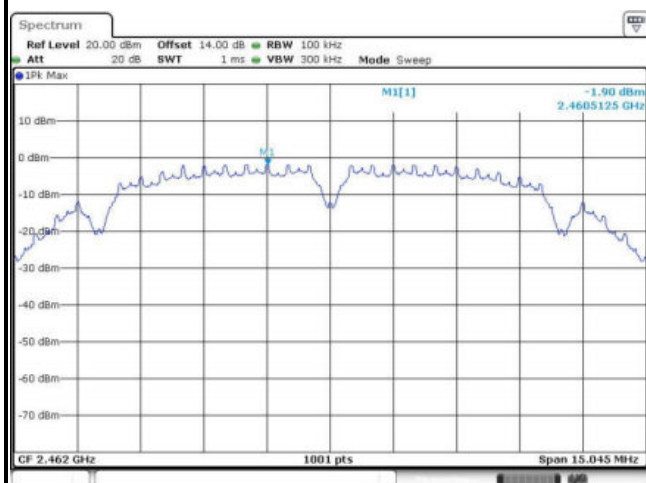




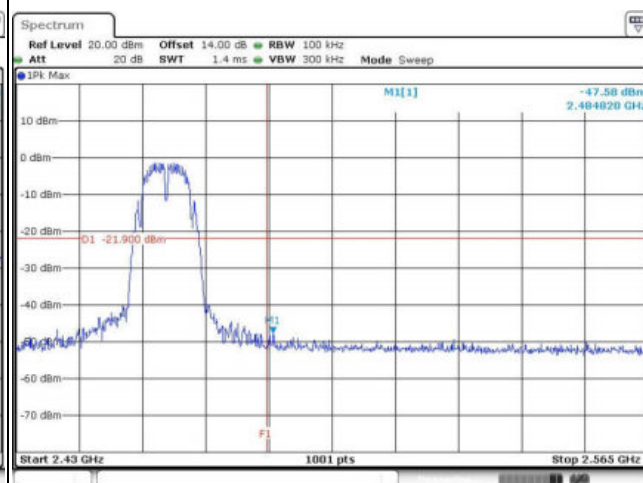
|                |             |                     |           |
|----------------|-------------|---------------------|-----------|
| Number of TX : | 2           | Ant. :              | 2         |
| Test Mode :    | 802.11b     | Temperature :       | 24~26°C   |
| Test Band :    | 2.4GHz High | Relative Humidity : | 50~53%    |
| Test Channel : | 11          | Test Engineer :     | Sam Zheng |

## WLAN 802.11b Channel 11

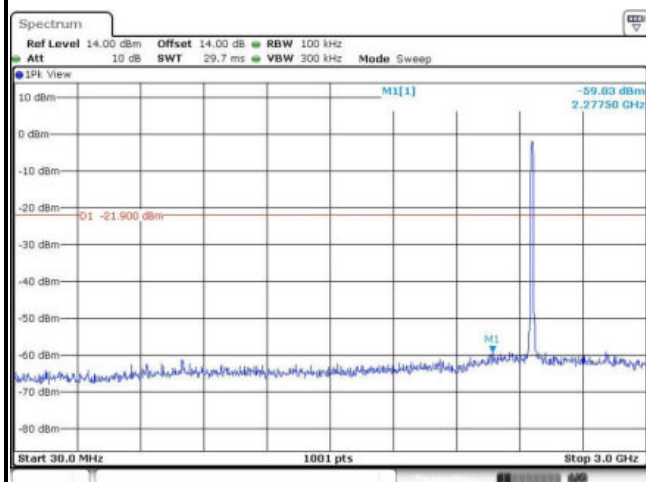
## 100kHz PSD reference Level



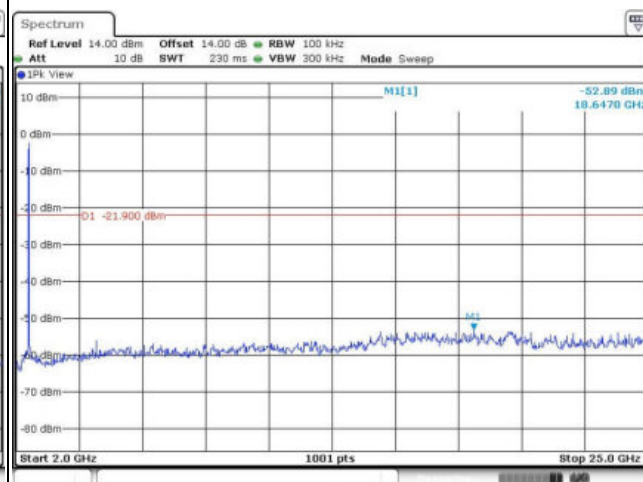
## High Channel Plot



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz

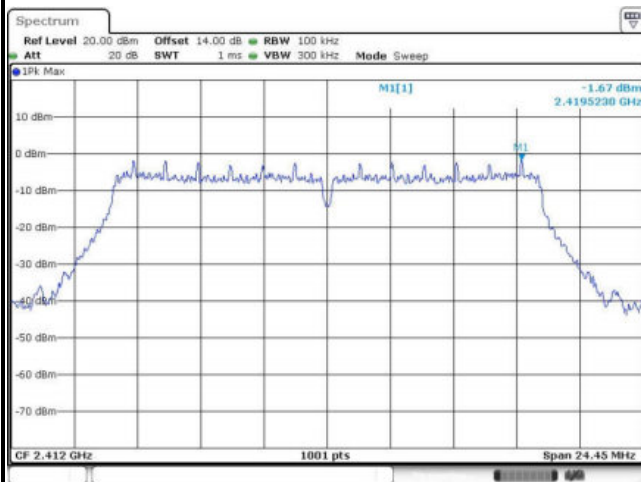




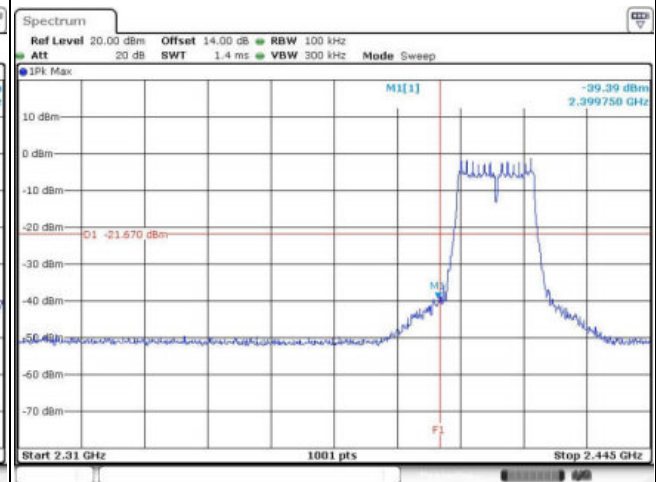
|                |            |                     |           |
|----------------|------------|---------------------|-----------|
| Number of TX : | 2          | Ant. :              | 2         |
| Test Mode :    | 802.11g    | Temperature :       | 24~26°C   |
| Test Band :    | 2.4GHz Low | Relative Humidity : | 50~53%    |
| Test Channel : | 01         | Test Engineer :     | Sam Zheng |

## WLAN 802.11g Channel 01

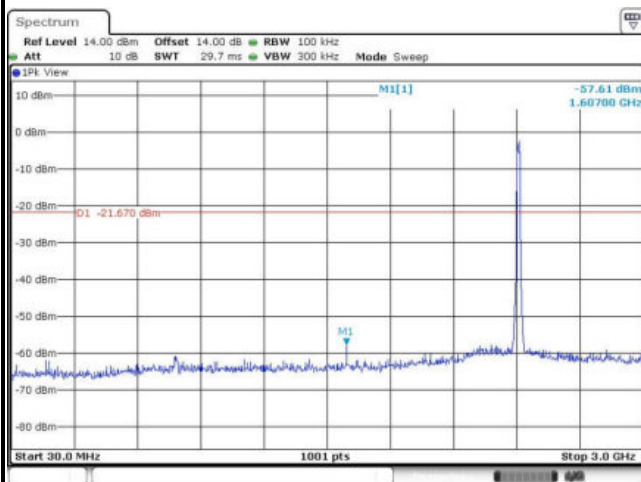
## 100kHz PSD reference Level



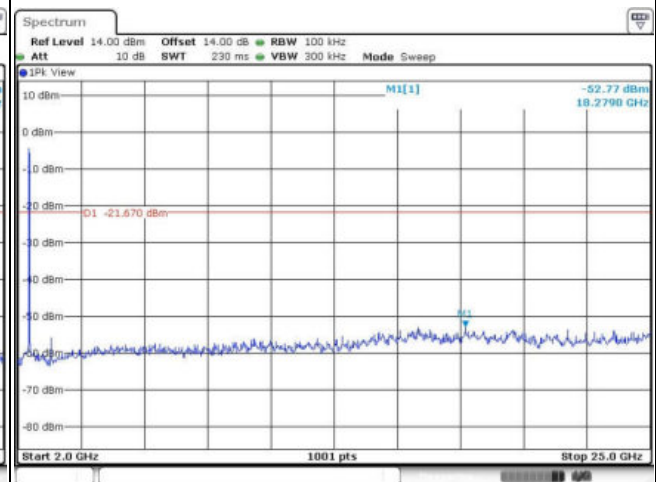
## Low Channel Plot



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz

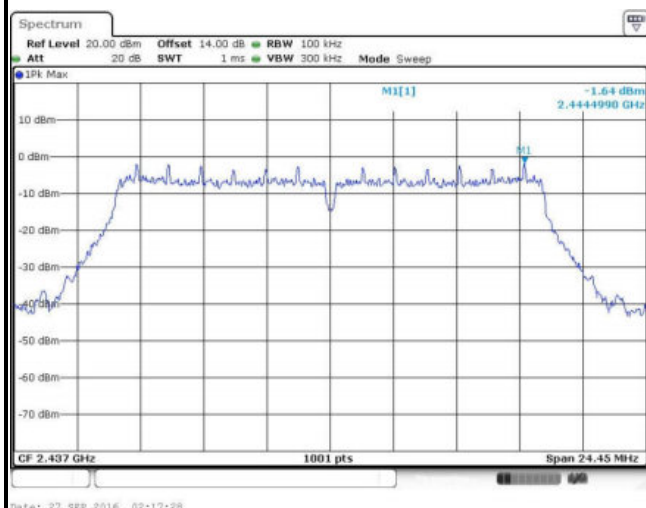




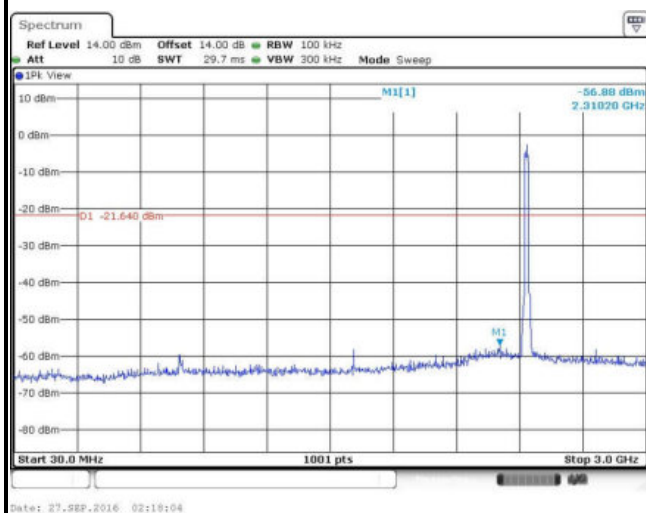
|                |            |                     |           |
|----------------|------------|---------------------|-----------|
| Number of TX : | 2          | Ant. :              | 2         |
| Test Mode :    | 802.11g    | Temperature :       | 24~26°C   |
| Test Band :    | 2.4GHz Mid | Relative Humidity : | 50~53%    |
| Test Channel : | 06         | Test Engineer :     | Sam Zheng |

