEDURE

The EUT was operated in continuous transmission mode or any specific channel.  
 Printed out the test result from the spectrum by hard copy function.

### 4.3.5 EUT OPERATING CONDITION

1. Set the EUT under continuous transmission condition.
2. The EUT was set to the highest available power level.

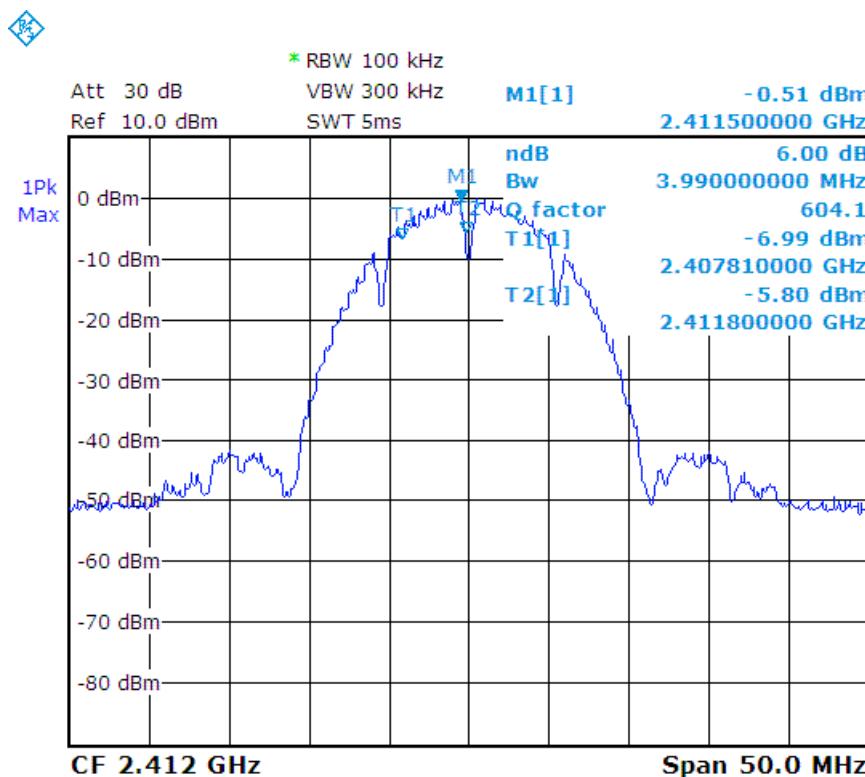
|   |                      |   |
|---|----------------------|---|
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#### 4.3.6 TEST RESULT

|              |             |              |                    |
|--------------|-------------|--------------|--------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH             |
| Detector:    | Peak        | Test Mode:   | MLWG3_2.4G_802.11b |
| RBW:         | 100 kHz     | VBW:         | 300 kHz            |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015      |

| Channel Number | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Minimum Limit (MHz) |
|----------------|-------------------------|---------------------|---------------------|
| CH01           | 2412                    | 3.99                | 0.5                 |
| CH06           | 2437                    | 3.99                | 0.5                 |
| CH11           | 2462                    | 3.99                | 0.5                 |

b\_CH01 :



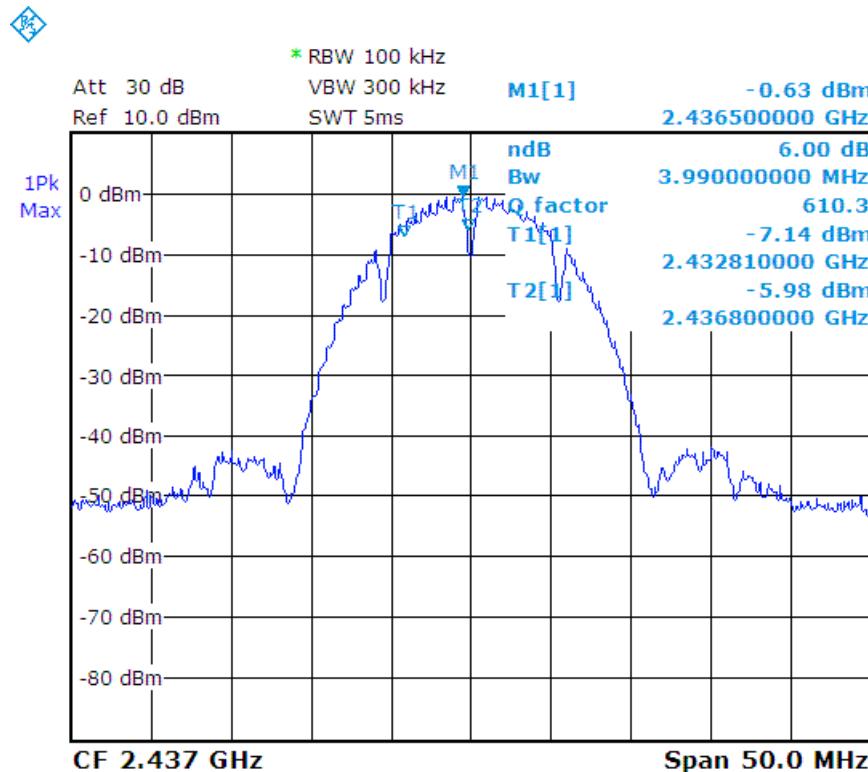


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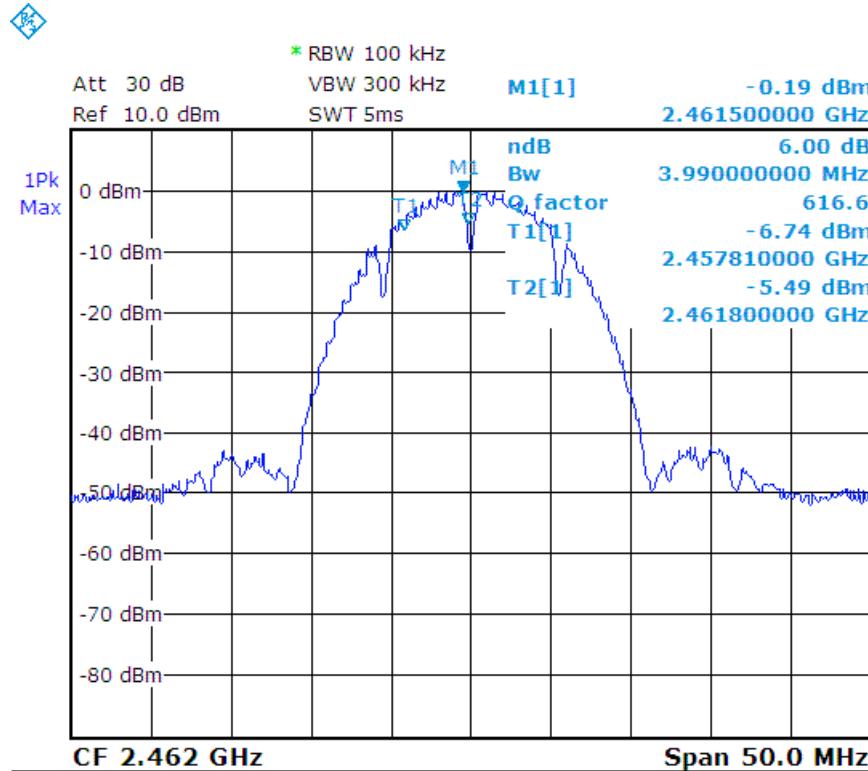
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b\_CH06 :



b\_CH11 :

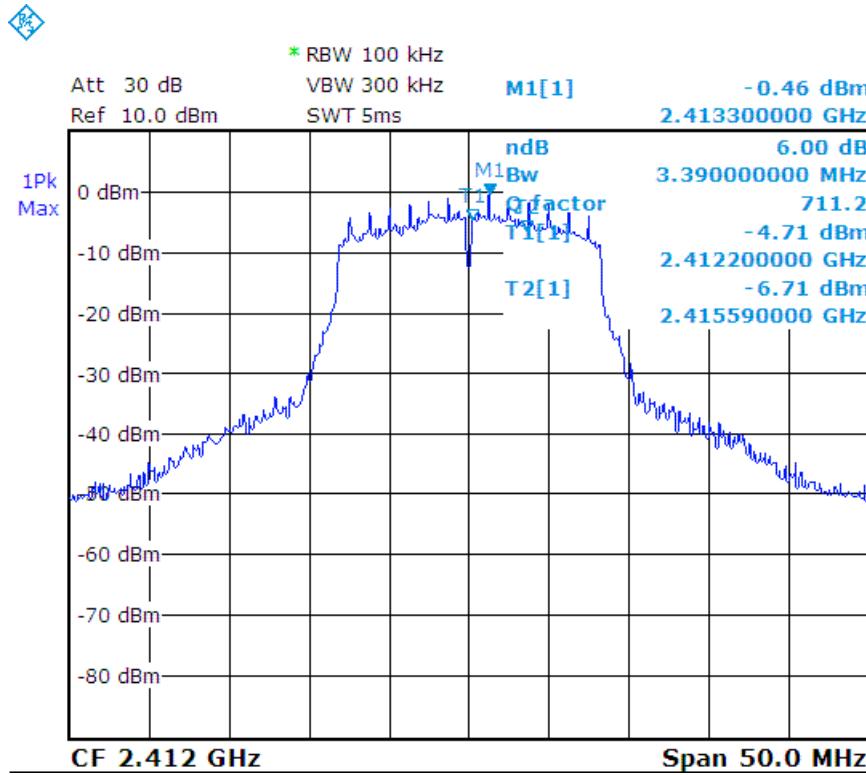


|   |                      |   |
|---|----------------------|---|
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|---|----------------------|---|

|              |             |              |                    |
|--------------|-------------|--------------|--------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH             |
| Detector:    | Peak        | Test Mode:   | MLWG3_2.4G_802.11g |
| RBW:         | 100 kHz     | VBW:         | 300 kHz            |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015      |

| Channel Number | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Minimum Limit (MHz) |
|----------------|-------------------------|---------------------|---------------------|
| CH01           | 2412                    | 3.39                | 0.5                 |
| CH06           | 2437                    | 3.39                | 0.5                 |
| CH11           | 2462                    | 3.39                | 0.5                 |

g\_CH01 :



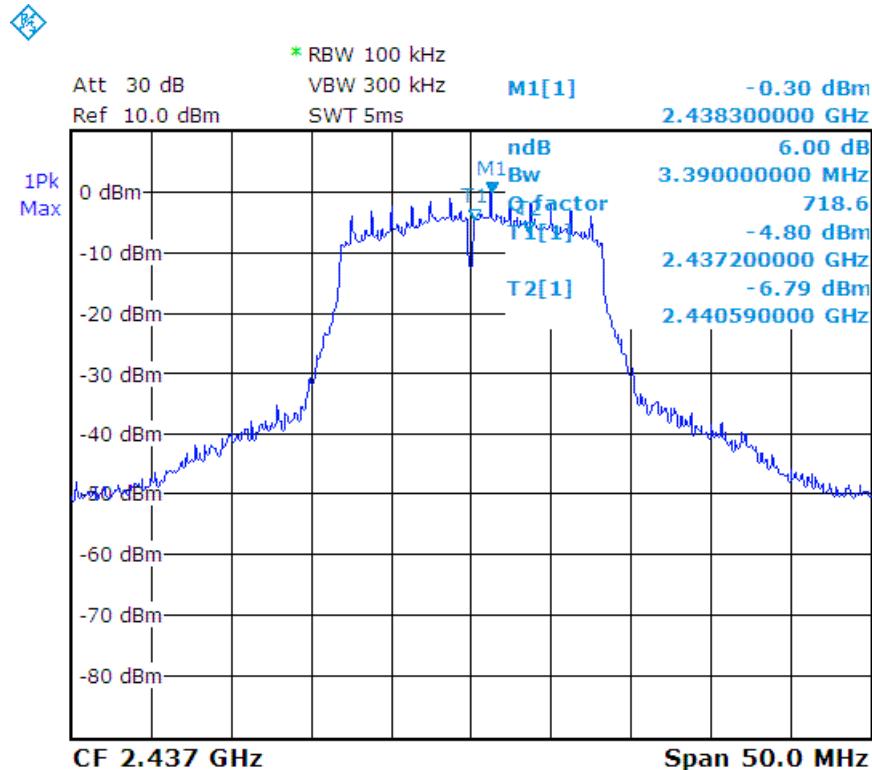


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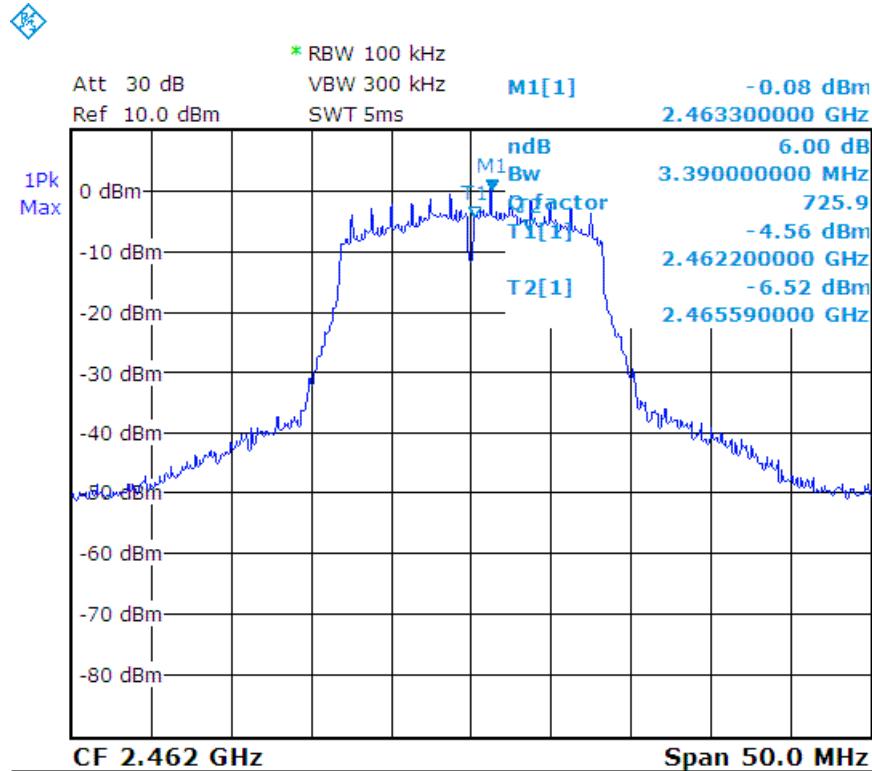
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g\_CH06 :



g\_CH11 :

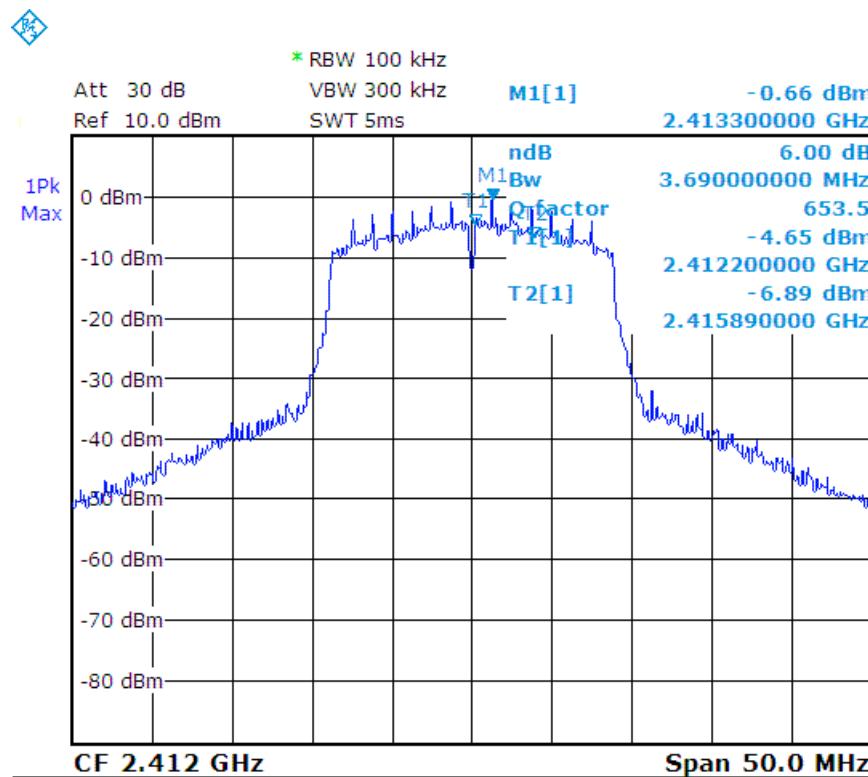


|   |                      |   |
|---|----------------------|---|
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|---|----------------------|---|

|              |             |              |                           |
|--------------|-------------|--------------|---------------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH                    |
| Detector:    | Peak        | Test Mode:   | MLWG3_2.4G_802.11n - HT20 |
| RBW:         | 100 kHz     | VBW:         | 300 kHz                   |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015             |

| Channel Number | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Minimum Limit (MHz) |
|----------------|-------------------------|---------------------|---------------------|
| CH01           | 2412                    | 3.69                | 0.5                 |
| CH06           | 2437                    | 3.69                | 0.5                 |
| CH11           | 2462                    | 1.5                 | 0.5                 |

n - HT20\_CH01 :



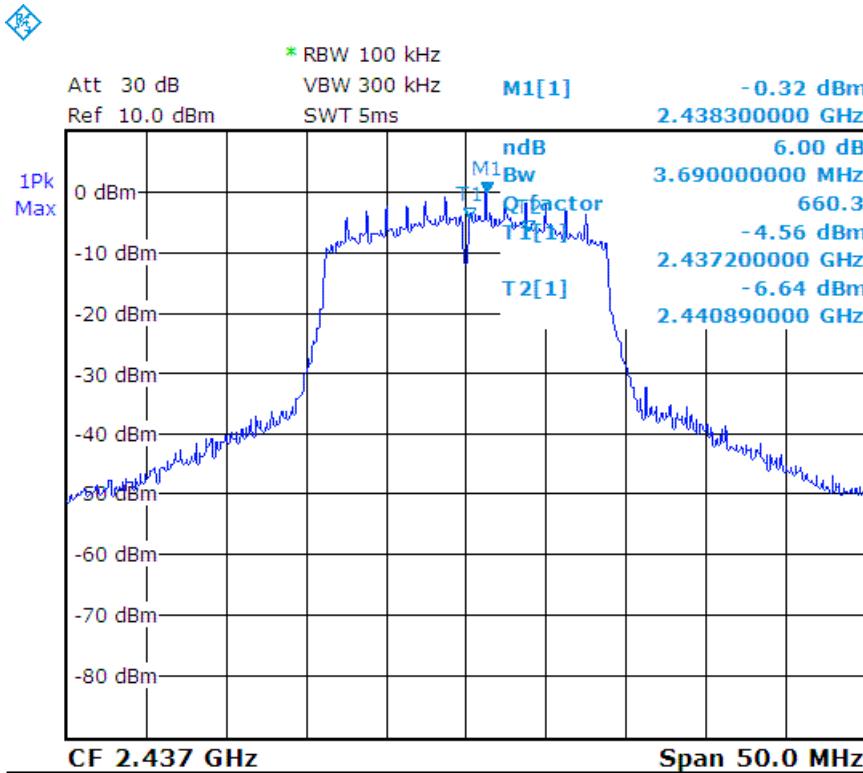


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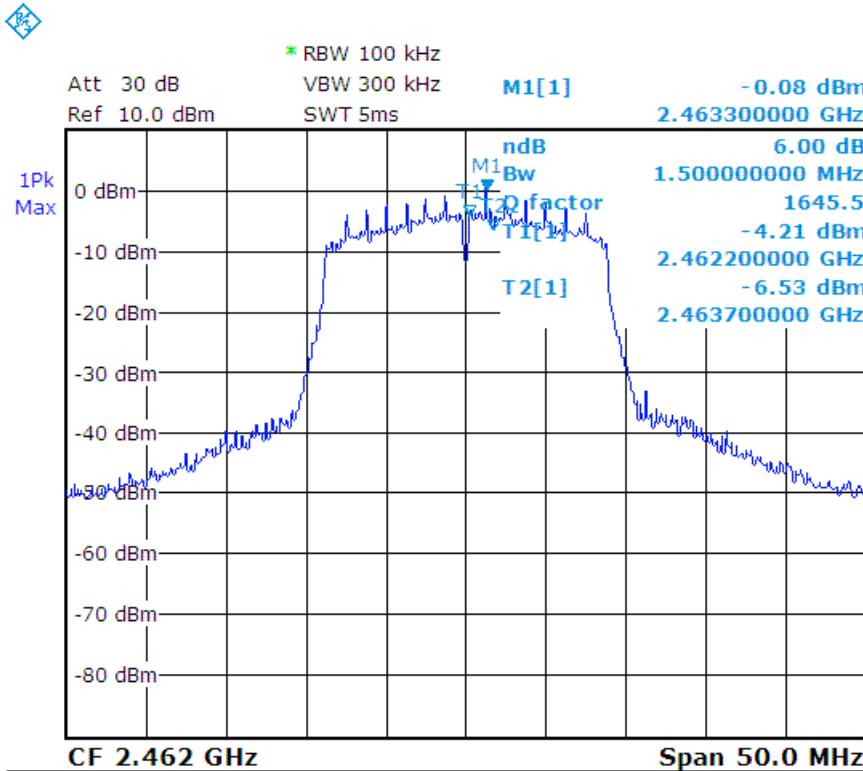
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n - HT20\_CH06 :



n - HT20\_CH11 :

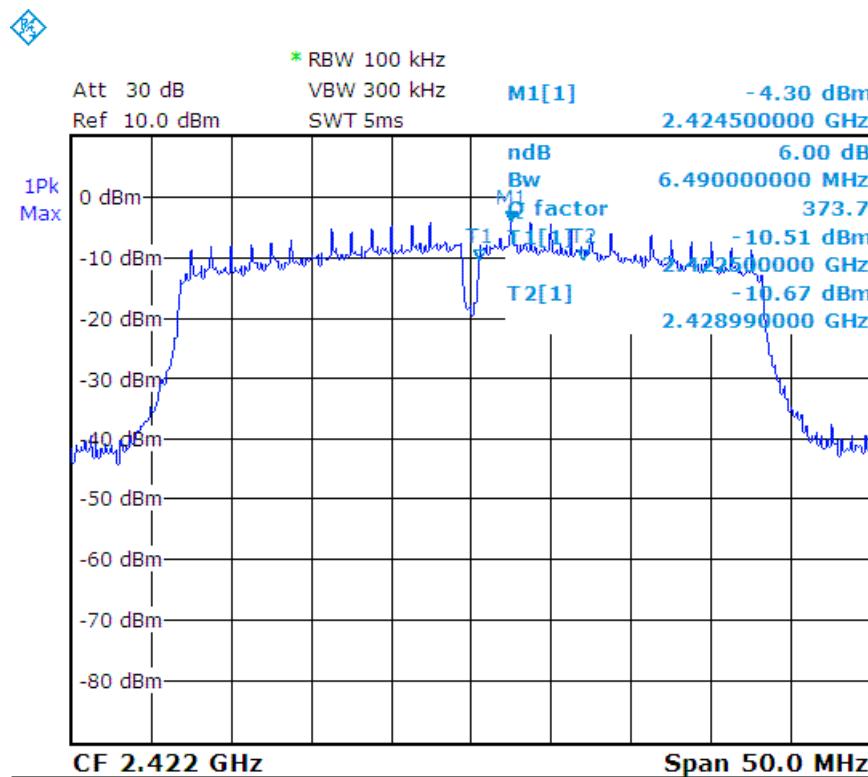


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|---|----------------------|---|
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|---|----------------------|---|

|              |             |              |                           |
|--------------|-------------|--------------|---------------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH                    |
| Detector:    | Peak        | Test Mode:   | MLWG3_2.4G_802.11n - HT40 |
| RBW:         | 100 kHz     | VBW:         | 300 kHz                   |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015             |

| Channel Number | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Minimum Limit (MHz) |
|----------------|-------------------------|---------------------|---------------------|
| CH03           | 2422                    | 6.49                | 0.5                 |
| CH06           | 2437                    | 6.49                | 0.5                 |
| CH09           | 2452                    | 6.49                | 0.5                 |

n - HT40\_CH03 :



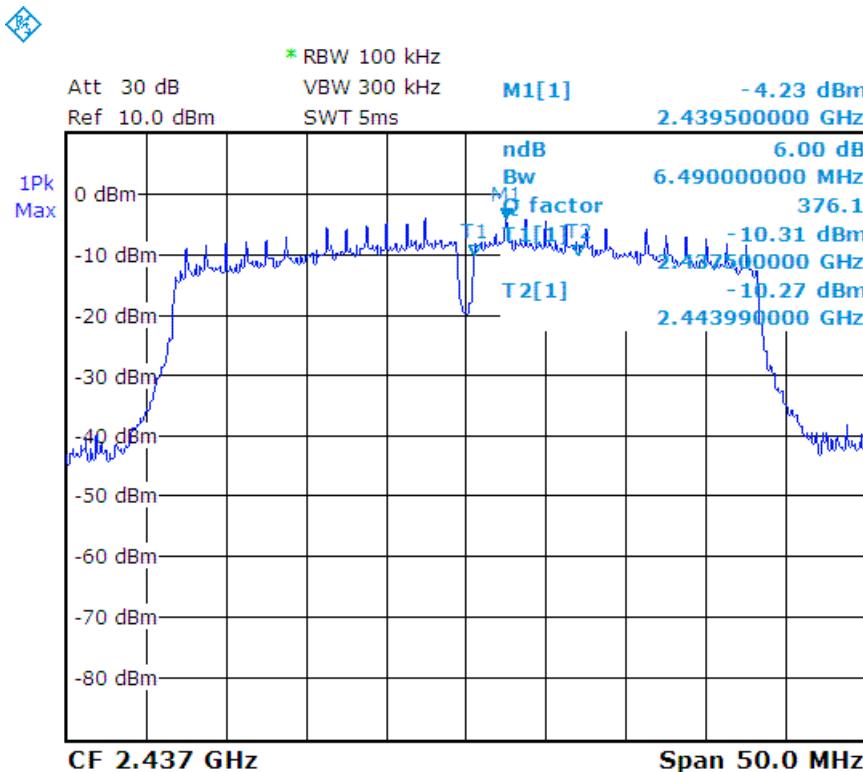


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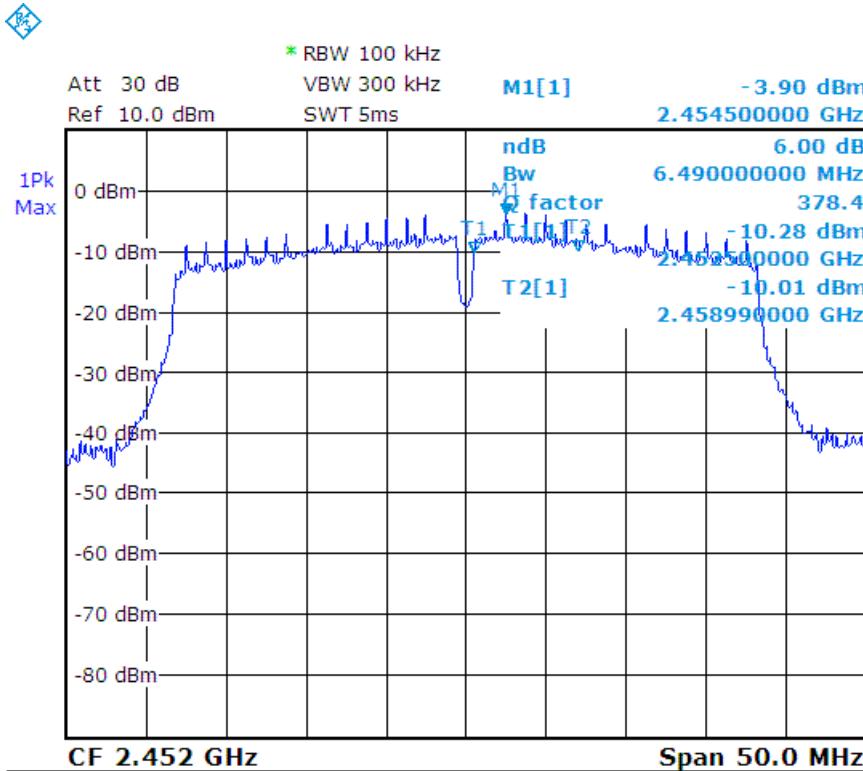
# TEST REPORT

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n - HT40\_CH06 :



n - HT40\_CH09 :

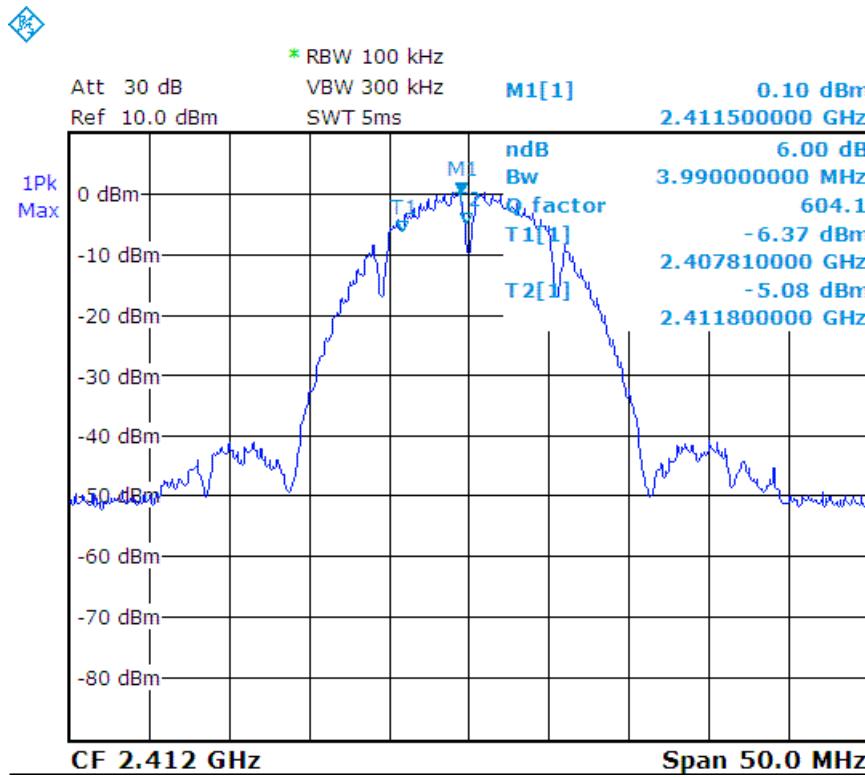


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|--|----------------------|---|

|              |             |              |                       |
|--------------|-------------|--------------|-----------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                |
| Detector:    | Peak        | Test Mode:   | MLWG3/64_2.4G_802.11b |
| RBW:         | 100 kHz     | VBW:         | 300 kHz               |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015         |

| Channel Number | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Minimum Limit (MHz) |
|----------------|-------------------------|---------------------|---------------------|
| CH01           | 2412                    | 3.99                | 0.5                 |
| CH06           | 2437                    | 3.99                | 0.5                 |
| CH11           | 2462                    | 3.99                | 0.5                 |

b\_CH01 :



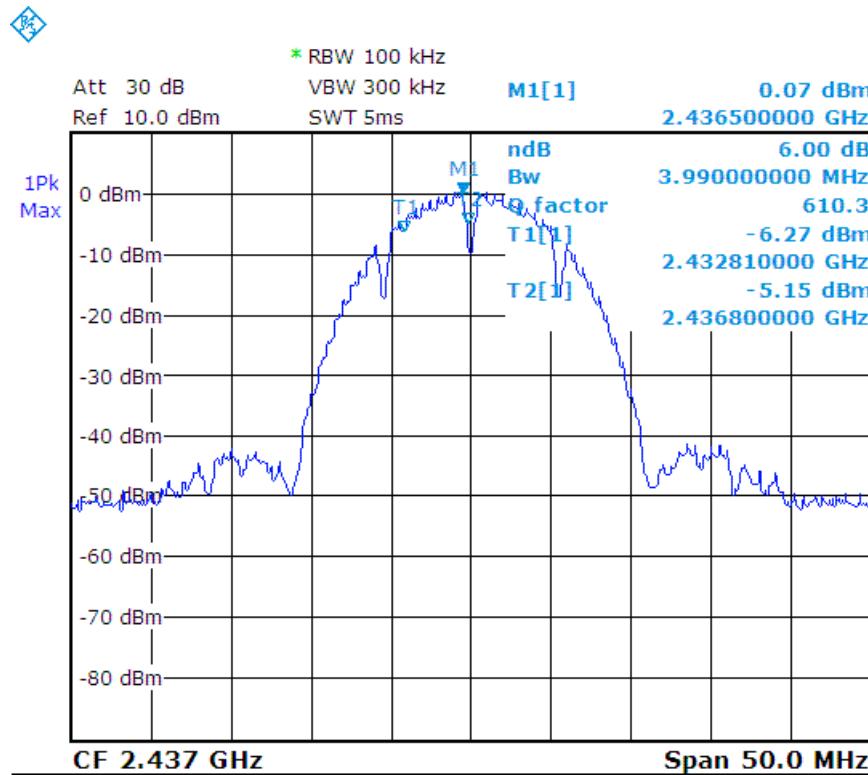


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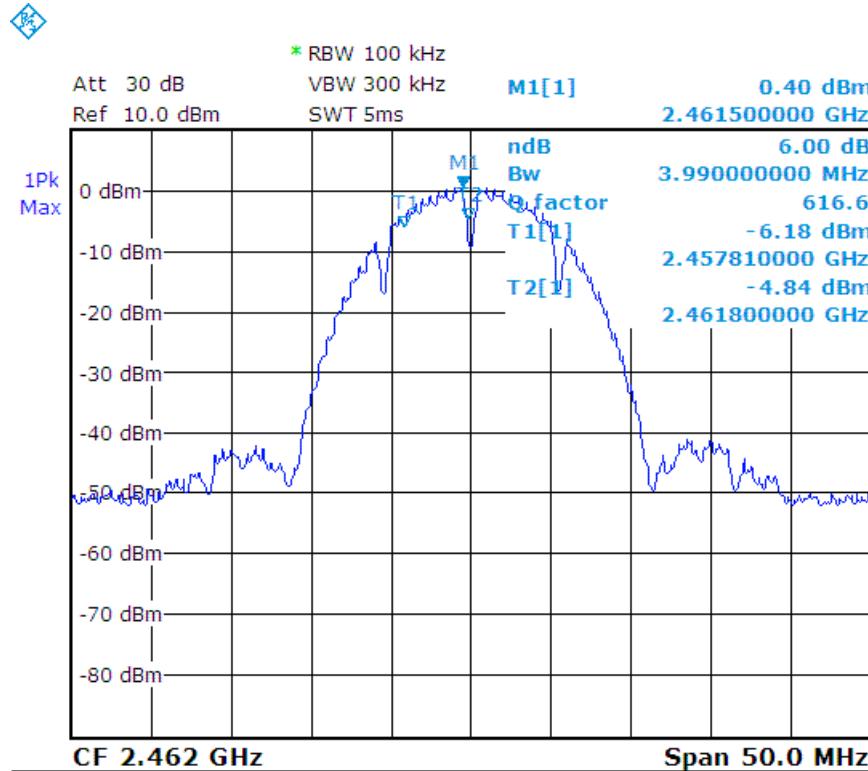
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b\_CH06 :



b\_CH11 :

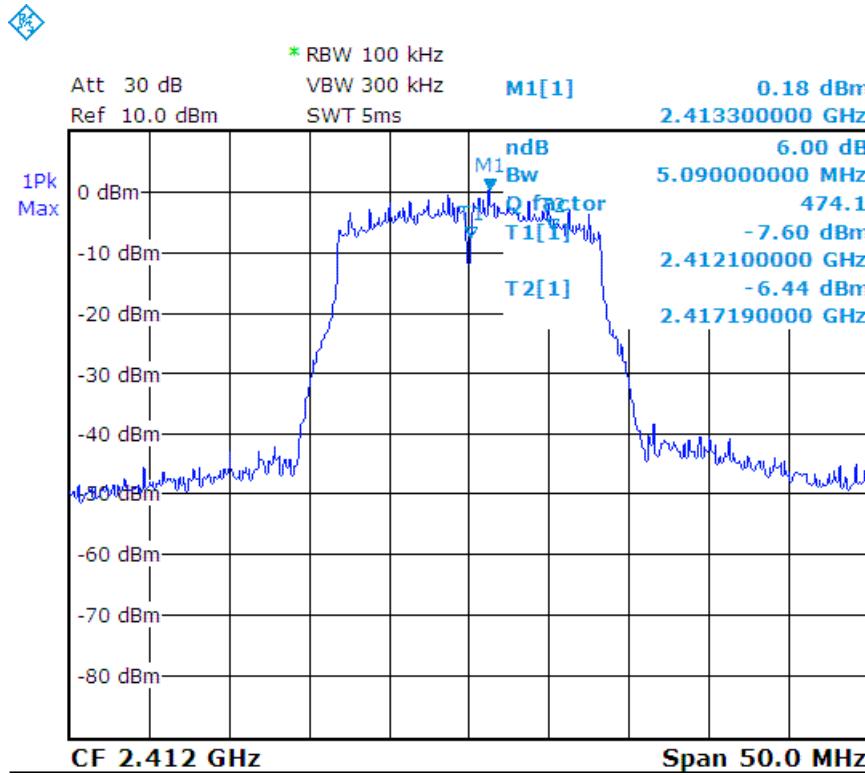


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|---|----------------------|---|

|              |             |              |                       |
|--------------|-------------|--------------|-----------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                |
| Detector:    | Peak        | Test Mode:   | MLWG3/64_2.4G_802.11g |
| RBW:         | 100 kHz     | VBW:         | 300 kHz               |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015         |

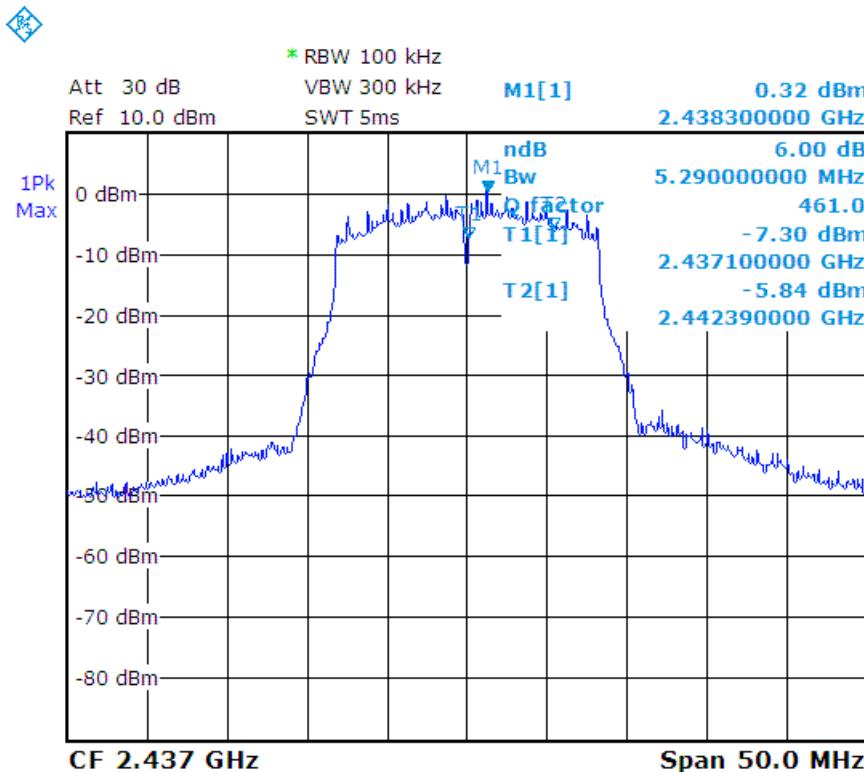
| Channel Number | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Minimum Limit (MHz) |
|----------------|-------------------------|---------------------|---------------------|
| CH01           | 2412                    | 5.09                | 0.5                 |
| CH06           | 2437                    | 5.29                | 0.5                 |
| CH11           | 2462                    | 4.99                | 0.5                 |

g\_CH01 :

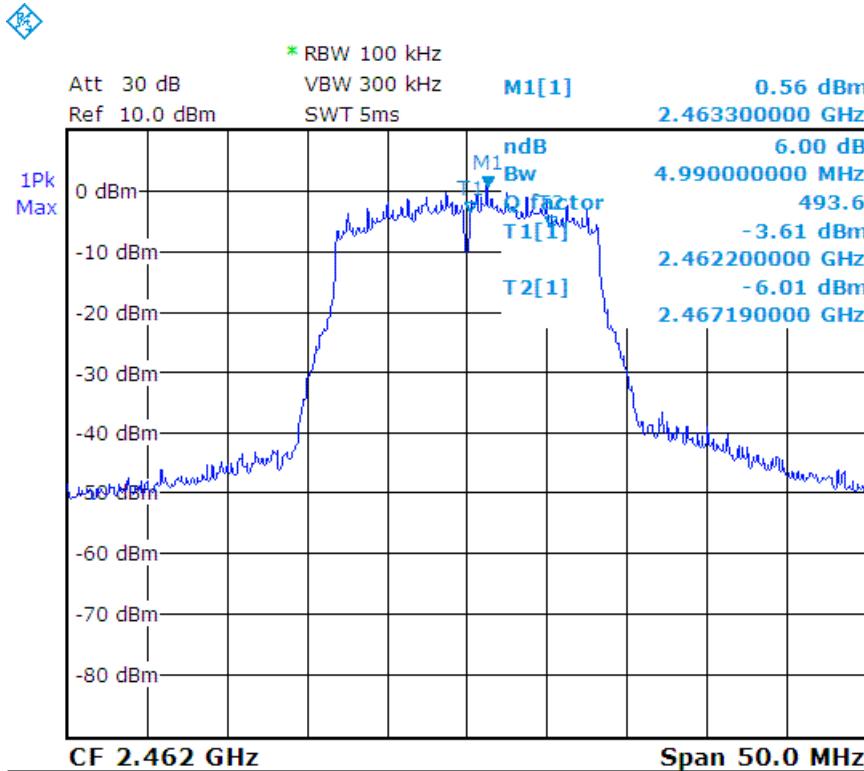


# TEST REPORT

g\_CH06 :



g\_CH11 :

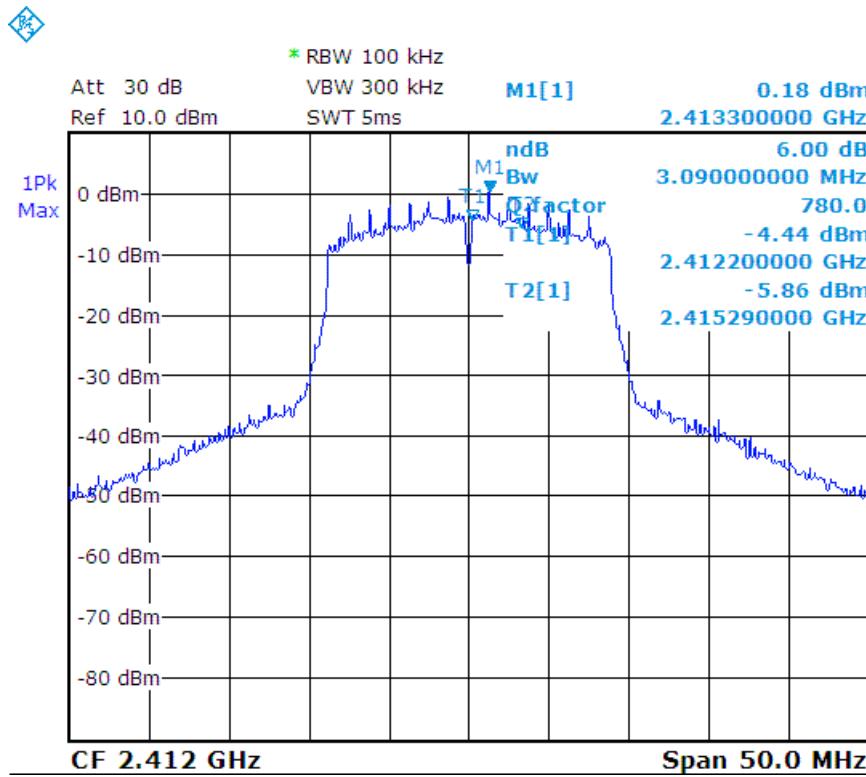


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|--|----------------------|---|

|              |             |              |                              |
|--------------|-------------|--------------|------------------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                       |
| Detector:    | Peak        | Test Mode:   | MLWG3/64_2.4G_802.11n - HT20 |
| RBW:         | 100 kHz     | VBW:         | 300 kHz                      |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015                |

| Channel Number | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Minimum Limit (MHz) |
|----------------|-------------------------|---------------------|---------------------|
| CH01           | 2412                    | 3.09                | 0.5                 |
| CH06           | 2437                    | 3.09                | 0.5                 |
| CH11           | 2462                    | 3.39                | 0.5                 |

n - HT20\_CH01 :



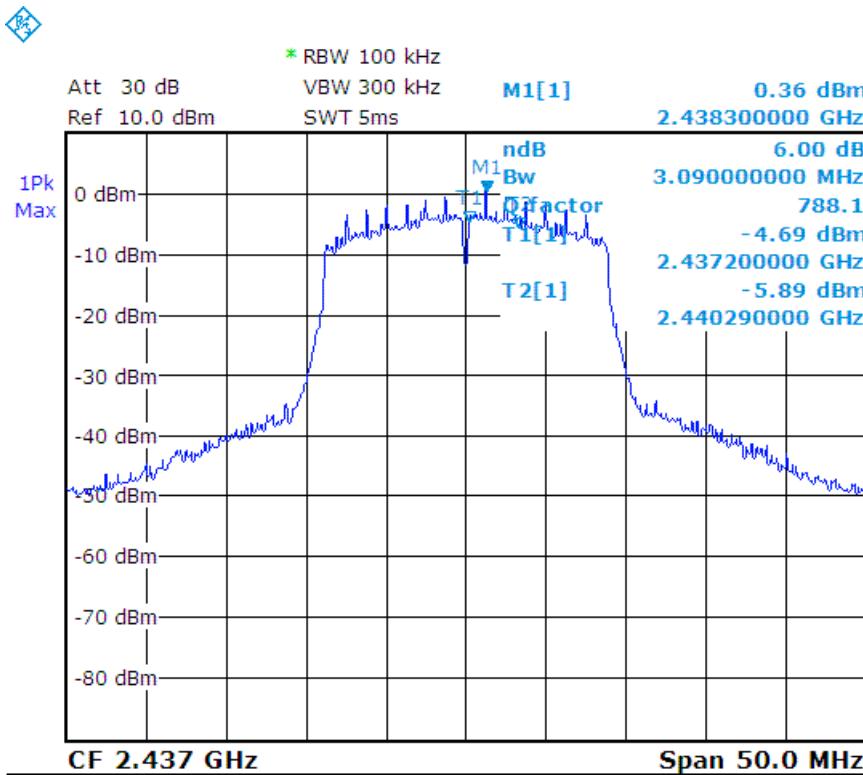


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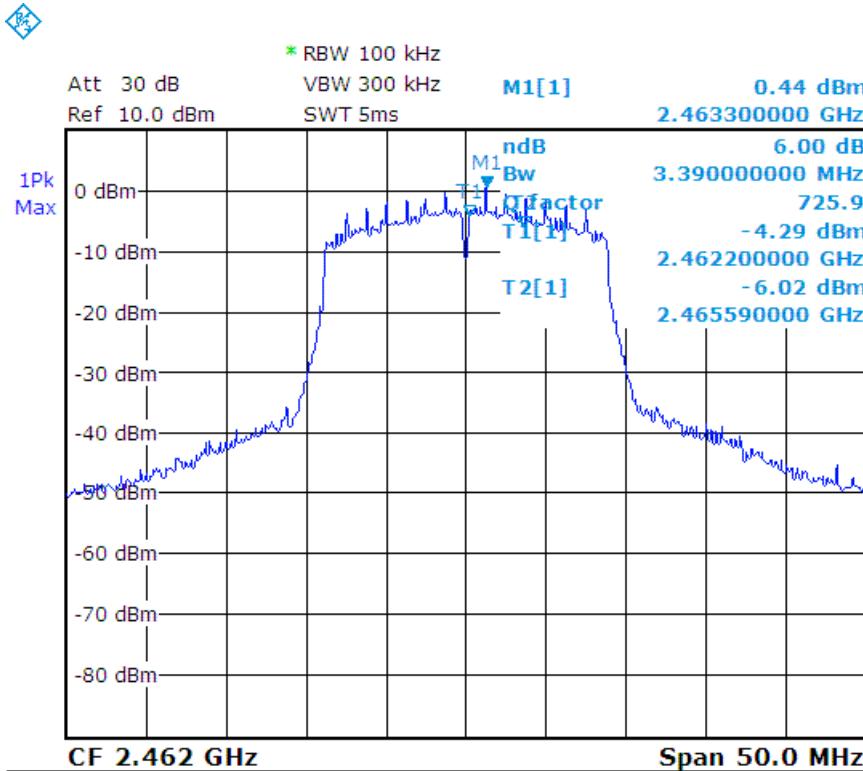
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n - HT20\_CH06 :



n - HT20\_CH11 :

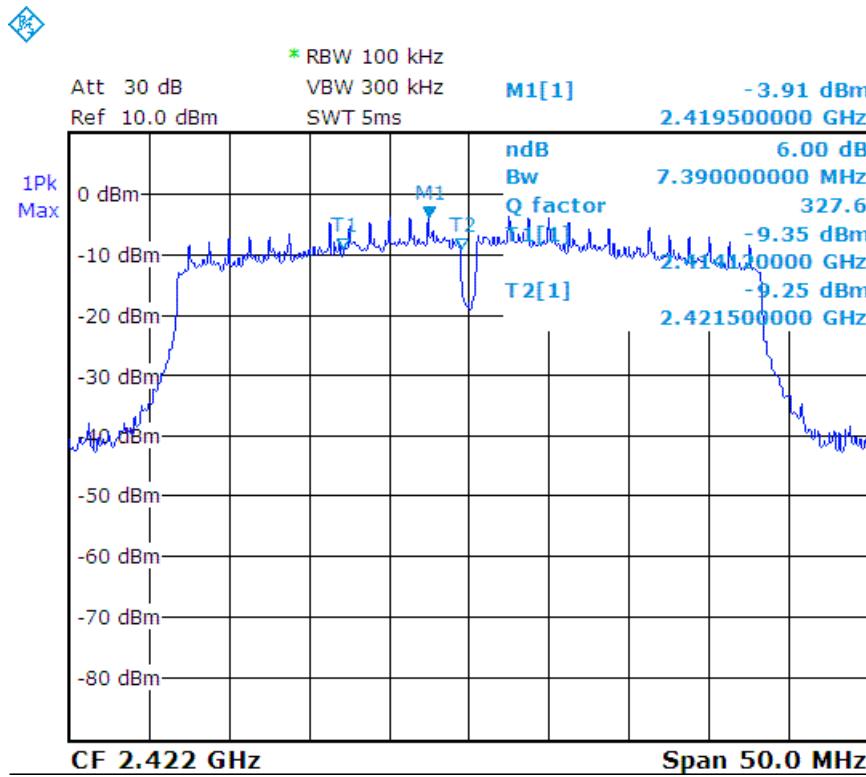


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|---|----------------------|---|
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|              |             |              |                              |
|--------------|-------------|--------------|------------------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                       |
| Detector:    | Peak        | Test Mode:   | MLWG3/64_2.4G_802.11n - HT40 |
| RBW:         | 100 kHz     | VBW:         | 300 kHz                      |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015                |

| Channel Number | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Minimum Limit (MHz) |
|----------------|-------------------------|---------------------|---------------------|
| CH03           | 2422                    | 7.39                | 0.5                 |
| CH06           | 2437                    | 8.39                | 0.5                 |
| CH09           | 2452                    | 8.68                | 0.5                 |

n - HT40\_CH03 :



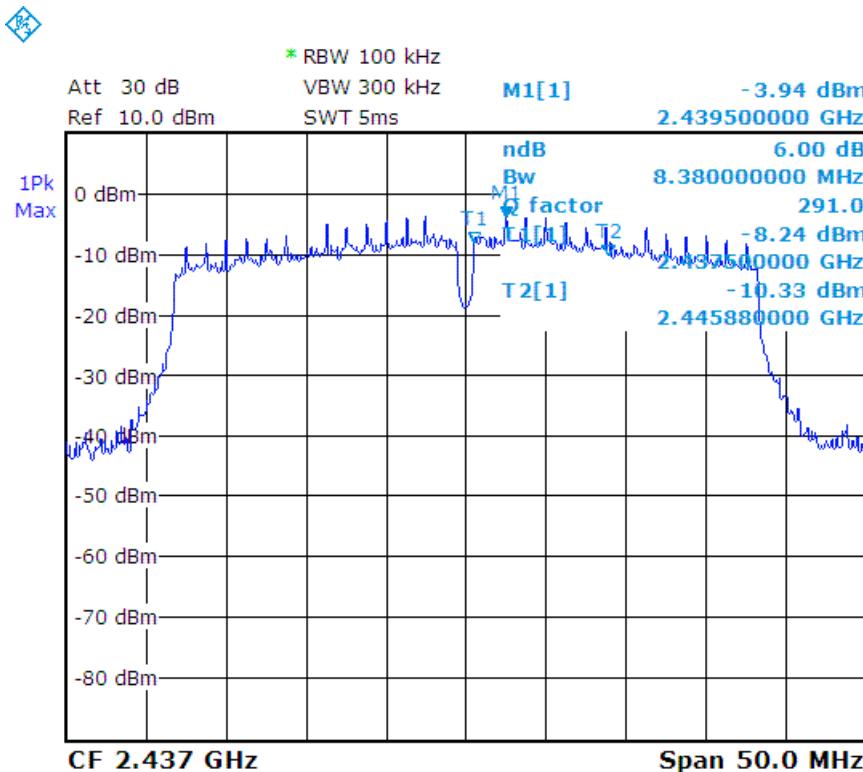


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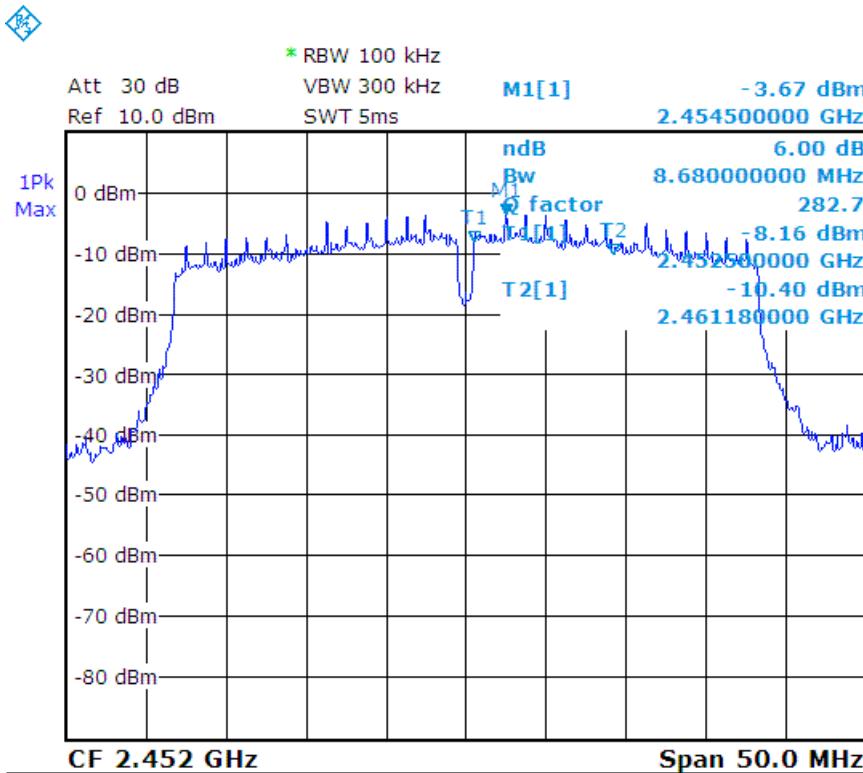
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n - HT40\_CH06 :



n - HT40\_CH09 :



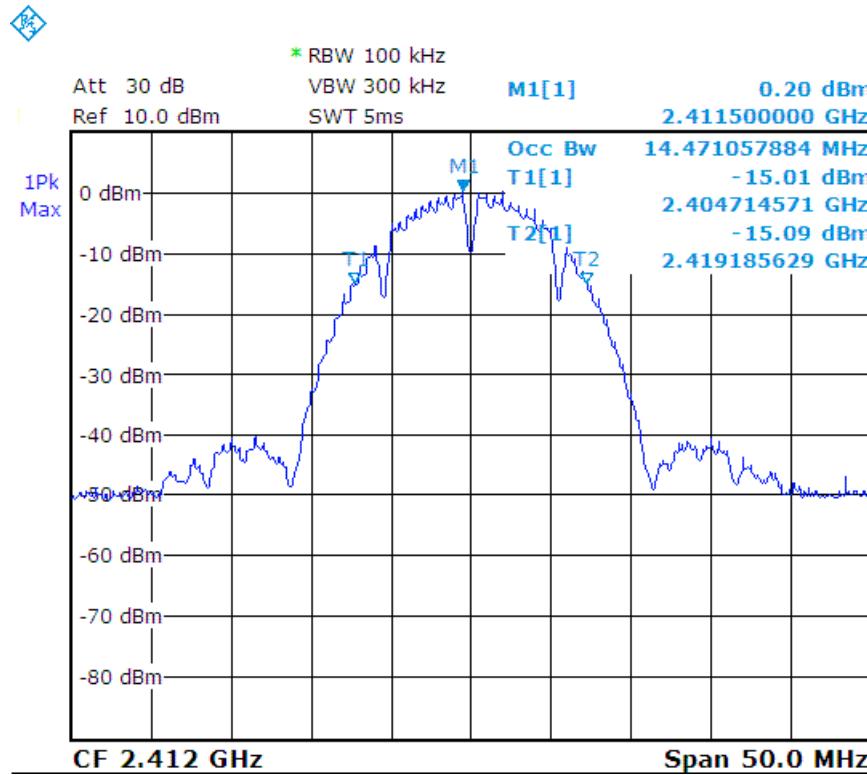
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|---|----------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 131 of 216<br>Date: Dec. 22, 2015 |
|---|----------------------|---|

### 99% Bandwidth :

|              |             |              |                    |
|--------------|-------------|--------------|--------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH             |
| Detector:    | Peak        | Test Mode:   | MLWG3_2.4G_802.11b |
| RBW:         | 100 kHz     | VBW:         | 300 kHz            |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015      |

| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) |
|----------------|-------------------------|---------------------|
| CH01           | 2412                    | 14.47               |
| CH06           | 2437                    | 14.37               |
| CH11           | 2462                    | 14.27               |

b\_CH01 :



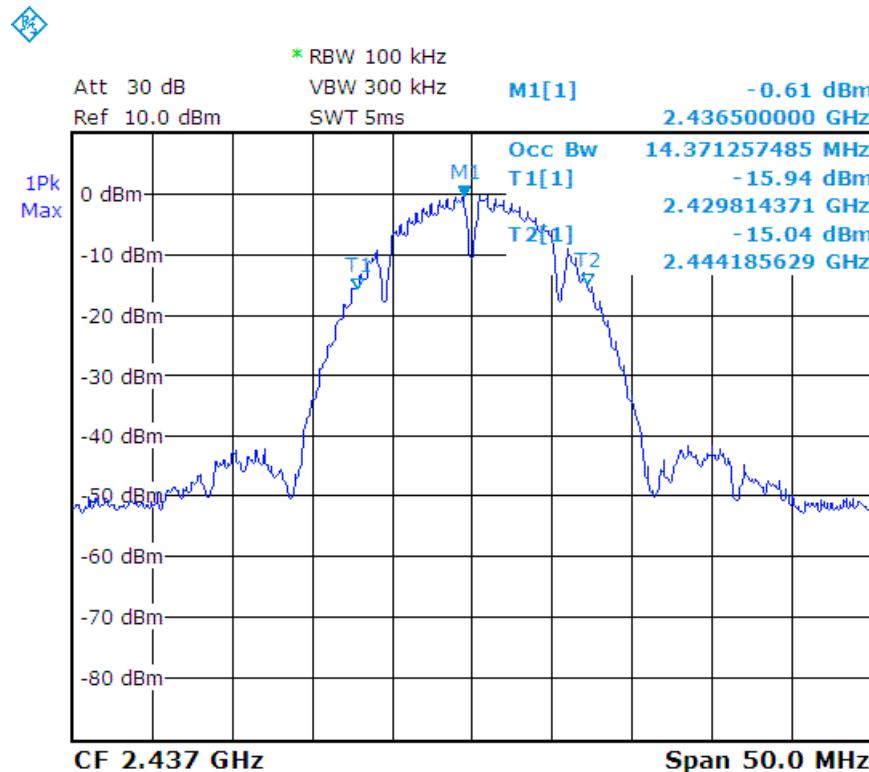


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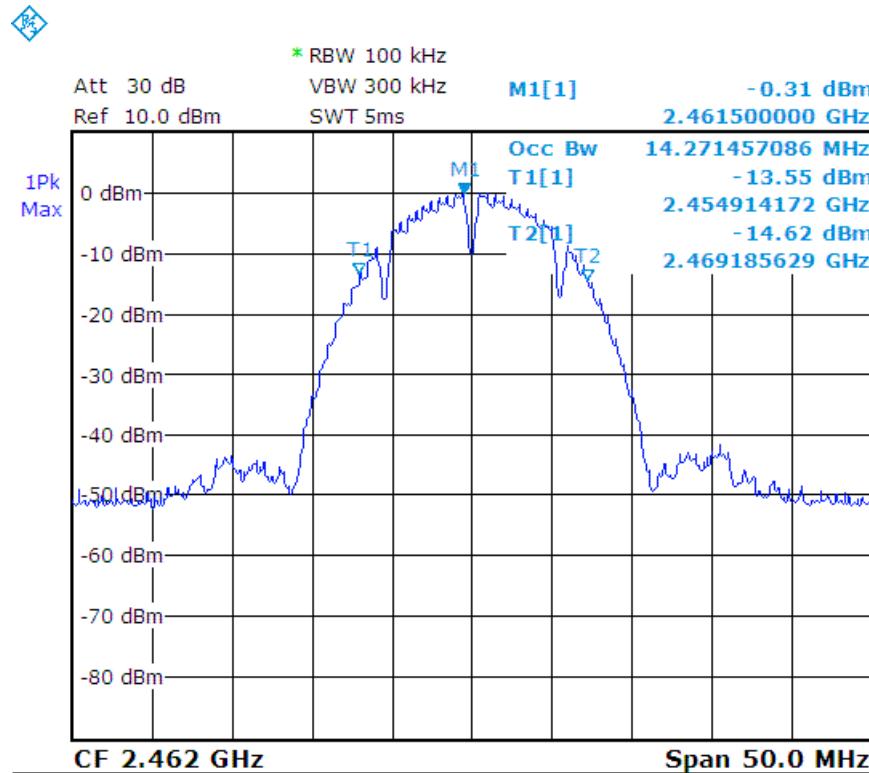
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b\_CH06 :



b\_CH11 :

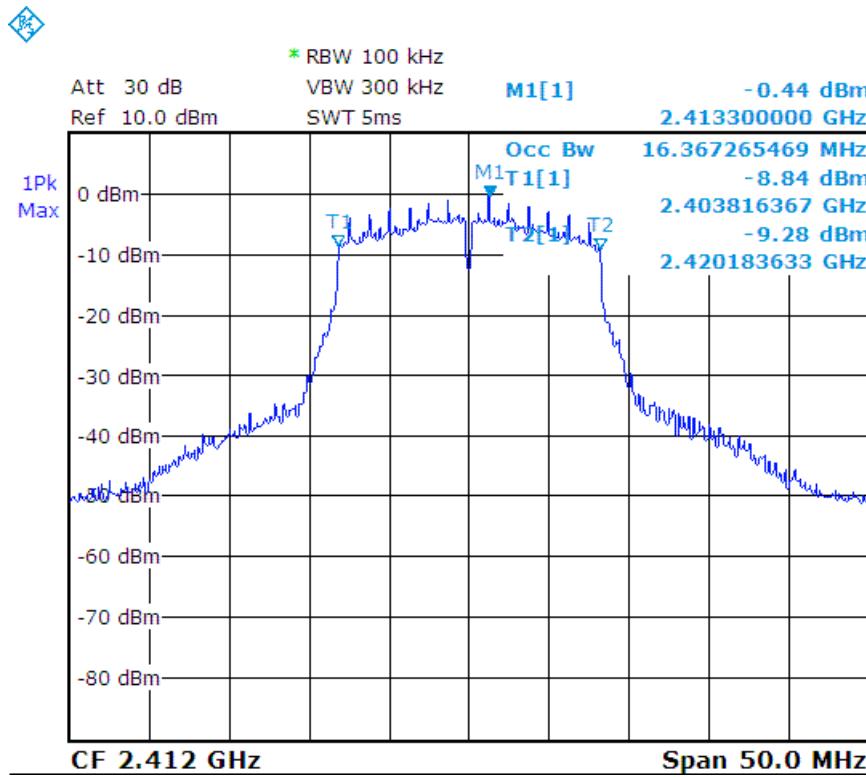


|  |                      |   |
|--|----------------------|---|
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|--|----------------------|---|

|              |             |              |                    |
|--------------|-------------|--------------|--------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH             |
| Detector:    | Peak        | Test Mode:   | MLWG3_2.4G_802.11g |
| RBW:         | 100 kHz     | VBW:         | 300 kHz            |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015      |

| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) |
|----------------|-------------------------|---------------------|
| CH01           | 2412                    | 16.37               |
| CH06           | 2437                    | 16.37               |
| CH11           | 2462                    | 16.37               |

g\_CH01 :



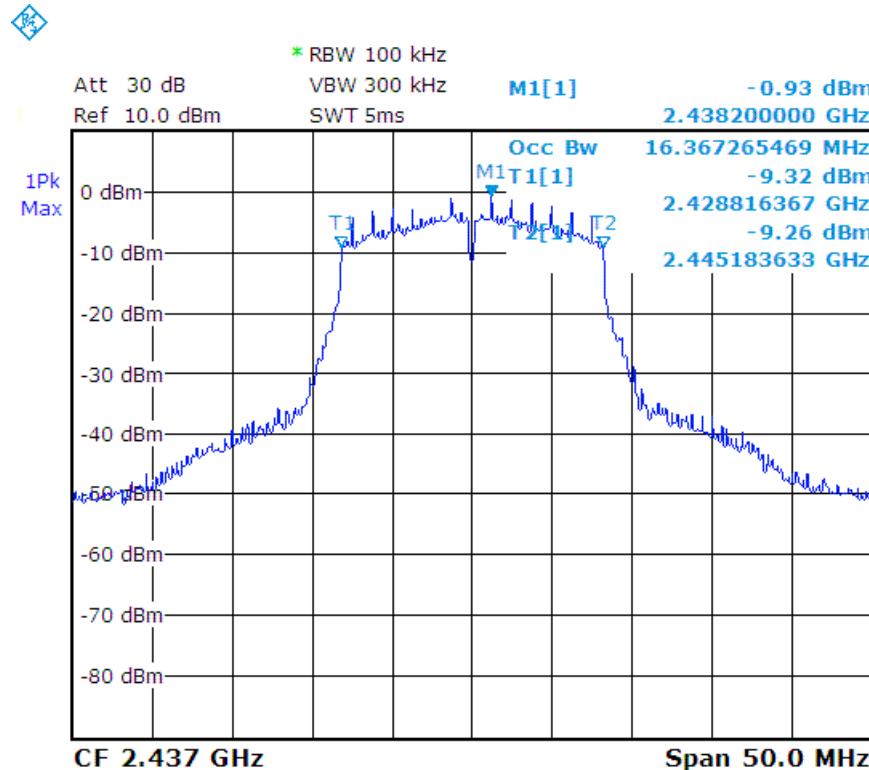


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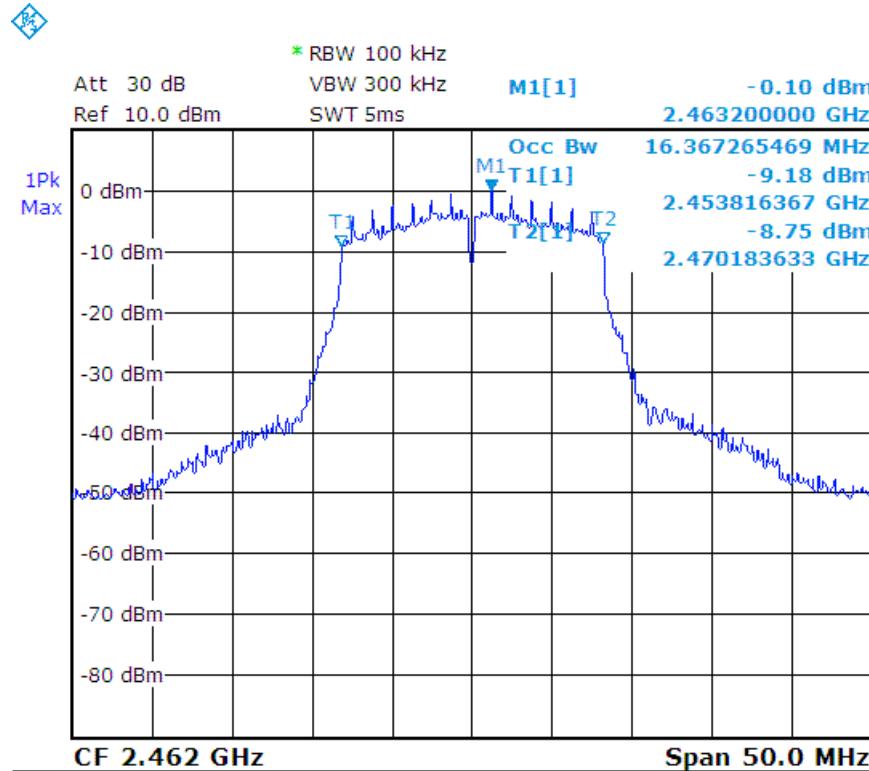
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g\_CH06 :



g\_CH11 :

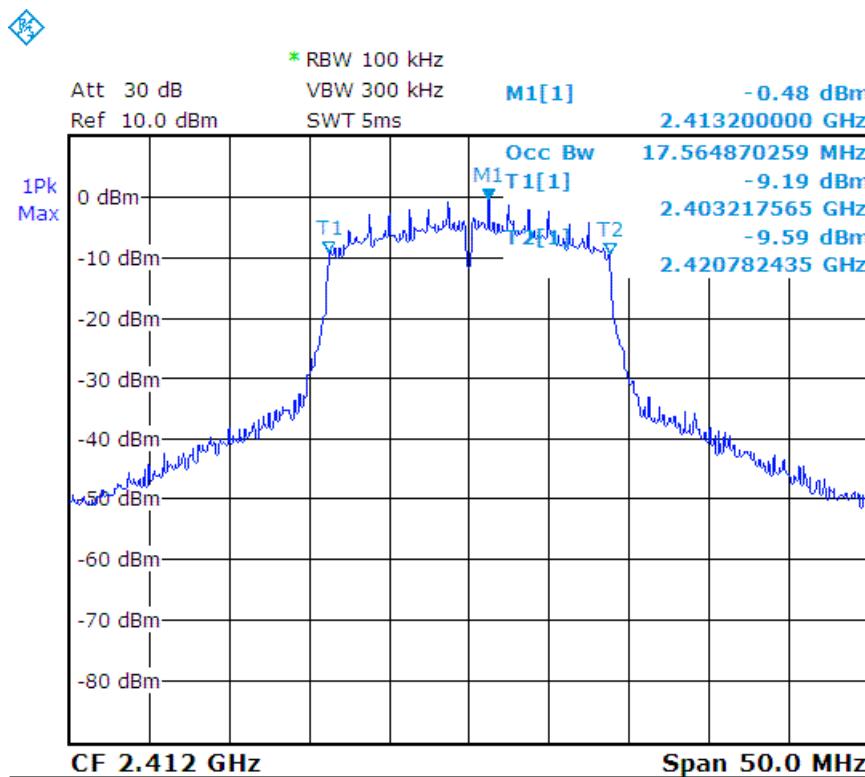


|  |                      |   |
|--|----------------------|---|
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|--|----------------------|---|

|              |             |              |                           |
|--------------|-------------|--------------|---------------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH                    |
| Detector:    | Peak        | Test Mode:   | MLWG3_2.4G_802.11n - HT20 |
| RBW:         | 100 kHz     | VBW:         | 300 kHz                   |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015             |

| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) |
|----------------|-------------------------|---------------------|
| CH01           | 2412                    | 17.56               |
| CH06           | 2437                    | 17.56               |
| CH11           | 2462                    | 17.56               |

n - HT20\_CH01 :



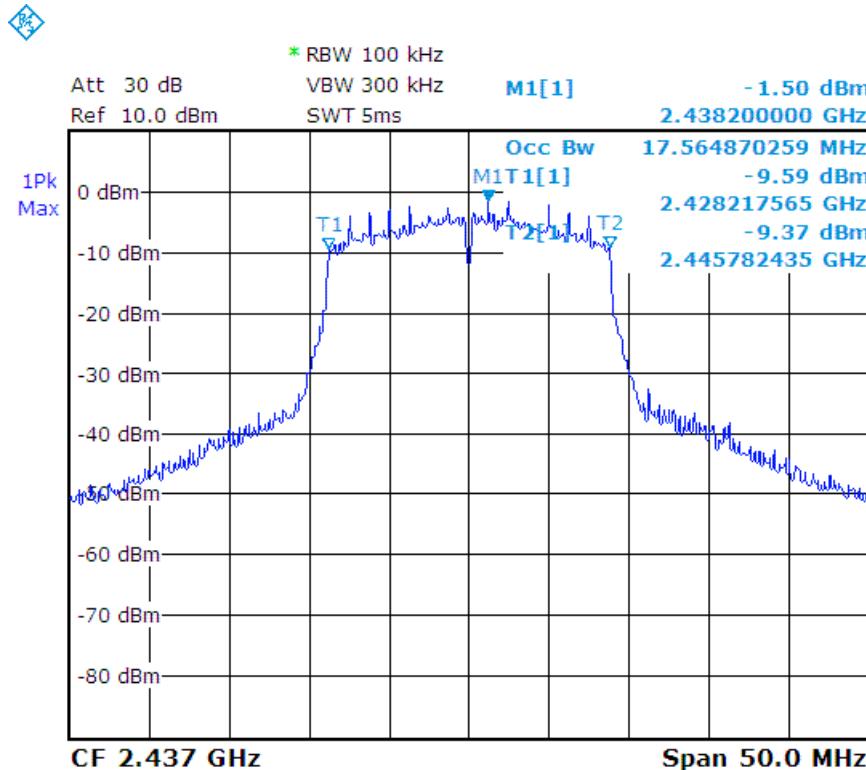


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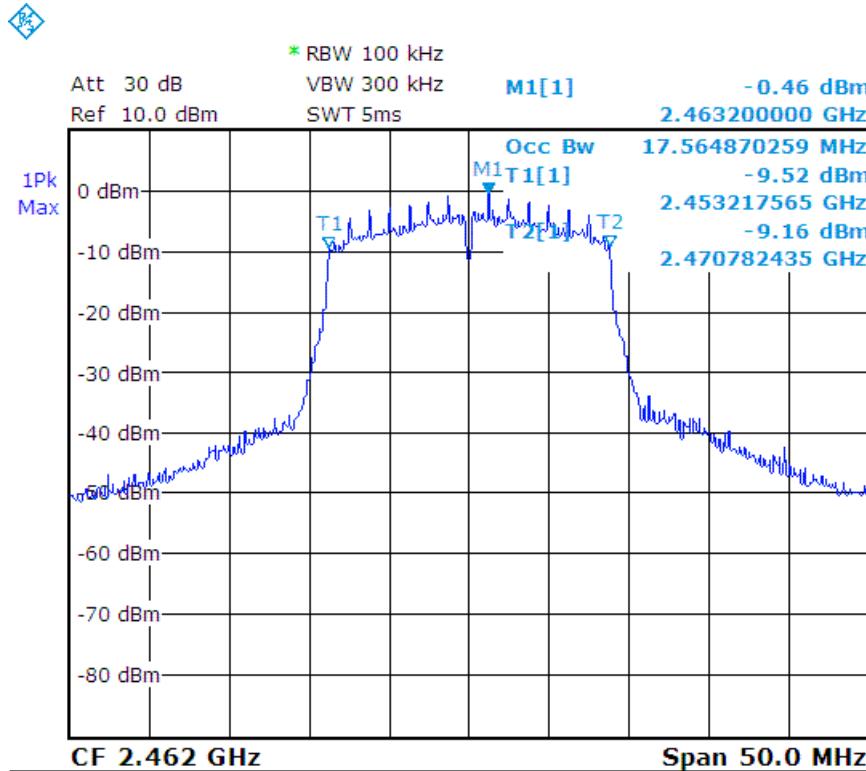
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n - HT20\_CH06 :



n - HT20\_CH11 :

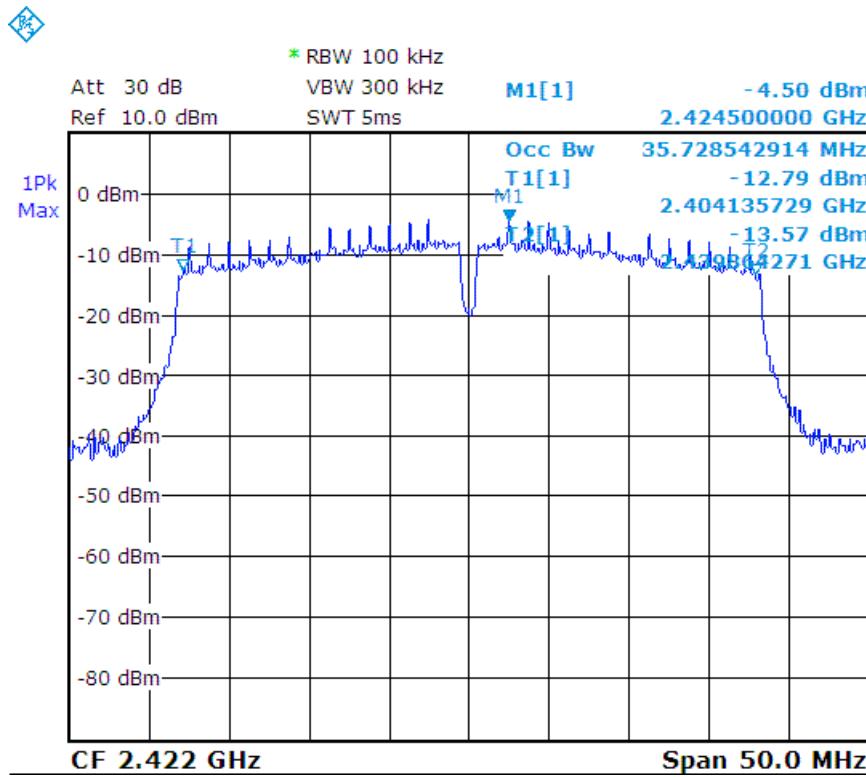


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|---|----------------------|---|
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|              |             |              |                           |
|--------------|-------------|--------------|---------------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH                    |
| Detector:    | Peak        | Test Mode:   | MLWG3_2.4G_802.11n - HT40 |
| RBW:         | 100 kHz     | VBW:         | 300 kHz                   |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015             |

| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) |
|----------------|-------------------------|---------------------|
| CH03           | 2422                    | 35.73               |
| CH06           | 2437                    | 35.73               |
| CH09           | 2452                    | 35.73               |

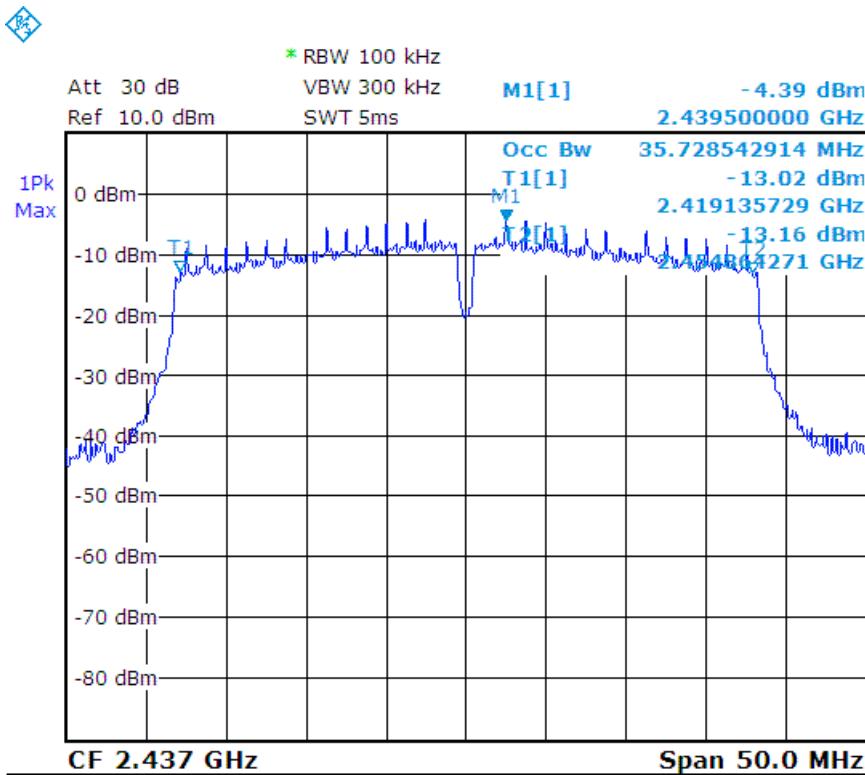
n - HT40\_CH03 :



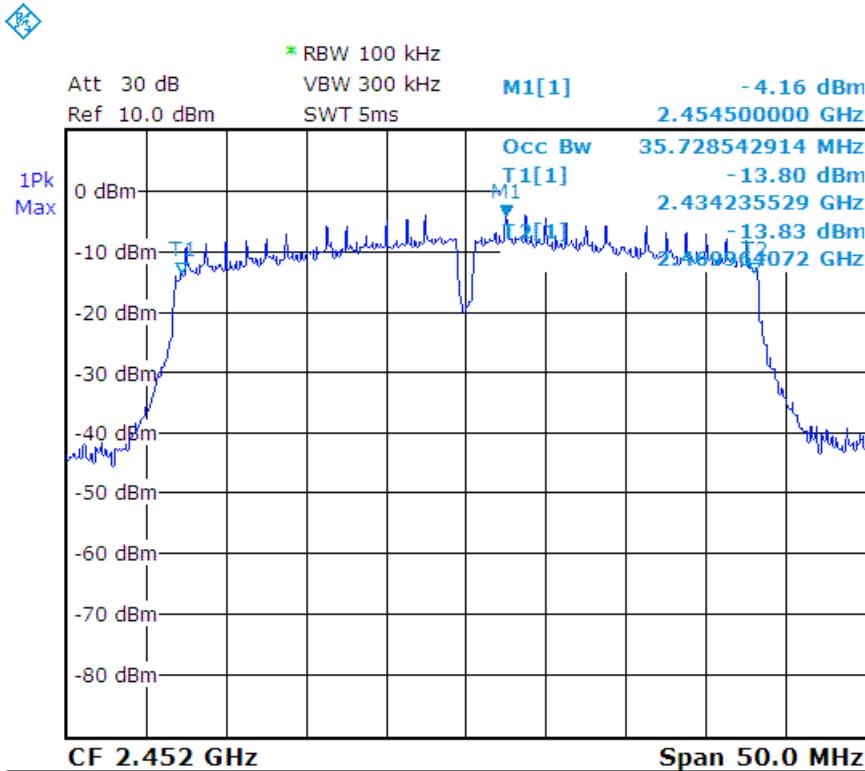
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n - HT40\_CH06 :



n - HT40\_CH09 :

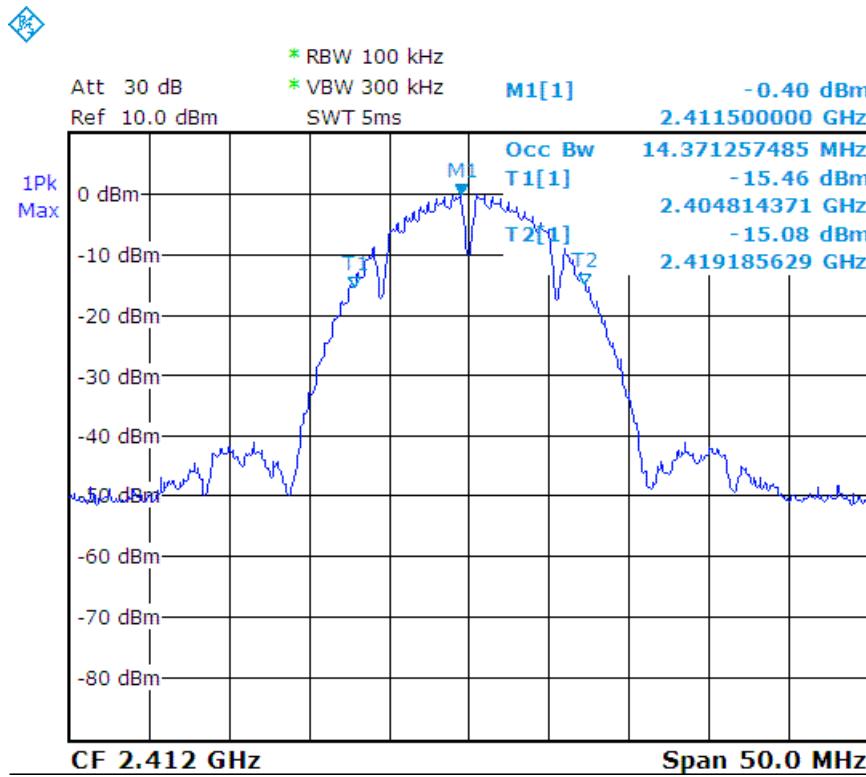


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|--|----------------------|---|

|              |             |              |                       |
|--------------|-------------|--------------|-----------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                |
| Detector:    | Peak        | Test Mode:   | MLWG3/64_2.4G_802.11b |
| RBW:         | 100 kHz     | VBW:         | 300 kHz               |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015         |

| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) |
|----------------|-------------------------|---------------------|
| CH01           | 2412                    | 14.37               |
| CH06           | 2437                    | 14.37               |
| CH11           | 2462                    | 14.27               |

b\_CH01 :