## WLAN 802.11g Channel 06

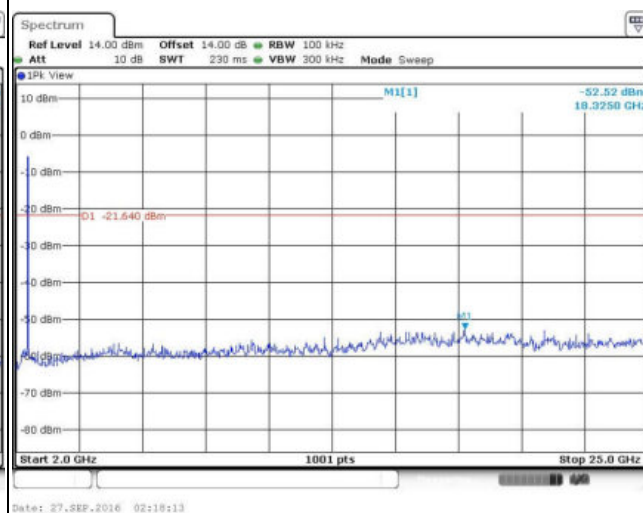
## 100kHz PSD reference Level



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz

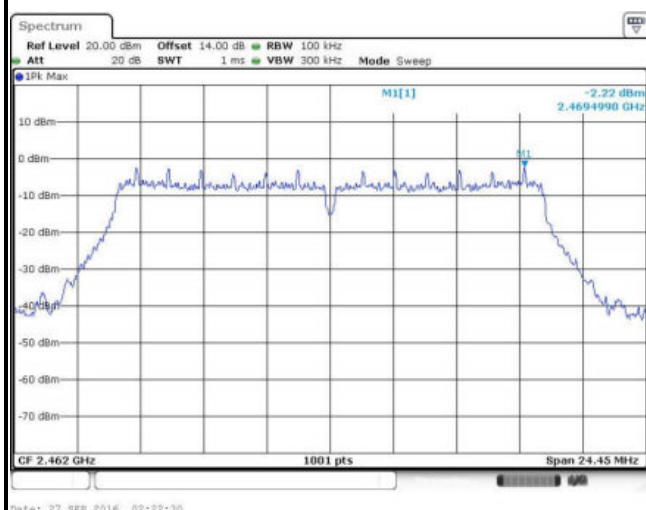




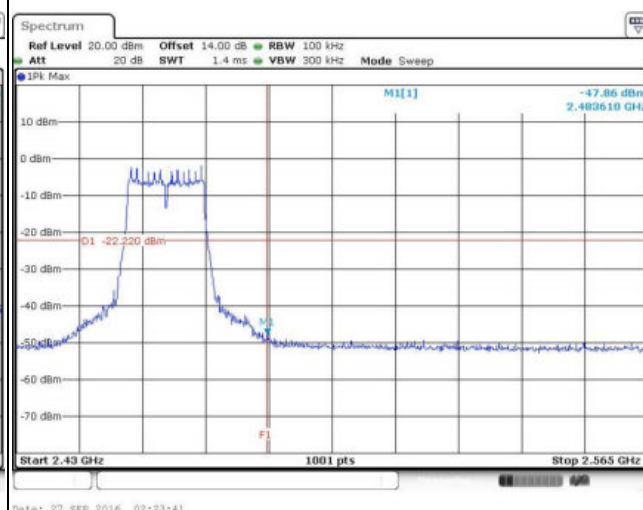
|                |             |                     |           |
|----------------|-------------|---------------------|-----------|
| Number of TX : | 2           | Ant. :              | 2         |
| Test Mode :    | 802.11g     | Temperature :       | 24~26°C   |
| Test Band :    | 2.4GHz High | Relative Humidity : | 50~53%    |
| Test Channel : | 11          | Test Engineer :     | Sam Zheng |

## WLAN 802.11g Channel 11

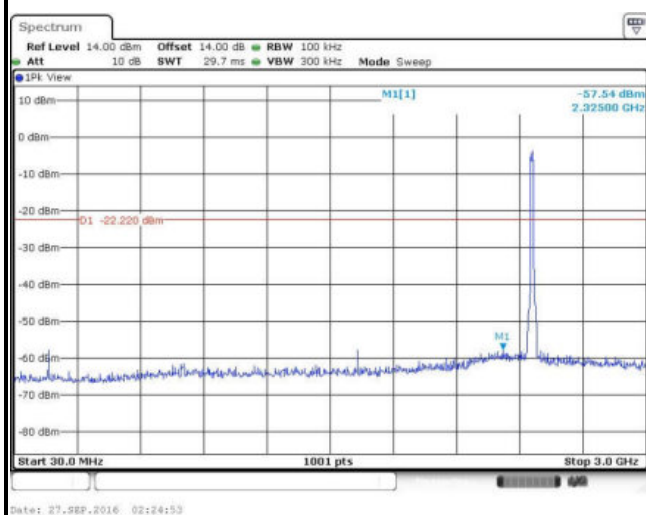
## 100kHz PSD reference Level



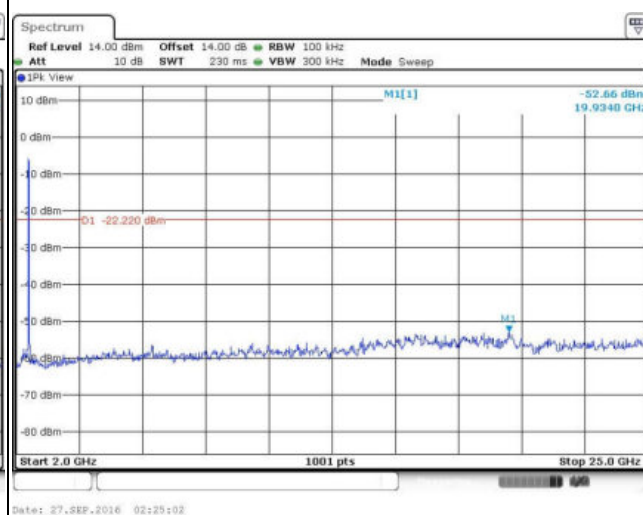
## High Channel Plot



## Spurious Emission 30MHz~3GHz

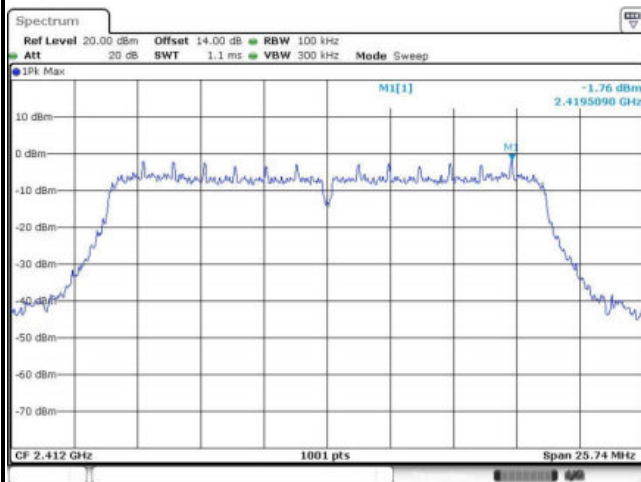


## Spurious Emission 2GHz~25GHz

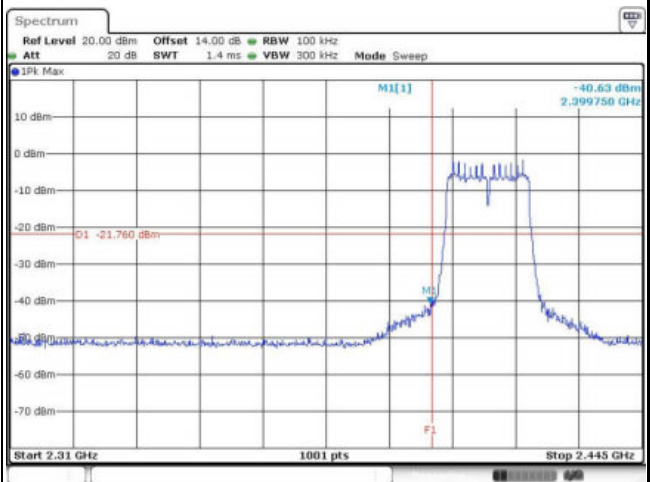




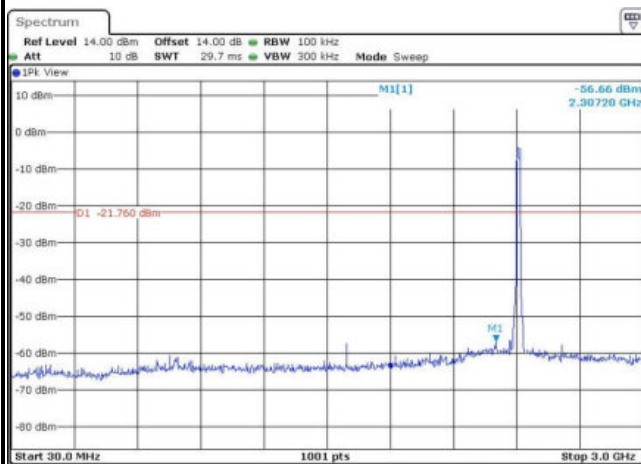
|                |              |                     |           |
|----------------|--------------|---------------------|-----------|
| Number of TX : | 2            | Ant. :              | 2         |
| Test Mode :    | 802.11n HT20 | Temperature :       | 24~26°C   |
| Test Band :    | 2.4GHz Low   | Relative Humidity : | 50~53%    |
| Test Channel : | 01           | Test Engineer :     | Sam Zheng |

**WLAN 802.11n HT20 Channel 01****100kHz PSD reference Level**

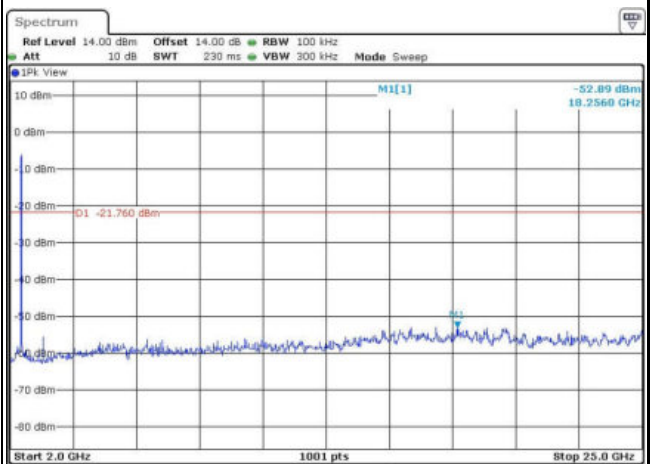
Date: 27-SEP-2016 03:08:47

**Low Channel Plot**

Date: 27-SEP-2016 03:11:20

**Spurious Emission 30MHz~3GHz**

Date: 27-SEP-2016 03:13:15

**Spurious Emission 2GHz~25GHz**

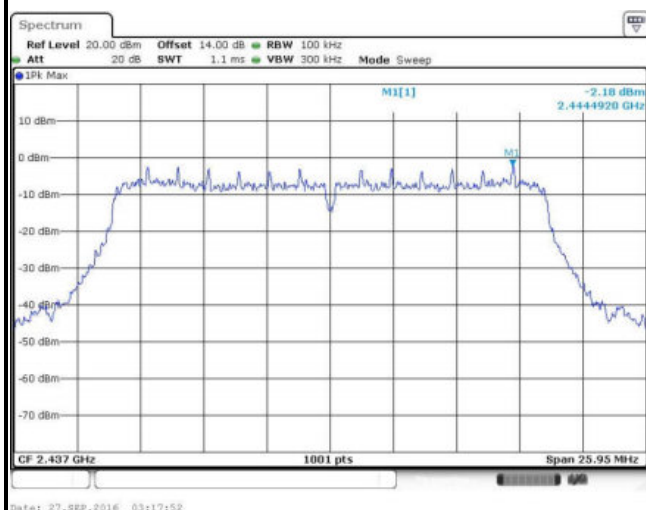
Date: 27-SEP-2016 03:13:24



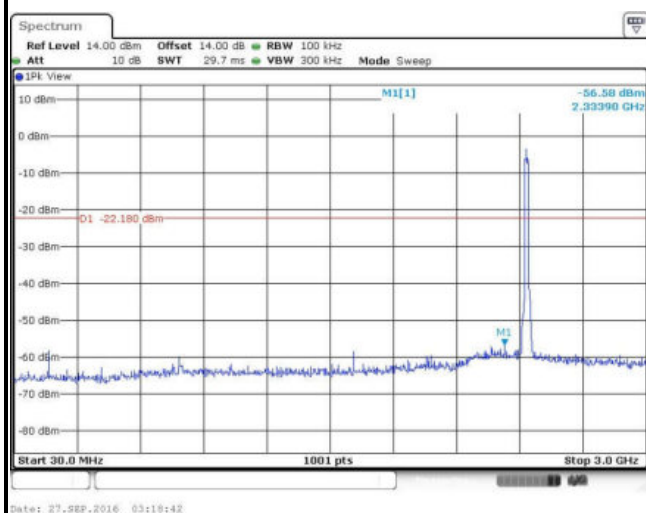
|                |              |                     |           |
|----------------|--------------|---------------------|-----------|
| Number of TX : | 2            | Ant. :              | 2         |
| Test Mode :    | 802.11n HT20 | Temperature :       | 24~26°C   |
| Test Band :    | 2.4GHz Mid   | Relative Humidity : | 50~53%    |
| Test Channel : | 06           | Test Engineer :     | Sam Zheng |

## WLAN 802.11n HT20 Channel 06

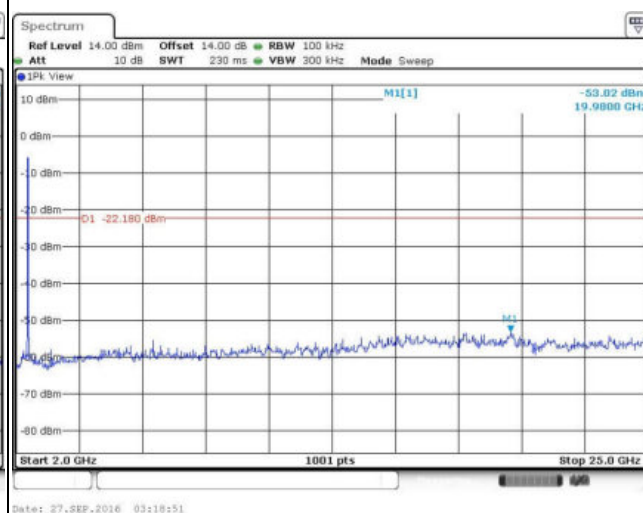
## 100kHz PSD reference Level



## Spurious Emission 30MHz~3GHz



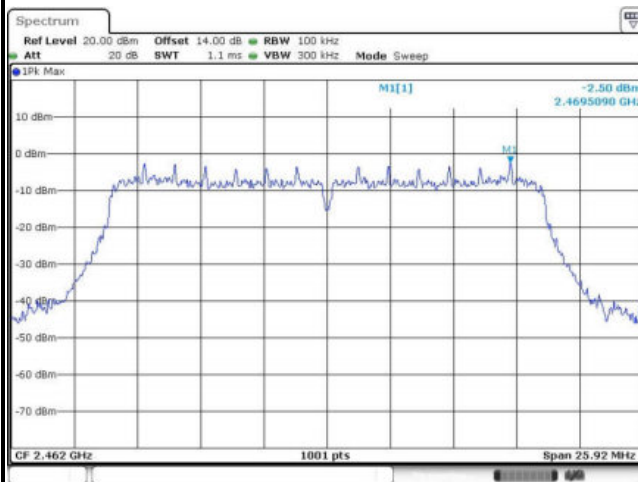
## Spurious Emission 2GHz~25GHz



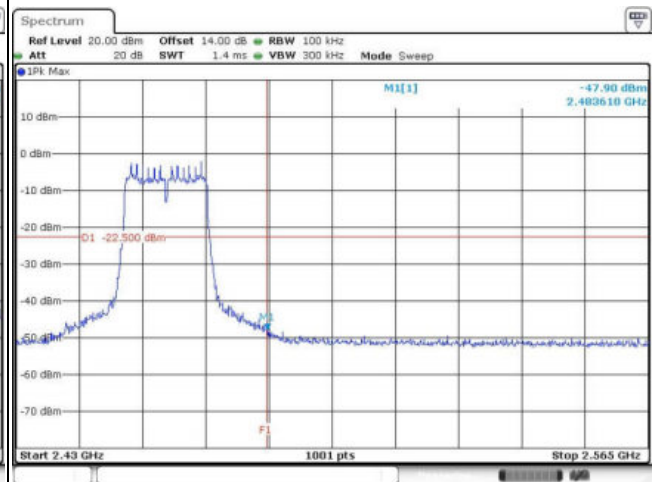




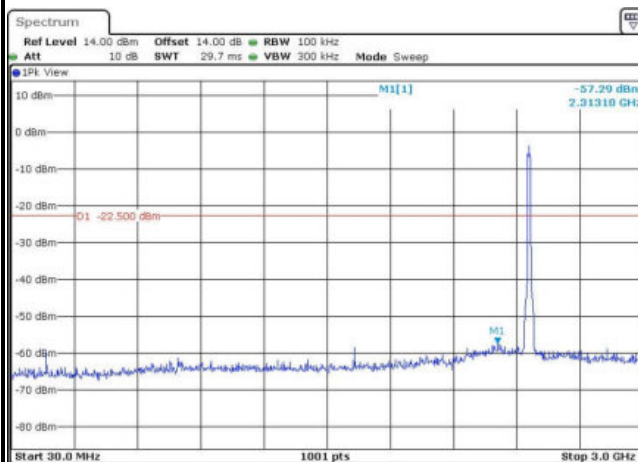
|                |              |                     |           |
|----------------|--------------|---------------------|-----------|
| Number of TX : | 2            | Ant. :              | 2         |
| Test Mode :    | 802.11n HT20 | Temperature :       | 24~26°C   |
| Test Band :    | 2.4GHz High  | Relative Humidity : | 50~53%    |
| Test Channel : | 11           | Test Engineer :     | Sam Zheng |