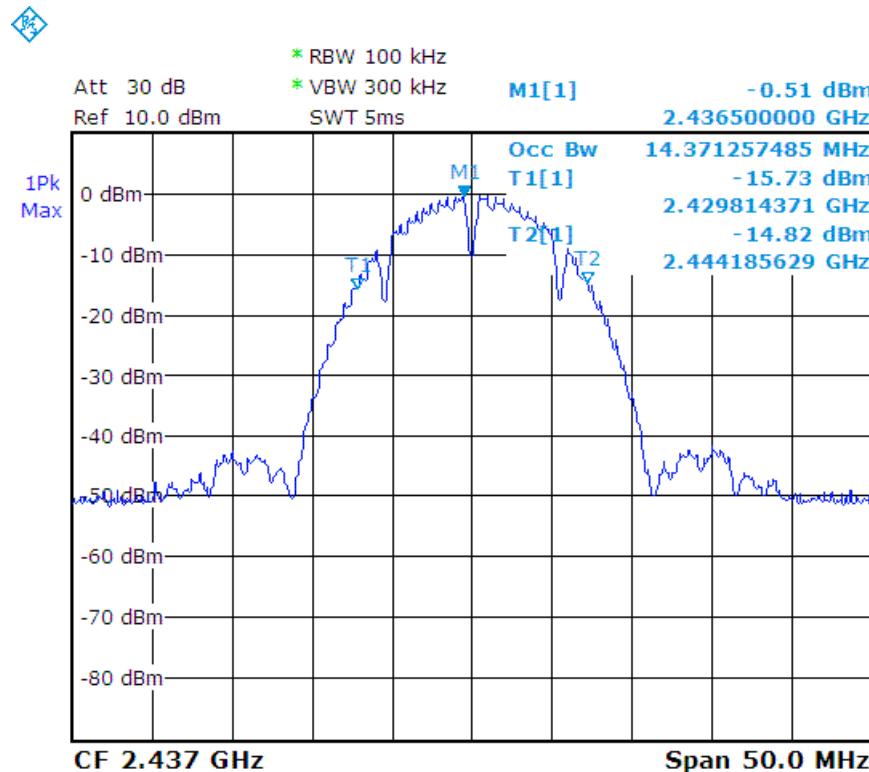


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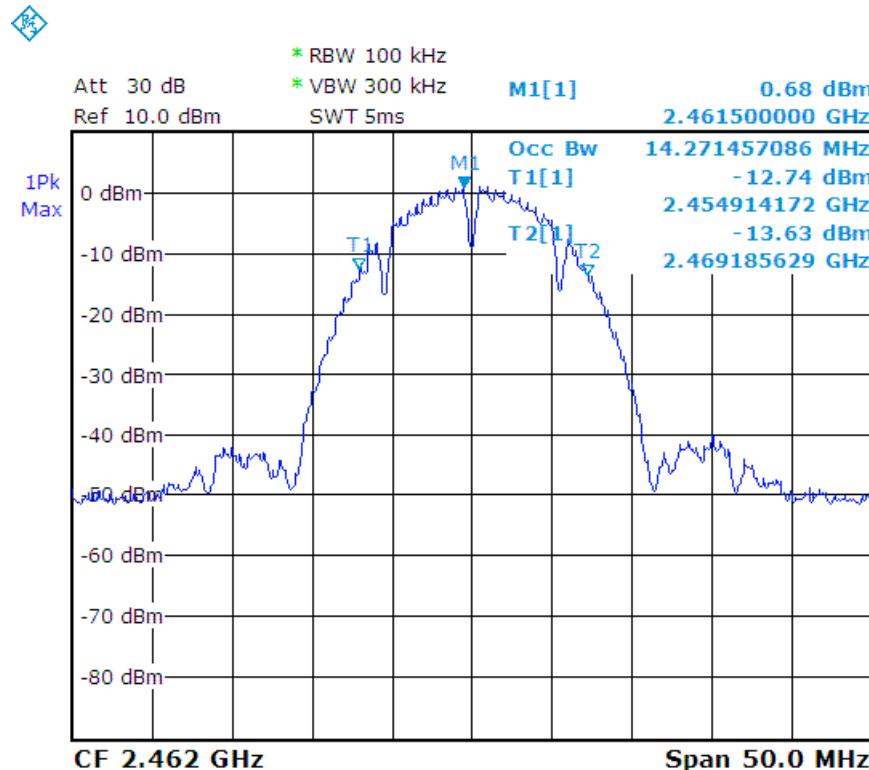
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b\_CH06 :



b\_CH11 :

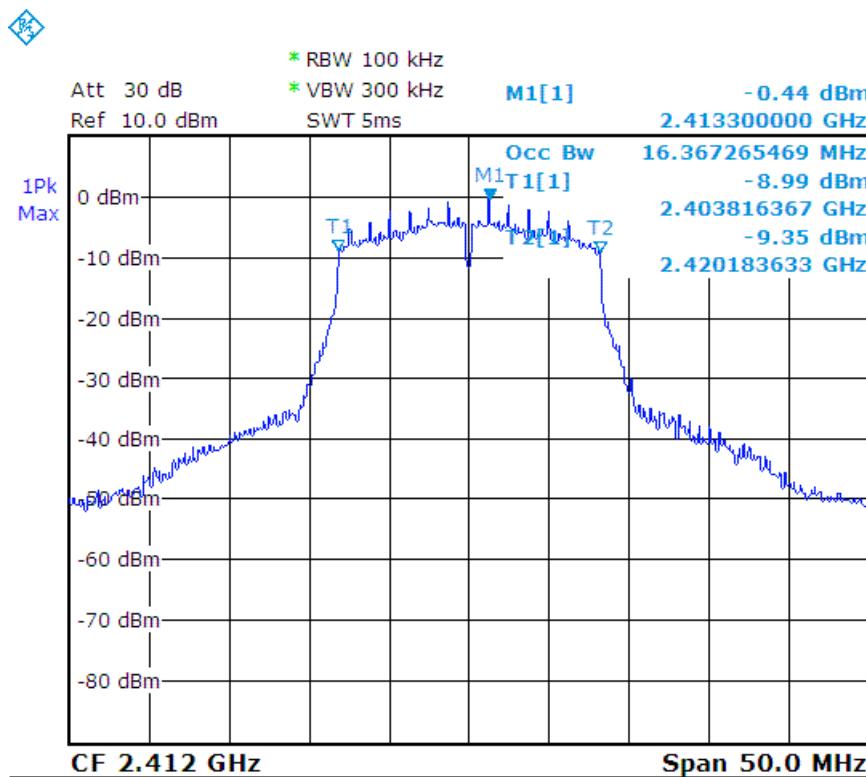


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|--|----------------------|---|
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|              |             |              |                       |
|--------------|-------------|--------------|-----------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                |
| Detector:    | Peak        | Test Mode:   | MLWG3/64_2.4G_802.11g |
| RBW:         | 100 kHz     | VBW:         | 300 kHz               |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015         |

| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) |
|----------------|-------------------------|---------------------|
| CH01           | 2412                    | 16.37               |
| CH06           | 2437                    | 16.37               |
| CH11           | 2462                    | 16.37               |

g\_CH01 :



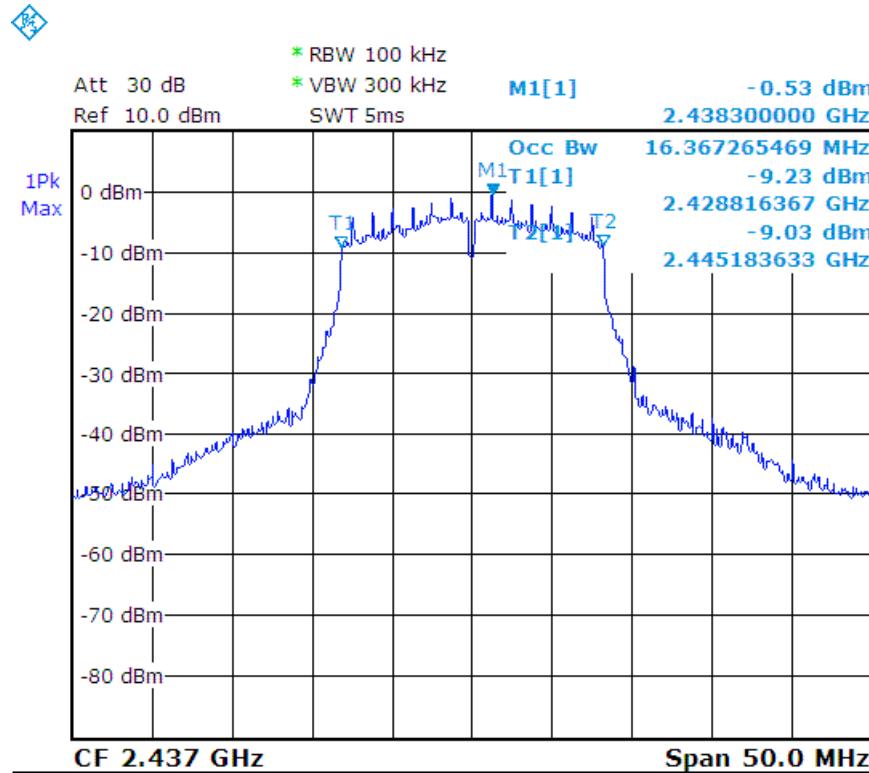


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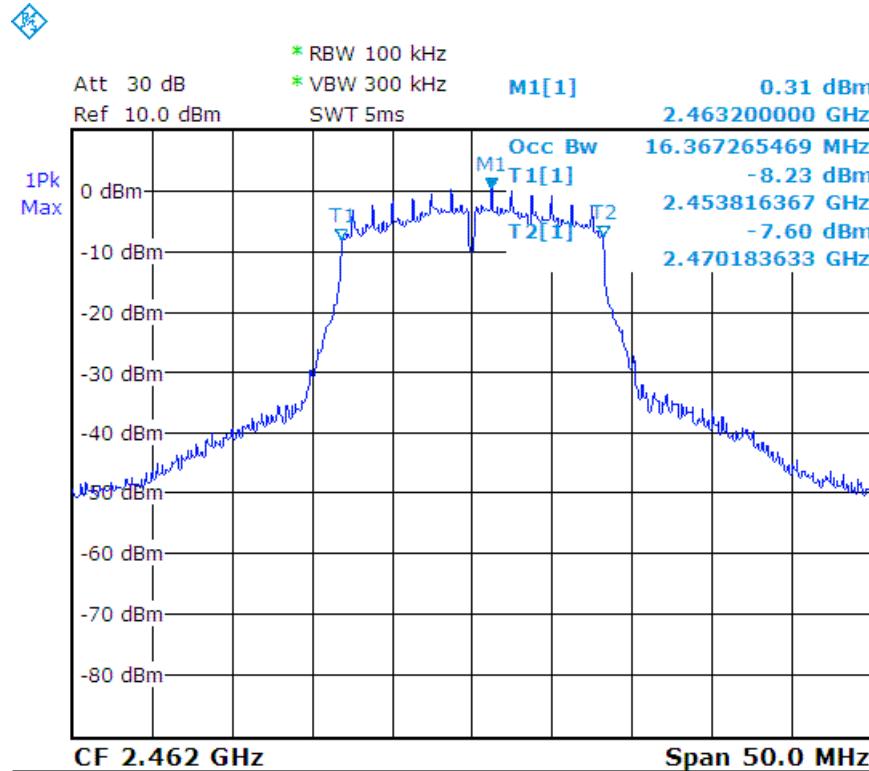
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g\_CH06 :



g\_CH11 :

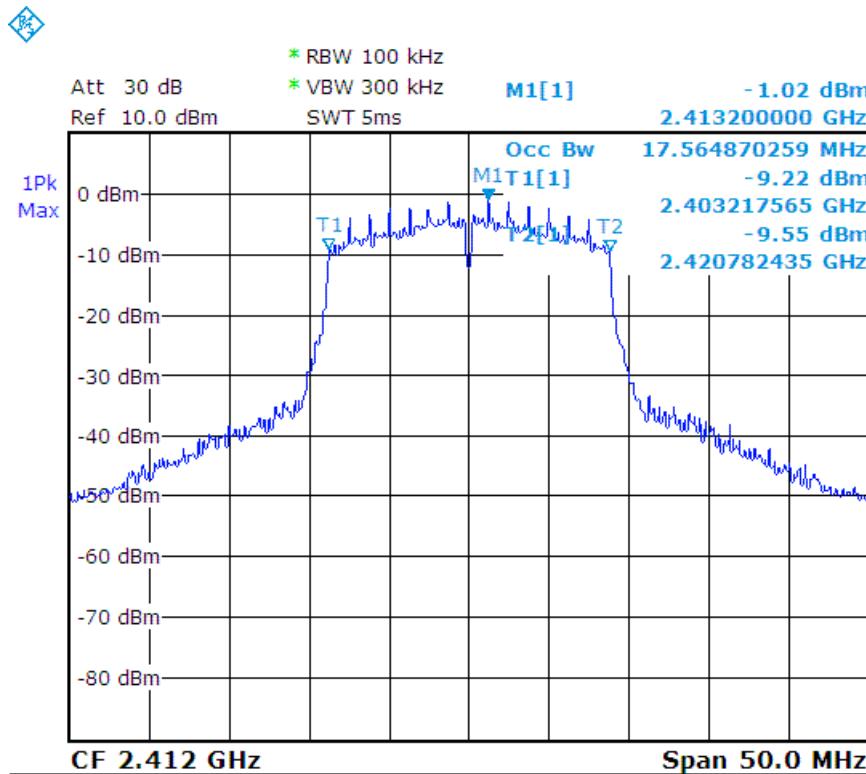


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|--|----------------------|---|
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|--|----------------------|---|

|              |             |              |                              |
|--------------|-------------|--------------|------------------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                       |
| Detector:    | Peak        | Test Mode:   | MLWG3/64_2.4G_802.11n - HT20 |
| RBW:         | 100 kHz     | VBW:         | 300 kHz                      |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015                |

| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) |
|----------------|-------------------------|---------------------|
| CH01           | 2412                    | 17.56               |
| CH06           | 2437                    | 17.56               |
| CH11           | 2462                    | 17.56               |

n - HT20\_CH01 :



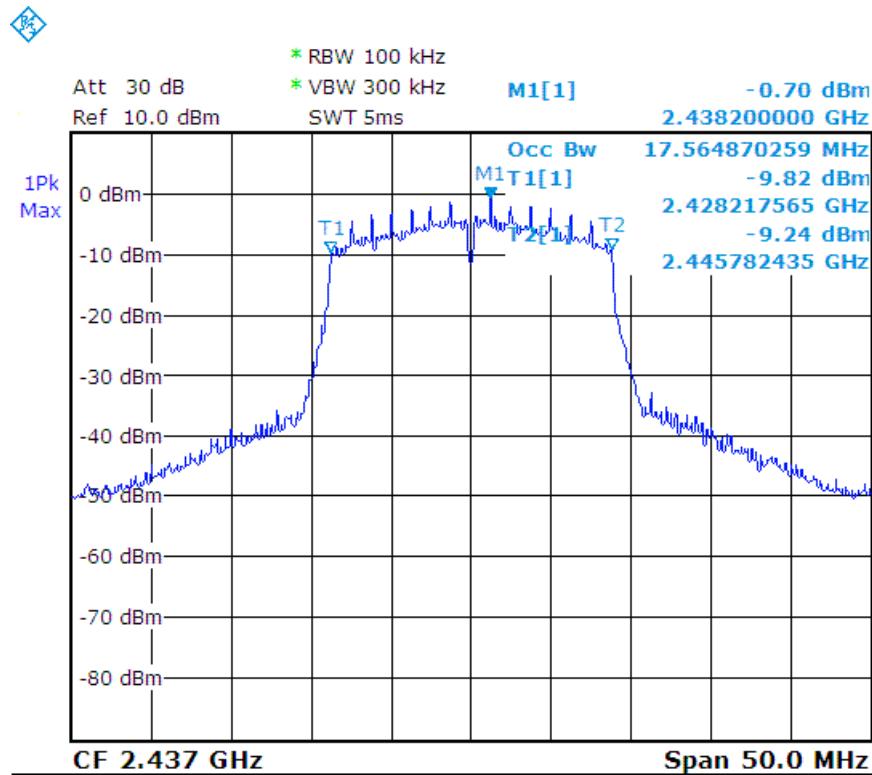


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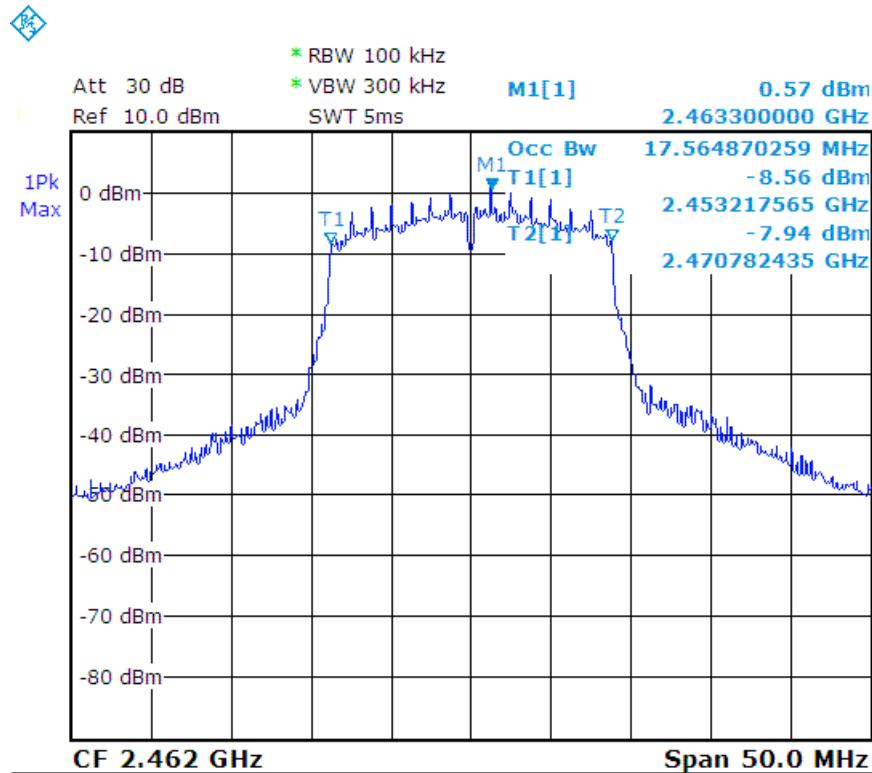
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n - HT20\_CH06 :



n - HT20\_CH11 :

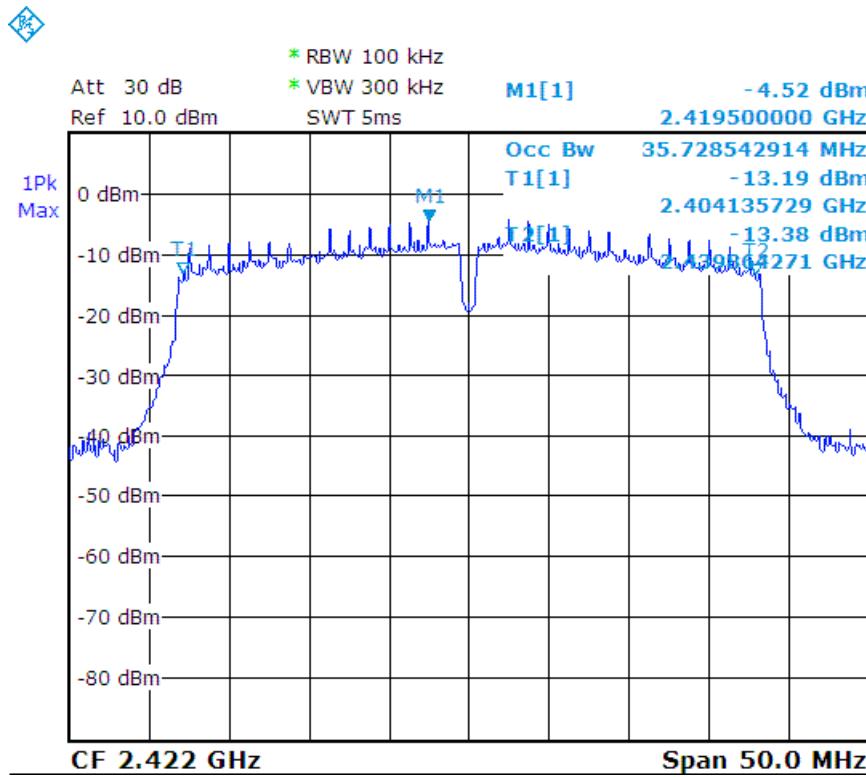


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|--|----------------------|---|

|              |             |              |                              |
|--------------|-------------|--------------|------------------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                       |
| Detector:    | Peak        | Test Mode:   | MLWG3/64_2.4G_802.11n - HT40 |
| RBW:         | 100 kHz     | VBW:         | 300 kHz                      |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015                |

| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) |
|----------------|-------------------------|---------------------|
| CH03           | 2422                    | 35.73               |
| CH06           | 2437                    | 35.83               |
| CH09           | 2452                    | 35.73               |

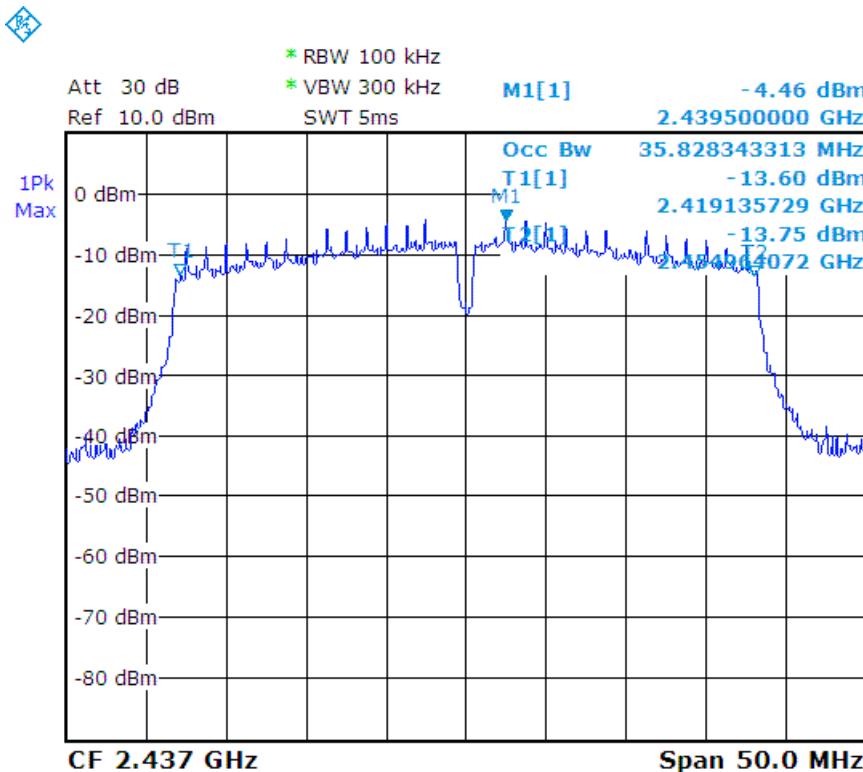
n - HT40\_CH03 :



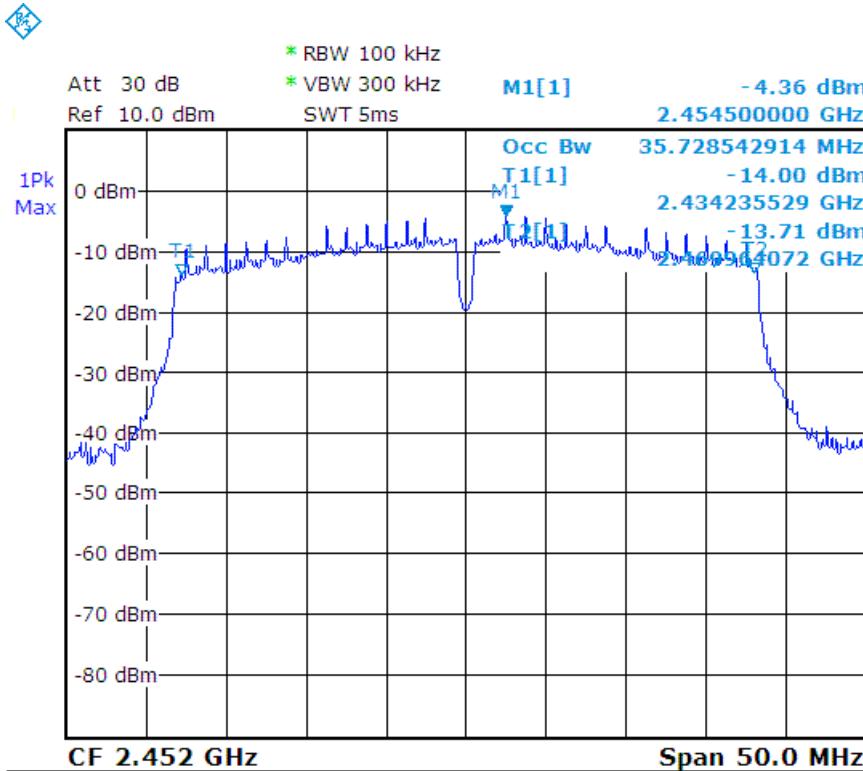
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n - HT40\_CH06 :



n - HT40\_CH09 :



|   |                      |   |
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## 4.4 PEAK CONDUCTED OUTPUT POWER TEST

### 4.4.1 LIMIT

FCC Part15, Subpart C Section 15.247(b).

The maximum peak conducted output power of the intentional radiator shall not exceed the following:

For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt.

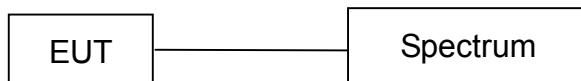
### 4.4.2 TEST EQUIPMENT

The following test equipment was used during the test :

| Equipment/<br>Facilities                      | Specifications | Manufacturer    | Model#/<br>Serial# | Due Date of Cal. &<br>Cal. Center |
|---|----------------|-----------------|--------------------|-----------------------------------|
| EMI TEST RECEIVER (INCLUDE SPECTRUM ANALYZER) | 9 KHz ~ 6 GHz  | ROHDE & SCHWARZ | ESL /100176        | MAY 24, 2016 ETC                  |

**NOTE:** The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.4.3 TEST SET-UP



The EUT was connected to a spectrum through a 50Ω RF cable.

### 4.4.4 TEST PROCEDURE

The EUT was operating in continuous transmission mode or could control its channel.

Printed out the test result from the spectrum by hard copy function.

|  |                      |   |
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#### 4.4.5 EUT OPERATING CONDITION

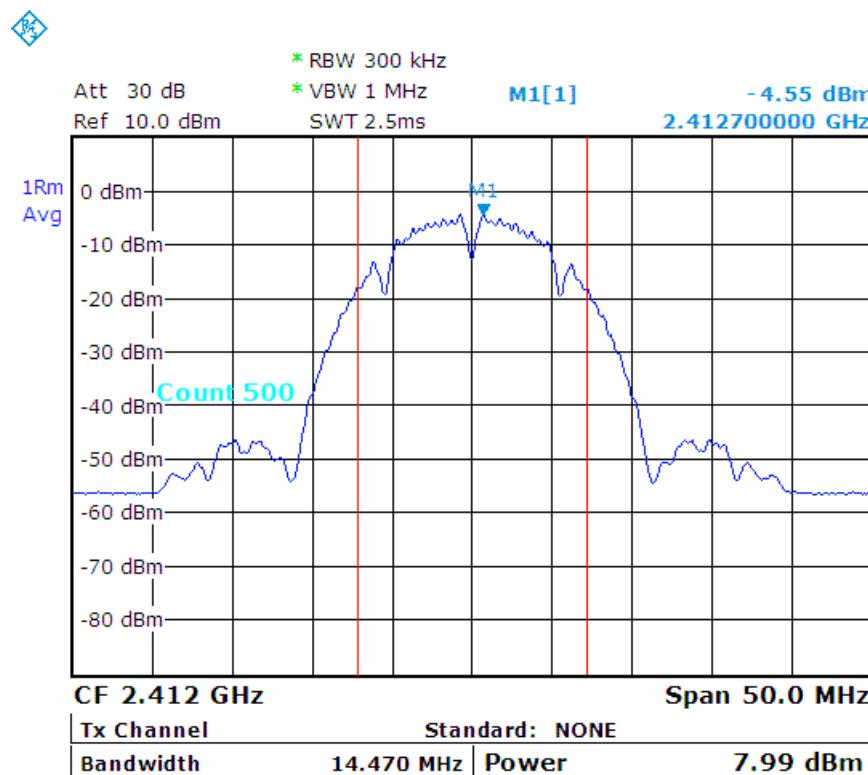
1. Set the EUT under continuous transmission condition.
2. The EUT was set to the highest available power level.

#### 4.4.6 TEST RESULT

|              |             |              |                    |
|--------------|-------------|--------------|--------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH             |
| Detector:    | RMS         | Test Mode:   | MLWG3_2.4G_802.11b |
| RBW:         | 300 kHz     | VBW:         | 1 MHz              |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015      |

| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) | Peak Conducted Output Power |      | Limit (dBm) |
|----------------|-------------------------|---------------------|-----------------------------|------|-------------|
|                |                         |                     | (dBm)                       | (mW) |             |
| CH01           | 2412                    | 14.47               | 7.99                        | 6.30 | 30          |
| CH06           | 2437                    | 14.37               | 8.08                        | 6.43 | 30          |
| CH11           | 2462                    | 14.27               | 8.51                        | 7.10 | 30          |

b\_CH01 :



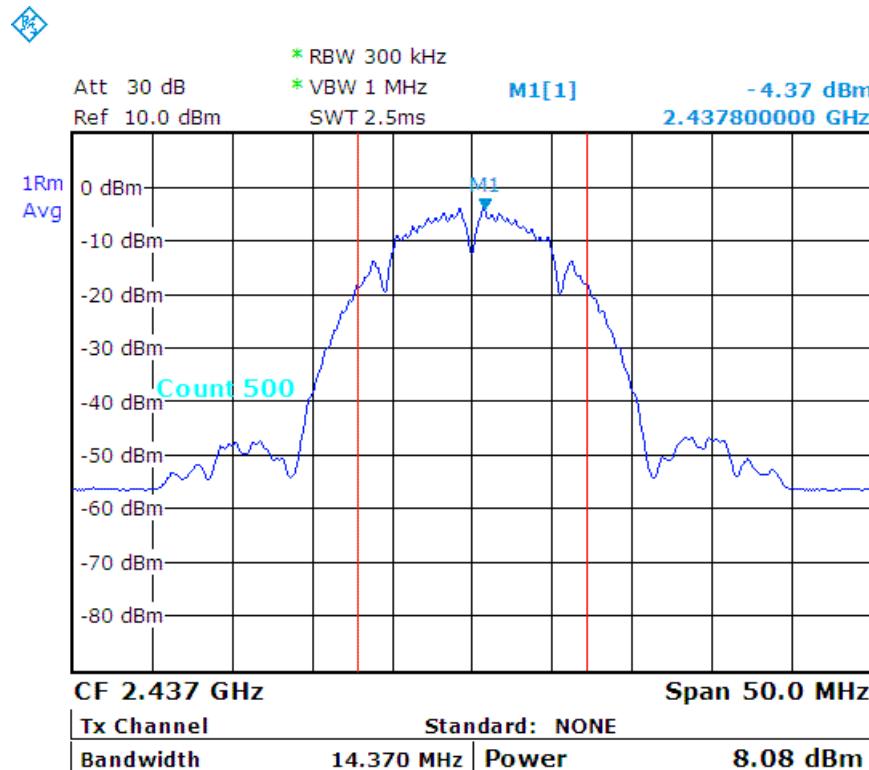


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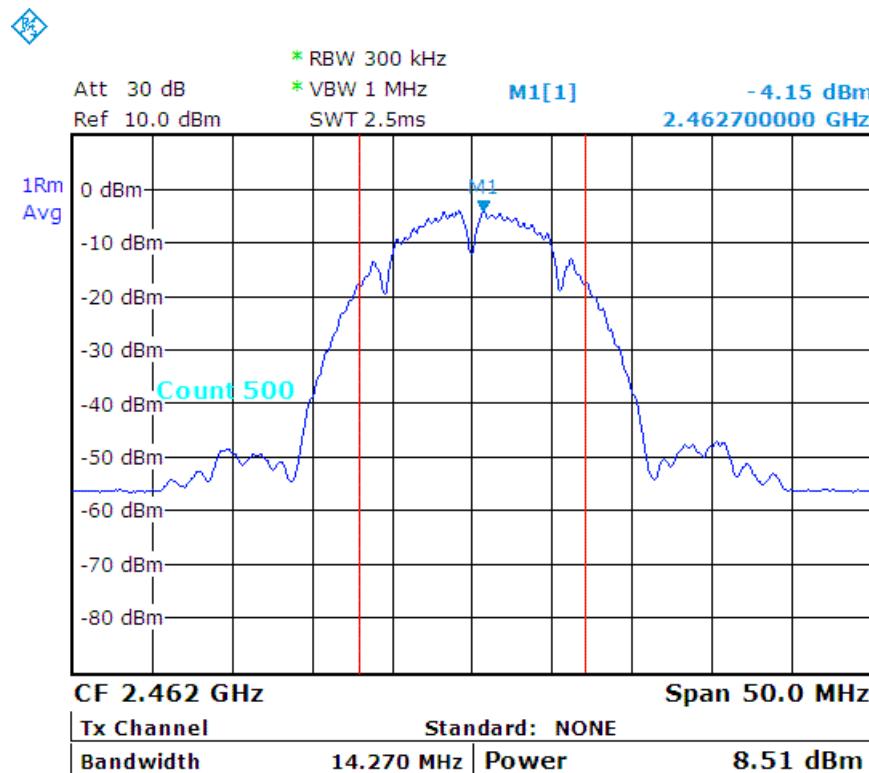
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b\_CH06 :



b\_CH11 :

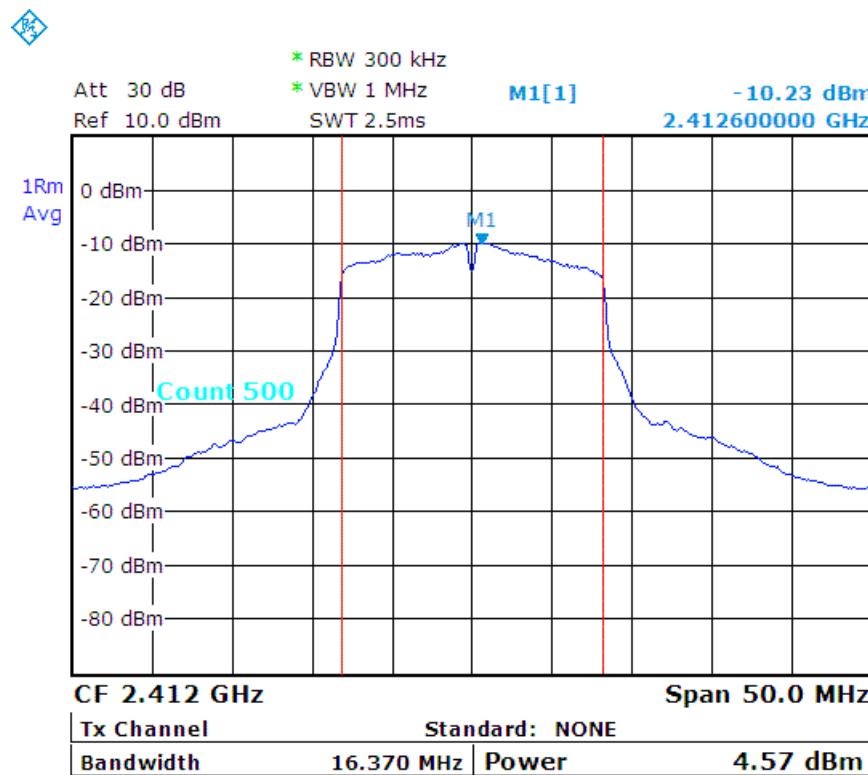


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|---|----------------------|---|
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|---|----------------------|---|

|              |             |              |                    |
|--------------|-------------|--------------|--------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH             |
| Detector:    | RMS         | Test Mode:   | MLWG3_2.4G_802.11g |
| RBW:         | 300 kHz     | VBW:         | 1 MHz              |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015      |

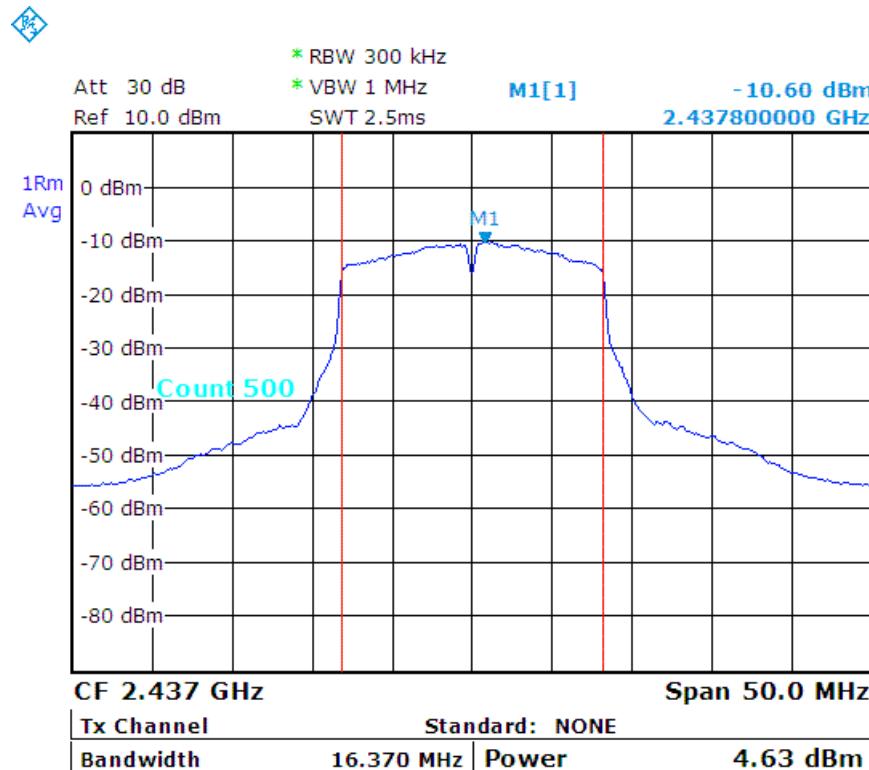
| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) | Peak Conducted Output Power |      | Limit (dBm) |
|----------------|-------------------------|---------------------|-----------------------------|------|-------------|
|                |                         |                     | (dBm)                       | (mW) |             |
| CH01           | 2412                    | 16.37               | 4.57                        | 2.86 | 30          |
| CH06           | 2437                    | 16.37               | 4.63                        | 2.90 | 30          |
| CH11           | 2462                    | 16.37               | 4.73                        | 2.97 | 30          |

g\_CH01 :

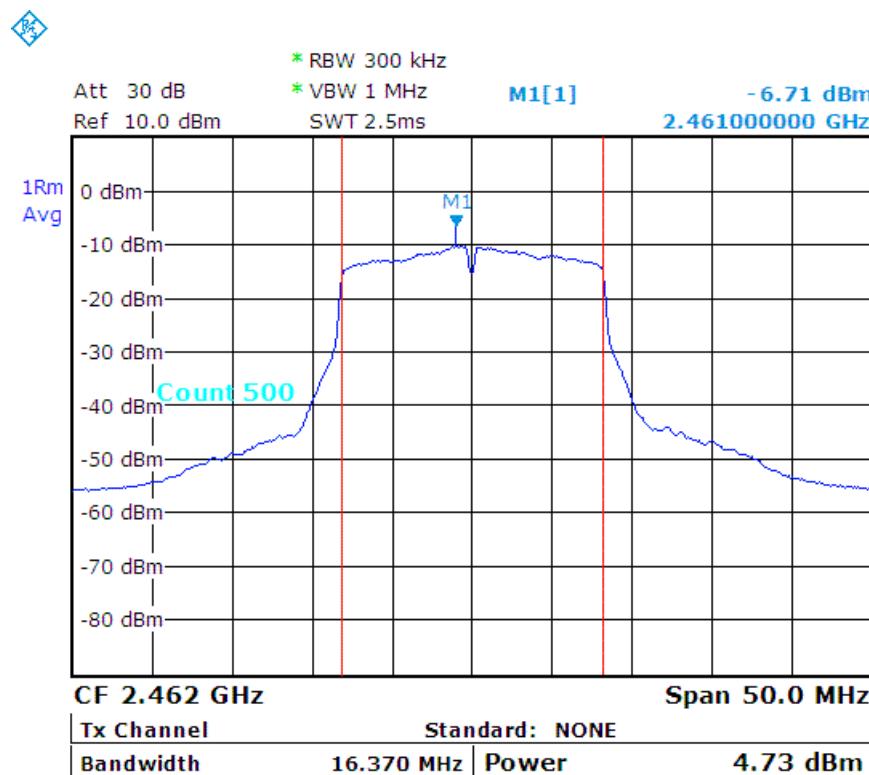


# TEST REPORT

g\_CH06 :



g\_CH11 :

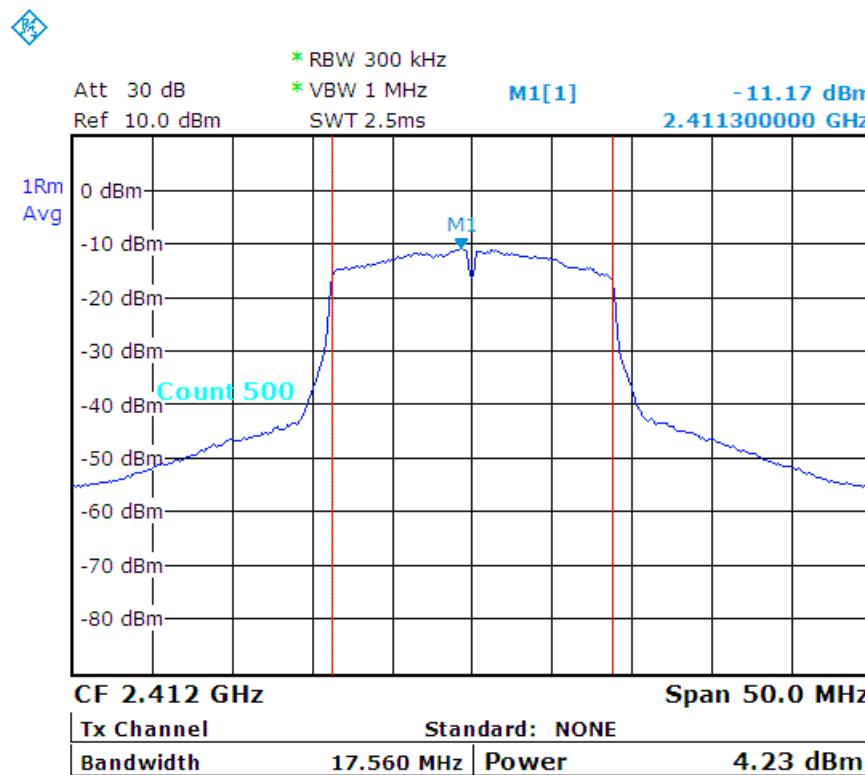


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|---|----------------------|---|
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|              |             |              |                           |
|--------------|-------------|--------------|---------------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH                    |
| Detector:    | RMS         | Test Mode:   | MLWG3_2.4G_802.11n - HT20 |
| RBW:         | 300 kHz     | VBW:         | 1 MHz                     |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015             |

| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) | Peak Conducted Output Power |      | Limit (dBm) |
|----------------|-------------------------|---------------------|-----------------------------|------|-------------|
|                |                         |                     | (dBm)                       | (mW) |             |
| CH01           | 2412                    | 17.56               | 4.23                        | 2.65 | 30          |
| CH06           | 2437                    | 17.56               | 4.35                        | 2.72 | 30          |
| CH11           | 2462                    | 17.56               | 4.41                        | 2.76 | 30          |

n - HT20\_CH01 :