**WLAN 802.11n HT20 Channel 11****100kHz PSD reference Level**

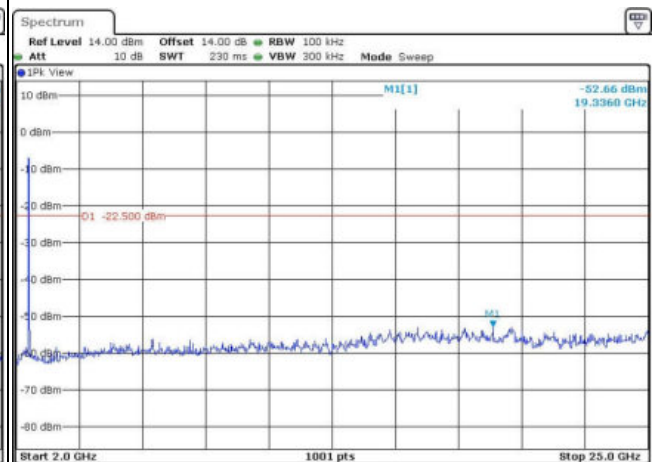
Date: 27-SEP-2016 03:24:09

**High Channel Plot**

Date: 27-SEP-2016 03:25:05

**Spurious Emission 30MHz~3GHz**

Date: 27-SEP-2016 03:27:56

**Spurious Emission 2GHz~25GHz**

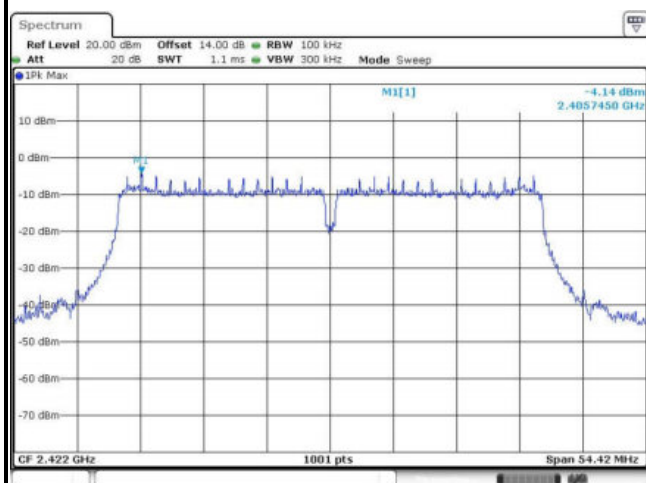
Date: 27-SEP-2016 03:28:05



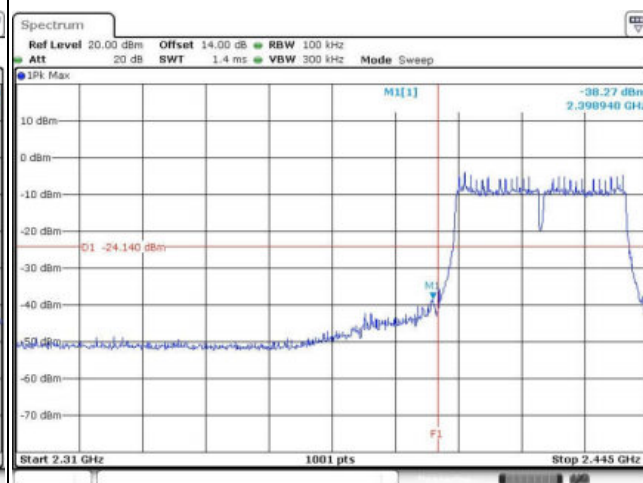
|                |              |                     |           |
|----------------|--------------|---------------------|-----------|
| Number of TX : | 2            | Ant. :              | 2         |
| Test Mode :    | 802.11n HT40 | Temperature :       | 24~26°C   |
| Test Band :    | 2.4GHz Low   | Relative Humidity : | 50~53%    |
| Test Channel : | 03           | Test Engineer :     | Sam Zheng |

## WLAN 802.11n HT40 Channel 03

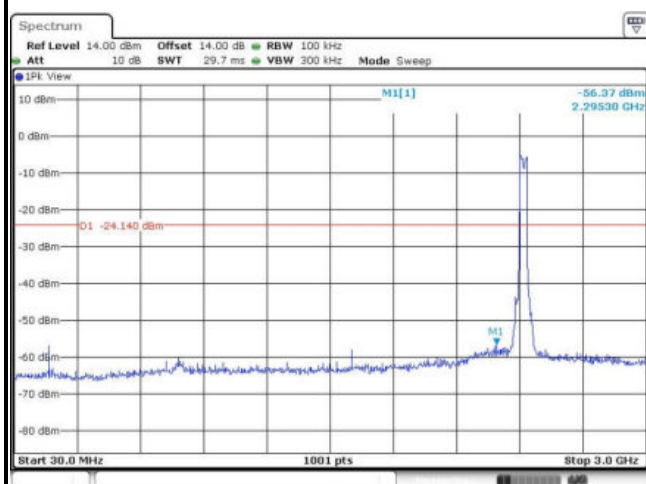
## 100kHz PSD reference Level



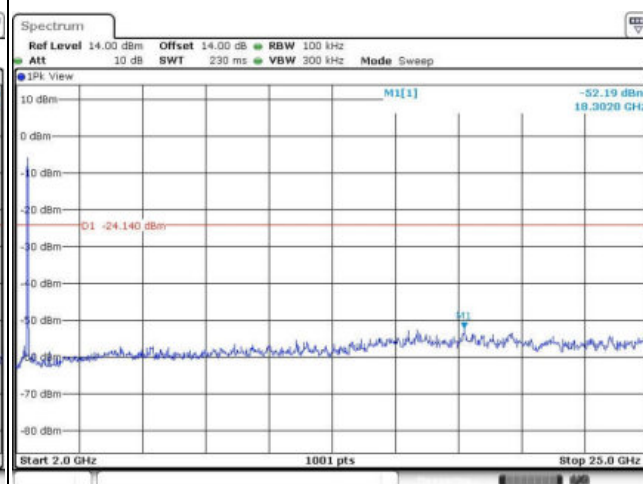
## Low Channel Plot



## Spurious Emission 30MHz~3GHz



## Spurious Emission 2GHz~25GHz



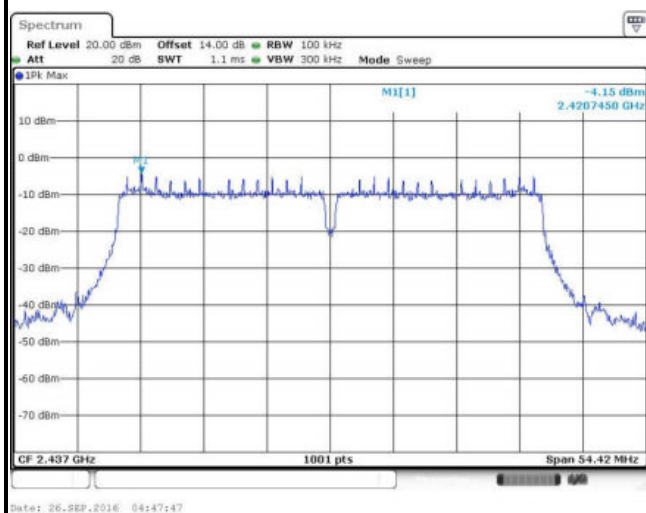




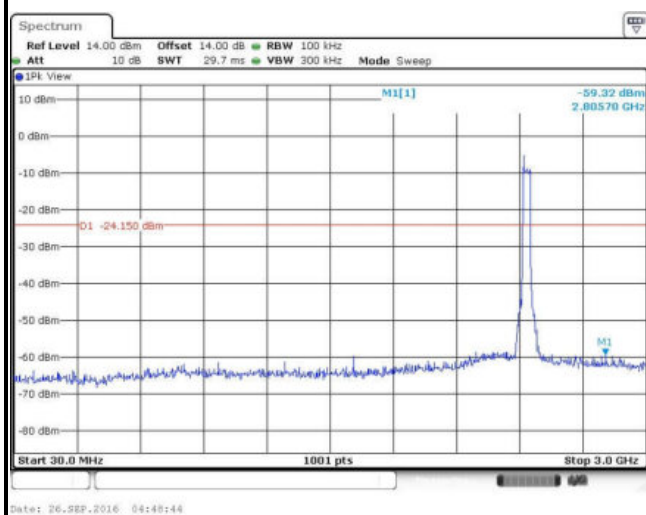
|                |              |                     |           |
|----------------|--------------|---------------------|-----------|
| Number of TX : | 2            | Ant. :              | 2         |
| Test Mode :    | 802.11n HT40 | Temperature :       | 24~26°C   |
| Test Band :    | 2.4GHz Mid   | Relative Humidity : | 50~53%    |
| Test Channel : | 06           | Test Engineer :     | Sam Zheng |

## WLAN 802.11n HT40 Channel 06

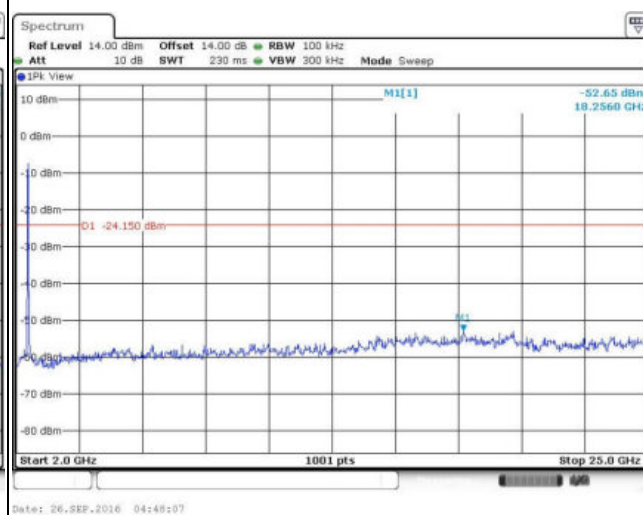
## 100kHz PSD reference Level



## Spurious Emission 30MHz~3GHz

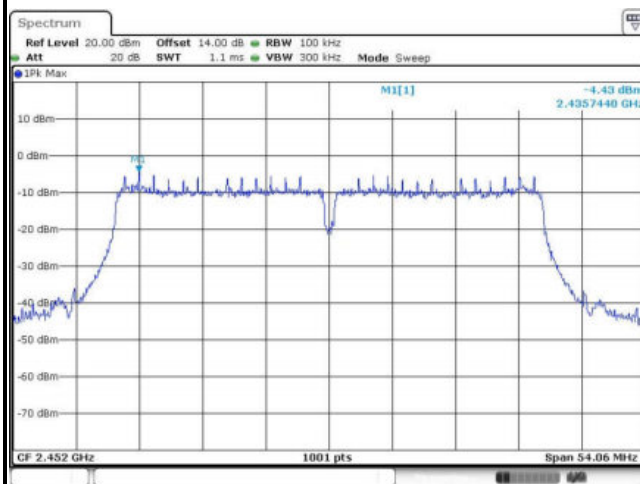


## Spurious Emission 2GHz~25GHz

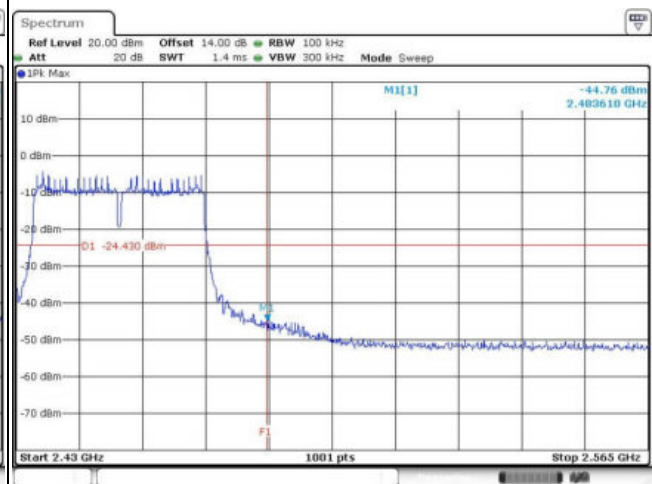




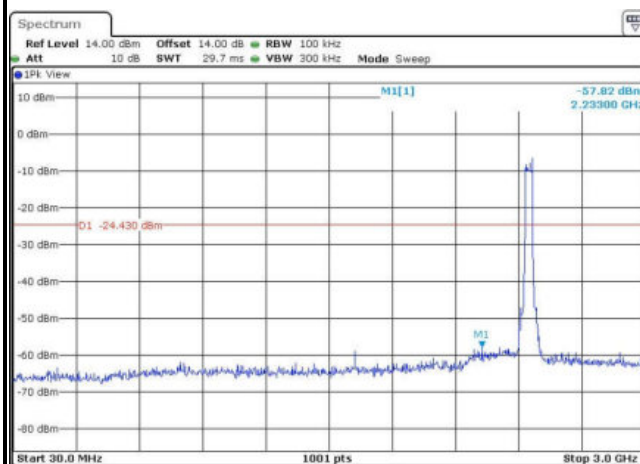
|                |              |                     |           |
|----------------|--------------|---------------------|-----------|
| Number of TX : | 2            | Ant. :              | 2         |
| Test Mode :    | 802.11n HT40 | Temperature :       | 24~26°C   |
| Test Band :    | 2.4GHz High  | Relative Humidity : | 50~53%    |
| Test Channel : | 09           | Test Engineer :     | Sam Zheng |

**WLAN 802.11n HT40 Channel 09****100kHz PSD reference Level**

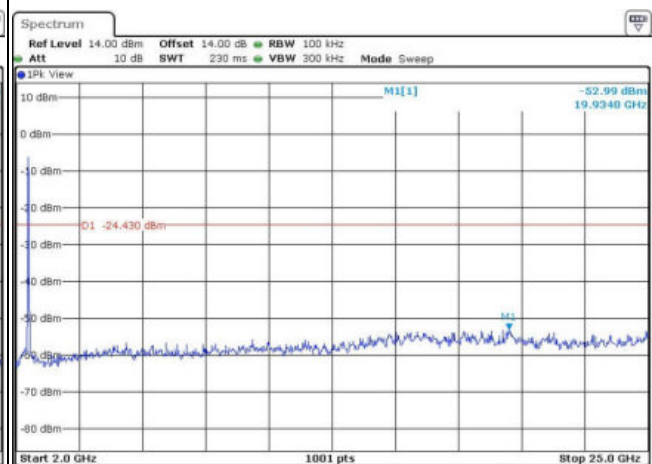
Date: 26.SEP.2016 04:54:29

**High Channel Plot**

Date: 26.SEP.2016 04:55:15

**Spurious Emission 30MHz~3GHz**

Date: 26.SEP.2016 04:57:15

**Spurious Emission 2GHz~25GHz**

Date: 26.SEP.2016 04:55:36

### **3.5 Radiated Band Edges and Spurious Emission Measurement**

#### **3.5.1 Limit of Radiated band edge and Spurious Emission Measurement**

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

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

#### **3.5.2 Measuring Instruments**

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

### 3.5.3 Test Procedures

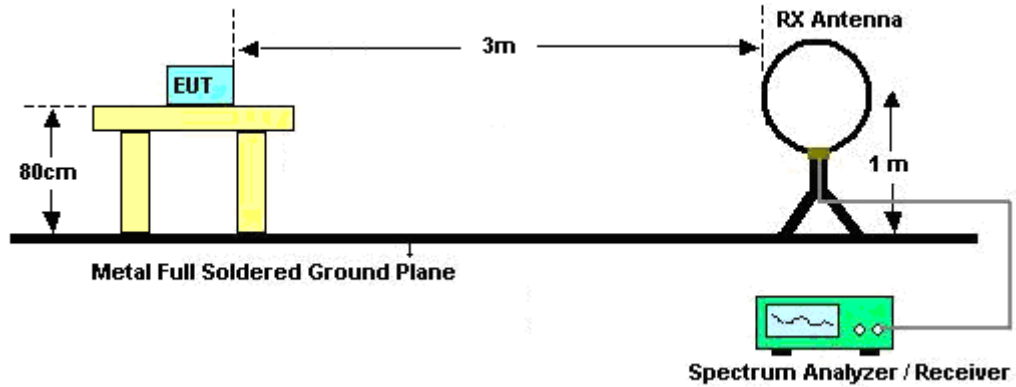
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r05.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
  - (1) Span shall wide enough to fully capture the emission being measured;
  - (2) Set RBW=100 kHz for  $f < 1$  GHz; VBW  $\geq$  RBW; Sweep = auto; Detector function = peak; Trace = max hold;
  - (3) Set RBW = 1 MHz, VBW= 3MHz for  $f \geq 1$  GHz for peak measurement.

For average measurement:

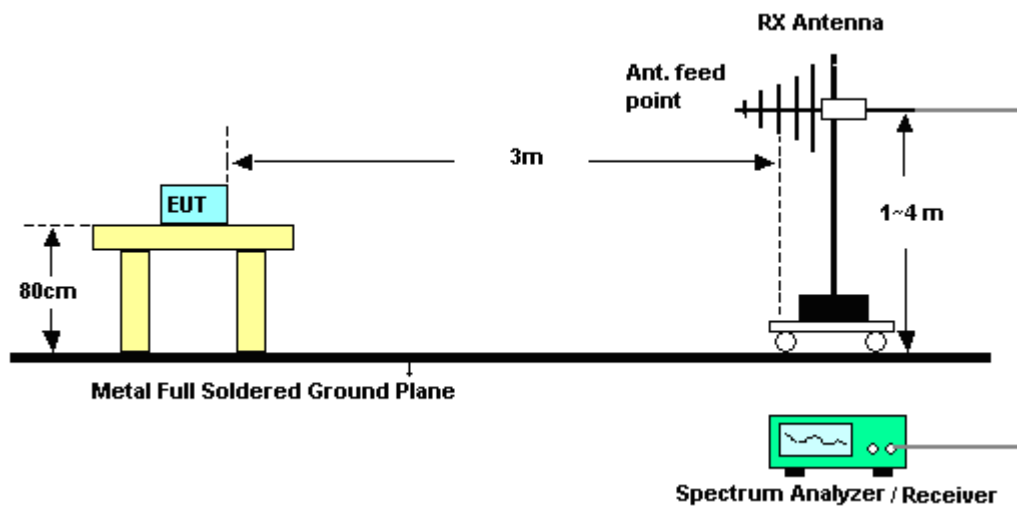
    - VBW = 10 Hz, when duty cycle is no less than 98 percent.
    - VBW  $\geq 1/T$ , when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

### 3.5.4 Test Setup

For radiated emissions below 30MHz

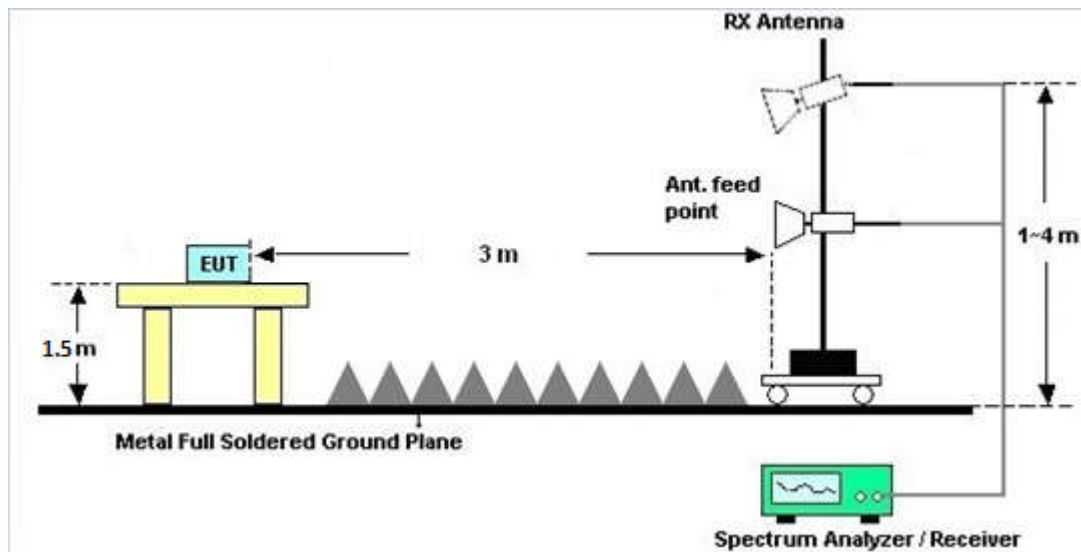


For radiated emissions from 30MHz to 1GHz





For radiated emissions above 1GHz



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

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

### 3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B.

### 3.5.7 Duty Cycle

Please refer to Appendix C.

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

Please refer to Appendix B.

### 3.6 Antenna Requirements

#### 3.6.1 Standard Applicable

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

#### 3.6.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used

#### 3.6.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain =  $G_{ANT}$  + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain =  $10 \log(N_{ANT}/N_{SS}=1)$  dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for  $N_{ANT} \leq 4$ .

Directional gain may be calculated by using the formulas applicable to equal gain antennas with  $G_{ANT}$  set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain  $G_{ANT}$  is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 Multiple Transmitter Output v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

|         |       |       | DG    | DG    | Power     | PSD       |
|---------|-------|-------|-------|-------|-----------|-----------|
|         |       |       | for   | for   | Limit     | Limit     |
|         | Ant 1 | Ant 2 | Power | PSD   | Reduction | Reduction |
|         | (dBi) | (dBi) | (dBi) | (dBi) | (dB)      | (dB)      |
| 2.4 GHz | 3.80  | 3.80  | 3.80  | 6.81  | 0.00      | 0.81      |