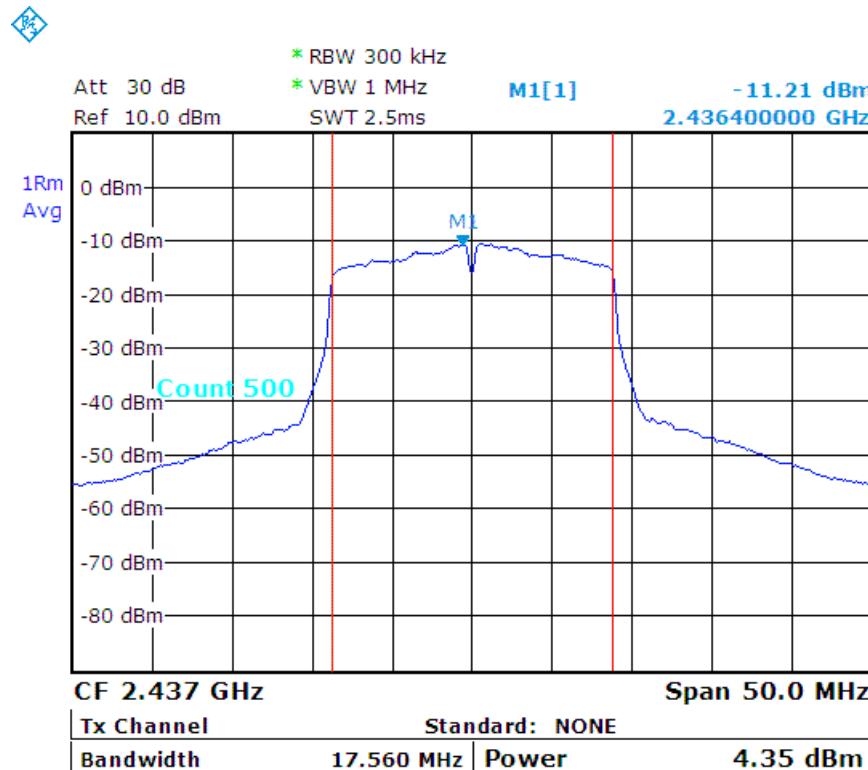


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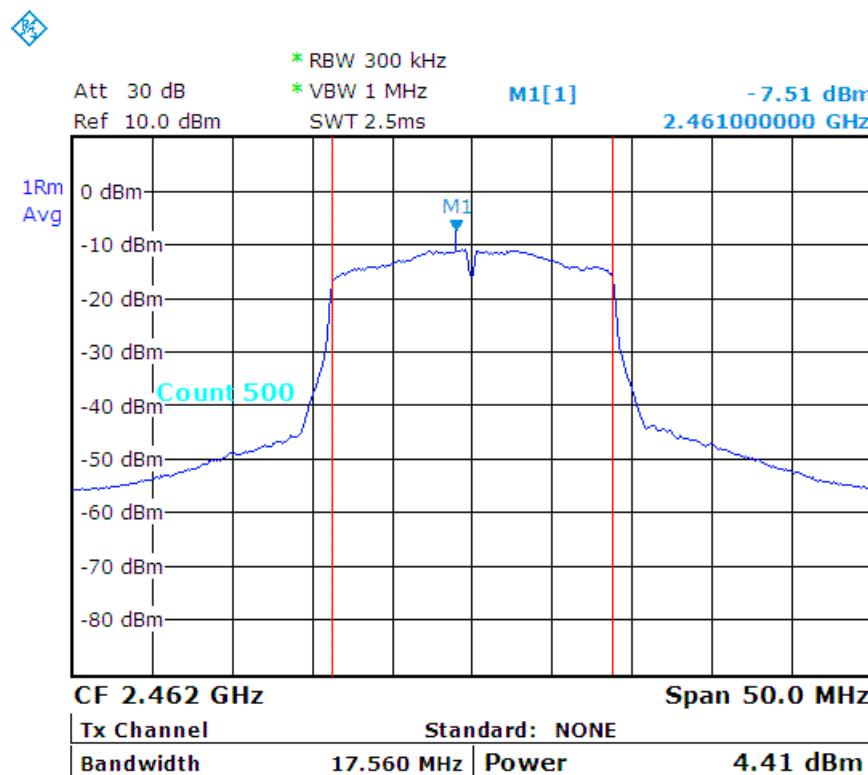
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n - HT20\_CH06 :



n - HT20\_CH11 :

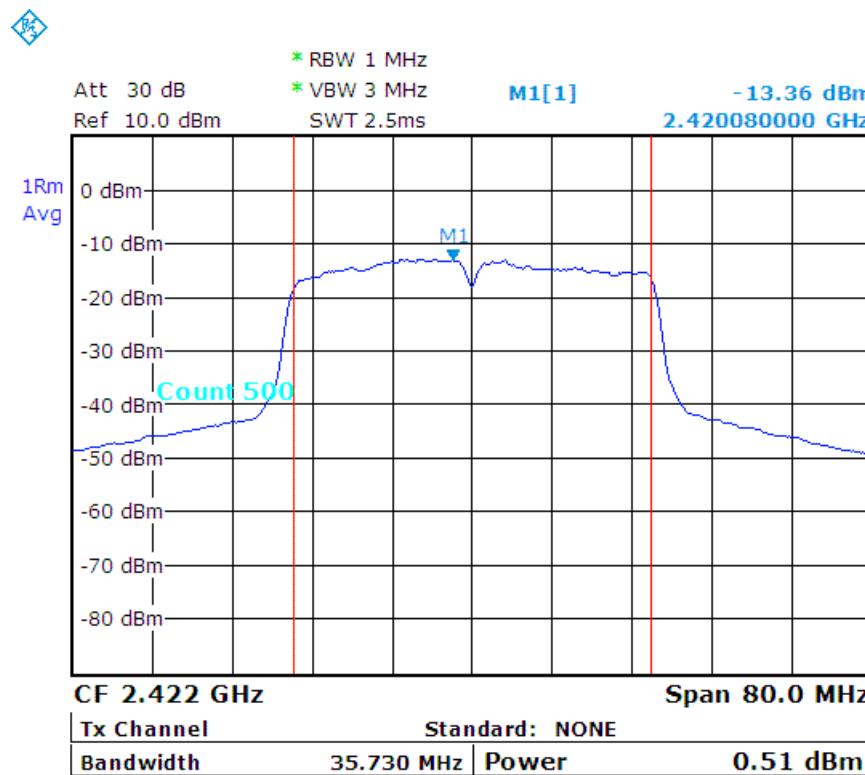


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|---|----------------------|---|
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|---|----------------------|---|

|              |             |              |                           |
|--------------|-------------|--------------|---------------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH                    |
| Detector:    | RMS         | Test Mode:   | MLWG3_2.4G_802.11n - HT40 |
| RBW:         | 1 MHz       | VBW:         | 3 MHz                     |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015             |

| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) | Peak Conducted Output Power |      | Limit (dBm) |
|----------------|-------------------------|---------------------|-----------------------------|------|-------------|
|                |                         |                     | (dBm)                       | (mW) |             |
| CH03           | 2422                    | 35.73               | 0.51                        | 1.12 | 30          |
| CH06           | 2437                    | 35.73               | 0.59                        | 1.15 | 30          |
| CH09           | 2452                    | 35.73               | 0.89                        | 1.23 | 30          |

n - HT40\_CH03 :



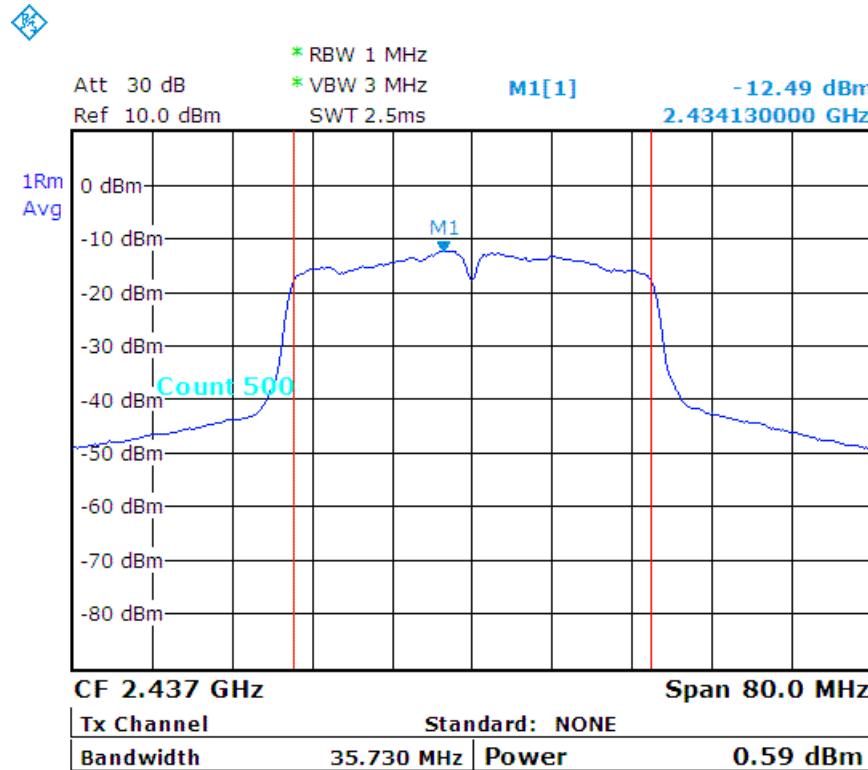


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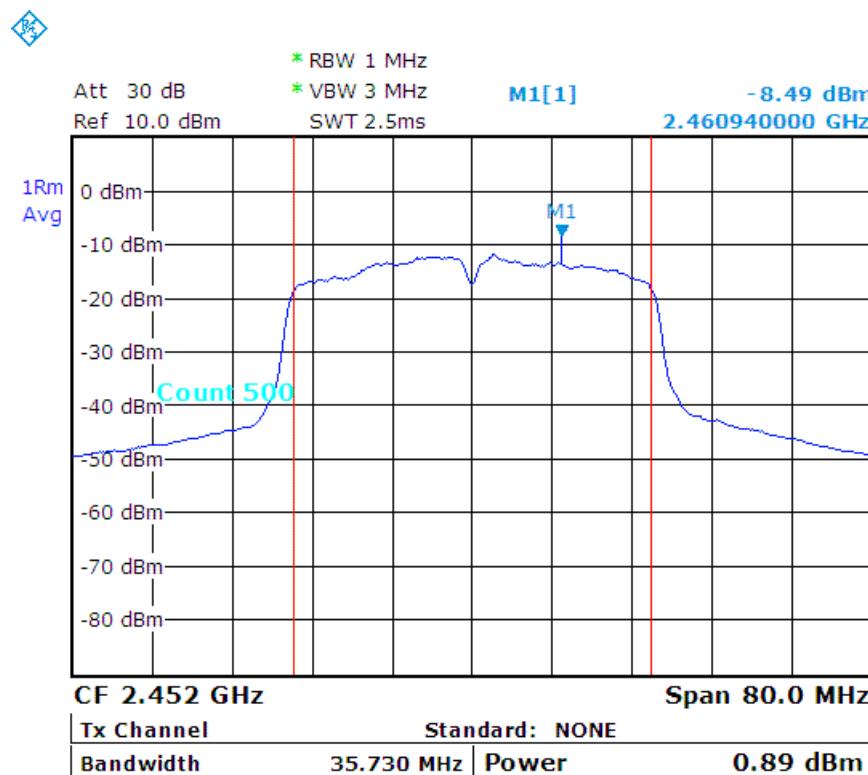
# TEST REPORT

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n - HT40\_CH06 :



n - HT40\_CH09 :

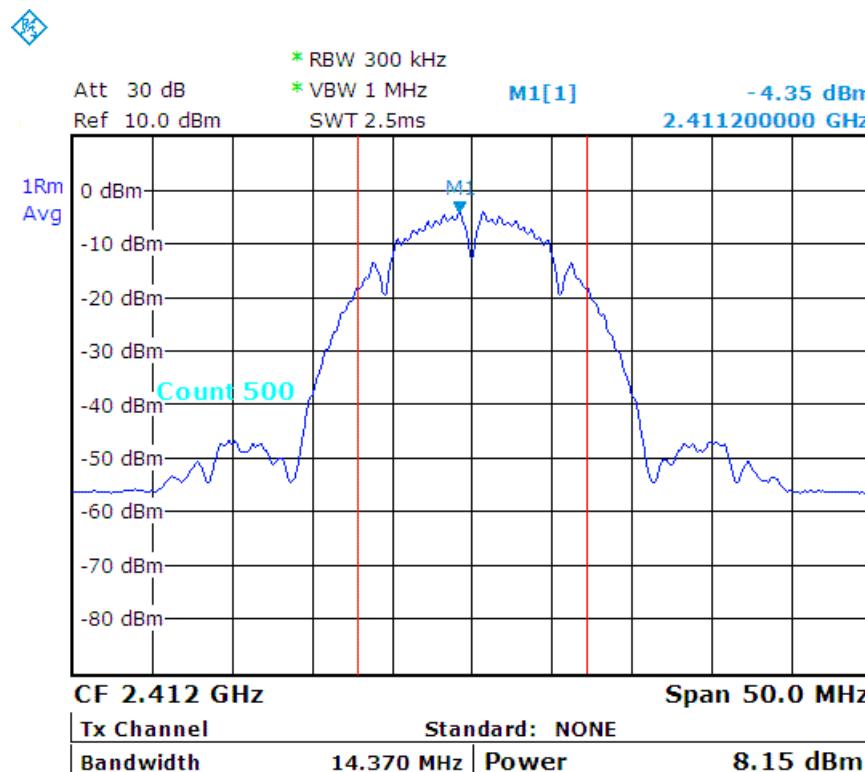


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|---|----------------------|---|

|              |             |              |                       |
|--------------|-------------|--------------|-----------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                |
| Detector:    | RMS         | Test Mode:   | MLWG3/64_2.4G_802.11b |
| RBW:         | 300 kHz     | VBW:         | 1 MHz                 |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015         |

| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) | Peak Conducted Output Power |      | Limit (dBm) |
|----------------|-------------------------|---------------------|-----------------------------|------|-------------|
|                |                         |                     | (dBm)                       | (mW) |             |
| CH01           | 2412                    | 14.37               | 8.15                        | 6.53 | 30          |
| CH06           | 2437                    | 14.37               | 8.17                        | 6.56 | 30          |
| CH11           | 2462                    | 14.27               | 9.46                        | 8.83 | 30          |

b\_CH01 :



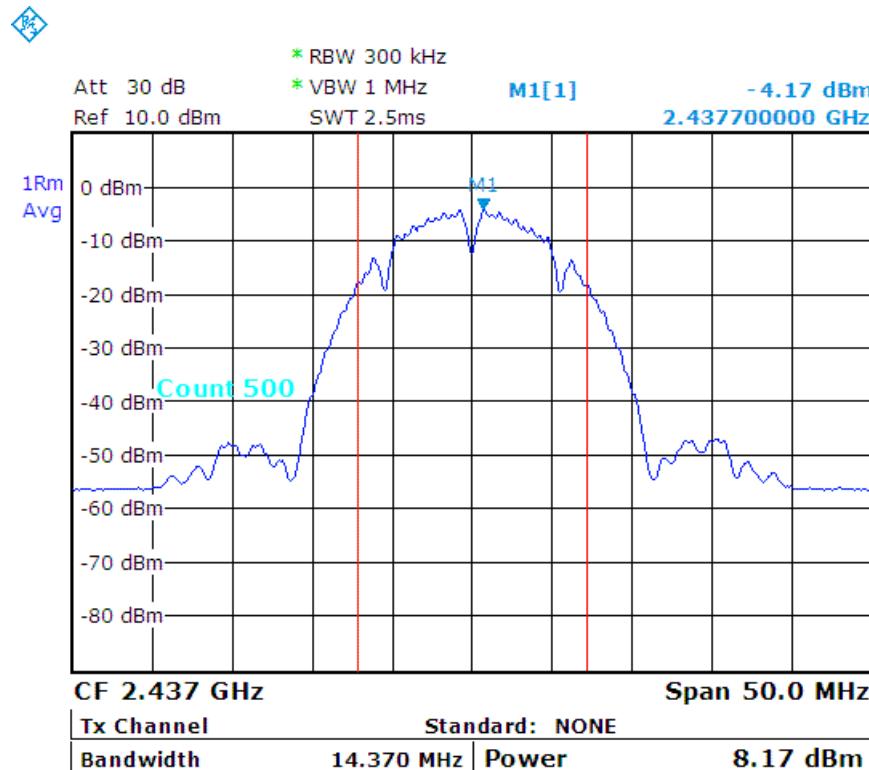


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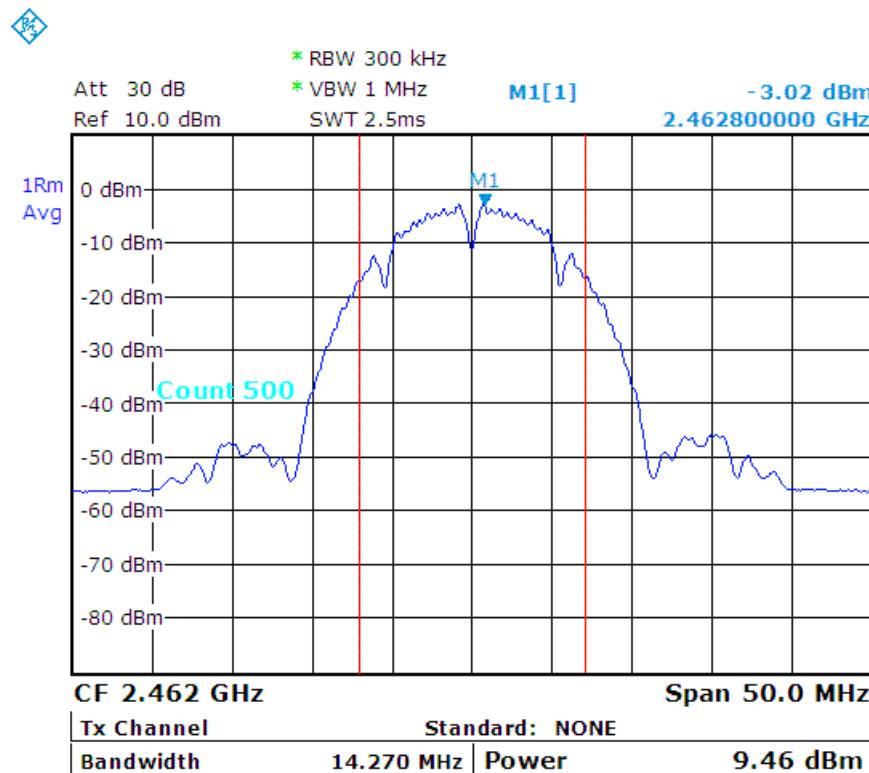
# TEST REPORT

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b\_CH06 :



b\_CH11 :

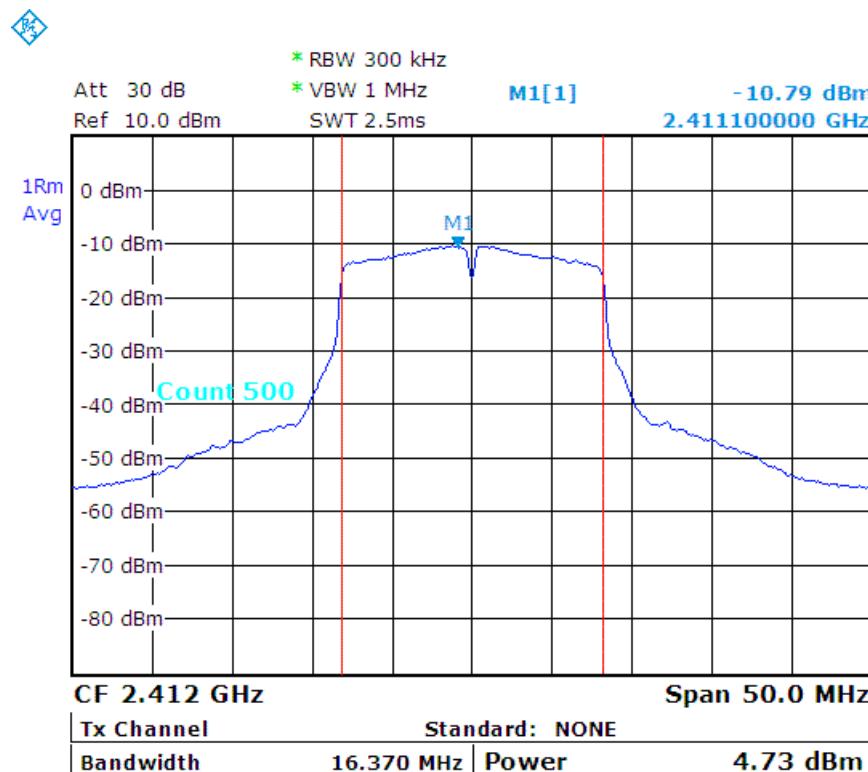


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|              |             |              |                       |
|--------------|-------------|--------------|-----------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                |
| Detector:    | RMS         | Test Mode:   | MLWG3/64_2.4G_802.11g |
| RBW:         | 300 kHz     | VBW:         | 1 MHz                 |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015         |

| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) | Peak Conducted Output Power |      | Limit (dBm) |
|----------------|-------------------------|---------------------|-----------------------------|------|-------------|
|                |                         |                     | (dBm)                       | (mW) |             |
| CH01           | 2412                    | 16.37               | 4.73                        | 2.97 | 30          |
| CH06           | 2437                    | 16.37               | 4.58                        | 2.87 | 30          |
| CH11           | 2462                    | 16.37               | 5.80                        | 3.80 | 30          |

g\_CH01 :



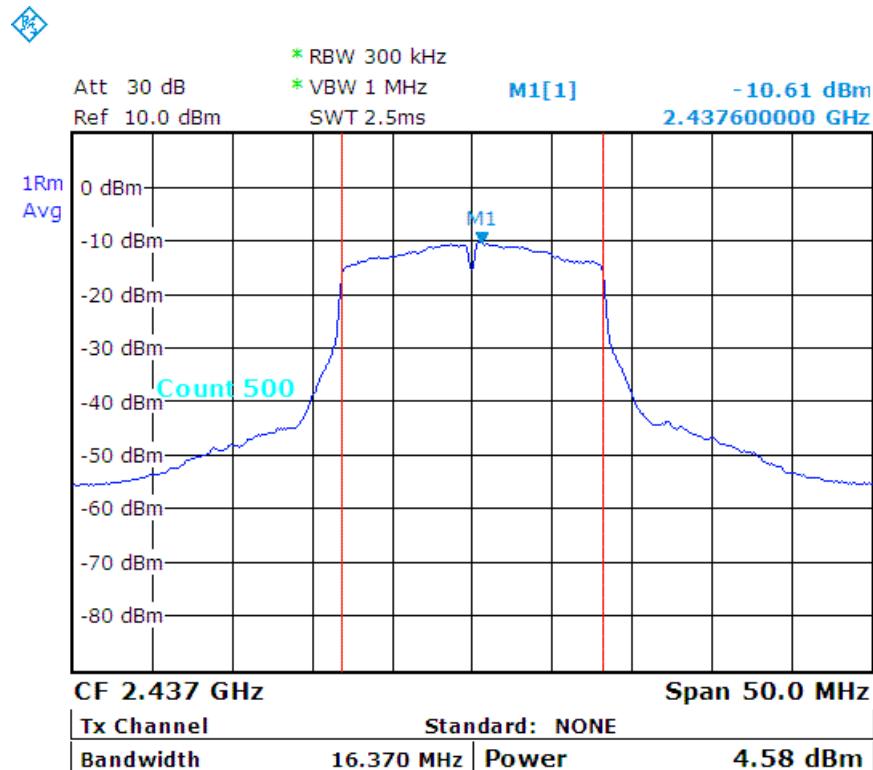


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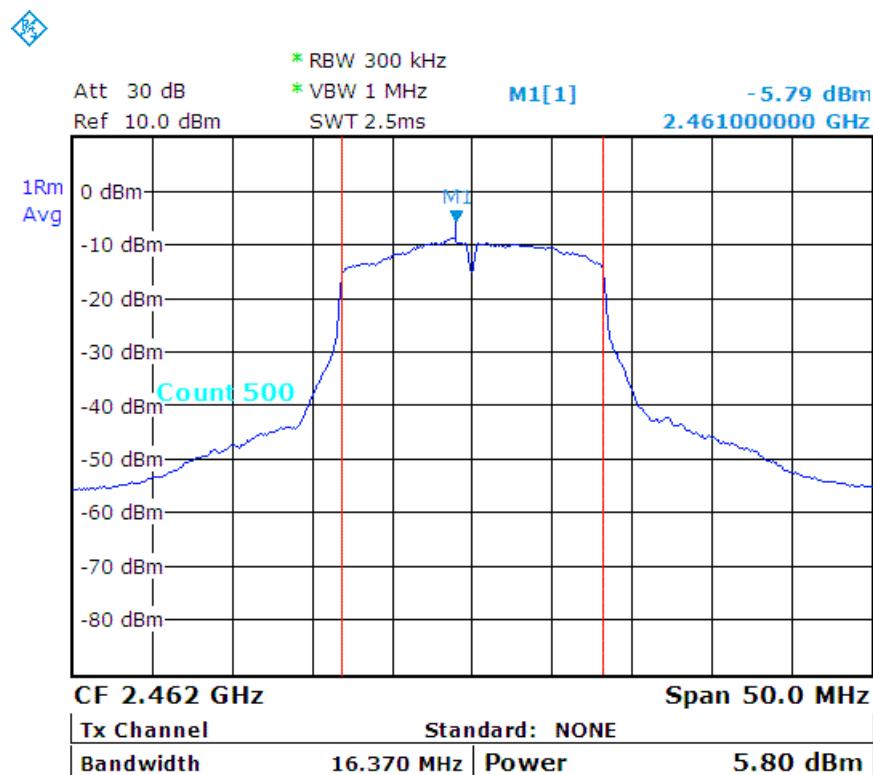
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g\_CH06 :



g\_CH11 :

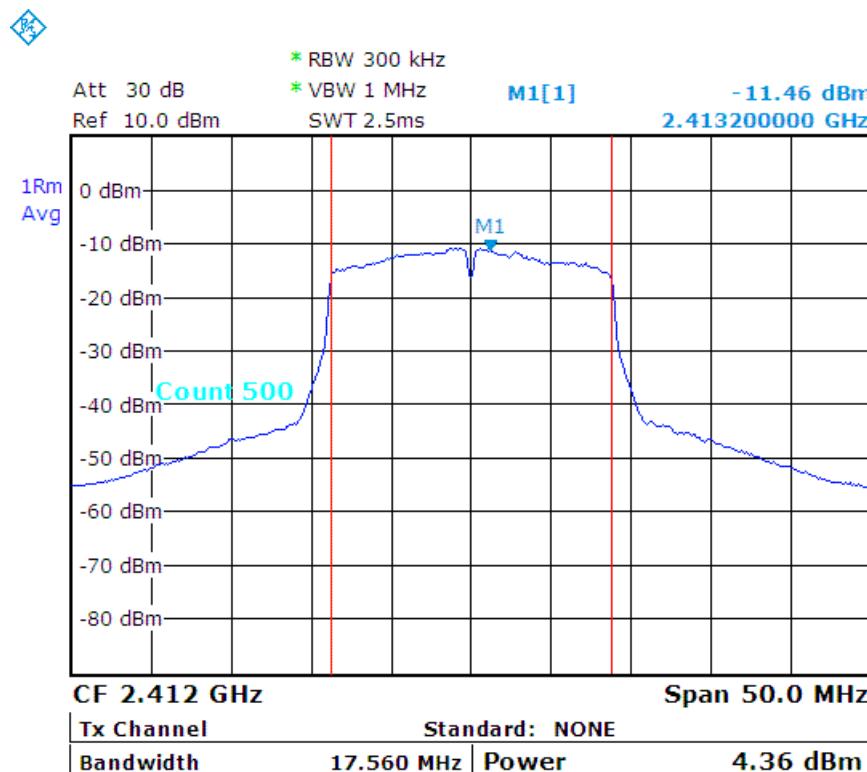


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|--|----------------------|---|
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|--|----------------------|---|

|              |             |              |                              |
|--------------|-------------|--------------|------------------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                       |
| Detector:    | RMS         | Test Mode:   | MLWG3/64_2.4G_802.11n - HT20 |
| RBW:         | 300 kHz     | VBW:         | 1 MHz                        |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015                |

| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) | Peak Conducted Output Power |      | Limit (dBm) |
|----------------|-------------------------|---------------------|-----------------------------|------|-------------|
|                |                         |                     | (dBm)                       | (mW) |             |
| CH01           | 2412                    | 17.56               | 4.36                        | 2.73 | 30          |
| CH06           | 2437                    | 17.56               | 4.08                        | 2.56 | 30          |
| CH11           | 2462                    | 17.56               | 5.16                        | 3.28 | 30          |

n - HT20\_CH01 :



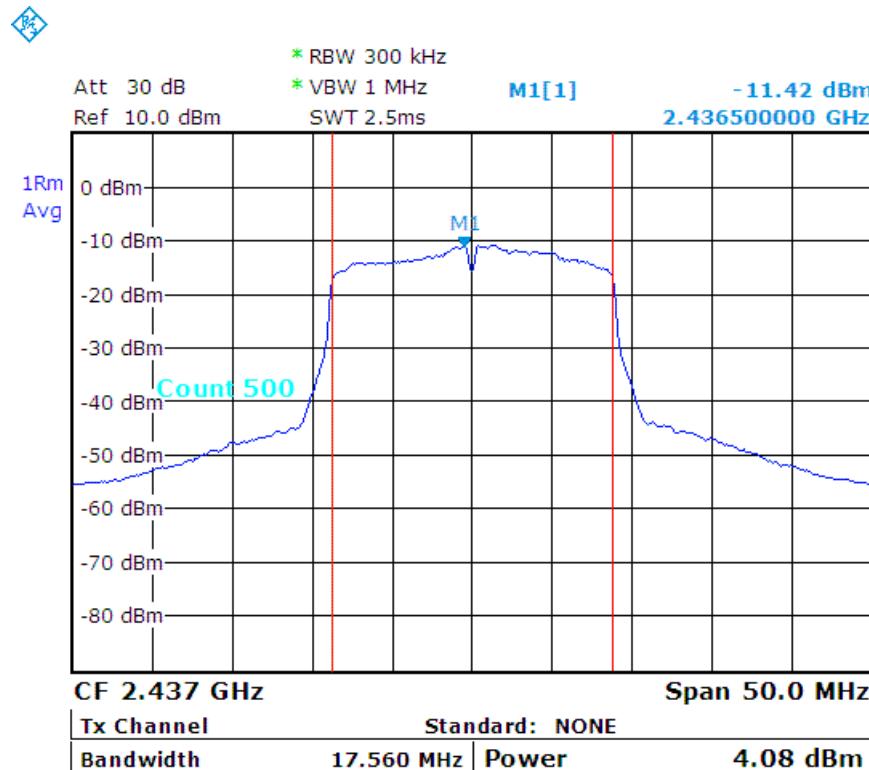


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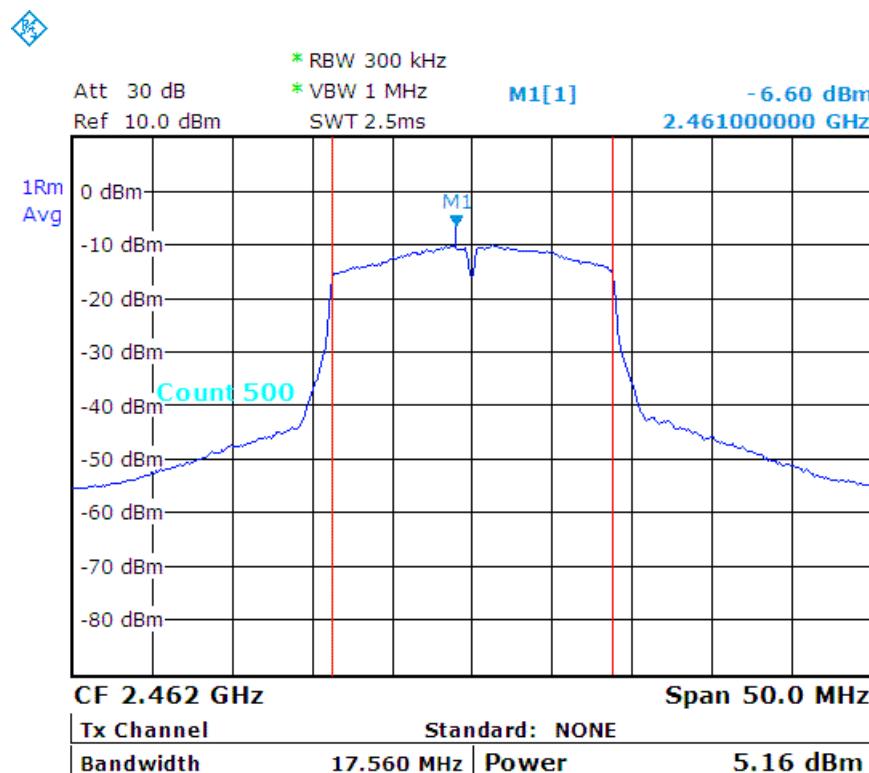
# TEST REPORT

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n - HT20\_CH06 :



n - HT20\_CH11 :

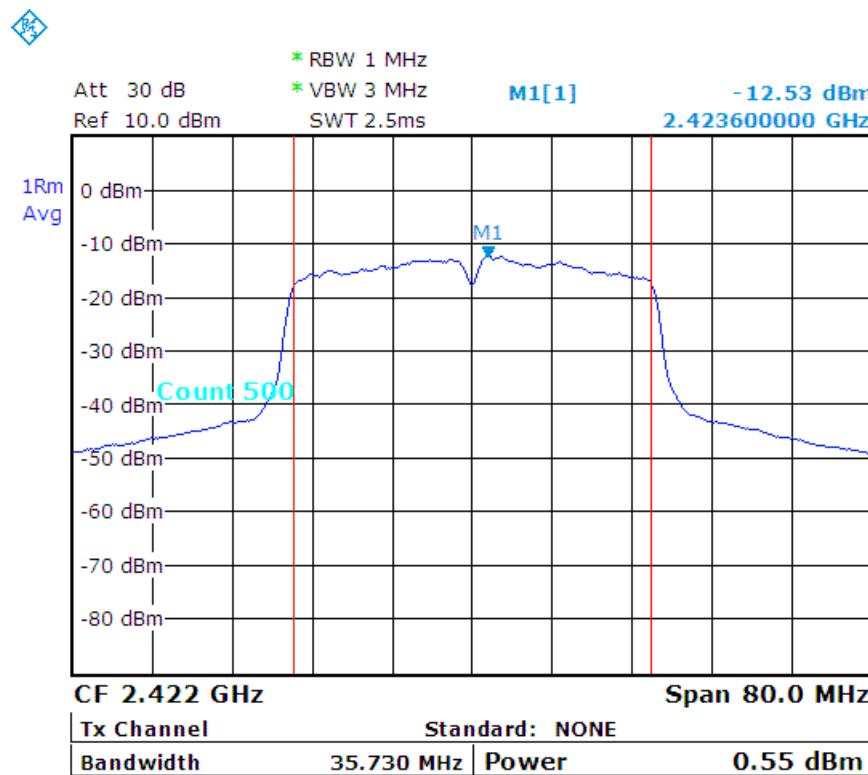


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|---|----------------------|---|
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|---|----------------------|---|

|              |             |              |                              |
|--------------|-------------|--------------|------------------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                       |
| Detector:    | RMS         | Test Mode:   | MLWG3/64_2.4G_802.11n - HT40 |
| RBW:         | 1 MHz       | VBW:         | 3 MHz                        |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015                |

| Channel Number | Channel Frequency (MHz) | 99% Bandwidth (MHz) | Peak Conducted Output Power |      | Limit (dBm) |
|----------------|-------------------------|---------------------|-----------------------------|------|-------------|
|                |                         |                     | (dBm)                       | (mW) |             |
| CH03           | 2422                    | 35.73               | 0.55                        | 1.13 | 30          |
| CH06           | 2437                    | 35.83               | 0.63                        | 1.16 | 30          |
| CH09           | 2452                    | 35.73               | 0.55                        | 1.13 | 30          |

n - HT40\_CH03 :



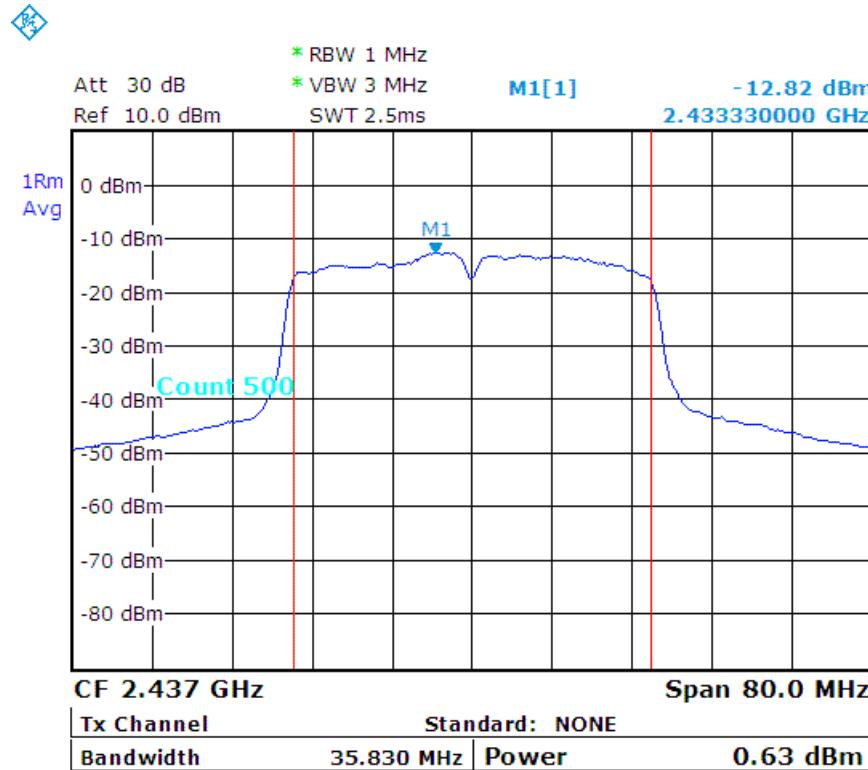


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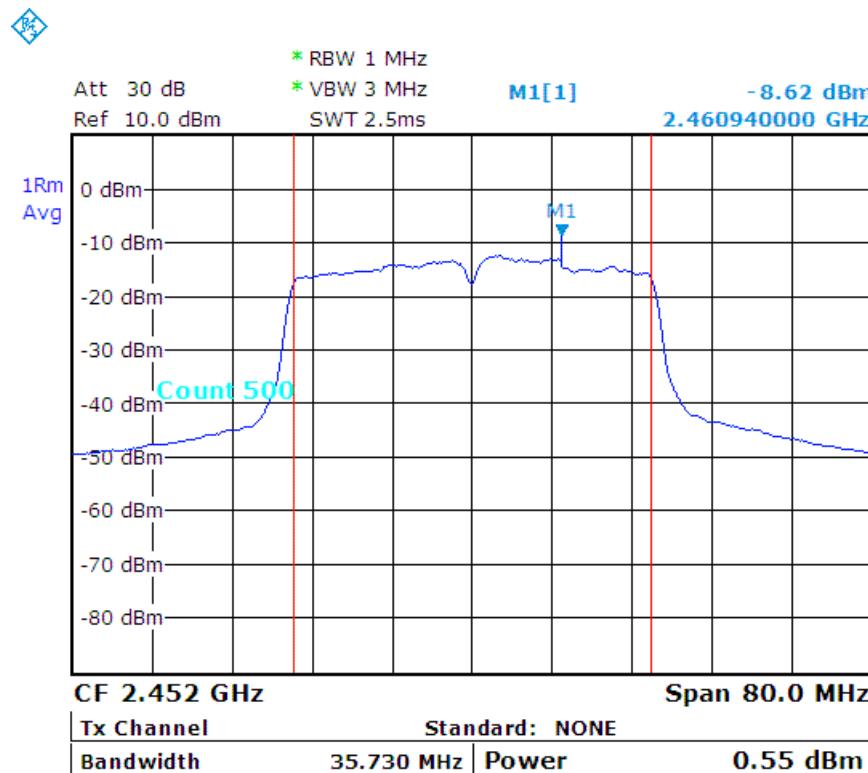
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n - HT40\_CH06 :



n - HT40\_CH09 :



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## 4.5 BAND EDGE TEST

### 4.5.1 LIMIT

FCC Part15, Subpart C Section 15.247(d).

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

| OPERATING FREQUENCY RANGE (MHz) | SPURIOUS EMISSION FREQUENCY (MHz) | LIMIT                              |                        |
|---------------------------------|-----------------------------------|------------------------------------|------------------------|
|                                 |                                   | Peak power ration to emission(dBc) | Emission level(dBuV/m) |
| 2400 - 2483.5                   | < 2400                            | > 20                               | N/A                    |
|                                 | > 2483.5-2500                     | N/A                                | 54                     |

NOTE:

|   |                      |   |
|---|----------------------|---|
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## 4.5.2 TEST EQUIPMENT

The following test equipment was used during the test:

| EQUIPMENT/<br>FACILITIES                         | SPECIFICATIONS       | MANUFACTURER    | MODEL#/<br>SERIAL#               | DUE DATE OF CAL. &<br>CAL. CENTER |
|--|----------------------|-----------------|----------------------------------|-----------------------------------|
| EMI TEST RECEIVER<br>(INCLUDE SPECTRUM ANALYZER) | 9 KHz ~ 6 GHz        | ROHDE & SCHWARZ | ESL /100176                      | MAY 24, 2016<br>ETC               |
| SPECTRUM ANALYZER                                | 9 kHz ~ 40 GHz       | ROHDE & SCHWARZ | FSP40 / 100093                   | JAN. 24, 2016<br>ETC              |
| HORN ANTENNA                                     | 1 GHz ~ 18 GHz       | EMCO            | 3115/<br>9602-4681               | JAN. 17, 2016<br>ETC              |
| PRE-AMPLIFIER                                    | 1 GHz ~ 26.5 GHz     | AGILENT         | 8449B/<br>3008A01995             | JAN. 23, 2016<br>ETC              |
| OPEN AREA TEST SITE                              | 3 – 10 M MEASUREMENT | SRT             | A02 /<br>SRT002                  | MAR. 06, 2016<br>SRT              |
| ANECHOIC CHAMBER                                 | 3 M MEASUREMENT      | SRT             | A01 /<br>SRT001                  | NOV. 20, 2016<br>SRT              |
| K-TYPE CABLE                                     | UP TO 40 GHz<br>3 m  | HUBER+SUHNE R   | SF102-46/2*11SK<br>252 /MY2611/2 | MAR. 03, 2016<br>ETC              |
| K-TYPE CABLE                                     | UP TO 40 GHz,<br>1 m | HUBER+SUHNE R   | SF102/2*11SK252<br>/MY3331/2     | OCT. 05, 2016<br>ETC              |
| FILTER   | 2 LINE, 30 A         | FIL.COIL        | FC-943/<br>869                   | NCR                               |

**NOTE:** The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.



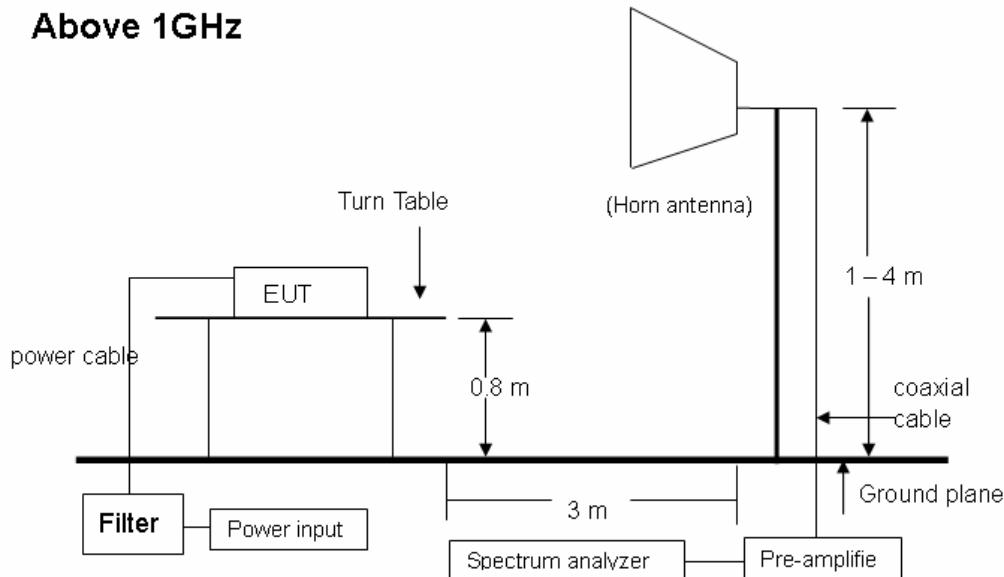
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### 4.5.3 TEST SETUP

#### Above 1GHz



**NOTE:** The EUT system was put on a wooden table with 0.8m heights above a ground plane.  
For the actual test configuration, please refer to the photos of testing.