$Power\ Limit\ Reduction = DG(Power) - 6dBi, (min = 0)$

$PSD\ Limit\ Reduction = DG(PSD) - 6dBi, (min = 0)$



## 4 List of Measuring Equipment

| Instrument                | Manufacturer | Model No.                | Serial No.   | Characteristics           | Calibration Date | Test Date                       | Due Date      | Remark                |
|---------------------------|--------------|--------------------------|--------------|---------------------------|------------------|---------------------------------|---------------|-----------------------|
| Spectrum Analyzer         | R&S          | FSV40                    | 101078       | 9kHz~40GHz                | May 07, 2016     | Sep. 23, 2016~<br>Sep. 27, 2016 | May 06, 2017  | Conducted (TH01-SZ)   |
| Pulse Power Sensor        | Anritsu      | MA2411B                  | 1207253      | 30MHz~40GHz               | Jan. 12, 2016    | Sep. 23, 2016~<br>Sep. 27, 2016 | Jan. 11, 2017 | Conducted (TH01-SZ)   |
| Power Meter               | Anritsu      | ML2495A                  | 1218010      | 50MHz Bandwidth           | Jan. 12, 2016    | Sep. 23, 2016~<br>Sep. 27, 2016 | Jan. 11, 2017 | Conducted (TH01-SZ)   |
| EMI Test Receiver&SA      | KEYSIGHT     | N9038A                   | MY54450083   | 20Hz~8.4GHz               | May 07, 2016     | Oct. 13, 2016                   | May 06, 2017  | Radiation (03CH02-SZ) |
| Spectrum Analyzer         | R&S          | FSV40                    | 101041       | 10kHz~40GHz;<br>Max 30dBm | Oct. 11, 2016    | Oct. 13, 2016                   | Oct. 10, 2017 | Radiation (03CH02-SZ) |
| Loop Antenna              | R&S          | HFH2-Z2                  | 100354       | 9kHz~30MHz                | May 07, 2016     | Oct. 13, 2016                   | May 06, 2017  | Radiation (03CH02-SZ) |
| Bilog Antenna             | TeseQ        | CBL6112D                 | 35407        | 30MHz~2GHz                | May 21, 2016     | Oct. 13, 2016                   | May 20, 2017  | Radiation (03CH02-SZ) |
| Double Ridge Horn Antenna | SCHWARZBECK  | BBHA 9120D               | 9120D-1285   | 1GHz~18GHz                | Jan. 11, 2016    | Oct. 13, 2016                   | Jan. 10, 2017 | Radiation (03CH02-SZ) |
| SHF-EHF Horn              | com-power    | AH-840                   | 101071       | 18GHz~40GHz               | Aug. 10, 2016    | Oct. 13, 2016                   | Aug. 09, 2017 | Radiation (03CH02-SZ) |
| Amplifier                 | HP           | 8447F                    | 3113A04622   | 9kHz~1300MHz / 30 dB      | Jul. 16, 2016    | Oct. 13, 2016                   | Jul. 15, 2017 | Radiation (03CH02-SZ) |
| HF Amplifier              | KEYSIGHT     | 83017A                   | MY53270104   | 0.5GHz~26.5GHz            | Oct. 11, 2016    | Oct. 13, 2016                   | Oct. 10, 2017 | Radiation (03CH02-SZ) |
| HF Amplifier              | MITEQ        | AMF-7D-00101800-30-10P-R | 1707137      | 1GHz~18GHz                | Oct. 11, 2016    | Oct. 13, 2016                   | Oct. 10, 2017 | Radiation (03CH02-SZ) |
| HF Amplifier              | MITEQ        | TTA1840-35-HG            | 1871923      | 18GHz~40GHz               | Jul. 16, 2016    | Oct. 13, 2016                   | Jul. 15, 2017 | Radiation (03CH02-SZ) |
| AC Power Source           | Chroma       | 61601                    | 616010002470 | N/A                       | NCR              | Oct. 13, 2016                   | NCR           | Radiation (03CH02-SZ) |
| Turn Table                | Chaintek     | T-200                    | N/A          | 0~360 degree              | NCR              | Oct. 13, 2016                   | NCR           | Radiation (03CH02-SZ) |
| Antenna Mast              | Chaintek     | MBS-400                  | N/A          | 1 m~4 m                   | NCR              | Oct. 13, 2016                   | NCR           | Radiation (03CH02-SZ) |

NCR: No Calibration Required



## 5 Uncertainty of Evaluation

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

|   |       |
|---|-------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2U_c(y)$ ) | 5.0dB |
|---|-------|

### Uncertainty of Radiated Emission Measurement (1GHz ~ 18GHz)

|   |       |
|---|-------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2U_c(y)$ ) | 5.1dB |
|---|-------|

### Uncertainty of Radiated Emission Measurement (18GHz ~ 40GHz)

|   |       |
|---|-------|
| Measuring Uncertainty for a Level of Confidence<br>of 95% ( $U = 2U_c(y)$ ) | 5.1dB |
|---|-------|



## **Appendix A. Conducted Test Results**



|                |                     |                    |       |    |
|----------------|---------------------|--------------------|-------|----|
| Test Engineer: | Sam Zheng           | Temperature:       | 24~26 | °C |
| Test Date:     | 2016/9/23~2016/9/27 | Relative Humidity: | 50~53 | %  |

**TEST RESULTS DATA**  
**6dB and 99% Occupied Bandwidth**

| 2.4GHz Band |           |     |     |             |                       |       |              |       |                    |           |
|-------------|-----------|-----|-----|-------------|-----------------------|-------|--------------|-------|--------------------|-----------|
| Mod.        | Data Rate | NTX | CH. | Freq. (MHz) | 99% Occupied BW (MHz) |       | 6dB BW (MHz) |       | 6dB BW Limit (MHz) | Pass/Fail |
|             |           |     |     |             | Ant 1                 | Ant 2 | Ant 1        | Ant 2 |                    |           |
| 11b         | 1Mbps     | 1   | 1   | 2412        | 12.29                 | 12.29 | 10.03        | 10.01 | 0.50               | Pass      |
| 11b         | 1Mbps     | 1   | 6   | 2437        | 12.29                 | 12.29 | 9.51         | 10.03 | 0.50               | Pass      |
| 11b         | 1Mbps     | 1   | 11  | 2462        | 12.29                 | 12.29 | 10.03        | 10.03 | 0.50               | Pass      |
| 11g         | 6Mbps     | 1   | 1   | 2412        | 17.83                 | 17.83 | 16.30        | 16.30 | 0.50               | Pass      |
| 11g         | 6Mbps     | 1   | 6   | 2437        | 17.83                 | 17.88 | 16.30        | 16.30 | 0.50               | Pass      |
| 11g         | 6Mbps     | 1   | 11  | 2462        | 17.88                 | 17.88 | 16.30        | 16.30 | 0.50               | Pass      |
| HT20        | MCS0      | 1   | 1   | 2412        | 18.43                 | 18.43 | 17.04        | 17.06 | 0.50               | Pass      |
| HT20        | MCS0      | 1   | 6   | 2437        | 18.43                 | 18.43 | 17.08        | 17.28 | 0.50               | Pass      |
| HT20        | MCS0      | 1   | 11  | 2462        | 18.43                 | 18.43 | 17.06        | 17.28 | 0.50               | Pass      |
| HT40        | MCS0      | 1   | 3   | 2422        | 36.86                 | 36.66 | 36.28        | 36.28 | 0.50               | Pass      |
| HT40        | MCS0      | 1   | 6   | 2437        | 36.76                 | 36.76 | 36.00        | 36.00 | 0.50               | Pass      |
| HT40        | MCS0      | 1   | 9   | 2452        | 36.76                 | 36.76 | 36.28        | 36.04 | 0.50               | Pass      |
| 11b         | 1Mbps     | 2   | 1   | 2412        | 12.34                 | 12.99 | 9.97         | 9.51  | 0.50               | Pass      |
| 11b         | 1Mbps     | 2   | 6   | 2437        | 12.34                 | 13.04 | 10.07        | 10.07 | 0.50               | Pass      |
| 11b         | 1Mbps     | 2   | 11  | 2462        | 12.29                 | 13.04 | 10.03        | 10.03 | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 1   | 2412        | 17.93                 | 17.93 | 16.30        | 16.30 | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 6   | 2437        | 17.93                 | 17.83 | 16.30        | 16.30 | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 11  | 2462        | 17.93                 | 17.88 | 16.30        | 16.30 | 0.50               | Pass      |
| HT20        | MCS0      | 2   | 1   | 2412        | 18.48                 | 18.43 | 17.08        | 17.16 | 0.50               | Pass      |
| HT20        | MCS0      | 2   | 6   | 2437        | 18.43                 | 18.43 | 17.06        | 17.30 | 0.50               | Pass      |
| HT20        | MCS0      | 2   | 11  | 2462        | 18.43                 | 18.43 | 17.04        | 17.28 | 0.50               | Pass      |
| HT40        | MCS0      | 2   | 3   | 2422        | 36.76                 | 36.76 | 35.96        | 36.28 | 0.50               | Pass      |
| HT40        | MCS0      | 2   | 6   | 2437        | 36.86                 | 36.76 | 36.24        | 36.28 | 0.50               | Pass      |
| HT40        | MCS0      | 2   | 9   | 2452        | 36.86                 | 36.86 | 36.04        | 36.04 | 0.50               | Pass      |

**TEST RESULTS DATA**  
**Peak Output Power**

| 2.4GHz Band |           |     |     |             |                            |       |       |                             |       |          |       |                  |       |                        |       |            |
|-------------|-----------|-----|-----|-------------|----------------------------|-------|-------|-----------------------------|-------|----------|-------|------------------|-------|------------------------|-------|------------|
| Mod.        | Data Rate | NTX | CH. | Freq. (MHz) | Peak Conducted Power (dBm) |       |       | Conducted Power Limit (dBm) |       | DG (dBi) |       | EIRP Power (dBm) |       | EIRP Power Limit (dBm) |       | Pass /Fail |
|             |           |     |     |             | Ant 1                      | Ant 2 | SUM   | Ant 1                       | Ant 2 | Ant 1    | Ant 2 | Ant 1            | Ant 2 | Ant 1                  | Ant 2 |            |
| 11b         | 1Mbps     | 1   | 1   | 2412        | 15.28                      | 13.74 |       | 30.00                       | 30.00 | 3.80     | 3.80  | 19.08            | 17.54 | 36.00                  | 36.00 | Pass       |
| 11b         | 1Mbps     | 1   | 6   | 2437        | 15.59                      | 13.66 |       | 30.00                       | 30.00 | 3.80     | 3.80  | 19.39            | 17.46 | 36.00                  | 36.00 | Pass       |
| 11b         | 1Mbps     | 1   | 11  | 2462        | 16.68                      | 13.48 |       | 30.00                       | 30.00 | 3.80     | 3.80  | 20.48            | 17.28 | 36.00                  | 36.00 | Pass       |
| 11g         | 6Mbps     | 1   | 1   | 2412        | 21.27                      | 19.84 |       | 30.00                       | 30.00 | 3.80     | 3.80  | 25.07            | 23.64 | 36.00                  | 36.00 | Pass       |
| 11g         | 6Mbps     | 1   | 6   | 2437        | 21.31                      | 19.58 |       | 30.00                       | 30.00 | 3.80     | 3.80  | 25.11            | 23.38 | 36.00                  | 36.00 | Pass       |
| 11g         | 6Mbps     | 1   | 11  | 2462        | 21.24                      | 19.29 |       | 30.00                       | 30.00 | 3.80     | 3.80  | 25.04            | 23.09 | 36.00                  | 36.00 | Pass       |
| HT20        | MCS0      | 1   | 1   | 2412        | 21.13                      | 19.57 |       | 30.00                       | 30.00 | 3.80     | 3.80  | 24.93            | 23.37 | 36.00                  | 36.00 | Pass       |
| HT20        | MCS0      | 1   | 6   | 2437        | 21.22                      | 19.35 |       | 30.00                       | 30.00 | 3.80     | 3.80  | 25.02            | 23.15 | 36.00                  | 36.00 | Pass       |
| HT20        | MCS0      | 1   | 11  | 2462        | 21.06                      | 18.91 |       | 30.00                       | 30.00 | 3.80     | 3.80  | 24.86            | 22.71 | 36.00                  | 36.00 | Pass       |
| HT40        | MCS0      | 1   | 3   | 2422        | 18.54                      | 16.76 |       | 30.00                       | 30.00 | 3.80     | 3.80  | 22.34            | 20.56 | 36.00                  | 36.00 | Pass       |
| HT40        | MCS0      | 1   | 6   | 2437        | 18.46                      | 16.38 |       | 30.00                       | 30.00 | 3.80     | 3.80  | 22.26            | 20.18 | 36.00                  | 36.00 | Pass       |
| HT40        | MCS0      | 1   | 9   | 2452        | 18.37                      | 16.24 |       | 30.00                       | 30.00 | 3.80     | 3.80  | 22.17            | 20.04 | 36.00                  | 36.00 | Pass       |
| 11b         | 1Mbps     | 2   | 1   | 2412        | 15.22                      | 14.16 | 17.73 | 30.00                       |       | 3.80     |       | 21.53            |       | 36.00                  |       | Pass       |
| 11b         | 1Mbps     | 2   | 6   | 2437        | 15.46                      | 14.02 | 17.81 | 30.00                       |       | 3.80     |       | 21.61            |       | 36.00                  |       | Pass       |
| 11b         | 1Mbps     | 2   | 11  | 2462        | 15.61                      | 13.81 | 17.81 | 30.00                       |       | 3.80     |       | 21.61            |       | 36.00                  |       | Pass       |
| 11g         | 6Mbps     | 2   | 1   | 2412        | 20.89                      | 19.57 | 23.29 | 30.00                       |       | 3.80     |       | 27.09            |       | 36.00                  |       | Pass       |
| 11g         | 6Mbps     | 2   | 6   | 2437        | 20.77                      | 19.34 | 23.12 | 30.00                       |       | 3.80     |       | 26.92            |       | 36.00                  |       | Pass       |
| 11g         | 6Mbps     | 2   | 11  | 2462        | 20.63                      | 19.10 | 22.94 | 30.00                       |       | 3.80     |       | 26.74            |       | 36.00                  |       | Pass       |
| HT20        | MCS0      | 2   | 1   | 2412        | 20.56                      | 19.44 | 23.05 | 30.00                       |       | 3.80     |       | 26.85            |       | 36.00                  |       | Pass       |
| HT20        | MCS0      | 2   | 6   | 2437        | 20.65                      | 19.29 | 23.03 | 30.00                       |       | 3.80     |       | 26.83            |       | 36.00                  |       | Pass       |
| HT20        | MCS0      | 2   | 11  | 2462        | 20.59                      | 18.91 | 22.84 | 30.00                       |       | 3.80     |       | 26.64            |       | 36.00                  |       | Pass       |
| HT40        | MCS0      | 2   | 3   | 2422        | 18.25                      | 16.74 | 20.57 | 30.00                       |       | 3.80     |       | 24.37            |       | 36.00                  |       | Pass       |
| HT40        | MCS0      | 2   | 6   | 2437        | 18.06                      | 16.40 | 20.32 | 30.00                       |       | 3.80     |       | 24.12            |       | 36.00                  |       | Pass       |
| HT40        | MCS0      | 2   | 9   | 2452        | 17.95                      | 16.11 | 20.14 | 30.00                       |       | 3.80     |       | 23.94            |       | 36.00                  |       | Pass       |

Note: Measured power (dBm) has offset with cable loss.

**TEST RESULTS DATA**  
**Average Output Power**

| 2.4GHz Band |           |     |     |             |                  |       |                               |       |       |
|-------------|-----------|-----|-----|-------------|------------------|-------|-------------------------------|-------|-------|
| Mod.        | Data Rate | NTX | CH. | Freq. (MHz) | Duty Factor (dB) |       | Average Conducted Power (dBm) |       |       |
|             |           |     |     |             | Ant 1            | Ant 2 | Ant 1                         | Ant 2 | SUM   |
| 11b         | 1Mbps     | 1   | 1   | 2412        | 0.10             | 0.13  | 11.79                         | 10.28 |       |
| 11b         | 1Mbps     | 1   | 6   | 2437        | 0.10             | 0.13  | 12.02                         | 10.21 |       |
| 11b         | 1Mbps     | 1   | 11  | 2462        | 0.10             | 0.13  | 12.20                         | 10.05 |       |
| 11g         | 6Mbps     | 1   | 1   | 2412        | 0.56             | 0.56  | 12.11                         | 10.62 |       |
| 11g         | 6Mbps     | 1   | 6   | 2437        | 0.56             | 0.56  | 12.18                         | 10.37 |       |
| 11g         | 6Mbps     | 1   | 11  | 2462        | 0.56             | 0.56  | 12.14                         | 10.03 |       |
| HT20        | MCS0      | 1   | 1   | 2412        | 0.60             | 0.60  | 11.58                         | 9.99  |       |
| HT20        | MCS0      | 1   | 6   | 2437        | 0.60             | 0.60  | 11.61                         | 9.76  |       |
| HT20        | MCS0      | 1   | 11  | 2462        | 0.60             | 0.60  | 11.55                         | 9.55  |       |
| HT40        | MCS0      | 1   | 3   | 2422        | 1.13             | 1.10  | 8.89                          | 7.14  |       |
| HT40        | MCS0      | 1   | 6   | 2437        | 1.13             | 1.10  | 8.81                          | 6.88  |       |
| HT40        | MCS0      | 1   | 9   | 2452        | 1.13             | 1.10  | 8.69                          | 6.58  |       |
| 11b         | 1Mbps     | 2   | 1   | 2412        | 0.11             | 0.10  | 11.70                         | 10.65 | 14.21 |
| 11b         | 1Mbps     | 2   | 6   | 2437        | 0.11             | 0.10  | 11.94                         | 10.52 | 14.30 |
| 11b         | 1Mbps     | 2   | 11  | 2462        | 0.11             | 0.10  | 12.06                         | 10.32 | 14.28 |
| 11g         | 6Mbps     | 2   | 1   | 2412        | 0.61             | 0.56  | 11.81                         | 10.32 | 14.14 |
| 11g         | 6Mbps     | 2   | 6   | 2437        | 0.61             | 0.56  | 11.66                         | 10.15 | 13.98 |
| 11g         | 6Mbps     | 2   | 11  | 2462        | 0.61             | 0.56  | 11.58                         | 9.90  | 13.83 |
| HT20        | MCS0      | 2   | 1   | 2412        | 0.65             | 0.60  | 11.07                         | 9.94  | 13.55 |
| HT20        | MCS0      | 2   | 6   | 2437        | 0.65             | 0.60  | 11.13                         | 9.77  | 13.51 |
| HT20        | MCS0      | 2   | 11  | 2462        | 0.65             | 0.60  | 11.01                         | 9.46  | 13.31 |
| HT40        | MCS0      | 2   | 3   | 2422        | 1.16             | 1.15  | 8.70                          | 7.20  | 11.03 |
| HT40        | MCS0      | 2   | 6   | 2437        | 1.16             | 1.15  | 8.61                          | 6.93  | 10.86 |
| HT40        | MCS0      | 2   | 9   | 2452        | 1.16             | 1.15  | 8.43                          | 6.69  | 10.66 |

Note: Measured power (dBm) has offset with cable loss.

**TEST RESULTS DATA**  
**Peak Power Spectral Density**

| 2.4GHz Band |           |     |     |             |                     |        |              |          |       |                           |       |           |
|-------------|-----------|-----|-----|-------------|---------------------|--------|--------------|----------|-------|---------------------------|-------|-----------|
| Mod.        | Data Rate | NTX | CH. | Freq. (MHz) | Peak PSD (dBm/3kHz) |        |              | DG (dBi) |       | Peak PSD Limit (dBm/3kHz) |       | Pass/Fail |
|             |           |     |     |             | Ant 1               | Ant 2  | Worse + 3.01 | Ant 1    | Ant 2 | Ant 1                     | Ant 2 |           |
| 11b         | 1Mbps     | 1   | 1   | 2412        | -14.96              | -17.52 | -            | 3.80     | 3.80  | 8.00                      | 8.00  | Pass      |
| 11b         | 1Mbps     | 1   | 6   | 2437        | -16.62              | -17.86 |              | 3.80     | 3.80  | 8.00                      | 8.00  | Pass      |
| 11b         | 1Mbps     | 1   | 11  | 2462        | -16.05              | -17.80 |              | 3.80     | 3.80  | 8.00                      | 8.00  | Pass      |
| 11g         | 6Mbps     | 1   | 1   | 2412        | -16.07              | -16.69 |              | 3.80     | 3.80  | 8.00                      | 8.00  | Pass      |
| 11g         | 6Mbps     | 1   | 6   | 2437        | -14.90              | -17.44 |              | 3.80     | 3.80  | 8.00                      | 8.00  | Pass      |
| 11g         | 6Mbps     | 1   | 11  | 2462        | -14.29              | -17.80 |              | 3.80     | 3.80  | 8.00                      | 8.00  | Pass      |
| HT20        | MCS0      | 1   | 1   | 2412        | -15.87              | -17.21 |              | 3.80     | 3.80  | 8.00                      | 8.00  | Pass      |
| HT20        | MCS0      | 1   | 6   | 2437        | -15.88              | -18.50 |              | 3.80     | 3.80  | 8.00                      | 8.00  | Pass      |
| HT20        | MCS0      | 1   | 11  | 2462        | -15.37              | -18.47 |              | 3.80     | 3.80  | 8.00                      | 8.00  | Pass      |
| HT40        | MCS0      | 1   | 3   | 2422        | -18.55              | -19.90 |              | 3.80     | 3.80  | 8.00                      | 8.00  | Pass      |
| HT40        | MCS0      | 1   | 6   | 2437        | -18.80              | -19.61 |              | 3.80     | 3.80  | 8.00                      | 8.00  | Pass      |
| HT40        | MCS0      | 1   | 9   | 2452        | -19.05              | -20.54 |              | 3.80     | 3.80  | 8.00                      | 8.00  | Pass      |
| 11b         | 1Mbps     | 2   | 1   | 2412        | -15.70              | -17.38 | -12.69       | 6.81     |       | 7.19                      |       | Pass      |
| 11b         | 1Mbps     | 2   | 6   | 2437        | -15.20              | -17.38 | -12.19       | 6.81     |       | 7.19                      |       | Pass      |
| 11b         | 1Mbps     | 2   | 11  | 2462        | -15.46              | -18.54 | -12.45       | 6.81     |       | 7.19                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 1   | 2412        | -15.28              | -17.11 | -12.27       | 6.81     |       | 7.19                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 6   | 2437        | -16.35              | -18.43 | -13.34       | 6.81     |       | 7.19                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 11  | 2462        | -15.84              | -18.28 | -12.83       | 6.81     |       | 7.19                      |       | Pass      |
| HT20        | MCS0      | 2   | 1   | 2412        | -16.80              | -17.81 | -13.79       | 6.81     |       | 7.19                      |       | Pass      |
| HT20        | MCS0      | 2   | 6   | 2437        | -15.69              | -18.37 | -12.68       | 6.81     |       | 7.19                      |       | Pass      |
| HT20        | MCS0      | 2   | 11  | 2462        | -15.80              | -17.49 | -12.79       | 6.81     |       | 7.19                      |       | Pass      |
| HT40        | MCS0      | 2   | 3   | 2422        | -19.16              | -20.86 | -16.15       | 6.81     |       | 7.19                      |       | Pass      |
| HT40        | MCS0      | 2   | 6   | 2437        | -17.67              | -21.44 | -14.66       | 6.81     |       | 7.19                      |       | Pass      |
| HT40        | MCS0      | 2   | 9   | 2452        | -19.01              | -20.73 | -16.00       | 6.81     |       | 7.19                      |       | Pass      |

Measured power density (dBm) has offset with cable loss.