### 4.5.4 TEST PROCEDURE

The EUT was tested according to the requirement of ANSI C63.4 and CISPR 22. The measurements were made at an open area test site with 3 meter measurement distance under 1 GHz and with 3m distance above 1GHz. The frequency spectrum measured started from 30 MHz. Under 1 GHz. All readings were quasi-peak values with 120 kHz resolution bandwidth of the test receiver. Above 1 GHz, the measurements were made at an open area test site with 3 meter measurement distance and all readings were peak and average values with 1 MHz resolution bandwidth of the test receiver. The EUT system was operated in all typical methods by users. The cables connected to EUT and support units were moved to find the maximum emission levels for each frequency.

### 4.5.5 EUT OPERATING CONDITION

1. Set the EUT under continuous transmission condition.
2. The EUT was set to the highest available power level.

|  |                    |   |
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#### 4.5.6 TEST RESULT

Below 2400MHz (b\_CH01)

|                  |                        |               |                       |
|------------------|------------------------|---------------|-----------------------|
| Temperature:     | 20 °C                  | Humidity:     | 64 %RH                |
| Frequency Range: | 2.30 GHz –<br>2.43 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11b |
| Detector Type:   | PK. and AV.            | IF Bandwidth: | 1 MHz                 |
| Tested By:       | Richard Lin            | Tested Date:  | Nov. 25, 2015         |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2396.10            | -31.02                    | 28.08               | H                     | 47.44             | 35.45 | 44.49                | 32.50 | 74.00                  | 54.00 | -29.51             | -21.50 |
| 2396.20            | -31.02                    | 28.08               | V                     | 47.20             | 36.63 | 44.25                | 33.68 | 74.00                  | 54.00 | -29.75             | -20.32 |
| 2400.00            | -31.02                    | 28.08               | H                     | 43.37             | 32.67 | 40.43                | 29.73 | 74.00                  | 54.00 | -33.57             | -24.27 |
| 2400.00            | -31.02                    | 28.08               | V                     | 42.90             | 32.88 | 39.96                | 29.94 | 74.00                  | 54.00 | -34.04             | -24.06 |

Above 2483.5MHz (b\_CH11)

|                  |                         |               |                       |
|------------------|-------------------------|---------------|-----------------------|
| Temperature:     | 20 °C                   | Humidity:     | 64 %RH                |
| Frequency Range: | 2.445 GHz –<br>2.60 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11b |
| Detector Type:   | PK. and AV.             | IF Bandwidth: | 1 MHz                 |
| Tested By:       | Richard Lin             | Tested Date:  | Nov. 25, 2015         |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2483.50            | -30.92                    | 28.18               | H                     | 33.89             | 23.36 | 31.15                | 20.62 | 74.00                  | 54.00 | -42.85             | -33.38 |
| 2483.50            | -30.92                    | 28.18               | V                     | 34.13             | 24.73 | 31.39                | 21.99 | 74.00                  | 54.00 | -42.61             | -32.01 |
| 2530.80            | -30.88                    | 28.31               | H                     | 36.53             | 24.21 | 33.96                | 21.64 | 74.00                  | 54.00 | -40.04             | -32.36 |
| 2494.81            | -30.91                    | 28.19               | V                     | 36.69             | 25.69 | 33.98                | 22.98 | 74.00                  | 54.00 | -40.02             | -31.02 |



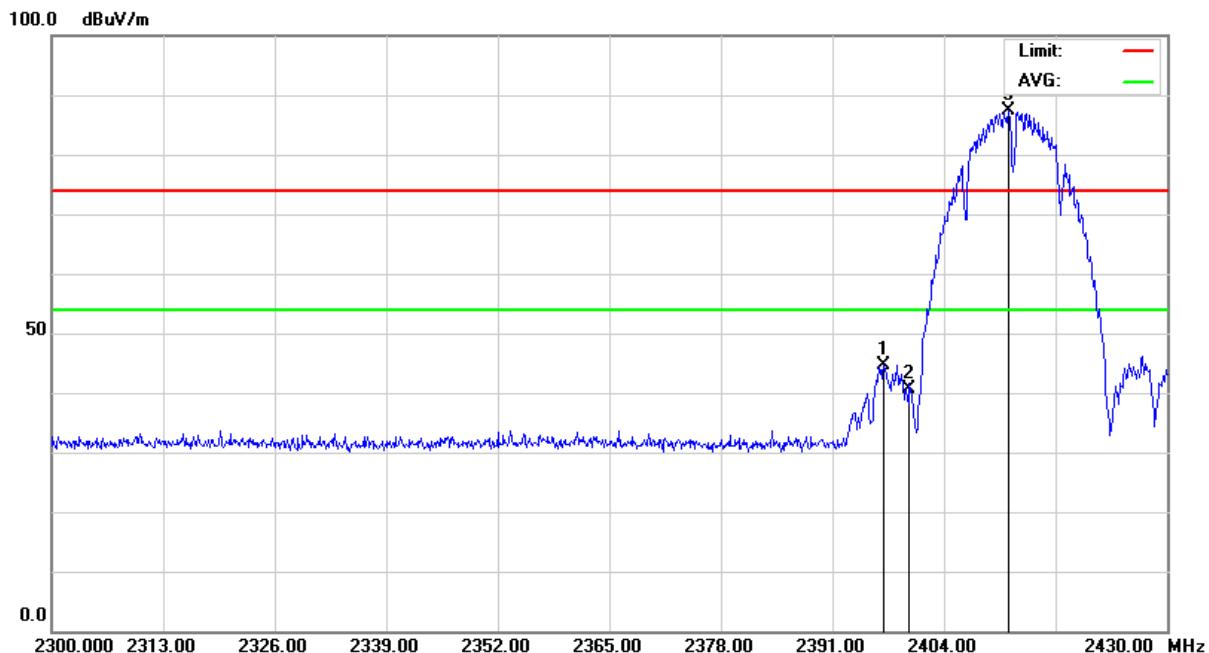
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# TEST REPORT

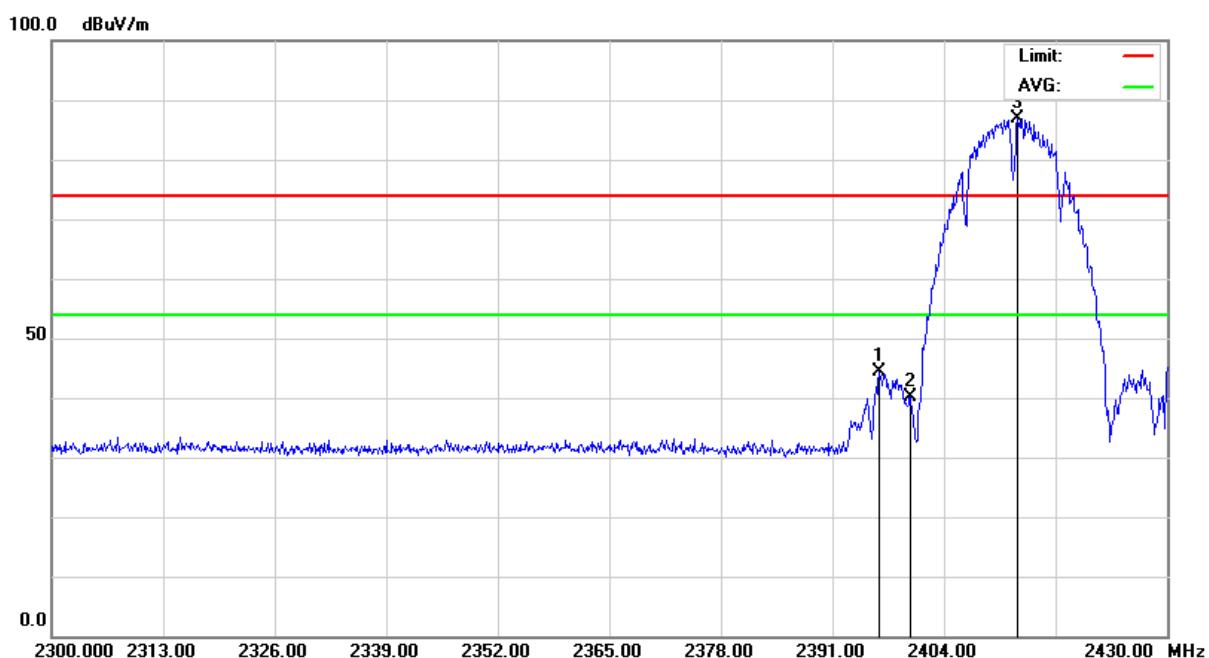
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## Below 2400MHz (b\_CH01)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical





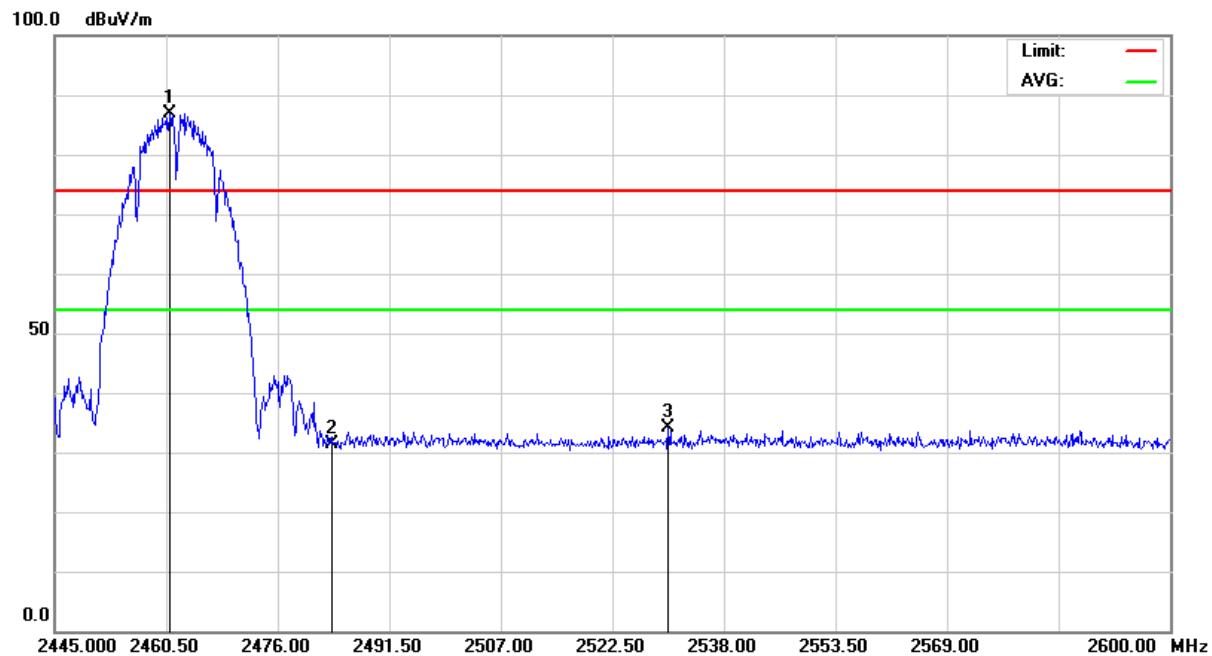
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# TEST REPORT

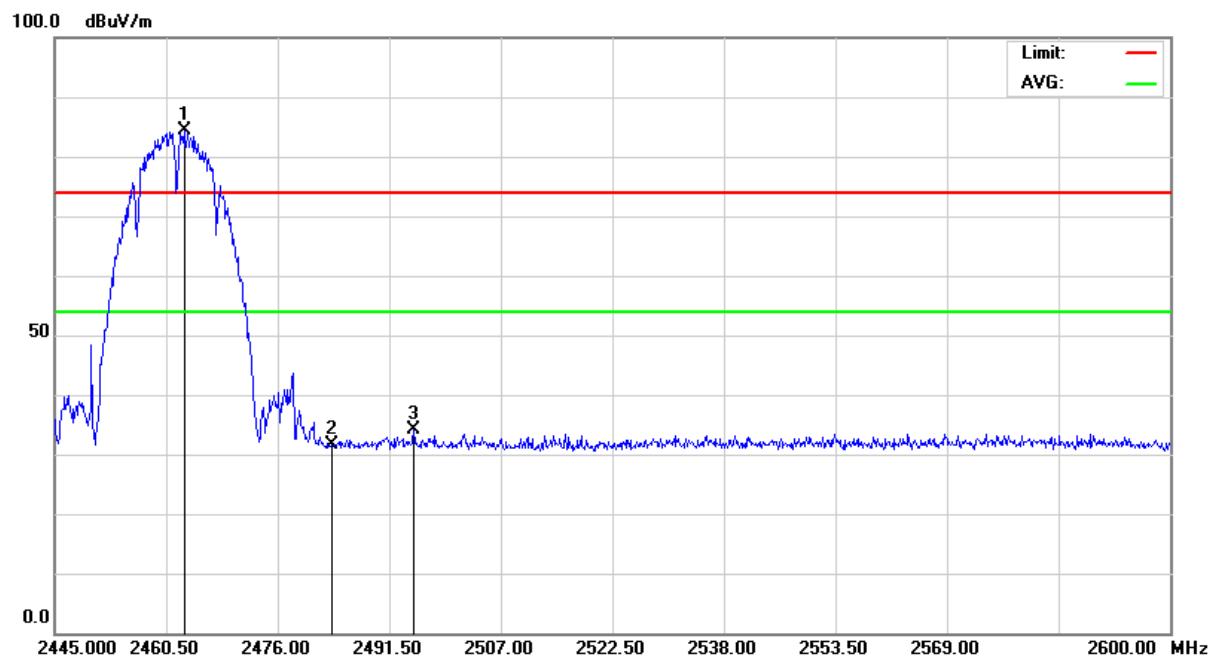
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## Above 2483.5MHz (b\_CH11)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical



|   |                      |   |
|---|----------------------|---|
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Below 2400MHz (g\_CH01)

|                  |                        |               |                       |
|------------------|------------------------|---------------|-----------------------|
| Temperature:     | 20 °C                  | Humidity:     | 64 %RH                |
| Frequency Range: | 2.30 GHz –<br>2.43 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11g |
| Detector Type:   | PK. and AV.            | IF Bandwidth: | 1 MHz                 |
| Tested By:       | Richard Lin            | Tested Date:  | Nov. 25, 2015         |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2398.59            | -31.02                    | 28.08               | H                     | 52.51             | 41.41 | 49.57                | 38.47 | 74.00                  | 54.00 | -24.43             | -15.53 |
| 2397.37            | -31.02                    | 28.08               | V                     | 52.28             | 40.16 | 49.34                | 37.22 | 74.00                  | 54.00 | -24.66             | -16.78 |
| 2400.00            | -31.02                    | 28.08               | H                     | 51.95             | 41.90 | 49.01                | 38.96 | 74.00                  | 54.00 | -24.99             | -15.04 |
| 2400.00            | -31.02                    | 28.08               | V                     | 53.09             | 42.17 | 50.15                | 39.23 | 74.00                  | 54.00 | -23.85             | -14.77 |

Above 2483.5MHz (g\_CH11)

|                  |                         |               |                       |
|------------------|-------------------------|---------------|-----------------------|
| Temperature:     | 20 °C                   | Humidity:     | 64 %RH                |
| Frequency Range: | 2.445 GHz –<br>2.60 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11g |
| Detector Type:   | PK. and AV.             | IF Bandwidth: | 1 MHz                 |
| Tested By:       | Richard Lin             | Tested Date:  | Nov. 25, 2015         |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2483.50            | -30.92                    | 28.18               | H                     | 37.93             | 27.30 | 35.19                | 24.56 | 74.00                  | 54.00 | -38.81             | -29.44 |
| 2483.50            | -30.92                    | 28.18               | V                     | 36.16             | 25.50 | 33.42                | 22.76 | 74.00                  | 54.00 | -40.58             | -31.24 |
| 2498.31            | -30.90                    | 28.20               | H                     | 37.65             | 25.58 | 34.95                | 22.88 | 74.00                  | 54.00 | -39.05             | -31.12 |
| 2487.11            | -30.92                    | 28.18               | V                     | 37.61             | 27.83 | 34.88                | 25.10 | 74.00                  | 54.00 | -39.12             | -28.90 |



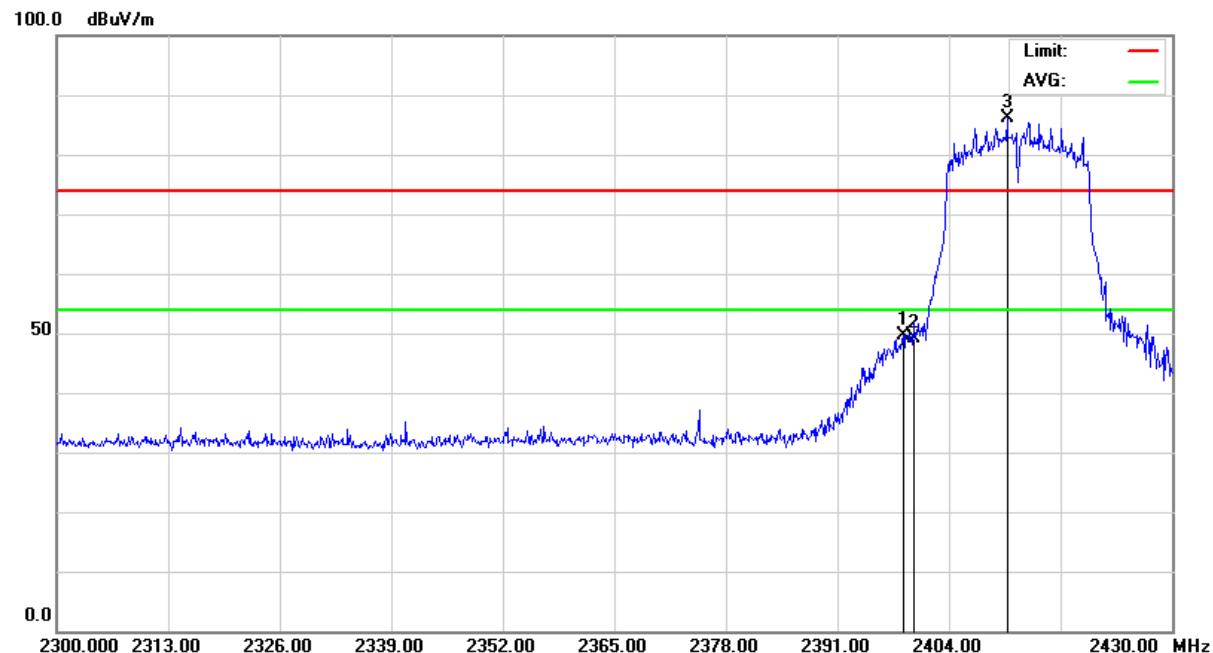
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# TEST REPORT

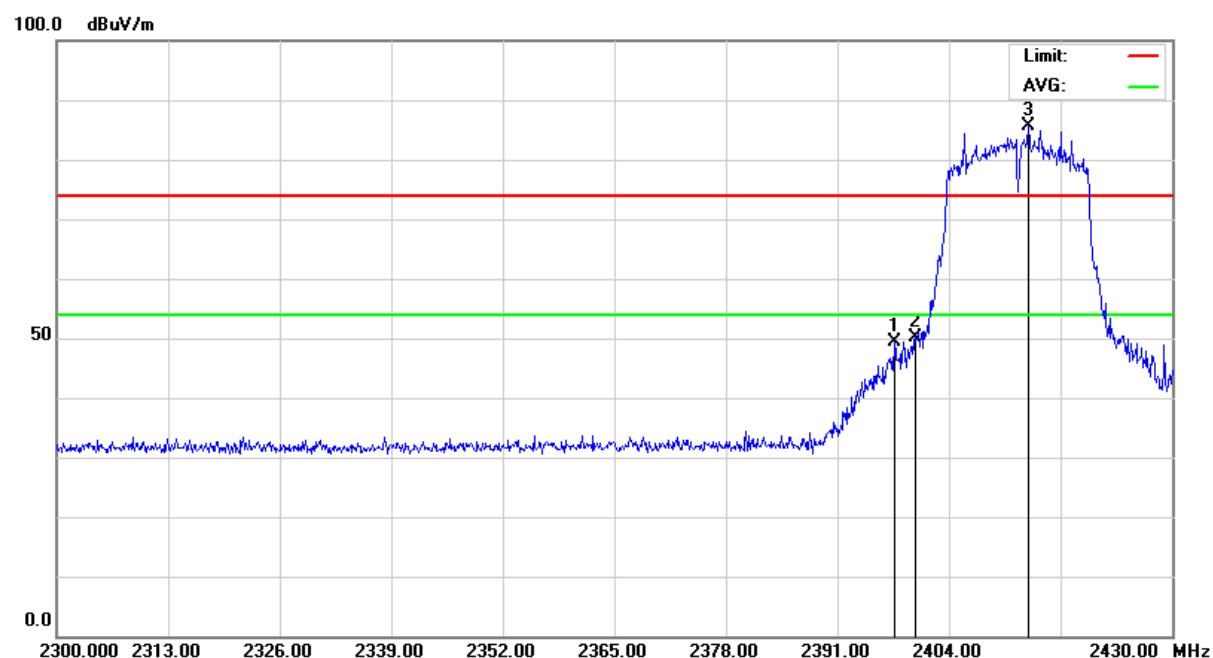
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## Below 2400MHz (g\_CH01)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical





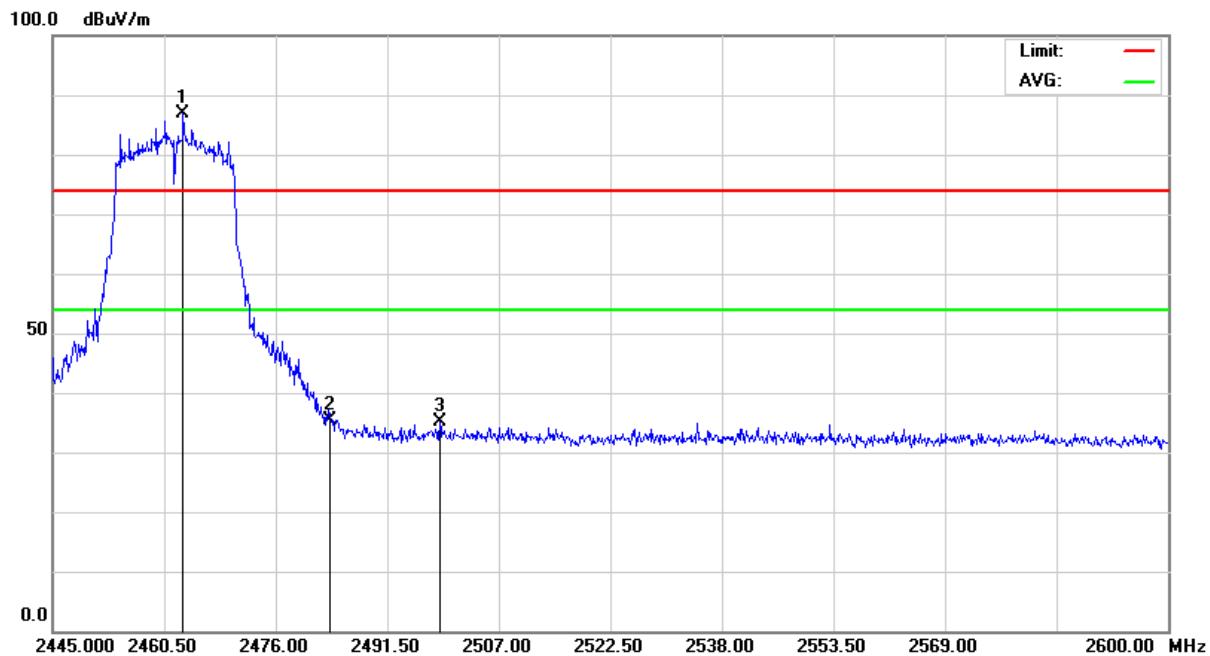
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# TEST REPORT

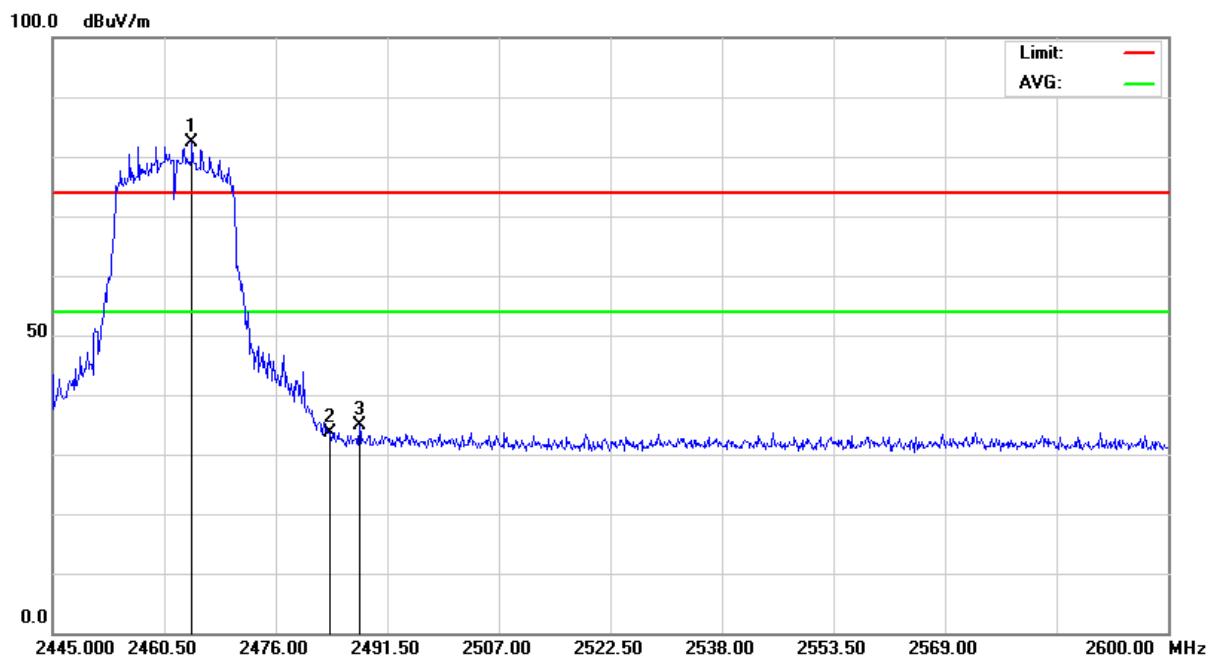
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## Above 2483.5MHz (g\_CH11)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical



|   |                      |   |
|---|----------------------|---|
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|---|----------------------|---|

Below 2400MHz (n - HT20\_CH01)

|                  |                        |               |                              |
|------------------|------------------------|---------------|------------------------------|
| Temperature:     | 20 °C                  | Humidity:     | 64 %RH                       |
| Frequency Range: | 2.30 GHz –<br>2.43 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT20 |
| Detector Type:   | PK. and AV.            | IF Bandwidth: | 1 MHz                        |
| Tested By:       | Richard Lin            | Tested Date:  | Nov. 25, 2015                |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2398.71            | -31.02                    | 28.08               | H                     | 52.81             | 42.45 | 49.87                | 39.51 | 74.00                  | 54.00 | -24.13             | -14.49 |
| 2398.81            | -31.02                    | 28.08               | V                     | 52.44             | 42.49 | 49.50                | 39.55 | 74.00                  | 54.00 | -24.50             | -14.45 |
| 2400.00            | -31.02                    | 28.08               | H                     | 51.91             | 40.40 | 48.97                | 37.46 | 74.00                  | 54.00 | -25.03             | -16.54 |
| 2400.00            | -31.02                    | 28.08               | V                     | 52.12             | 40.57 | 49.18                | 37.63 | 74.00                  | 54.00 | -24.82             | -16.37 |

Above 2483.5MHz (n - HT20\_CH11)

|                  |                         |               |                              |
|------------------|-------------------------|---------------|------------------------------|
| Temperature:     | 20 °C                   | Humidity:     | 64 %RH                       |
| Frequency Range: | 2.445 GHz –<br>2.60 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT20 |
| Detector Type:   | PK. and AV.             | IF Bandwidth: | 1 MHz                        |
| Tested By:       | Richard Lin             | Tested Date:  | Nov. 25, 2015                |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2483.50            | -30.92                    | 28.18               | H                     | 40.69             | 29.75 | 37.95                | 27.01 | 74.00                  | 54.00 | -36.05             | -26.99 |
| 2483.50            | -30.92                    | 28.18               | V                     | 37.65             | 26.12 | 34.91                | 23.38 | 74.00                  | 54.00 | -39.09             | -30.62 |
| 2486.21            | -30.92                    | 28.18               | H                     | 39.26             | 29.11 | 36.53                | 26.38 | 74.00                  | 54.00 | -37.47             | -27.62 |
| 2500.06            | -30.90                    | 28.20               | V                     | 37.54             | 25.31 | 34.84                | 22.61 | 74.00                  | 54.00 | -39.16             | -31.39 |



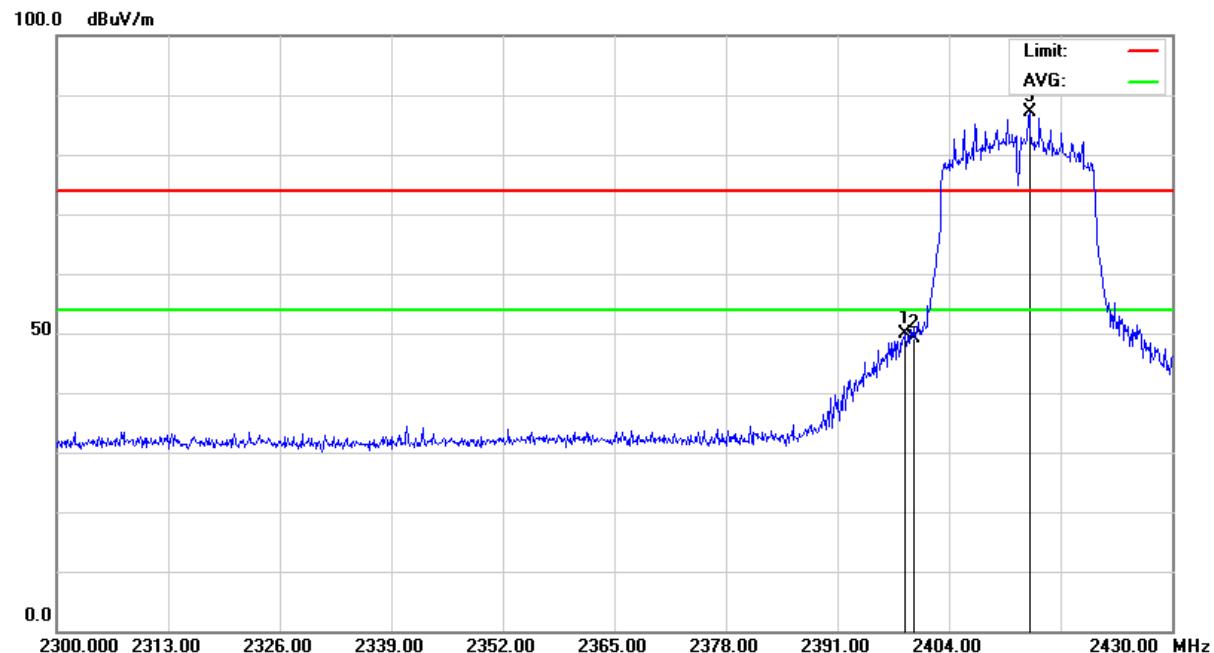
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# TEST REPORT

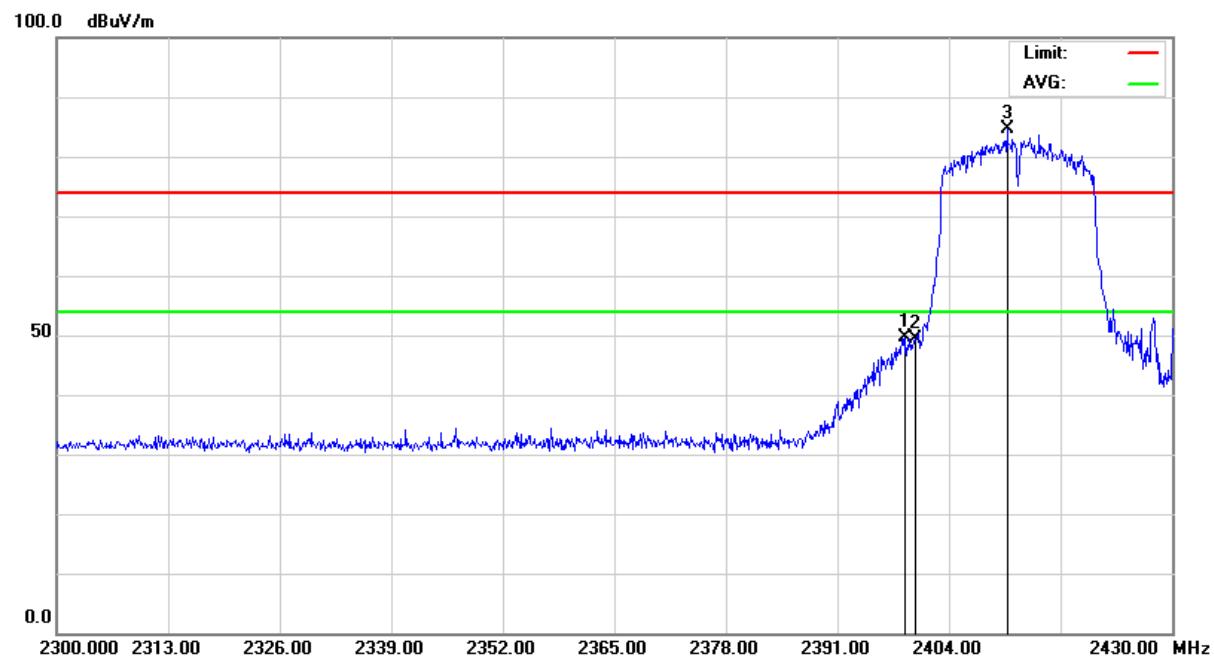
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## Below 2400MHz (n - HT20\_CH01)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical





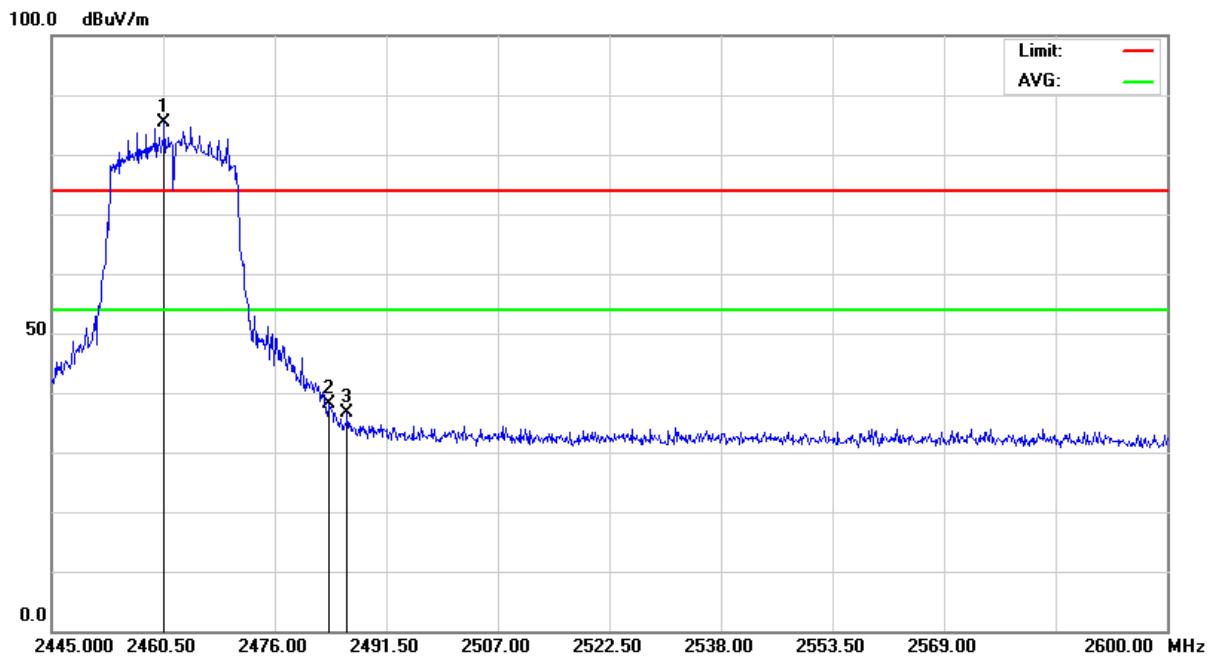
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320, Taiwan (R.O.C.)

# TEST REPORT

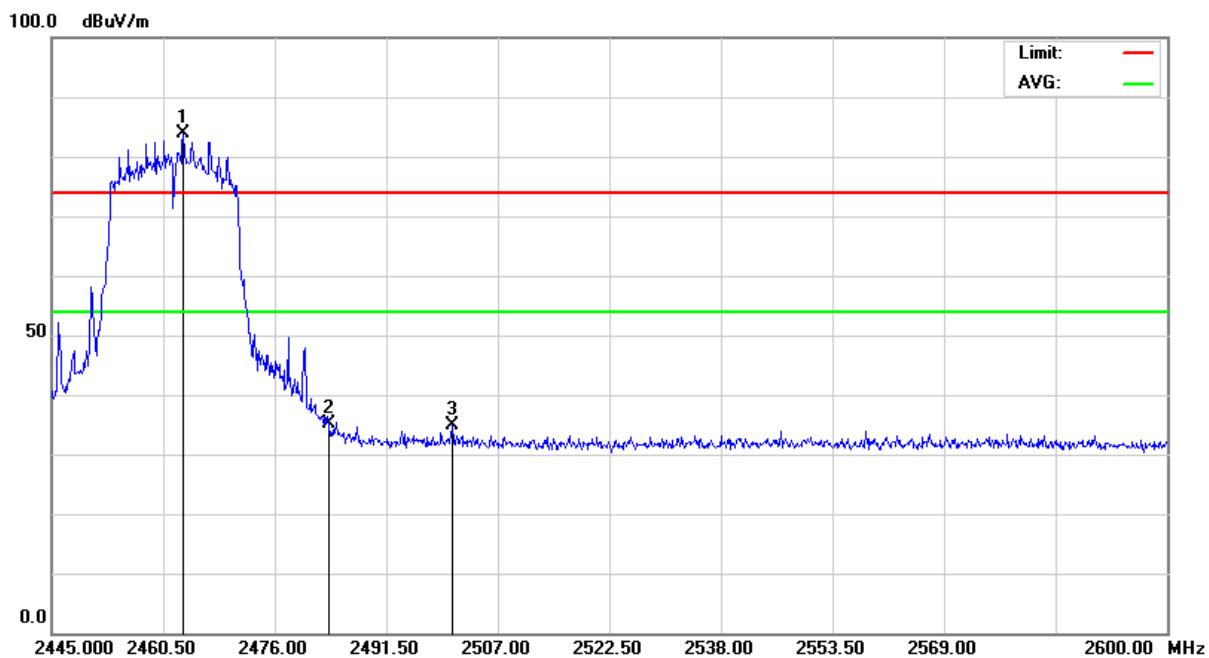
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## Above 2483.5MHz (n - HT20\_CH11)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical



|  |                    |   |
|--|--------------------|---|
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|--|--------------------|---|

Below 2400MHz (n - HT40\_CH03)

|                  |                        |               |                              |
|------------------|------------------------|---------------|------------------------------|
| Temperature:     | 20 °C                  | Humidity:     | 64 %RH                       |
| Frequency Range: | 2.30 GHz –<br>2.45 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT40 |
| Detector Type:   | PK. and AV.            | IF Bandwidth: | 1 MHz                        |
| Tested By:       | Richard Lin            | Tested Date:  | Nov. 25, 2015                |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2395.21            | -31.02                    | 28.07               | H                     | 50.06             | 40.61 | 47.11                | 37.66 | 74.00                  | 54.00 | -26.89             | -16.34 |
| 2398.50            | -31.02                    | 28.08               | V                     | 49.55             | 38.73 | 46.61                | 35.79 | 74.00                  | 54.00 | -27.39             | -18.21 |
| 2400.00            | -31.02                    | 28.08               | H                     | 46.87             | 34.30 | 43.93                | 31.36 | 74.00                  | 54.00 | -30.07             | -22.64 |
| 2400.00            | -31.02                    | 28.08               | V                     | 46.91             | 36.33 | 43.97                | 33.39 | 74.00                  | 54.00 | -30.03             | -20.61 |

Above 2483.5MHz (n - HT40\_CH09)

|                  |                         |               |                              |
|------------------|-------------------------|---------------|------------------------------|
| Temperature:     | 20 °C                   | Humidity:     | 64 %RH                       |
| Frequency Range: | 2.425 GHz –<br>2.60 GHz | Tested Mode:  | MLWG3_2.4G<br>802.11n - HT40 |
| Detector Type:   | PK. and AV.             | IF Bandwidth: | 1 MHz                        |
| Tested By:       | Richard Lin             | Tested Date:  | Nov. 25, 2015                |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2483.50            | -30.92                    | 28.18               | H                     | 42.80             | 30.52 | 40.06                | 27.78 | 74.00                  | 54.00 | -33.94             | -26.22 |
| 2483.50            | -30.92                    | 28.18               | V                     | 39.30             | 28.31 | 36.56                | 25.57 | 74.00                  | 54.00 | -37.44             | -28.43 |
| 2485.27            | -30.92                    | 28.18               | H                     | 42.79             | 31.28 | 40.05                | 28.54 | 74.00                  | 54.00 | -33.95             | -25.46 |
| 2484.81            | -30.92                    | 28.18               | V                     | 42.20             | 30.65 | 39.46                | 27.91 | 74.00                  | 54.00 | -34.54             | -26.09 |



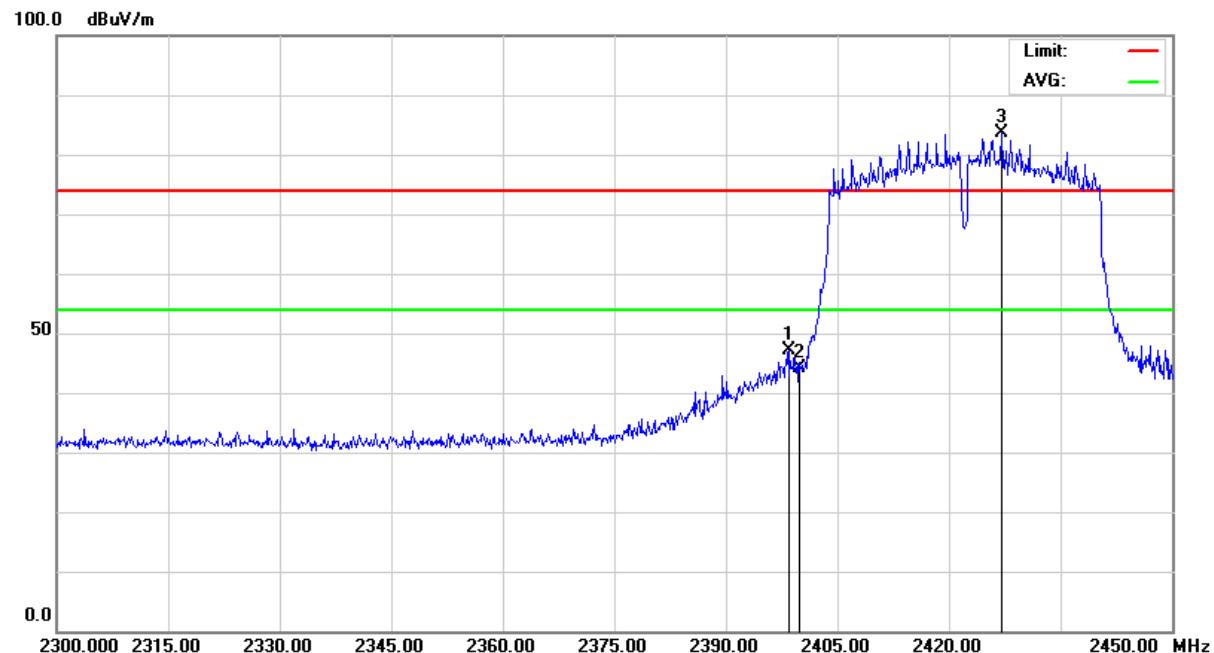
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# TEST REPORT

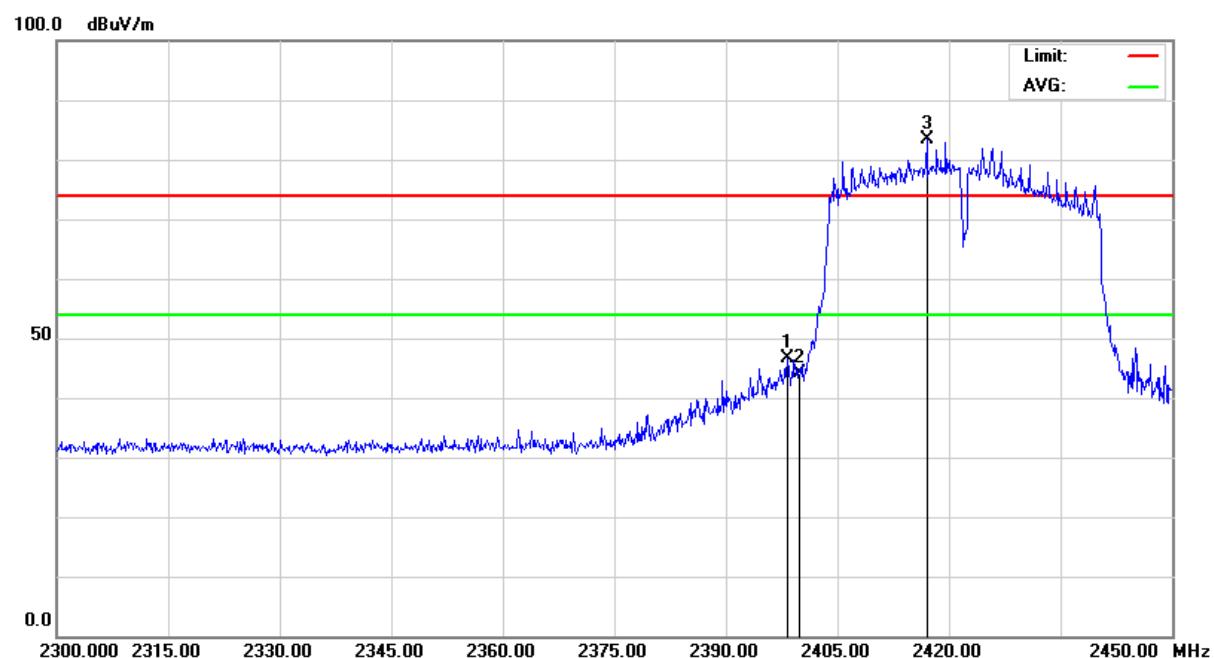
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## Below 2400MHz (n - HT40\_CH03)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical





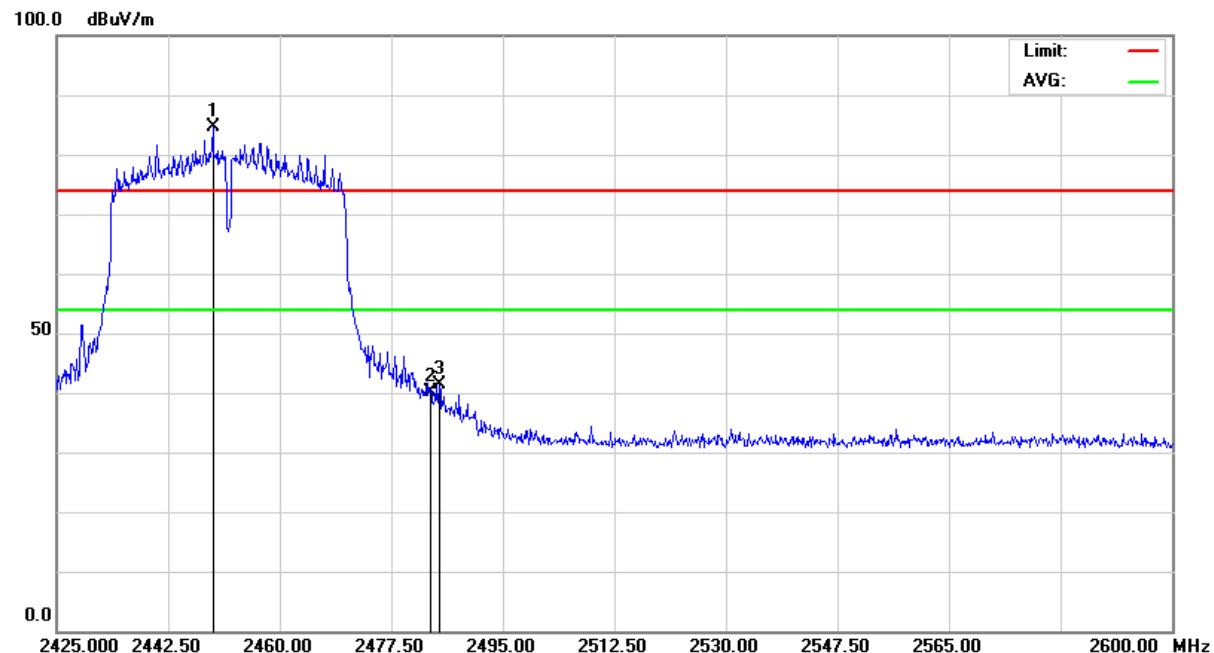
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# TEST REPORT

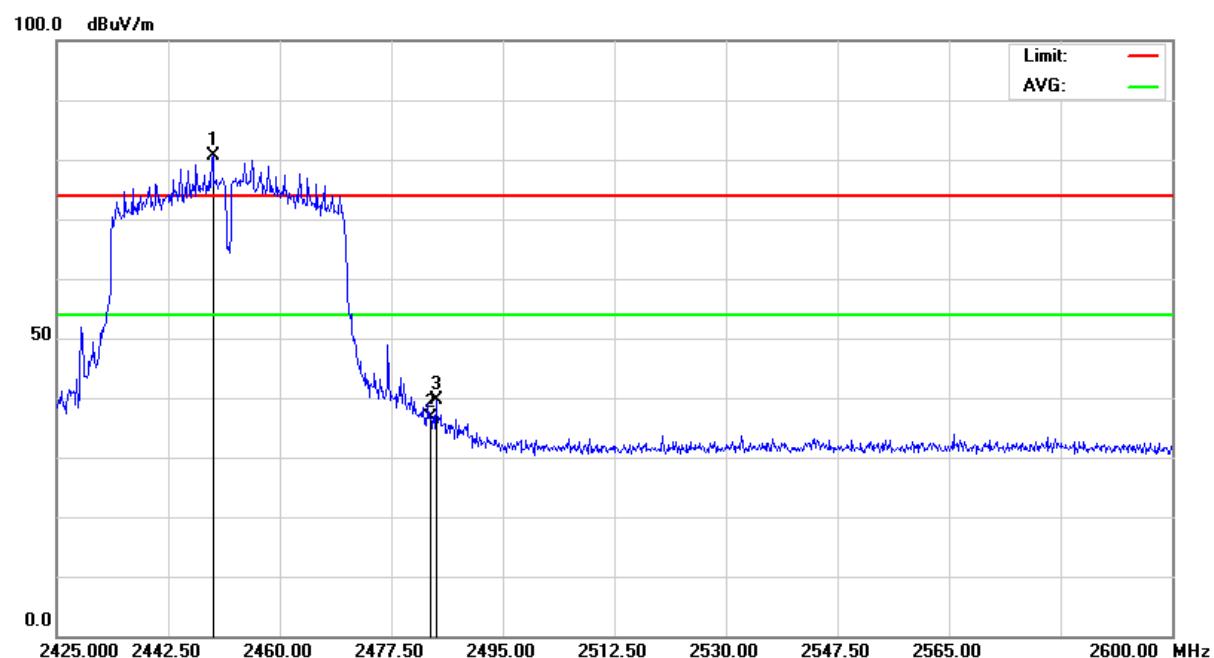
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## Above 2483.5MHz (n - HT40\_CH09)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical



|   |                      |   |
|---|----------------------|---|
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|---|----------------------|---|

Below 2400MHz (b\_CH01)

|                  |                         |               |                          |
|------------------|-------------------------|---------------|--------------------------|
| Temperature:     | 23 °C                   | Humidity:     | 65 %RH                   |
| Frequency Range: | 2.30 GHz –<br>2.425 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11b |
| Detector Type:   | PK. and AV.             | IF Bandwidth: | 1 MHz                    |
| Tested By:       | Richard Lin             | Tested Date:  | Nov. 02, 2015            |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2397.16            | -31.02                    | 28.08               | H                     | 48.62             | 38.15 | 45.68                | 35.21 | 74.00                  | 54.00 | -28.32             | -18.79 |
| 2397.21            | -31.02                    | 28.08               | V                     | 44.59             | 34.01 | 41.65                | 31.07 | 74.00                  | 54.00 | -32.35             | -22.93 |
| 2400.00            | -31.02                    | 28.08               | H                     | 43.23             | 32.79 | 40.29                | 29.85 | 74.00                  | 54.00 | -33.71             | -24.15 |
| 2400.00            | -31.02                    | 28.08               | V                     | 39.84             | 29.38 | 36.90                | 26.44 | 74.00                  | 54.00 | -37.10             | -27.56 |

Above 2483.5MHz (b\_CH11)

|                  |                        |               |                          |
|------------------|------------------------|---------------|--------------------------|
| Temperature:     | 23 °C                  | Humidity:     | 65 %RH                   |
| Frequency Range: | 2.45 GHz –<br>2.60 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11b |
| Detector Type:   | PK. and AV.            | IF Bandwidth: | 1 MHz                    |
| Tested By:       | Richard Lin            | Tested Date:  | Nov. 02, 2015            |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2483.50            | -30.92                    | 28.18               | H                     | 32.54             | 22.04 | 29.80                | 19.30 | 74.00                  | 54.00 | -44.20             | -34.70 |
| 2483.50            | -30.92                    | 28.18               | V                     | 32.22             | 21.79 | 29.48                | 19.05 | 74.00                  | 54.00 | -44.52             | -34.95 |
| 2492.32            | -30.91                    | 28.19               | H                     | 34.65             | 24.18 | 31.93                | 21.46 | 74.00                  | 54.00 | -42.07             | -32.54 |
| 2495.72            | -30.91                    | 28.19               | V                     | 34.88             | 24.36 | 32.17                | 21.65 | 74.00                  | 54.00 | -41.83             | -32.35 |



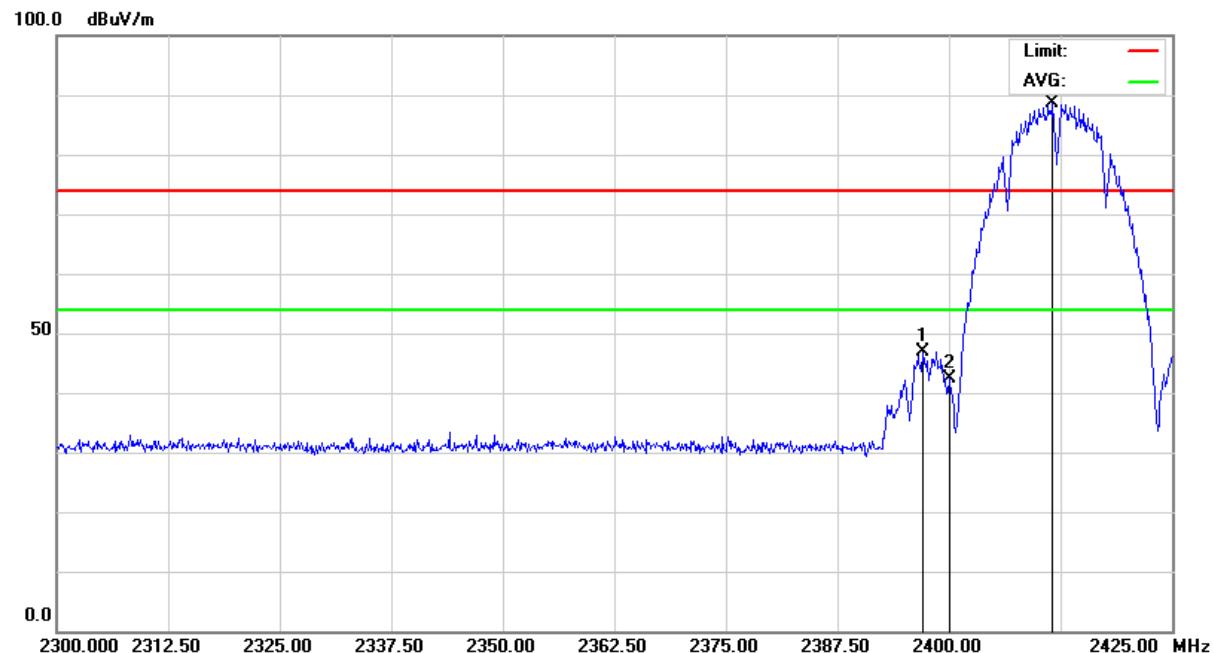
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# TEST REPORT

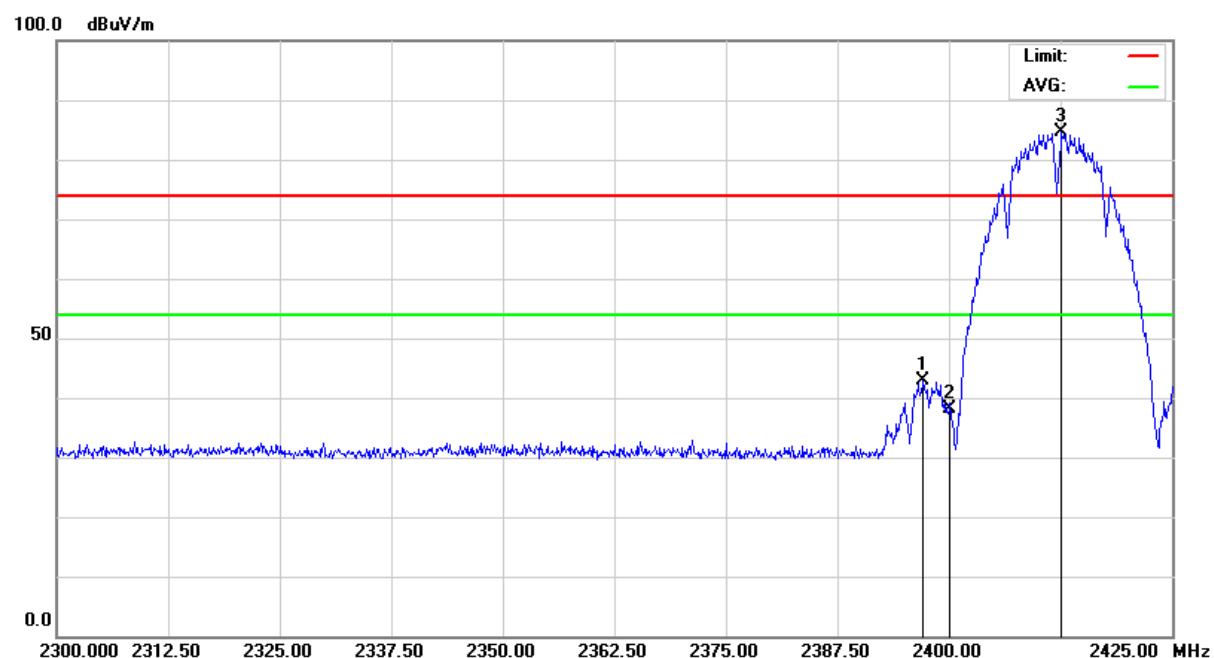
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## Below 2400MHz (b\_CH01)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical





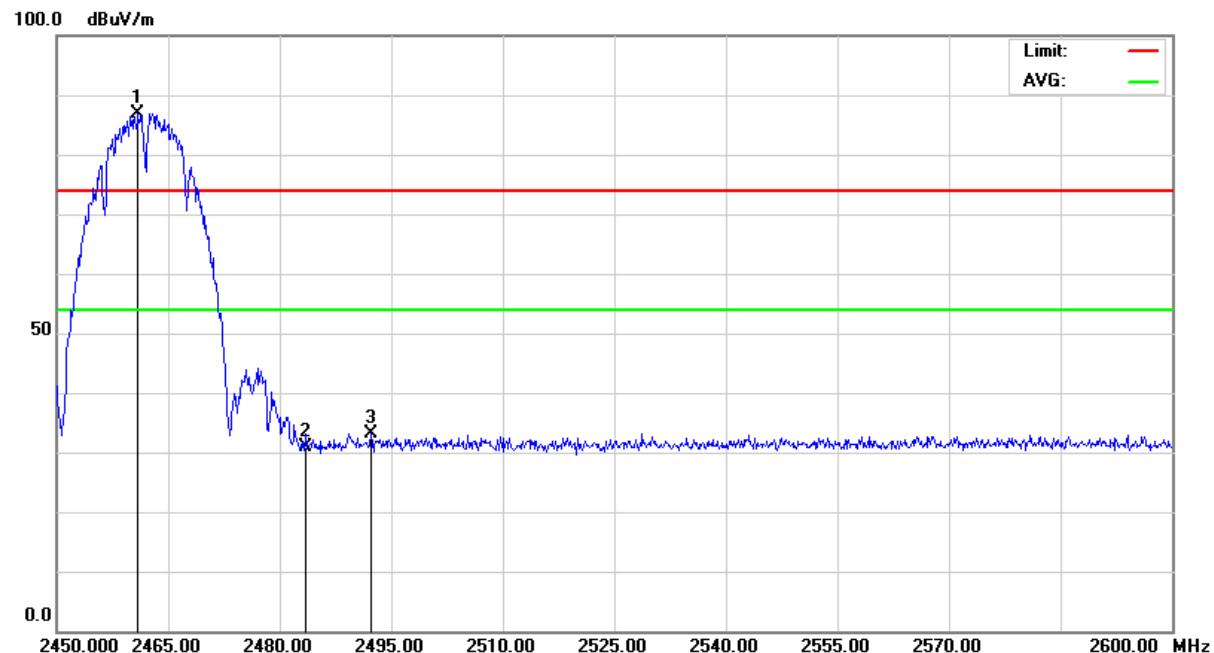
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# TEST REPORT

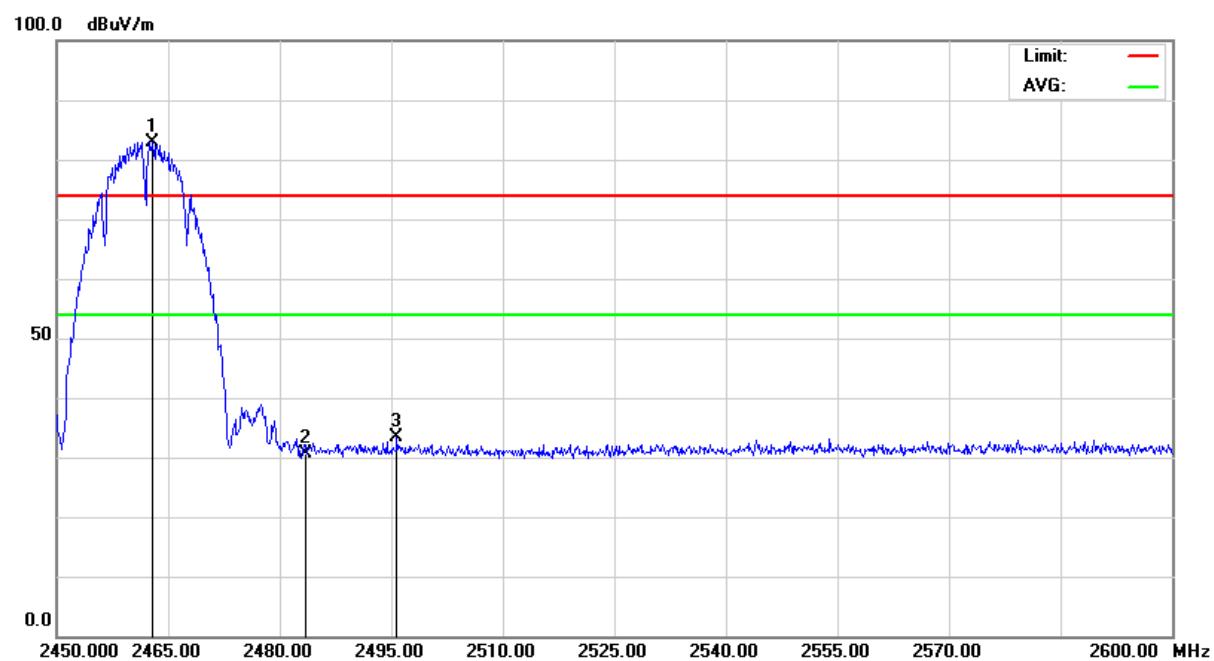
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## Above 2483.5MHz (b\_CH11)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical



|   |                      |   |
|---|----------------------|---|
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|---|----------------------|---|

Below 2400MHz (g\_CH01)

|                  |                        |               |                          |
|------------------|------------------------|---------------|--------------------------|
| Temperature:     | 23 °C                  | Humidity:     | 65 %RH                   |
| Frequency Range: | 2.30 GHz –<br>2.43 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11g |
| Detector Type:   | PK. and AV.            | IF Bandwidth: | 1 MHz                    |
| Tested By:       | Richard Lin            | Tested Date:  | Nov. 02, 2015            |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2399.34            | -31.02                    | 28.08               | H                     | 50.76             | 40.18 | 47.82                | 37.24 | 74.00                  | 54.00 | -26.18             | -16.76 |
| 2399.17            | -31.02                    | 28.08               | V                     | 42.38             | 31.84 | 39.44                | 28.90 | 74.00                  | 54.00 | -34.56             | -25.10 |
| 2400.00            | -31.02                    | 28.08               | H                     | 49.79             | 39.25 | 46.85                | 36.31 | 74.00                  | 54.00 | -27.15             | -17.69 |
| 2400.00            | -31.02                    | 28.08               | V                     | 41.54             | 31.07 | 38.60                | 28.13 | 74.00                  | 54.00 | -35.40             | -25.87 |

Above 2483.5MHz (g\_CH11)

|                  |                        |               |                          |
|------------------|------------------------|---------------|--------------------------|
| Temperature:     | 23 °C                  | Humidity:     | 65 %RH                   |
| Frequency Range: | 2.45 GHz –<br>2.60 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11g |
| Detector Type:   | PK. and AV.            | IF Bandwidth: | 1 MHz                    |
| Tested By:       | Richard Lin            | Tested Date:  | Nov. 02, 2015            |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2483.50            | -30.92                    | 28.18               | H                     | 39.31             | 28.87 | 36.57                | 26.13 | 74.00                  | 54.00 | -37.43             | -27.87 |
| 2483.50            | -30.92                    | 28.18               | V                     | 34.33             | 23.89 | 31.59                | 21.15 | 74.00                  | 54.00 | -42.41             | -32.85 |
| 2486.92            | -30.92                    | 28.18               | H                     | 41.74             | 31.30 | 39.01                | 28.57 | 74.00                  | 54.00 | -34.99             | -25.43 |
| 2486.19            | -30.92                    | 28.18               | V                     | 36.78             | 26.27 | 34.05                | 23.54 | 74.00                  | 54.00 | -39.95             | -30.46 |



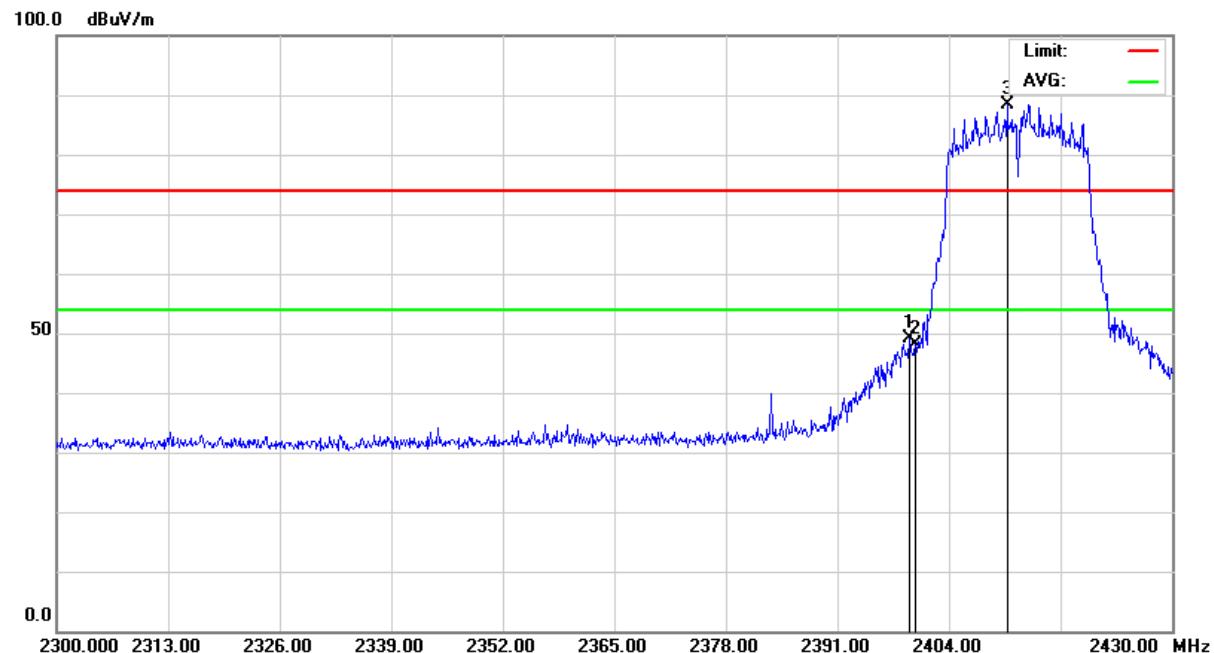
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# TEST REPORT

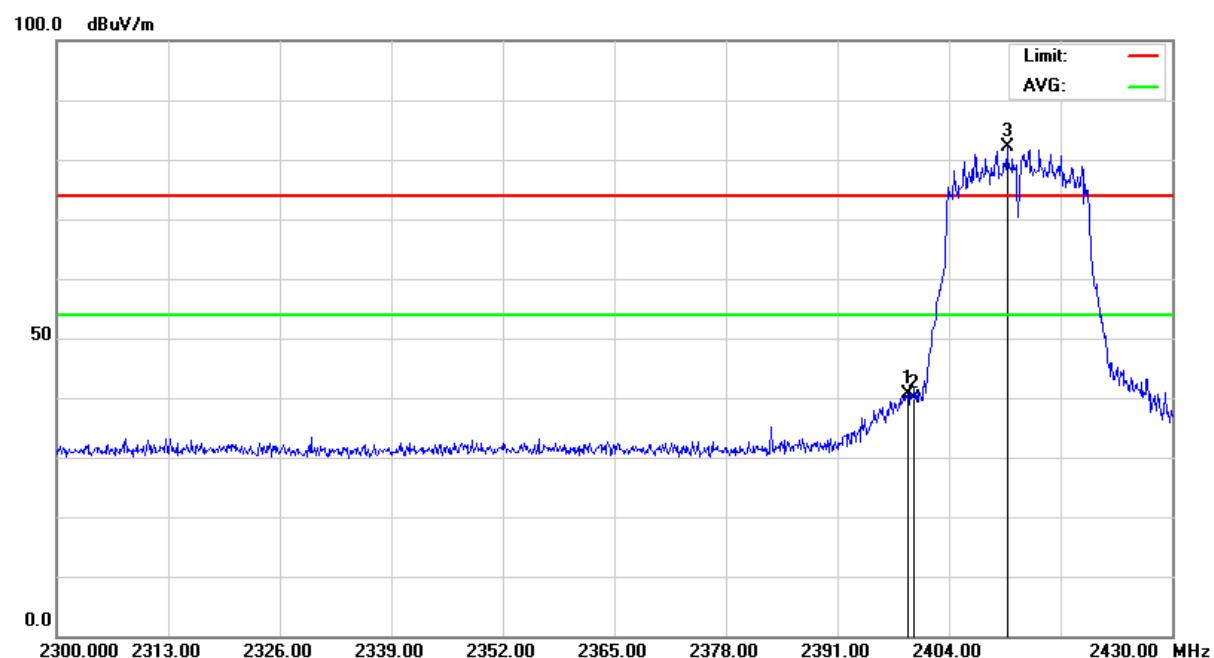
Reference No.: A15102101  
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## Below 2400MHz (g\_CH01)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical





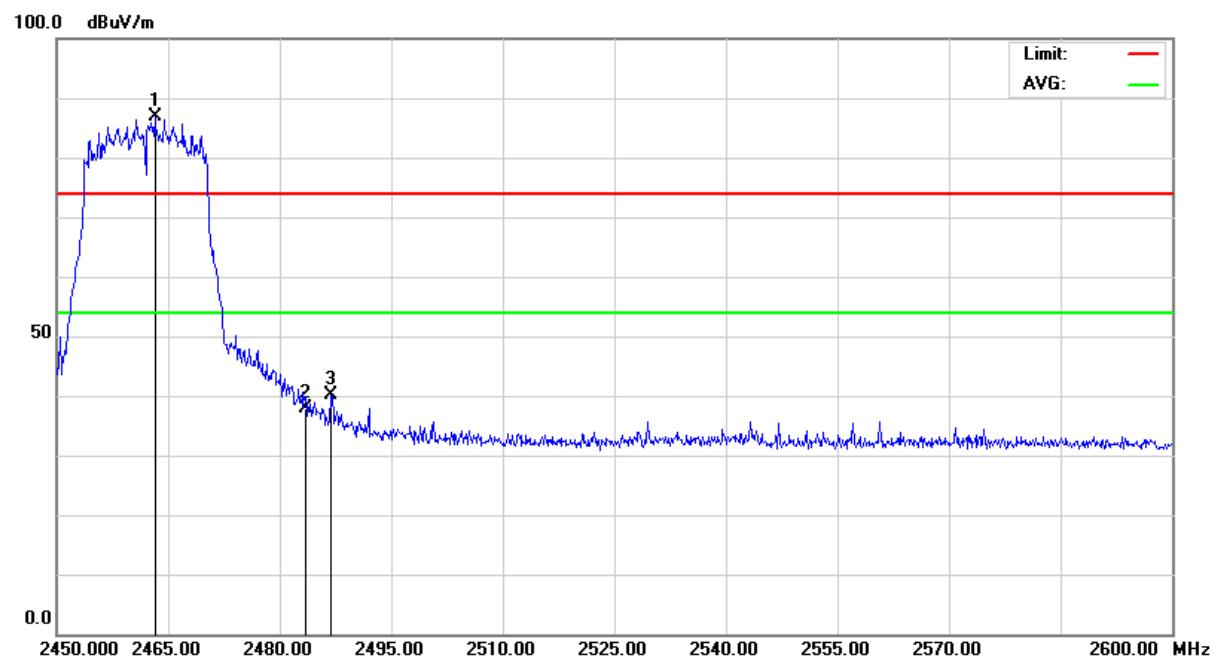
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# TEST REPORT

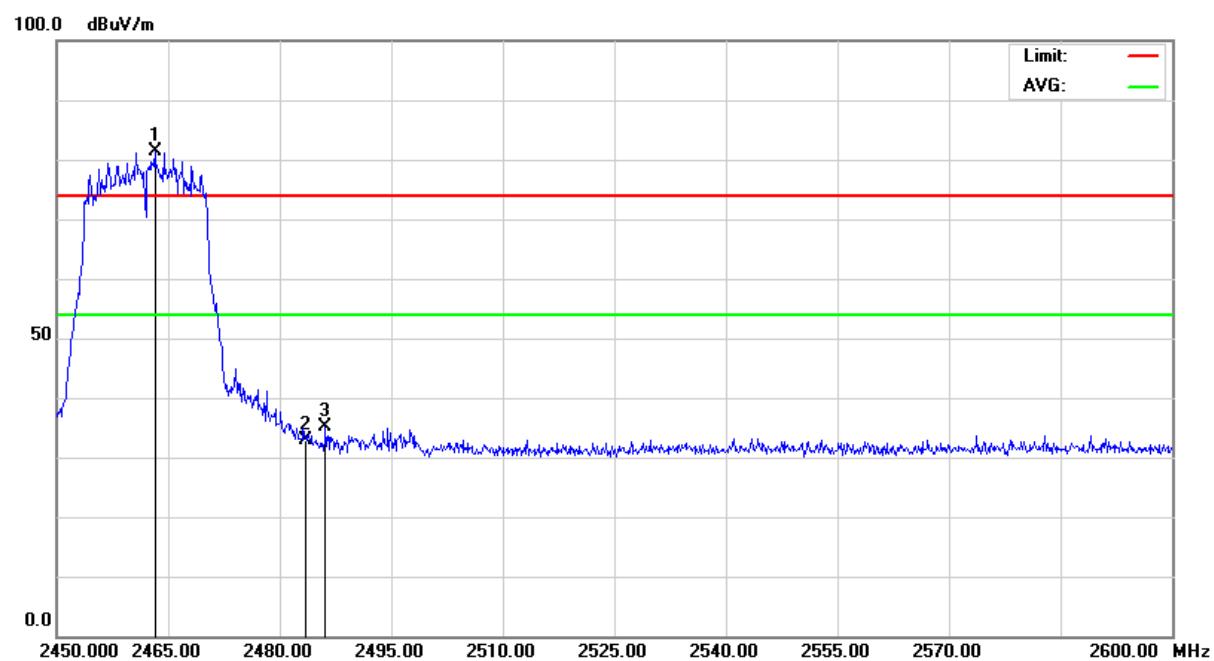
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## Above 2483.5MHz (g\_CH11)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical



|  |                    |   |
|--|--------------------|---|
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|--|--------------------|---|

Below 2400MHz (n - HT20\_CH01)

|                  |                        |               |                                 |
|------------------|------------------------|---------------|---------------------------------|
| Temperature:     | 23 °C                  | Humidity:     | 65 %RH                          |
| Frequency Range: | 2.30 GHz –<br>2.43 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT20 |
| Detector Type:   | PK. and AV.            | IF Bandwidth: | 1 MHz                           |
| Tested By:       | Richard Lin            | Tested Date:  | Nov. 02, 2015                   |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2398.94            | -31.02                    | 28.08               | H                     | 43.16             | 32.67 | 40.22                | 29.73 | 74.00                  | 54.00 | -33.78             | -24.27 |
| 2398.16            | -31.02                    | 28.08               | V                     | 40.73             | 30.19 | 37.79                | 27.25 | 74.00                  | 54.00 | -36.21             | -26.75 |
| 2400.00            | -31.02                    | 28.08               | H                     | 42.18             | 31.65 | 39.24                | 28.71 | 74.00                  | 54.00 | -34.76             | -25.29 |
| 2400.00            | -31.02                    | 28.08               | V                     | 37.07             | 26.57 | 34.13                | 23.63 | 74.00                  | 54.00 | -39.87             | -30.37 |

Above 2483.5MHz (n - HT20\_CH11)

|                  |                        |               |                                 |
|------------------|------------------------|---------------|---------------------------------|
| Temperature:     | 23 °C                  | Humidity:     | 65 %RH                          |
| Frequency Range: | 2.45 GHz –<br>2.60 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT20 |
| Detector Type:   | PK. and AV.            | IF Bandwidth: | 1 MHz                           |
| Tested By:       | Richard Lin            | Tested Date:  | Nov. 02, 2015                   |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2483.50            | -30.92                    | 28.18               | H                     | 39.73             | 29.25 | 36.99                | 26.51 | 74.00                  | 54.00 | -37.01             | -27.49 |
| 2483.50            | -30.92                    | 28.18               | V                     | 35.40             | 24.97 | 32.66                | 22.23 | 74.00                  | 54.00 | -41.34             | -31.77 |
| 2490.66            | -30.91                    | 28.19               | H                     | 40.06             | 29.54 | 37.34                | 26.82 | 74.00                  | 54.00 | -36.66             | -27.18 |
| 2490.83            | -30.91                    | 28.19               | V                     | 37.40             | 26.90 | 34.68                | 24.18 | 74.00                  | 54.00 | -39.32             | -29.82 |



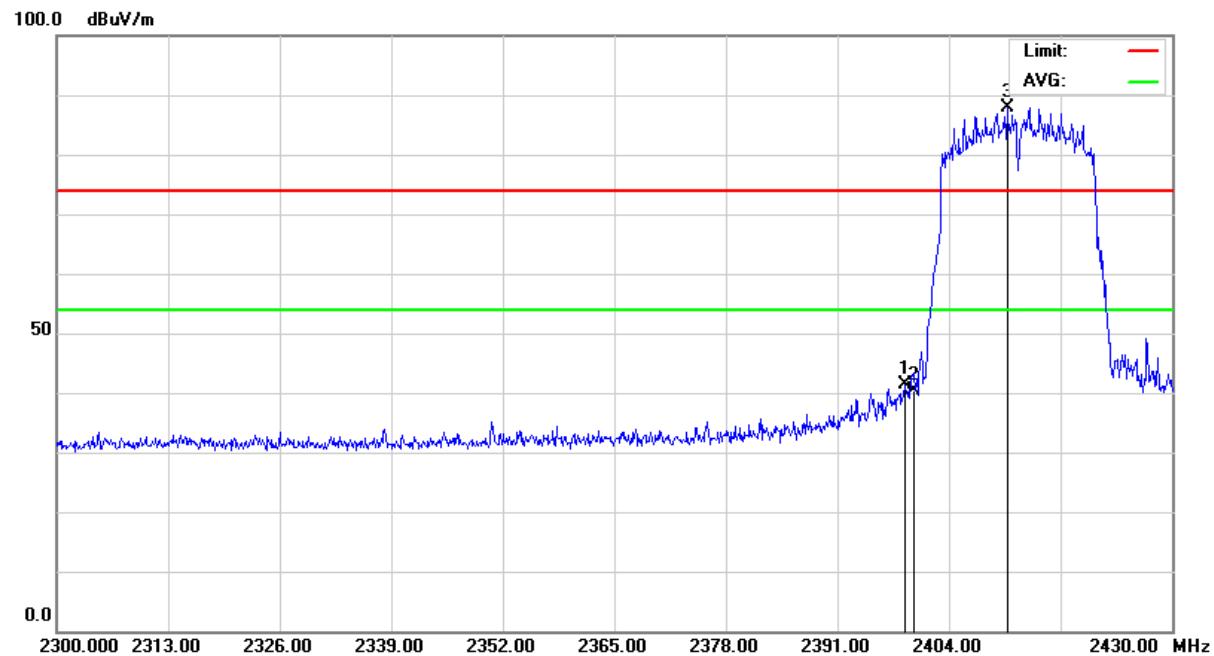
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# TEST REPORT

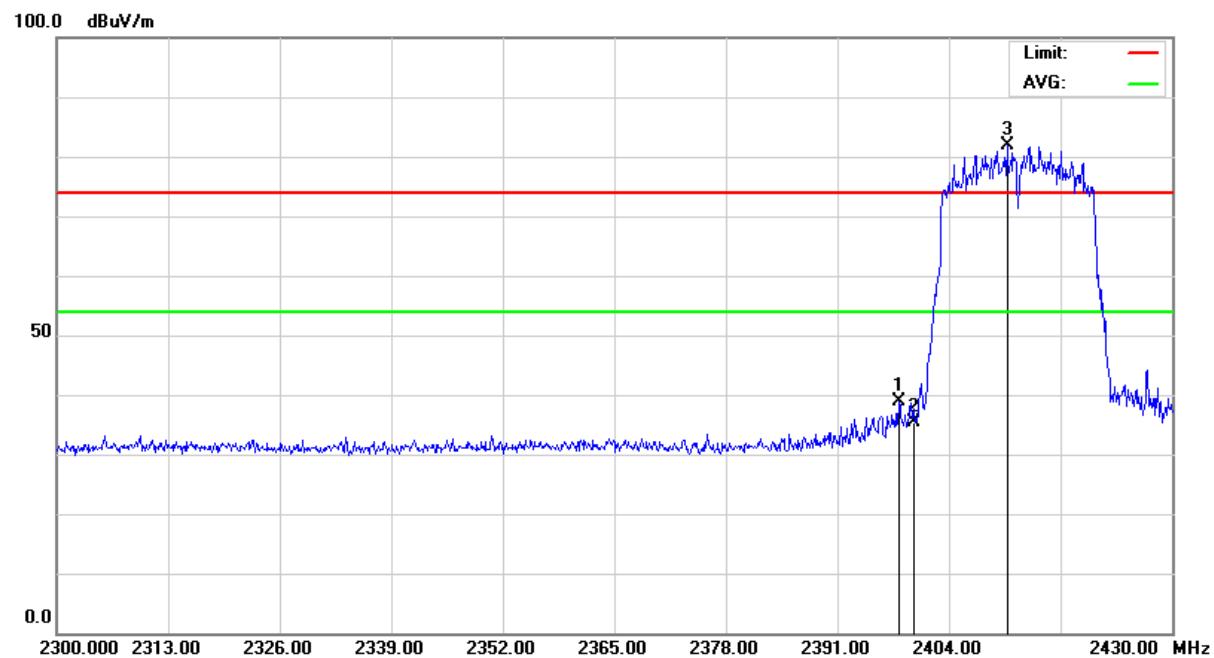
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## Below 2400MHz (n - HT20\_CH01)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical





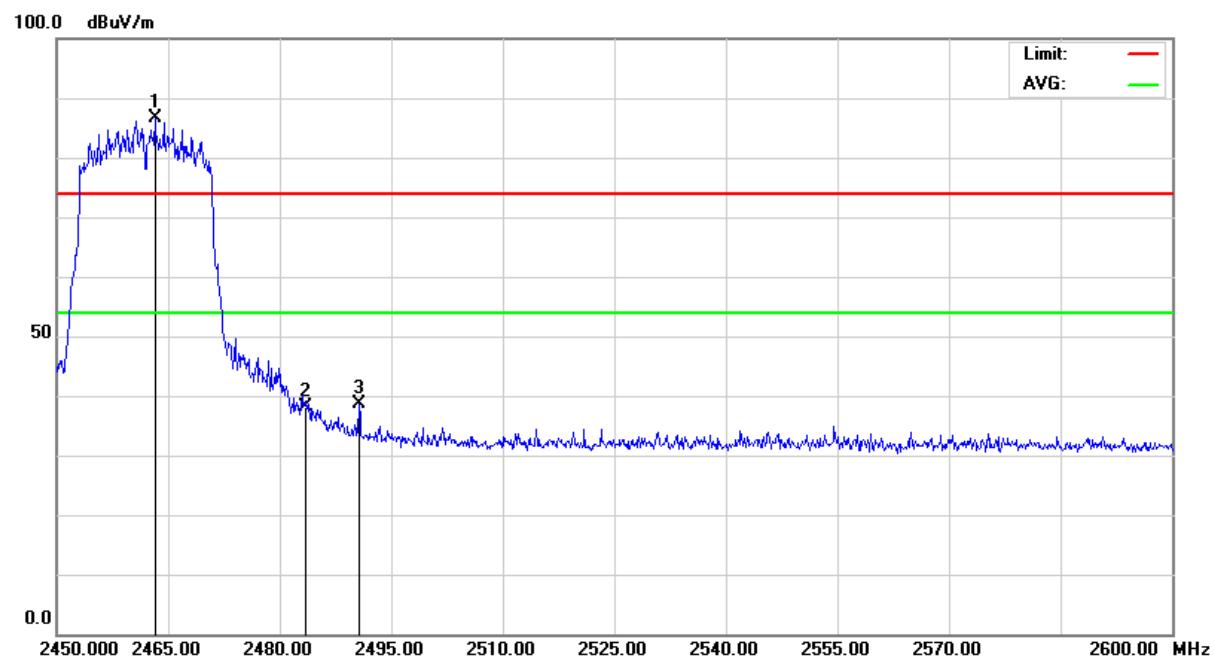
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# TEST REPORT

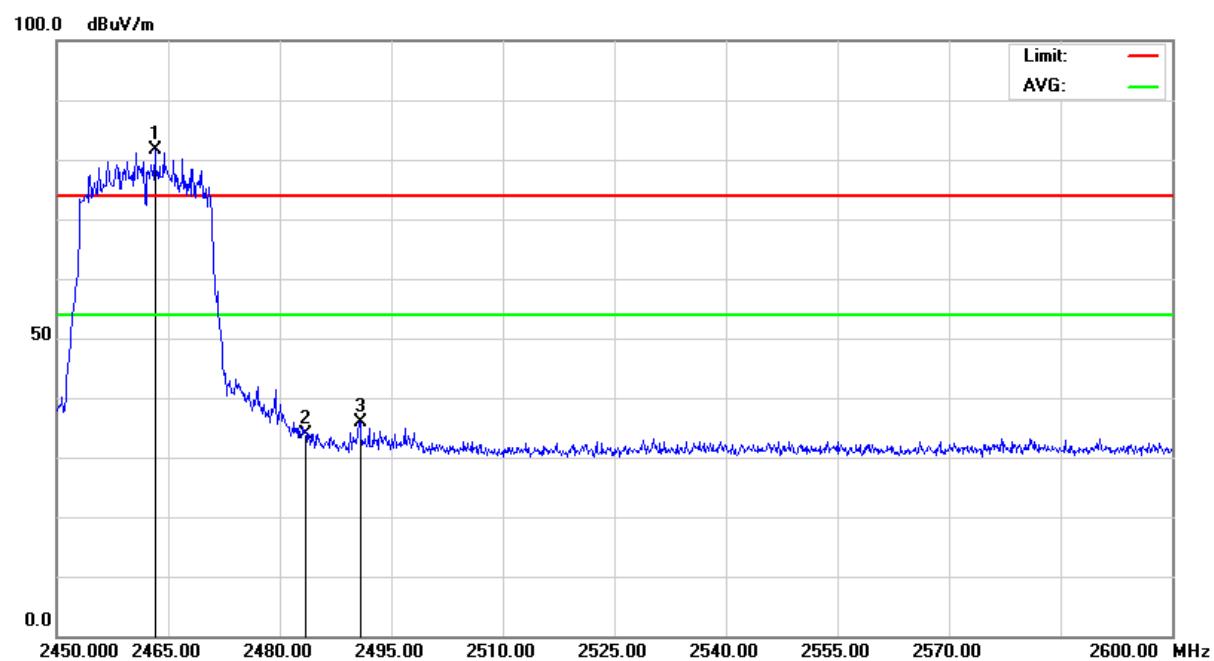
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## Above 2483.5MHz (n - HT20\_CH11)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical



|  |                    |   |
|--|--------------------|---|
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|--|--------------------|---|

Below 2400MHz (n - HT40\_CH03)

|                  |                         |               |                                 |
|------------------|-------------------------|---------------|---------------------------------|
| Temperature:     | 23 °C                   | Humidity:     | 65 %RH                          |
| Frequency Range: | 2.30 GHz –<br>2.445 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT40 |
| Detector Type:   | PK. and AV.             | IF Bandwidth: | 1 MHz                           |
| Tested By:       | Richard Lin             | Tested Date:  | Nov. 02, 2015                   |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2399.48            | -31.02                    | 28.08               | H                     | 47.77             | 37.18 | 44.83                | 34.24 | 74.00                  | 54.00 | -29.17             | -19.76 |
| 2399.45            | -31.02                    | 28.08               | V                     | 43.29             | 32.75 | 40.35                | 29.81 | 74.00                  | 54.00 | -33.65             | -24.19 |
| 2400.00            | -31.02                    | 28.08               | H                     | 41.31             | 30.83 | 38.37                | 27.89 | 74.00                  | 54.00 | -35.63             | -26.11 |
| 2400.00            | -31.02                    | 28.08               | V                     | 36.92             | 26.49 | 33.98                | 23.55 | 74.00                  | 54.00 | -40.02             | -30.45 |

Above 2483.5MHz (n - HT40\_CH09)

|                  |                        |               |                                 |
|------------------|------------------------|---------------|---------------------------------|
| Temperature:     | 23 °C                  | Humidity:     | 65 %RH                          |
| Frequency Range: | 2.43 GHz –<br>2.60 GHz | Tested Mode:  | MLWG3/64_2.4G<br>802.11n - HT40 |
| Detector Type:   | PK. and AV.            | IF Bandwidth: | 1 MHz                           |
| Tested By:       | Richard Lin            | Tested Date:  | Nov. 02, 2015                   |

| Frequency<br>(MHz) | Correct<br>Factor<br>(dB) | Ant. Fac.<br>(dB/m) | Ant.<br>Pol.<br>(H/V) | Reading<br>(dBuV) |       | Emission<br>(dBuV/m) |       | Limit Line<br>(dBuV/m) |       | Over Limit<br>(dB) |        |
|--------------------|---------------------------|---------------------|-----------------------|-------------------|-------|----------------------|-------|------------------------|-------|--------------------|--------|
|                    |                           |                     |                       | PK                | AV    | PK                   | AV    | PK                     | AV    | PK                 | AV     |
| 2483.50            | -30.92                    | 28.18               | H                     | 42.95             | 32.42 | 40.21                | 29.68 | 74.00                  | 54.00 | -33.79             | -24.32 |
| 2483.50            | -30.92                    | 28.18               | V                     | 39.13             | 28.64 | 36.39                | 25.90 | 74.00                  | 54.00 | -37.61             | -28.10 |
| 2484.51            | -30.92                    | 28.18               | H                     | 47.40             | 36.96 | 44.66                | 34.22 | 74.00                  | 54.00 | -29.34             | -19.78 |
| 2484.54            | -30.92                    | 28.18               | V                     | 43.59             | 33.01 | 40.85                | 30.27 | 74.00                  | 54.00 | -33.15             | -23.73 |



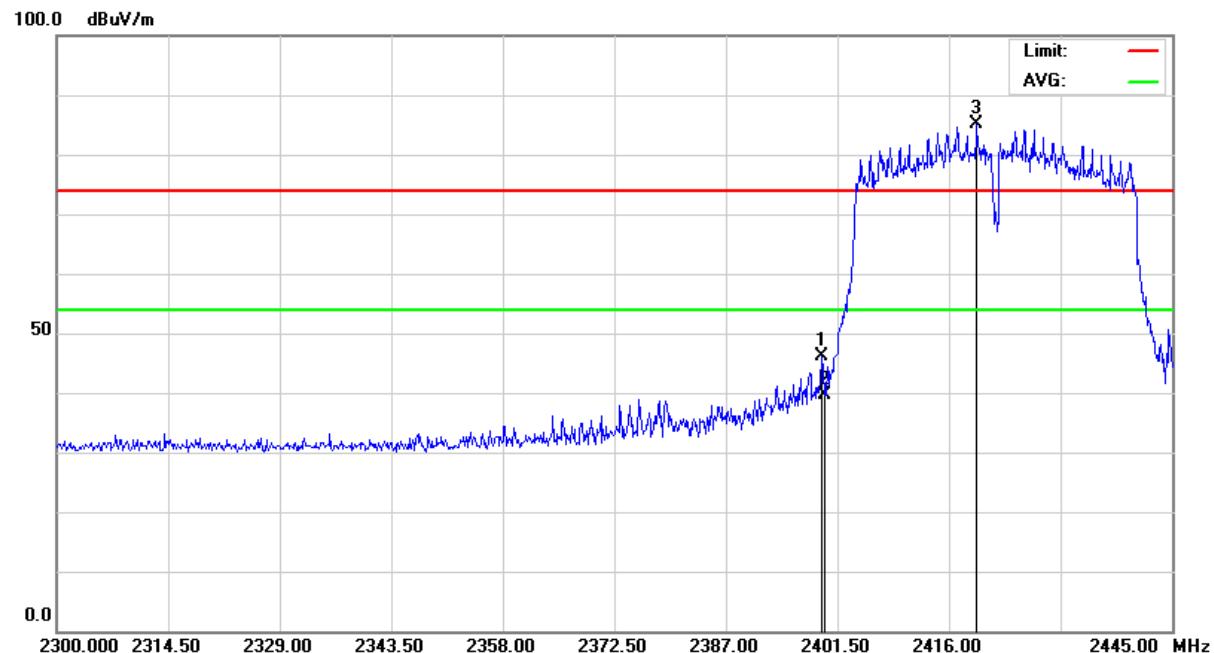
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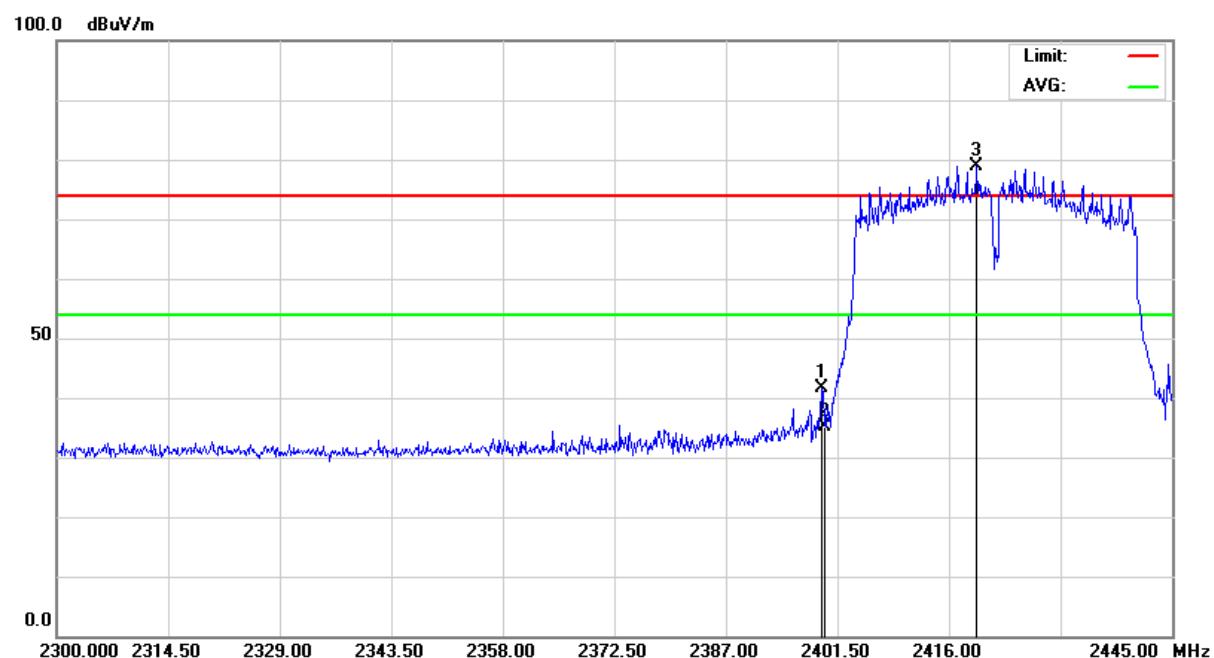
Reference No.: A15102101  
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## Below 2400MHz (n - HT40\_CH03)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical





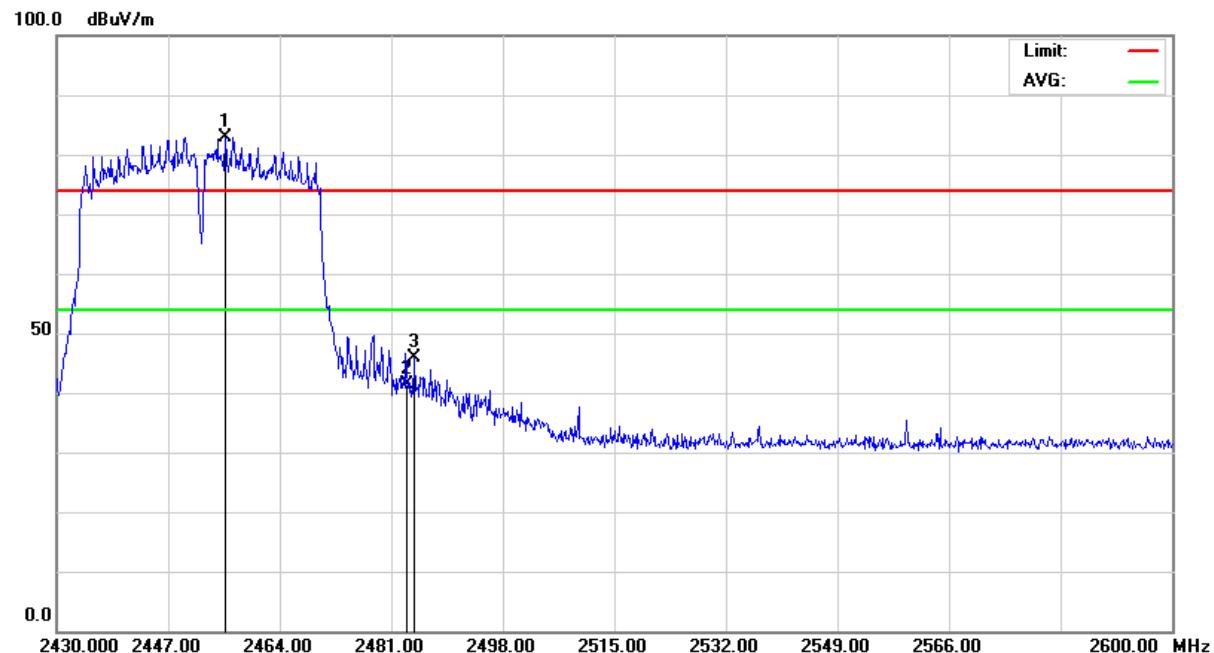
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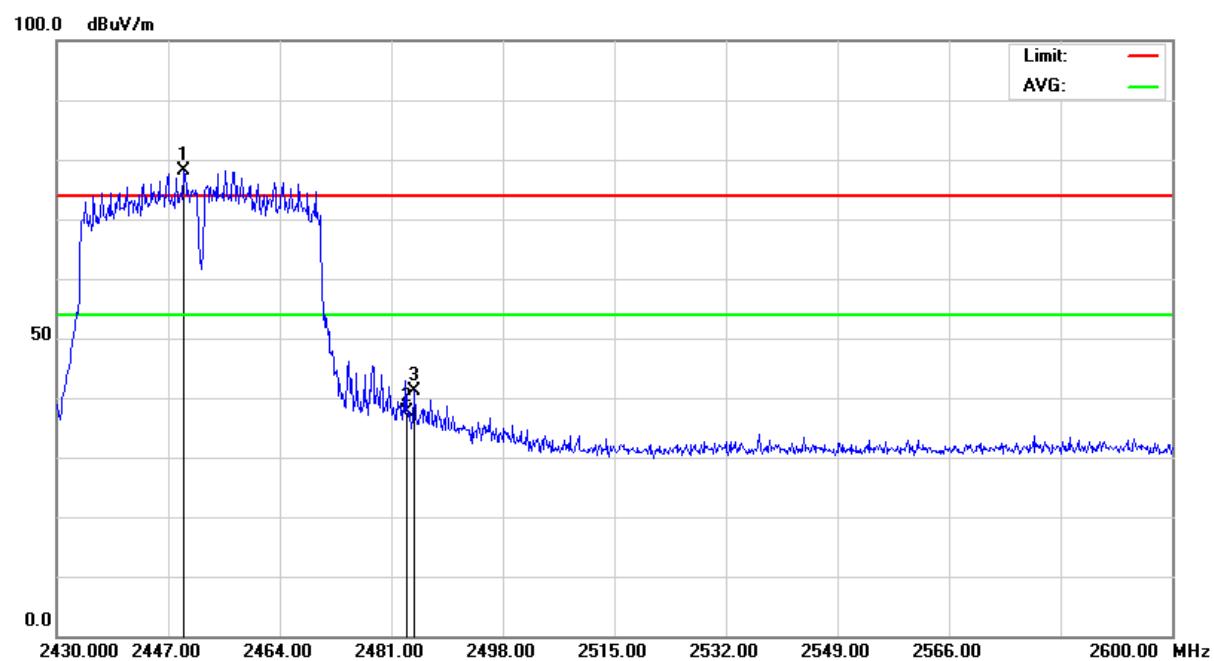
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## Above 2483.5MHz (n - HT40\_CH09)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical



|   |                      |   |
|---|----------------------|---|
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|---|----------------------|---|

## 4.6 POWER SPECTRAL DENSITY TEST

### 4.6.1 LIMIT

FCC Part15, Subpart C Section 15.247(e).

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

| FREQUENCY RANGE   | Limit         |
|-------------------|---------------|
| 2.40 - 2.4835 GHz | 8 dBm / 3 kHz |

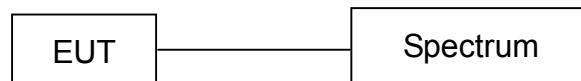
### 4.6.2 TEST EQUIPMENT

The following test equipment was used during the radiated emission test:

| EQUIPMENT/<br>FACILITIES                         | SPECIFICATIONS | MANUFACTURER    | MODEL#/<br>SERIAL# | DUE DATE OF CAL. &<br>CAL. CENTER |
|--|----------------|-----------------|--------------------|-----------------------------------|
| EMI TEST RECEIVER<br>(INCLUDE SPECTRUM ANALYZER) | 9 KHz ~ 6 GHz  | ROHDE & SCHWARZ | ESL /100176        | MAY 24, 2016<br>ETC               |

**NOTE:** The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.6.3 TEST SET-UP



The EUT was connected to a spectrum through a 50Ω RF cable.

### 4.6.4 TEST PROCEDURE

The EUT was operating in transmitter mode and could be controlled its channel.  
 Printed out the test result from the spectrum by hard copy function.

### 4.6.5 EUT OPERATING CONDITION

1. Set the EUT under continuous transmission condition.
2. The EUT was set to the highest available power level.

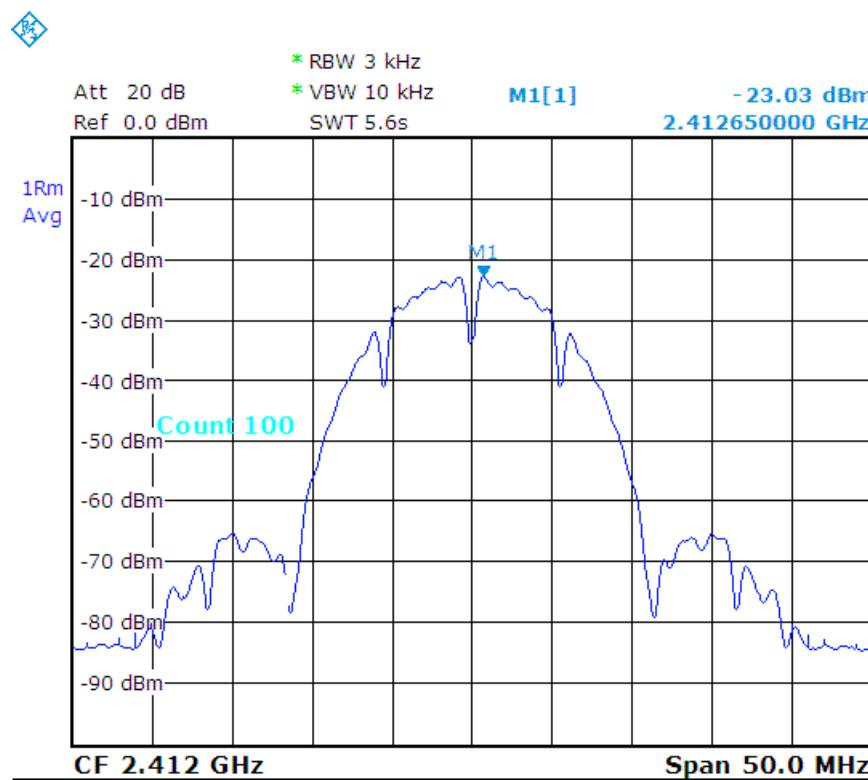
|   |                      |   |
|---|----------------------|---|
|  <p><b>Spectrum Research &amp; Testing Lab., Inc.</b><br/>         No.167,Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)</p> | <h1>TEST REPORT</h1> | Reference No.: A15102101<br>Report No.: FCCA15102101<br>FCC ID : ZME-MLWG3<br>Page: 192 of 216<br>Date: Dec. 22, 2015 |
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#### 4.6.6 TEST RESULT

|              |             |              |                    |
|--------------|-------------|--------------|--------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH             |
| Detector:    | RMS         | Test Mode:   | MLWG3_2.4G_802.11b |
| RBW:         | 3 kHz       | VBW:         | 10 kHz             |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015      |

| Channel Number | Channel Frequency (MHz) | Power Spectral Density (dBm/3kHz) | Maximum Limit (dBm/3kHz) |
|----------------|-------------------------|-----------------------------------|--------------------------|
| CH01           | 2412                    | -23.03                            | 8                        |
| CH06           | 2437                    | -22.84                            | 8                        |
| CH11           | 2462                    | -22.87                            | 8                        |

b\_CH01 :



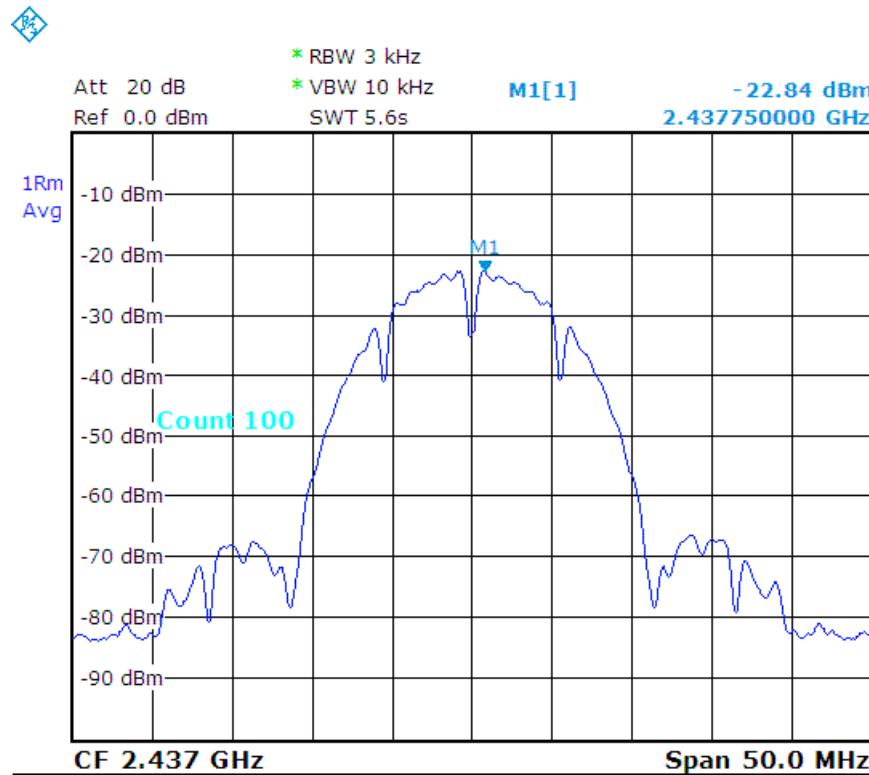


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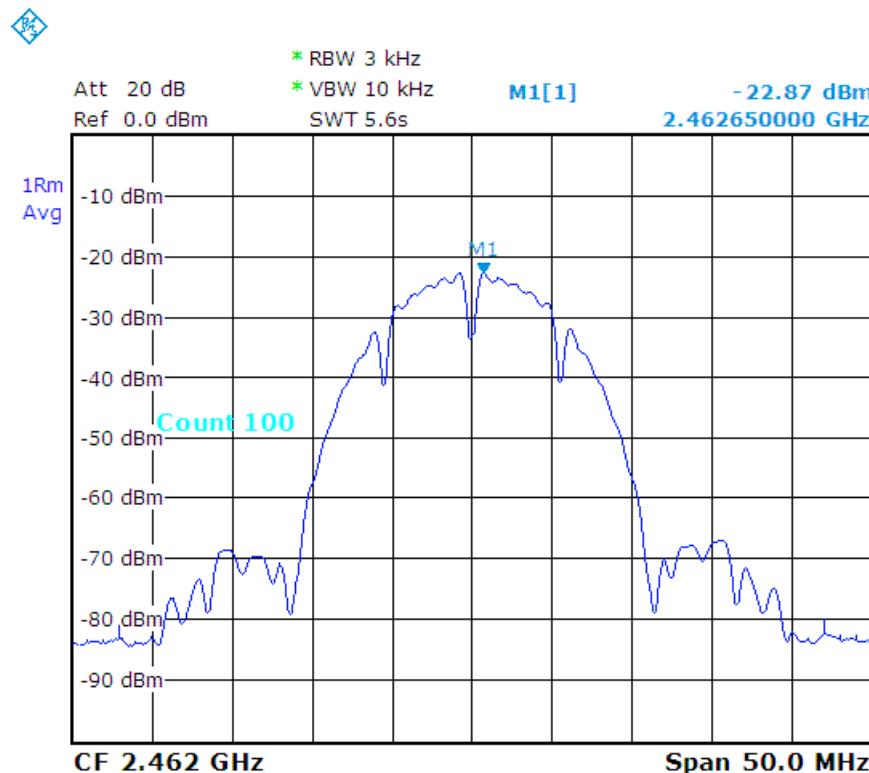
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b\_CH06 :



b\_CH11 :

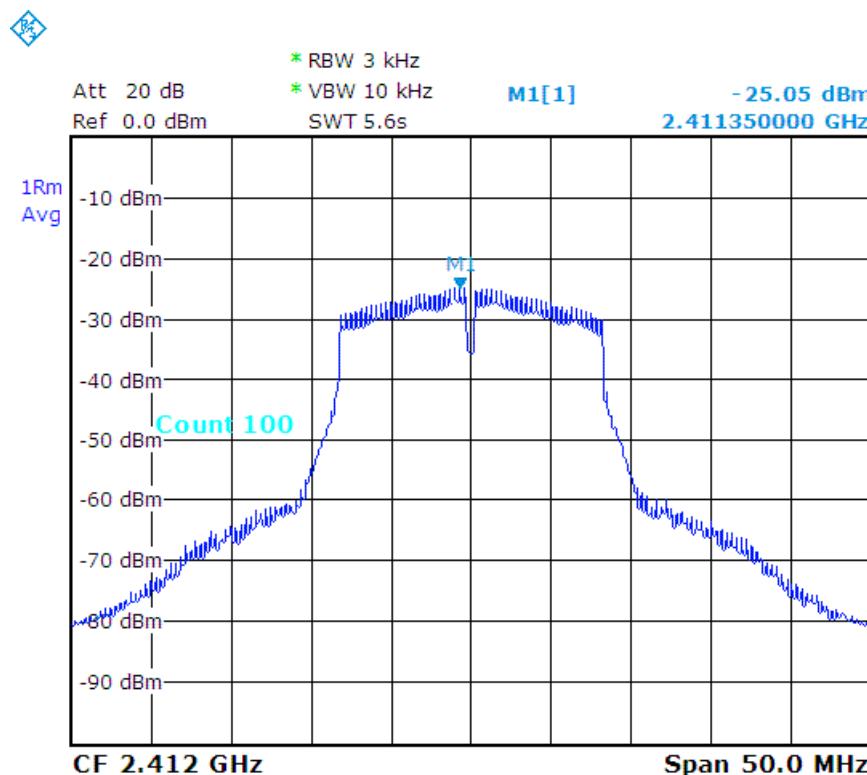


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|---|----------------------|---|
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|---|----------------------|---|

|              |             |              |                    |
|--------------|-------------|--------------|--------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH             |
| Detector:    | RMS         | Test Mode:   | MLWG3_2.4G_802.11g |
| RBW:         | 3 kHz       | VBW:         | 10 kHz             |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015      |

| Channel Number | Channel Frequency (MHz) | Power Spectral Density (dBm/3kHz) | Maximum Limit (dBm/3kHz) |
|----------------|-------------------------|-----------------------------------|--------------------------|
| CH01           | 2412                    | -25.05                            | 8                        |
| CH06           | 2437                    | -25.13                            | 8                        |
| CH11           | 2462                    | -24.84                            | 8                        |

g\_CH01 :



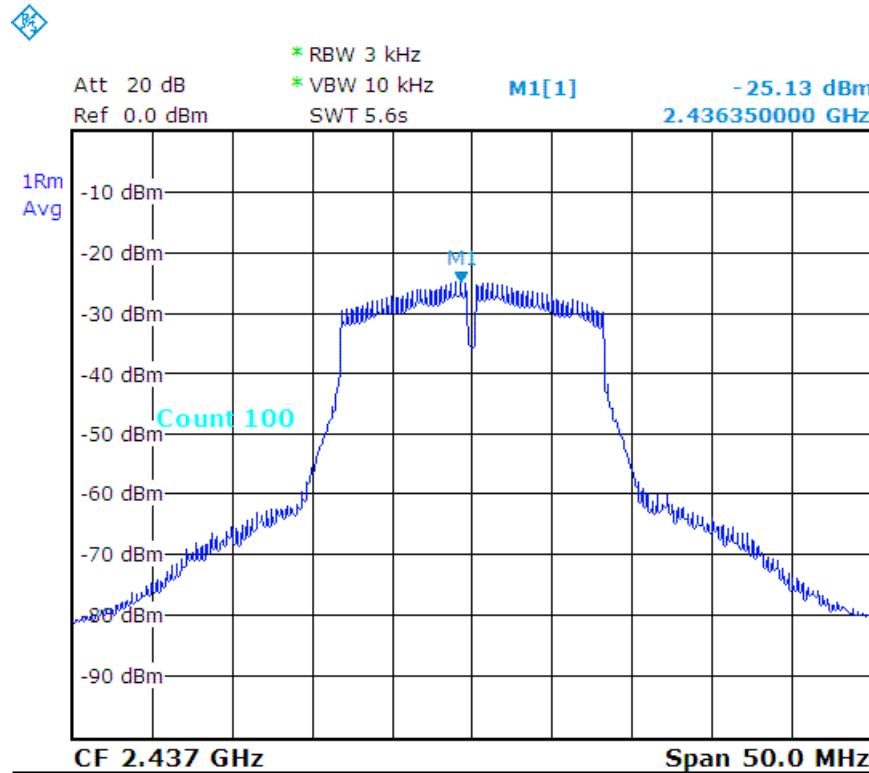


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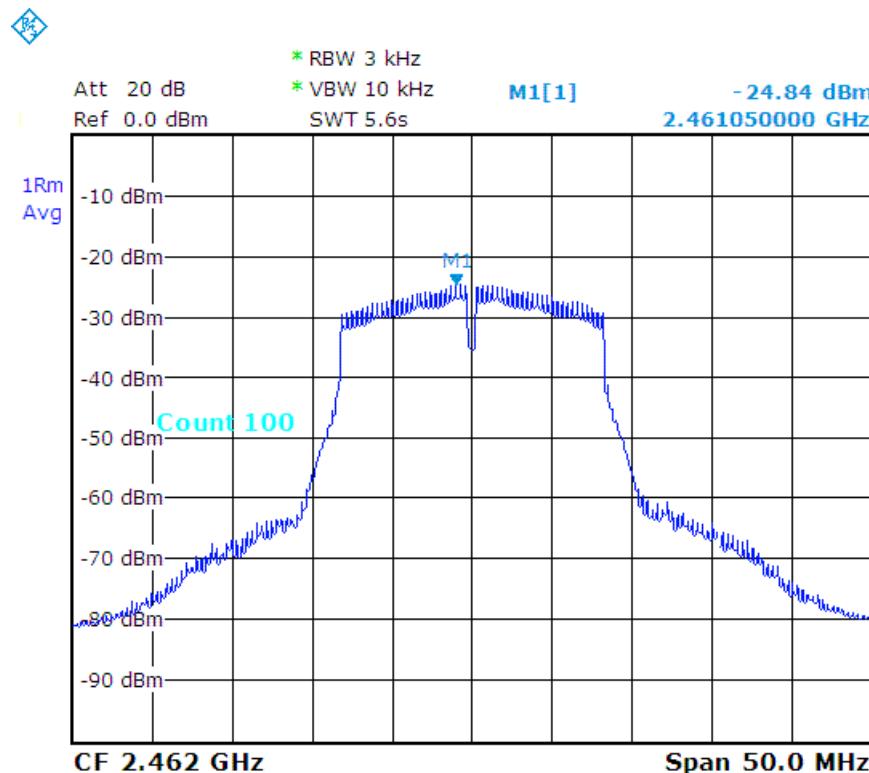
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g\_CH06 :



g\_CH11 :

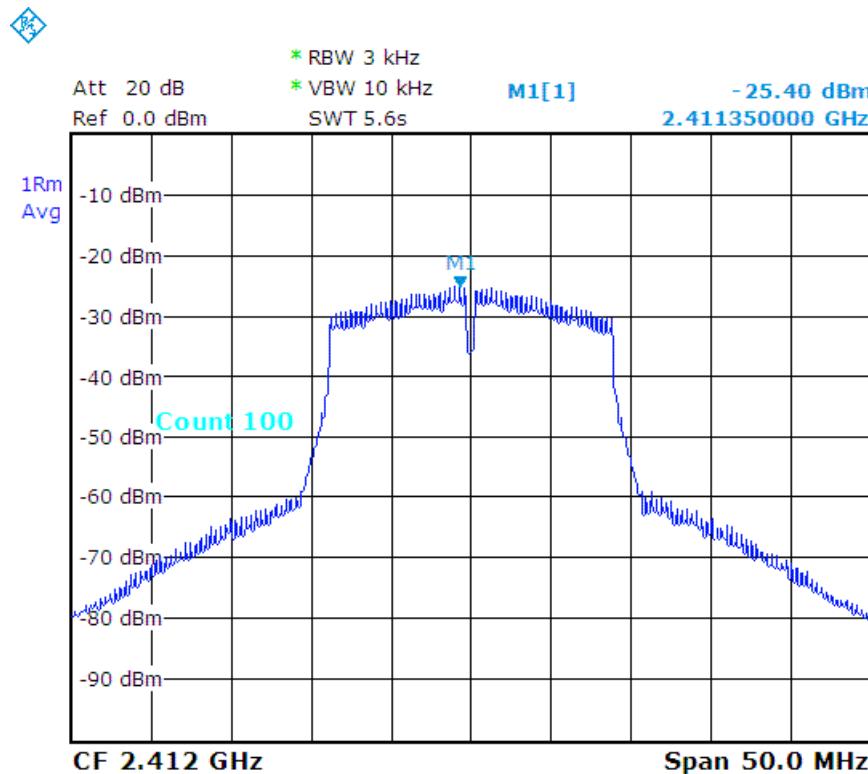


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|---|----------------------|---|

|              |             |              |                           |
|--------------|-------------|--------------|---------------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH                    |
| Detector:    | RMS         | Test Mode:   | MLWG3_2.4G_802.11n - HT20 |
| RBW:         | 3 kHz       | VBW:         | 10 kHz                    |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015             |

| Channel Number | Channel Frequency (MHz) | Power Spectral Density (dBm/3kHz) | Maximum Limit (dBm/3kHz) |
|----------------|-------------------------|-----------------------------------|--------------------------|
| CH01           | 2412                    | -25.40                            | 8                        |
| CH06           | 2437                    | -25.45                            | 8                        |
| CH11           | 2462                    | -25.15                            | 8                        |

n - HT20\_CH01 :



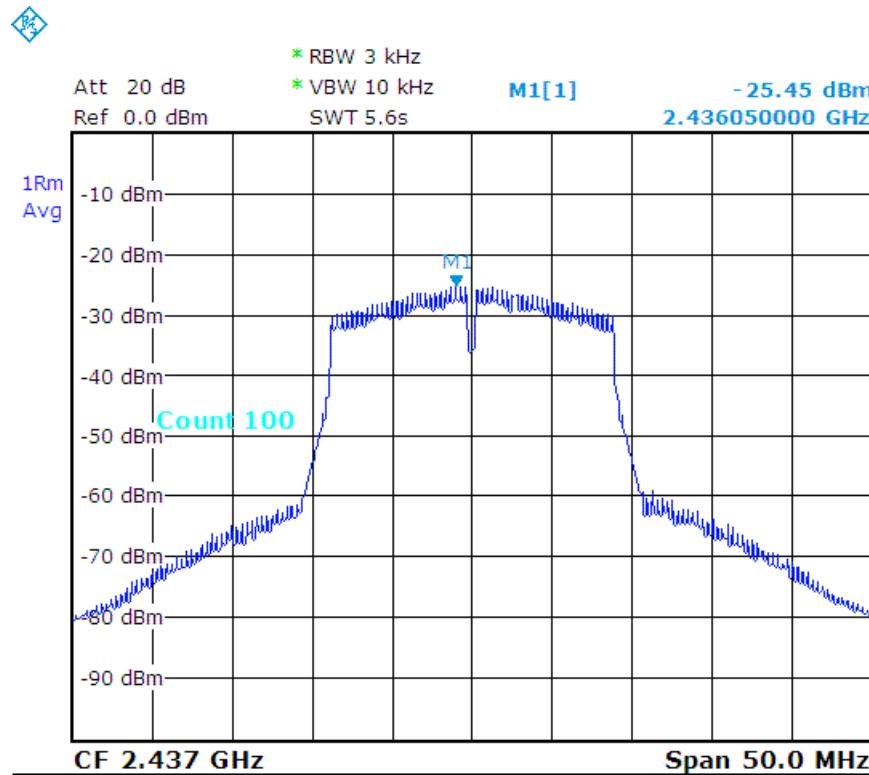


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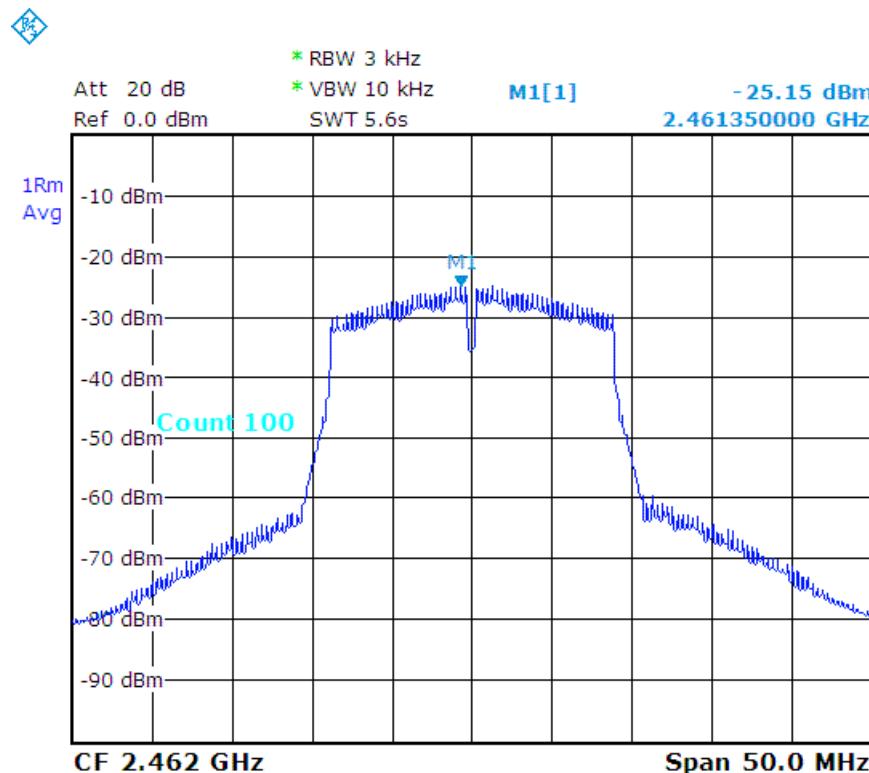
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n - HT20\_CH06 :



n - HT20\_CH11 :

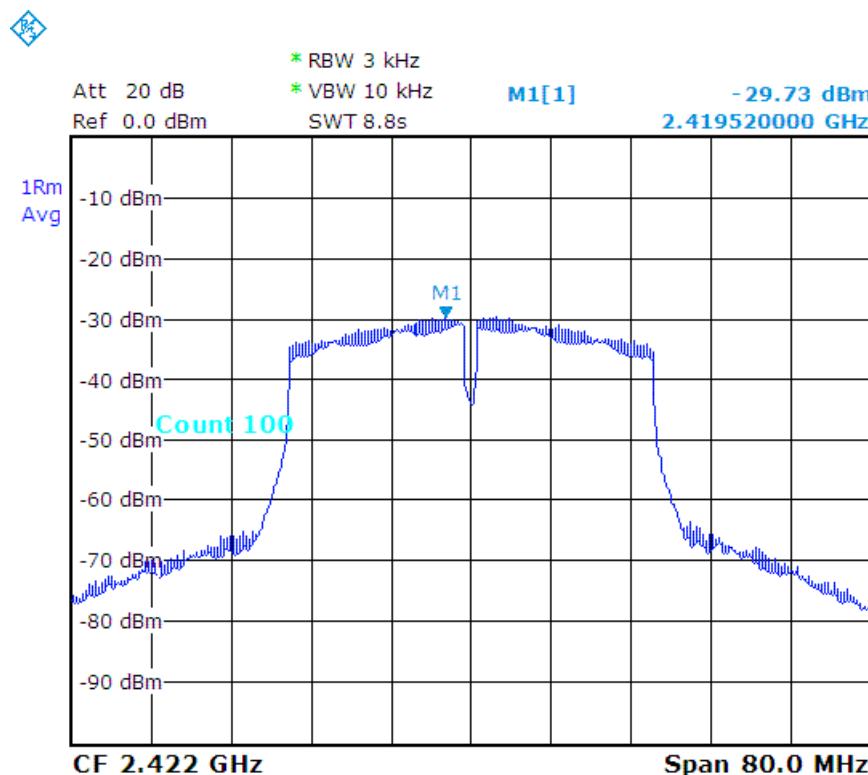


|   |                      |   |
|---|----------------------|---|
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|              |             |              |                           |
|--------------|-------------|--------------|---------------------------|
| Temperature: | 21 °C       | Humidity:    | 59 %RH                    |
| Detector:    | RMS         | Test Mode:   | MLWG3_2.4G_802.11n - HT40 |
| RBW:         | 3 kHz       | VBW:         | 10 kHz                    |
| Tested By:   | Richard Lin | Tested Date: | Nov. 23, 2015             |

| Channel Number | Channel Frequency (MHz) | Power Spectral Density (dBm/3kHz) | Maximum Limit (dBm/3kHz) |
|----------------|-------------------------|-----------------------------------|--------------------------|
| CH03           | 2422                    | -29.73                            | 8                        |
| CH06           | 2437                    | -29.81                            | 8                        |
| CH09           | 2452                    | -29.72                            | 8                        |

n - HT40\_CH03 :



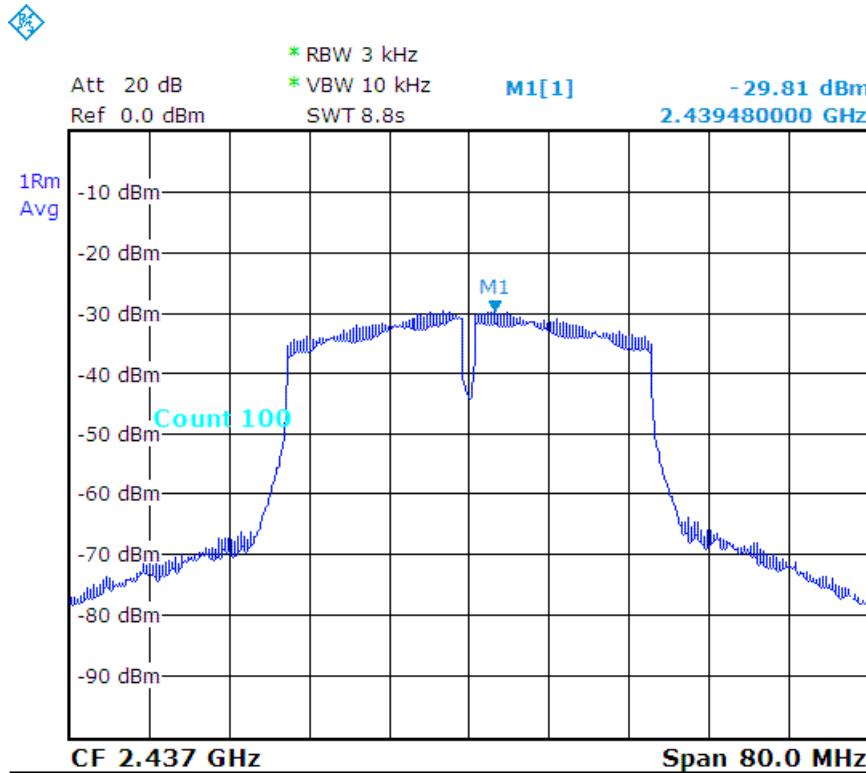


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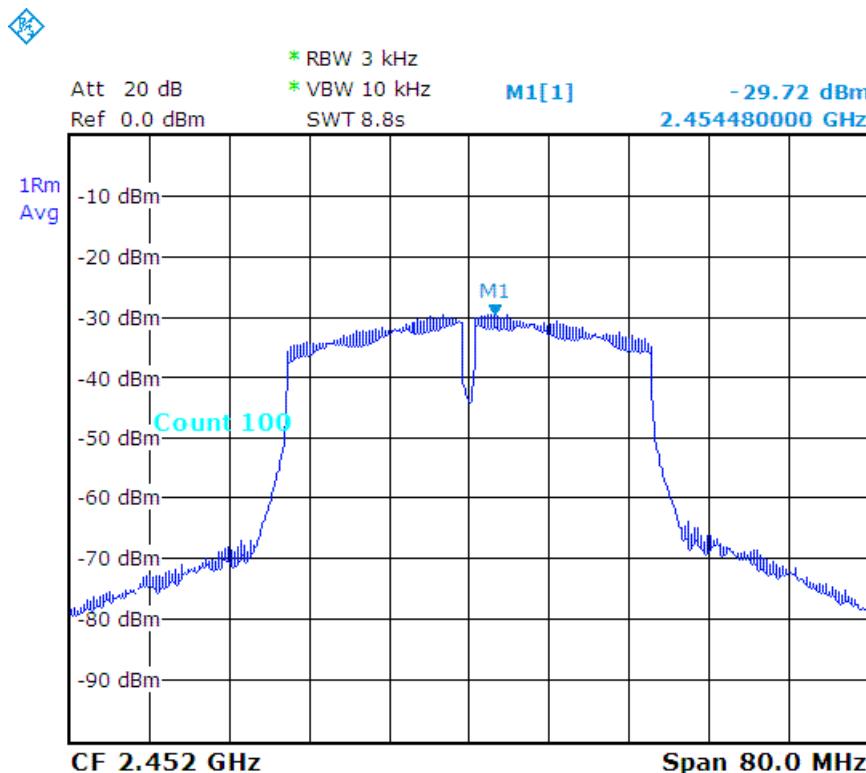
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n - HT40\_CH06 :



n - HT40\_CH09 :

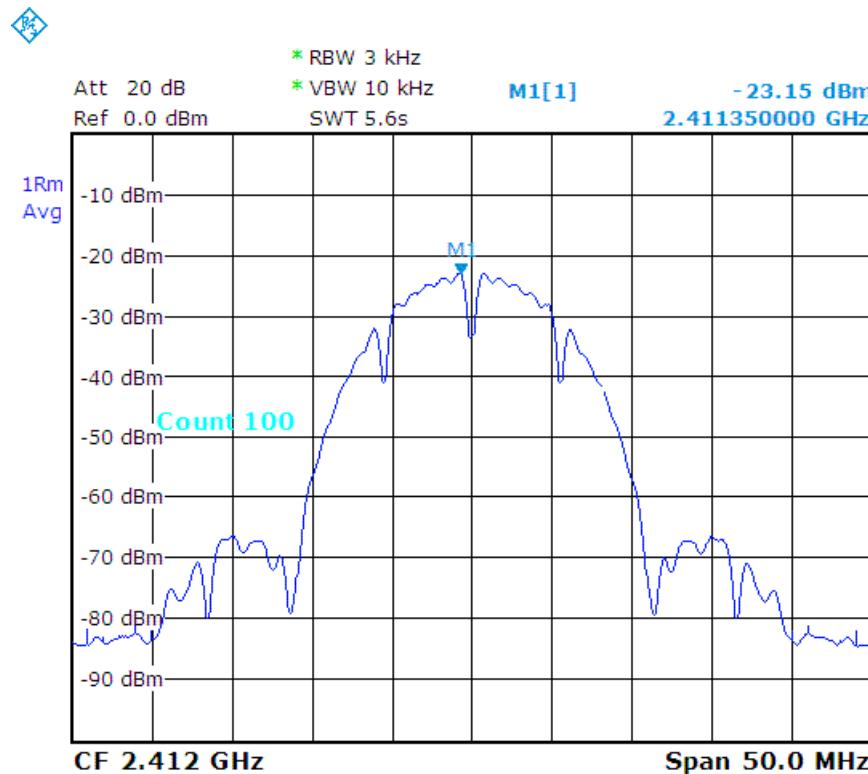


|   |                      |   |
|---|----------------------|---|
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|              |             |              |                       |
|--------------|-------------|--------------|-----------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                |
| Detector:    | RMS         | Test Mode:   | MLWG3/64_2.4G_802.11b |
| RBW:         | 3 kHz       | VBW:         | 10 kHz                |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015         |

| Channel Number | Channel Frequency (MHz) | Power Spectral Density (dBm/3kHz) | Maximum Limit (dBm/3kHz) |
|----------------|-------------------------|-----------------------------------|--------------------------|
| CH01           | 2412                    | -23.15                            | 8                        |
| CH06           | 2437                    | -23.14                            | 8                        |
| CH11           | 2462                    | -21.94                            | 8                        |

b\_CH01 :



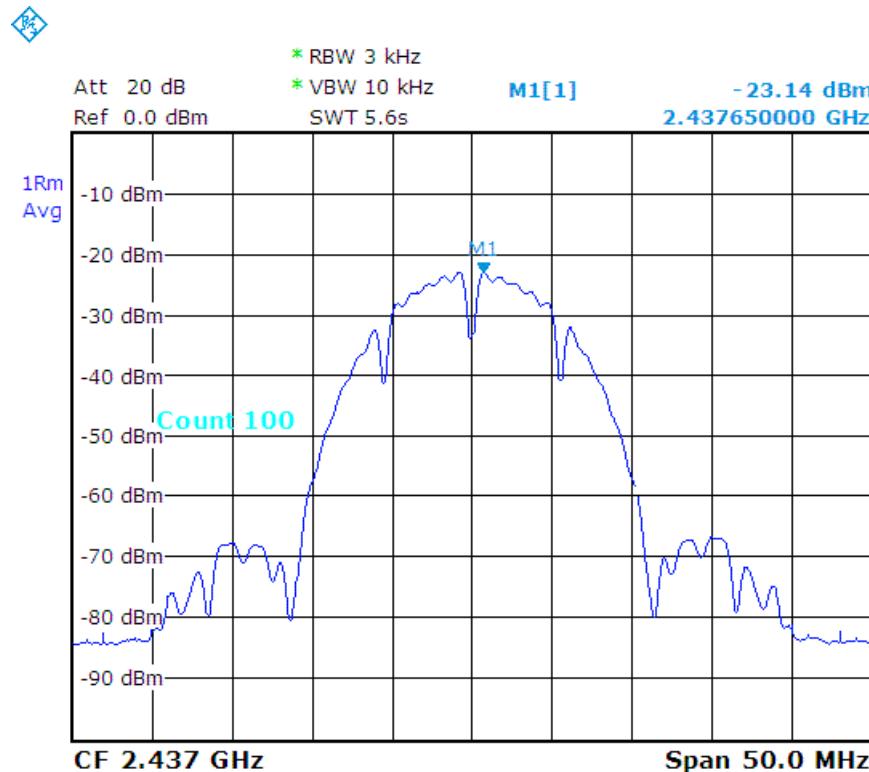


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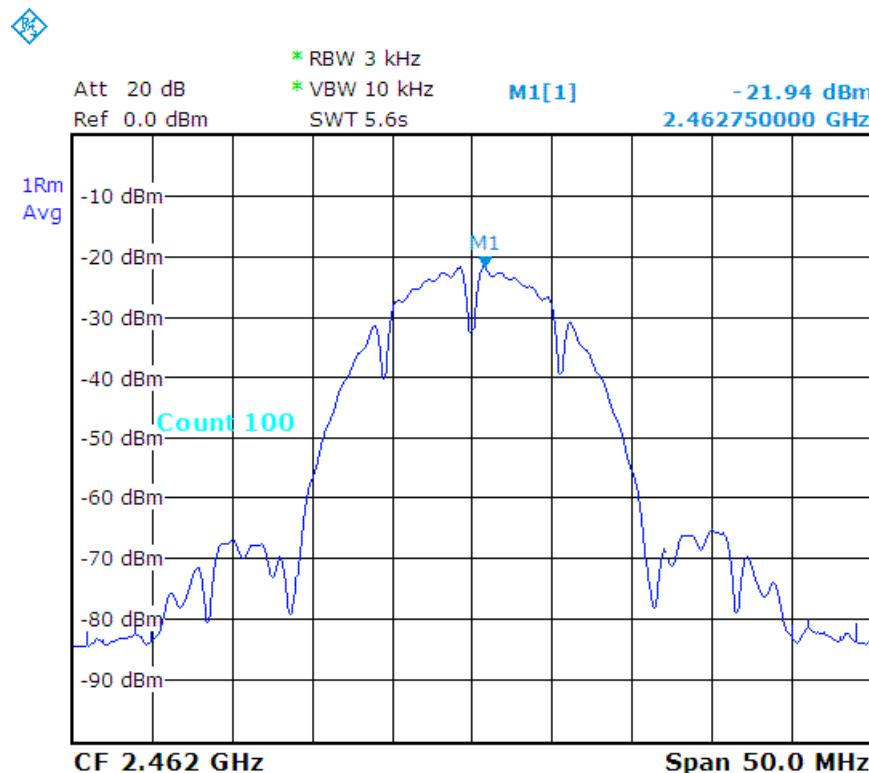
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b\_CH06 :



b\_CH11 :

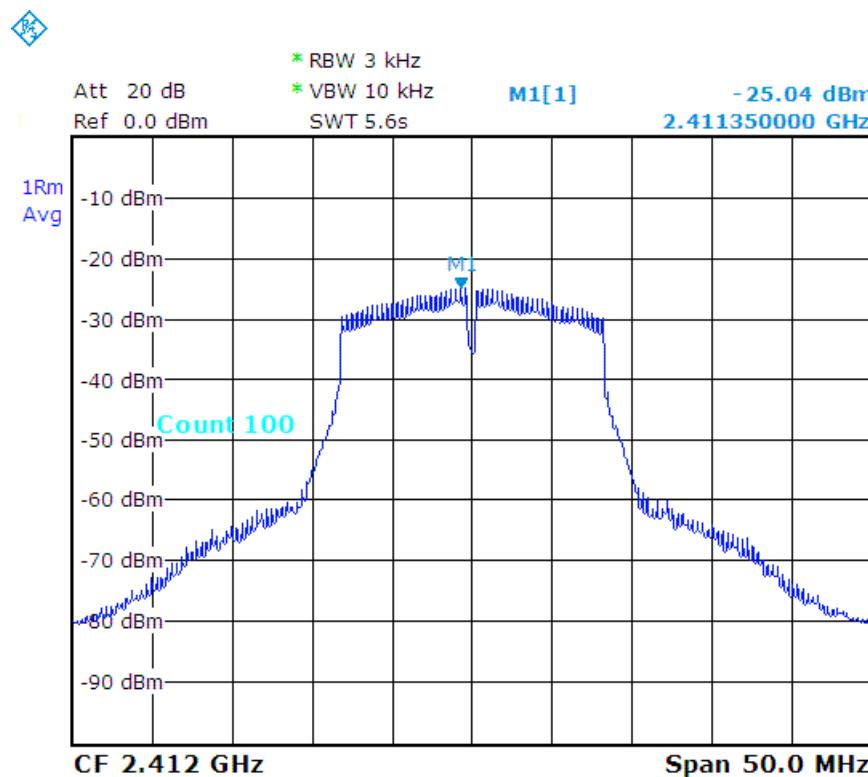


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|---|----------------------|---|

|              |             |              |                       |
|--------------|-------------|--------------|-----------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                |
| Detector:    | RMS         | Test Mode:   | MLWG3/64_2.4G_802.11g |
| RBW:         | 3 kHz       | VBW:         | 10 kHz                |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015         |

| Channel Number | Channel Frequency (MHz) | Power Spectral Density (dBm/3kHz) | Maximum Limit (dBm/3kHz) |
|----------------|-------------------------|-----------------------------------|--------------------------|
| CH01           | 2412                    | -25.04                            | 8                        |
| CH06           | 2437                    | -25.15                            | 8                        |
| CH11           | 2462                    | -23.90                            | 8                        |

g\_CH01 :



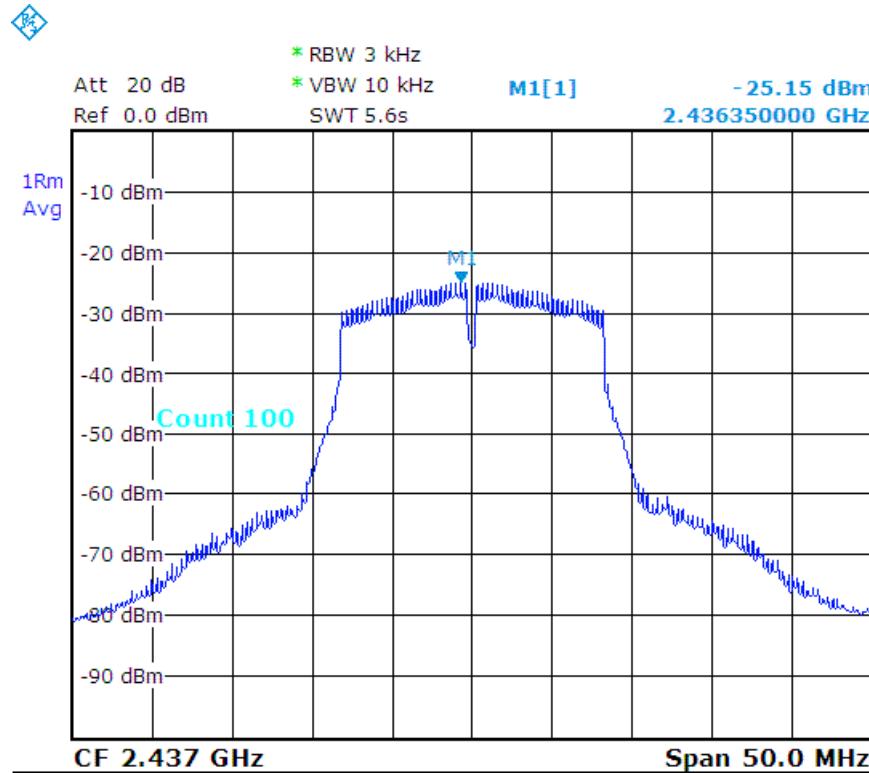


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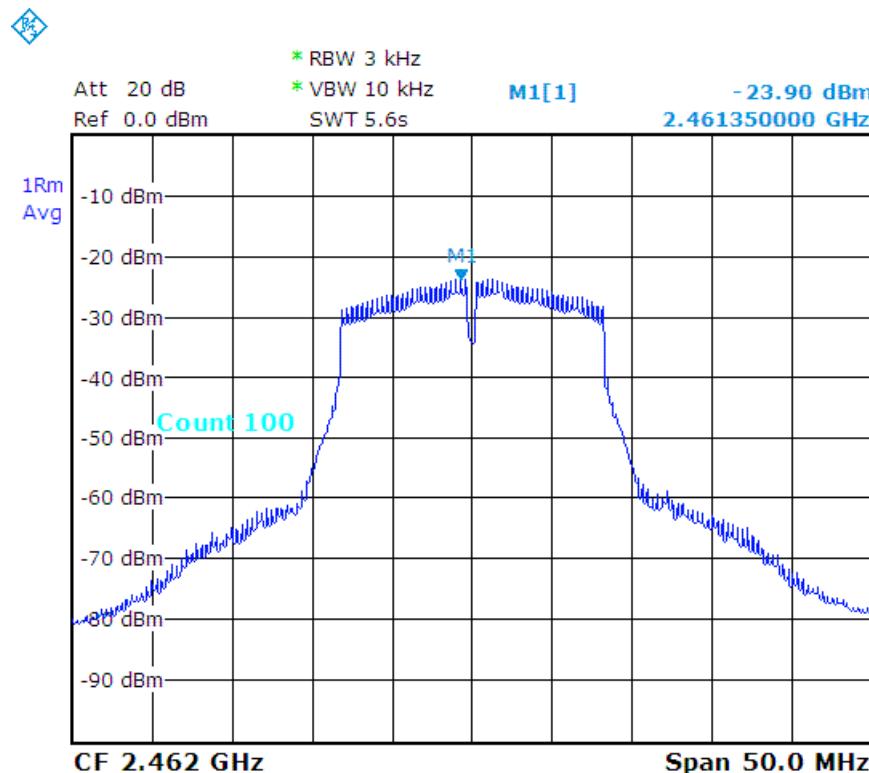
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g\_CH06 :



g\_CH11 :

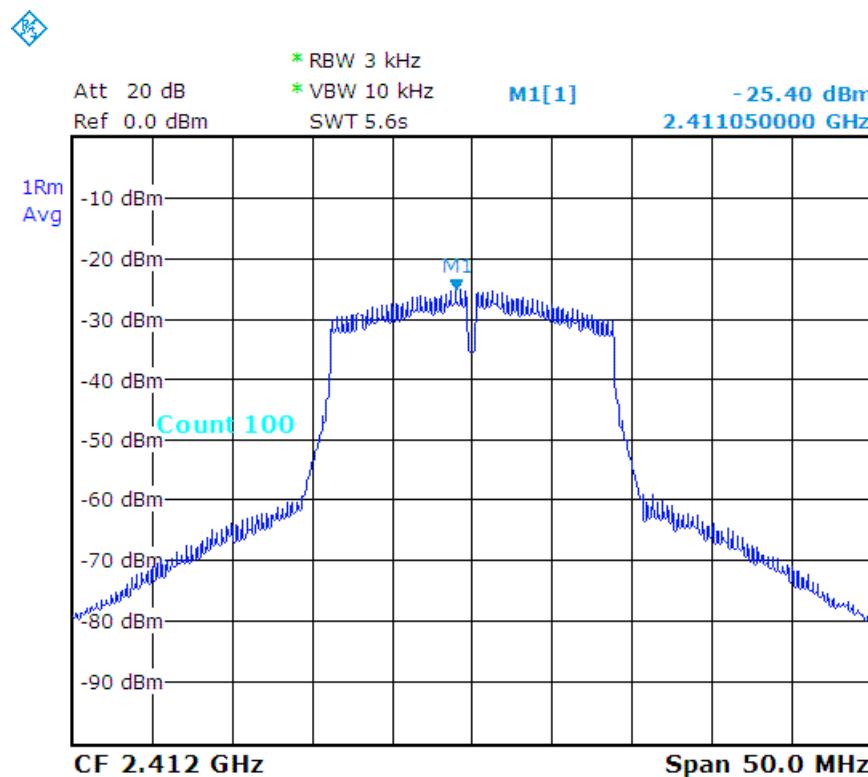


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|---|----------------------|---|
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|              |             |              |                              |
|--------------|-------------|--------------|------------------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                       |
| Detector:    | RMS         | Test Mode:   | MLWG3/64_2.4G_802.11n - HT20 |
| RBW:         | 3 kHz       | VBW:         | 10 kHz                       |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015                |

| Channel Number | Channel Frequency (MHz) | Power Spectral Density (dBm/3kHz) | Maximum Limit (dBm/3kHz) |
|----------------|-------------------------|-----------------------------------|--------------------------|
| CH01           | 2412                    | -25.40                            | 8                        |
| CH06           | 2437                    | -25.44                            | 8                        |
| CH11           | 2462                    | -24.24                            | 8                        |

n - HT20\_CH01 :



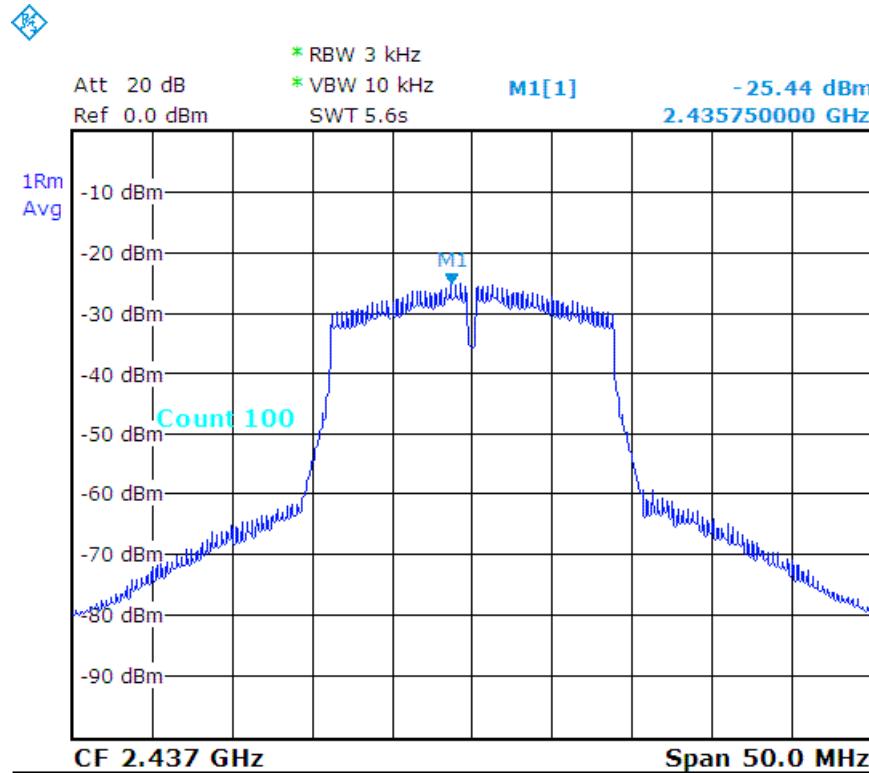


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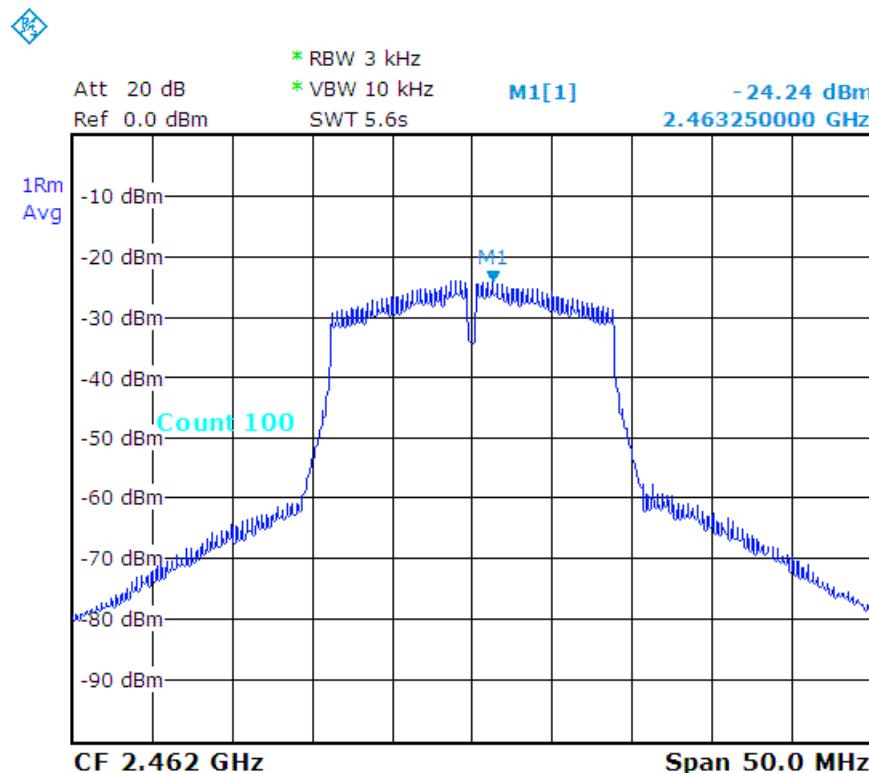
# TEST REPORT

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Report No.: FCCA15102101  
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n - HT20\_CH06 :



n - HT20\_CH11 :

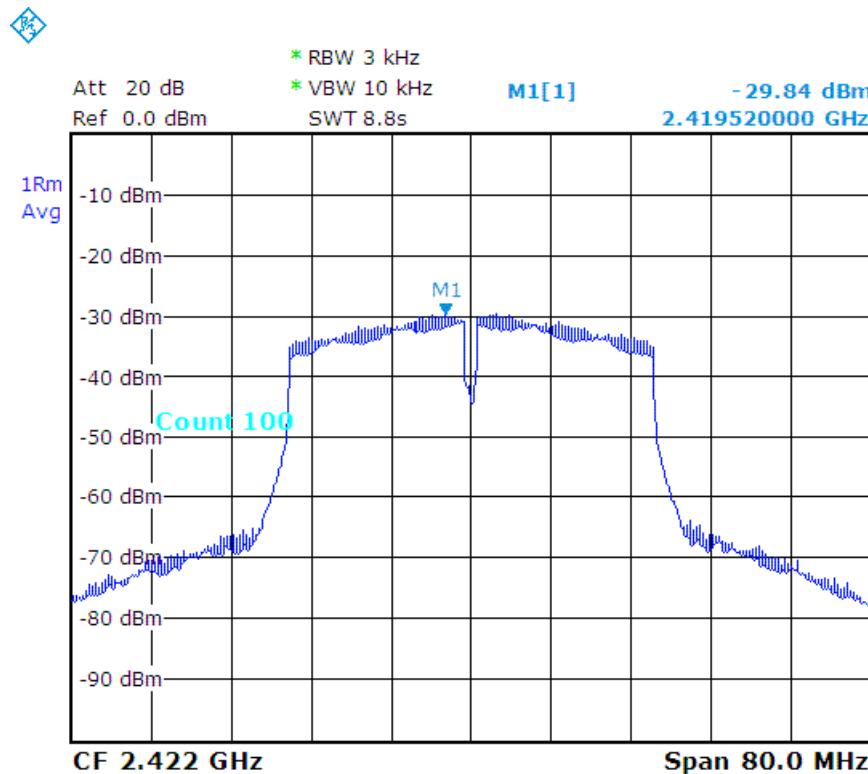


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|---|----------------------|---|
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|              |             |              |                              |
|--------------|-------------|--------------|------------------------------|
| Temperature: | 22 °C       | Humidity:    | 58 %RH                       |
| Detector:    | RMS         | Test Mode:   | MLWG3/64_2.4G_802.11n - HT40 |
| RBW:         | 3 kHz       | VBW:         | 10 kHz                       |
| Tested By:   | Richard Lin | Tested Date: | Nov. 13, 2015                |

| Channel Number | Channel Frequency (MHz) | Power Spectral Density (dBm/3kHz) | Maximum Limit (dBm/3kHz) |
|----------------|-------------------------|-----------------------------------|--------------------------|
| CH03           | 2422                    | -29.84                            | 8                        |
| CH06           | 2437                    | -29.89                            | 8                        |
| CH09           | 2452                    | -29.87                            | 8                        |

n - HT40\_CH03 :



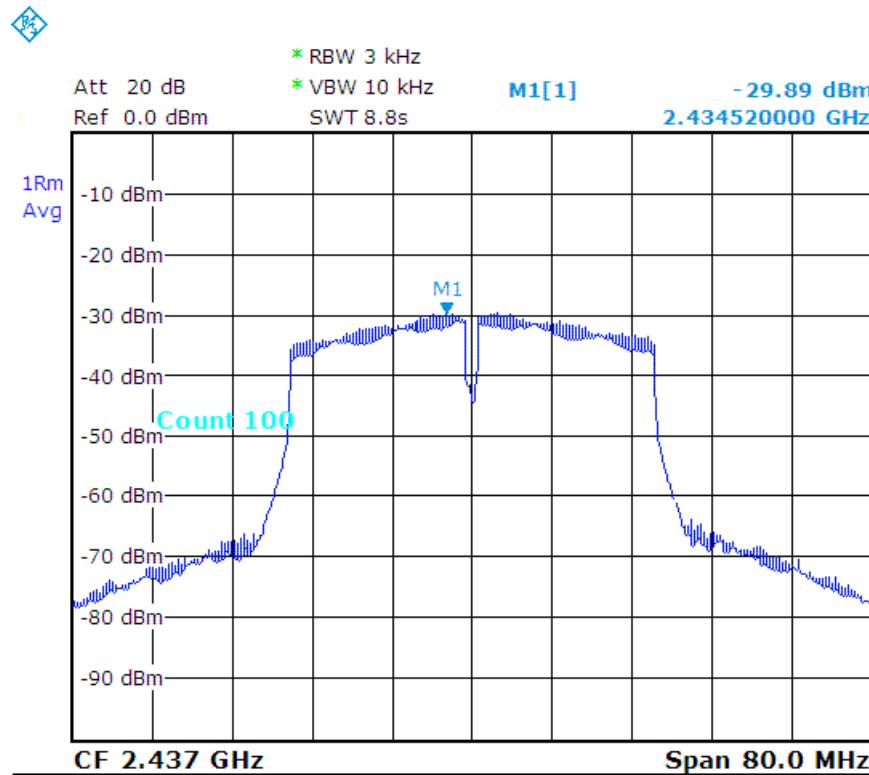


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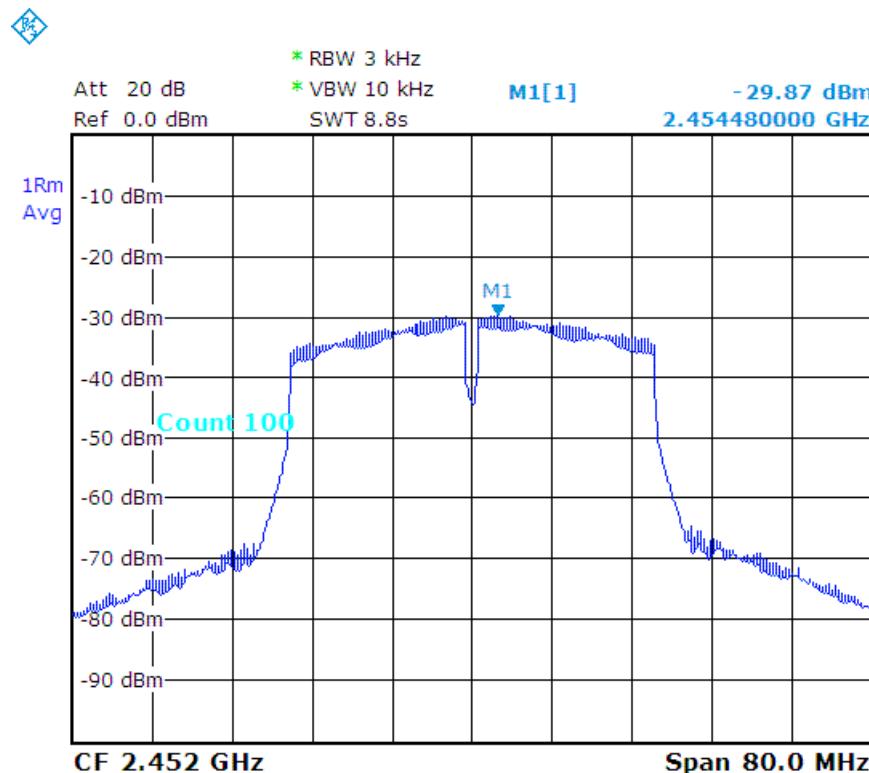
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n - HT40\_CH06 :



n - HT40\_CH09 :



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## 5. Antenna application

### 5.1 Antenna requirement

The EUT's antenna is met the requirement of FCC Part 15C section 15.203 and 15.204.

FCC Part 15C section 15.247 requirement:

Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

### 5.2 Result

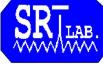
The EUT's antenna used a Printed Antenna. Gain of 2.4G antenna types is 3.07 dBi, that meet the requirement.

|  |                    |   |
|--|--------------------|---|
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## 6. Description of RF Exposure

SAR compliance has been evaluated in the product(s), and can be used in host product(s) with substantially similar physical dimensions, construction, and electrical and RF characteristics. End-users must be provided with specific information required to satisfy RF exposure compliance for all final host devices. Compliance of this device in all final host configurations is the responsibility of the Grantee.

- The separation distance -20 cm must be clearly stated in the operating and/or installation manual that is supplied to the User.
- This application is being made on behalf of the “Grantee”.

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## 7. PHOTOS OF TESTING

MLWG3 - Conducted test

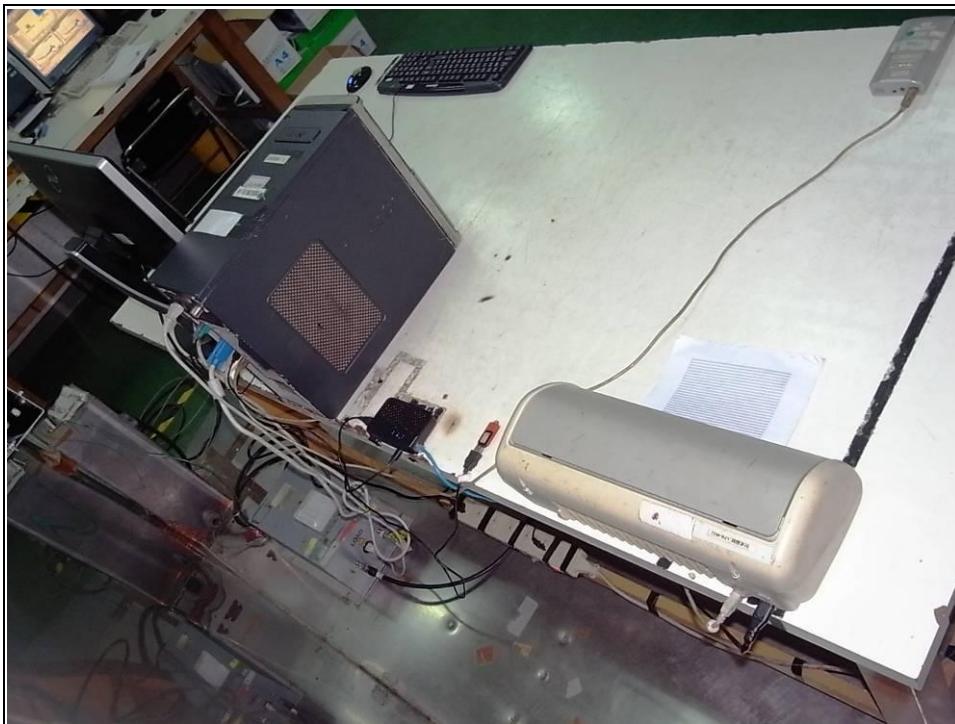


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MLWG3/64 - Conducted test



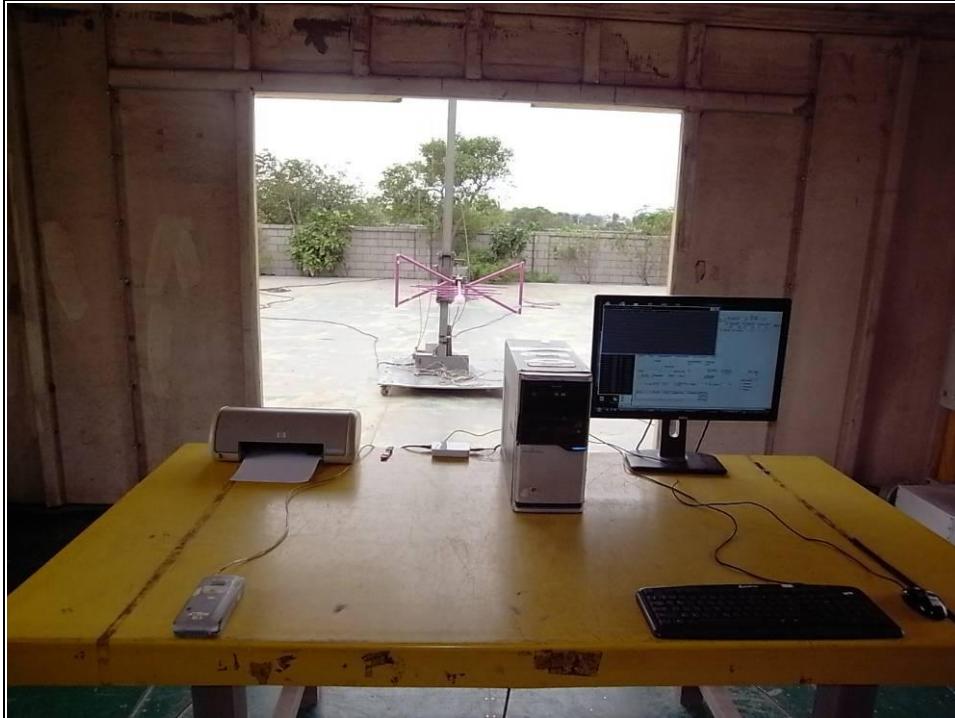
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MLWG3 - Radiated test (below 1G , Tx, Standby)



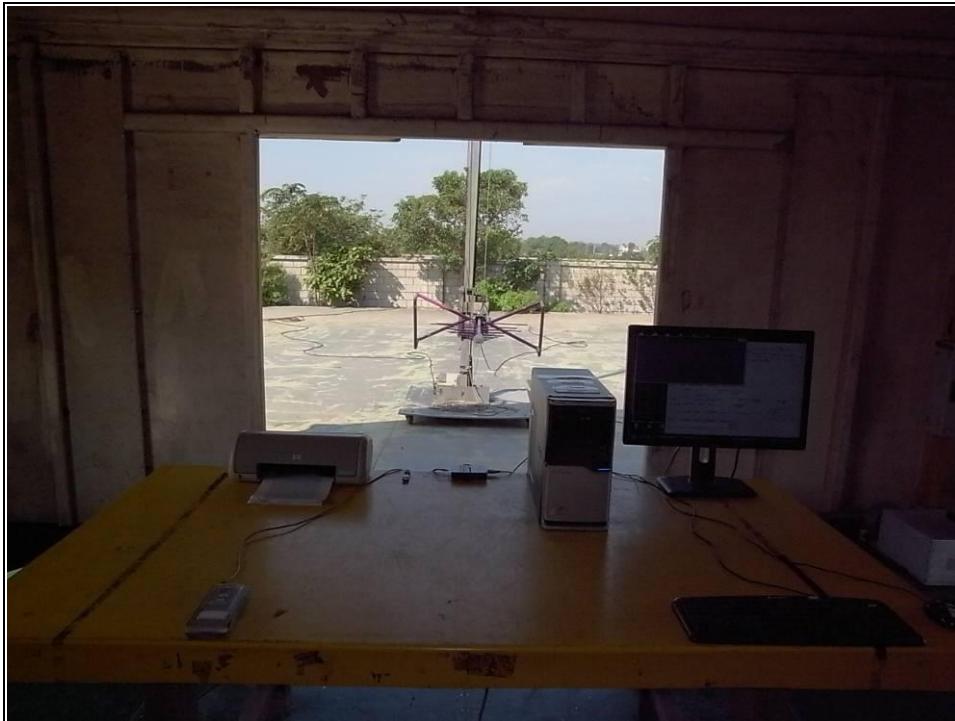
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MLWG3/64 - Radiated test (below 1G , Tx, Standby)



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MLWG3 - Radiated test (above 1G , Tx, Standby)



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MLWG3/64 - Radiated test (above 1G , Tx, Standby)



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## 8. TERMS OF ABBREVIATION

|          |  |
|----------|--|
| AV.      | Average detection                            |
| AZ(°)    | Turn table azimuth                           |
| Correct. | Correction                                   |
| EL(m)    | Antenna height (meter)                       |
| EUT      | Equipment Under Test                         |
| Horiz.   | Horizontal direction                         |
| LISN     | Line Impedance Stabilization Network         |
| NSA      | Normalized Site Attenuation                  |
| Q.P.     | Quasi-peak detection                         |
| SRT Lab  | Spectrum Research & Testing Laboratory, Inc. |
| Vert.    | Vertical direction                           |