## Appendix B. Radiated Spurious Emission

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

| WIFI                        | Note | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak  | Pol.  |
|-----------------------------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                        |      |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 1+2                         |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 802.11b<br>CH 01<br>2412MHz |      | 2362.5    | 48.49      | -25.51 | 74         | 42.69    | 32.56    | 6.48   | 33.24  | 151    | 261     | P     | H     |
|                             |      | 2364.18   | 35.89      | -18.11 | 54         | 30.09    | 32.56    | 6.48   | 33.24  | 151    | 261     | A     | H     |
|                             | *    | 2412      | 96.34      | -      | -          | 90.37    | 32.61    | 6.55   | 33.19  | 151    | 261     | P     | H     |
|                             | *    | 2412      | 94.39      | -      | -          | 88.42    | 32.61    | 6.55   | 33.19  | 151    | 261     | A     | H     |
|                             |      | 2389.59   | 66.31      | -7.69  | 74         | 60.41    | 32.6     | 6.51   | 33.21  | 160    | 352     | P     | V     |
|                             |      | 2390      | 44.64      | -9.36  | 54         | 38.7     | 32.6     | 6.55   | 33.21  | 160    | 352     | A     | V     |
|                             | *    | 2412      | 107.45     | -      | -          | 101.48   | 32.61    | 6.55   | 33.19  | 160    | 352     | P     | V     |
|                             | *    | 2412      | 105.64     | -      | -          | 99.67    | 32.61    | 6.55   | 33.19  | 160    | 352     | A     | V     |
| 802.11b<br>CH 06<br>2437MHz |      | 2359.42   | 48.13      | -25.87 | 74         | 42.33    | 32.56    | 6.48   | 33.24  | 172    | 271     | P     | H     |
|                             |      | 2359.98   | 36.32      | -17.68 | 54         | 30.52    | 32.56    | 6.48   | 33.24  | 172    | 271     | A     | H     |
|                             | *    | 2437      | 98.83      | -      | -          | 92.74    | 32.65    | 6.59   | 33.15  | 172    | 271     | P     | H     |
|                             | *    | 2437      | 96.73      | -      | -          | 90.64    | 32.65    | 6.59   | 33.15  | 172    | 271     | A     | H     |
|                             |      | 2488.59   | 46.87      | -27.13 | 74         | 40.61    | 32.7     | 6.66   | 33.1   | 172    | 271     | P     | H     |
|                             |      | 2484.39   | 36.55      | -17.45 | 54         | 30.33    | 32.68    | 6.66   | 33.12  | 172    | 271     | A     | H     |
|                             |      | 2389.1    | 59.67      | -14.33 | 74         | 53.77    | 32.6     | 6.51   | 33.21  | 151    | 319     | P     | V     |
|                             |      | 2389.52   | 40.58      | -13.42 | 54         | 34.68    | 32.6     | 6.51   | 33.21  | 151    | 319     | A     | V     |
|                             | *    | 2437      | 108.63     | -      | -          | 102.54   | 32.65    | 6.59   | 33.15  | 151    | 319     | P     | V     |
|                             | *    | 2437      | 106.67     | -      | -          | 100.58   | 32.65    | 6.59   | 33.15  | 151    | 319     | A     | V     |
|                             |      | 2494.33   | 58.79      | -15.21 | 74         | 52.49    | 32.7     | 6.7    | 33.1   | 151    | 319     | P     | V     |
|                             |      | 2494.05   | 41.7       | -12.3  | 54         | 35.4     | 32.7     | 6.7    | 33.1   | 151    | 319     | A     | V     |



|                                      |   |         |        |        |    |        |       |      |       |     |     |   |   |
|--------------------------------------|---|---------|--------|--------|----|--------|-------|------|-------|-----|-----|---|---|
| <b>802.11b<br/>CH 11<br/>2462MHz</b> | *   | 2462    | 97.15  | -      | -  | 90.99  | 32.67 | 6.63 | 33.14 | 152 | 316 | P | H |
|                                      | *   | 2462    | 95.6   | -      | -  | 89.44  | 32.67 | 6.63 | 33.14 | 152 | 316 | A | H |
|                                      |   | 2486.48 | 52.7   | -21.3  | 74 | 46.48  | 32.68 | 6.66 | 33.12 | 152 | 316 | P | H |
|                                      |   | 2484.12 | 36.46  | -17.54 | 54 | 30.24  | 32.68 | 6.66 | 33.12 | 152 | 316 | A | H |
|                                      | *   | 2462    | 107.85 | -      | -  | 101.69 | 32.67 | 6.63 | 33.14 | 151 | 301 | P | V |
|                                      | *   | 2462    | 106.03 | -      | -  | 99.87  | 32.67 | 6.63 | 33.14 | 151 | 301 | A | V |
|                                      |   | 2486.48 | 64.6   | -9.4   | 74 | 58.38  | 32.68 | 6.66 | 33.12 | 151 | 301 | P | V |
|                                      |   | 2483.52 | 43.29  | -10.71 | 54 | 37.07  | 32.68 | 6.66 | 33.12 | 151 | 301 | A | V |
| Remark                               | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |         |        |        |    |        |       |      |       |     |     |   |   |



## 15C 2.4GHz 2400~2483.5MHz

## WIFI 802.11b (Harmonic @ 3m)

| WIFI                        | Note  | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak  | Pol.  |
|-----------------------------|---|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                        |   |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 1+2                         |   | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 802.11b<br>CH 01<br>2412MHz |   | 4824      | 49.87      | -24.13 | 74         | 62.57    | 34.4     | 9.5    | 56.6   | 150    | 360     | P     | H     |
|                             |   | 4824      | 49.66      | -24.34 | 74         | 62.36    | 34.4     | 9.5    | 56.6   | 150    | 360     | P     | V     |
| 802.11b<br>CH 06<br>2437MHz |   | 4874      | 47.56      | -26.44 | 74         | 60.48    | 34.43    | 9.56   | 56.91  | 150    | 360     | P     | H     |
|                             |   | 7311      | 47.34      | -26.66 | 74         | 57.46    | 36.22    | 11.66  | 58     | 174    | 100     | P     | H     |
|                             |   | 4874      | 50.87      | -23.13 | 74         | 63.79    | 34.43    | 9.56   | 56.91  | 150    | 360     | P     | V     |
|                             |   | 7311      | 48.06      | -25.94 | 74         | 58.18    | 36.22    | 11.66  | 58     | 174    | 100     | P     | V     |
| 802.11b<br>CH 11<br>2462MHz |   | 4924      | 47.46      | -26.54 | 74         | 59.47    | 34.46    | 9.61   | 56.08  | 150    | 347     | P     | H     |
|                             |   | 7386      | 47.96      | -26.04 | 74         | 58.03    | 36.26    | 11.68  | 58.01  | 150    | 274     | P     | H     |
|                             |   | 4924      | 49.53      | -24.47 | 74         | 61.54    | 34.46    | 9.61   | 56.08  | 150    | 347     | P     | V     |
|                             |   | 7386      | 47.98      | -26.02 | 74         | 58.05    | 36.26    | 11.68  | 58.01  | 150    | 274     | P     | V     |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |            |        |            |          |          |        |        |        |         |       |       |



**15C 2.4GHz 2400~2483.5MHz**  
**WIFI 802.11g (Band Edge @ 3m)**

| WIFI                        | Note | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak  | Pol.  |
|-----------------------------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                        |      |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 1+2                         |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 802.11g<br>CH 01<br>2412MHz |      | 2389.38   | 49.45      | -24.55 | 74         | 43.55    | 32.6     | 6.51   | 33.21  | 226    | 270     | P     | H     |
|                             |      | 2389.905  | 38.68      | -15.32 | 54         | 32.74    | 32.6     | 6.55   | 33.21  | 226    | 270     | A     | H     |
|                             | *    | 2412      | 99.08      | -      | -          | 93.11    | 32.61    | 6.55   | 33.19  | 226    | 270     | P     | H     |
|                             | *    | 2412      | 93.28      | -      | -          | 87.31    | 32.61    | 6.55   | 33.19  | 226    | 270     | A     | H     |
|                             |      | 2389.8    | 62.48      | -11.52 | 74         | 56.54    | 32.6     | 6.55   | 33.21  | 150    | 297     | P     | V     |
|                             |      | 2389.8    | 49.86      | -4.14  | 54         | 43.92    | 32.6     | 6.55   | 33.21  | 150    | 297     | A     | V     |
|                             | *    | 2412      | 108.42     | -      | -          | 102.45   | 32.61    | 6.55   | 33.19  | 150    | 297     | P     | V     |
|                             | *    | 2412      | 102.58     | -      | -          | 96.61    | 32.61    | 6.55   | 33.19  | 150    | 297     | A     | V     |
| 802.11g<br>CH 06<br>2437MHz |      | 2351.3    | 46.67      | -27.33 | 74         | 40.91    | 32.54    | 6.48   | 33.26  | 150    | 270     | P     | H     |
|                             |      | 2384.76   | 37.16      | -16.84 | 54         | 31.3     | 32.58    | 6.51   | 33.23  | 150    | 270     | A     | H     |
|                             | *    | 2437      | 99.54      | -      | -          | 93.45    | 32.65    | 6.59   | 33.15  | 150    | 270     | P     | H     |
|                             | *    | 2437      | 93.06      | -      | -          | 86.97    | 32.65    | 6.59   | 33.15  | 150    | 270     | A     | H     |
|                             |      | 2486.49   | 45.74      | -28.26 | 74         | 39.52    | 32.68    | 6.66   | 33.12  | 150    | 270     | P     | H     |
|                             |      | 2485.51   | 36.56      | -17.44 | 54         | 30.34    | 32.68    | 6.66   | 33.12  | 150    | 270     | A     | H     |
|                             |      | 2364.6    | 51.81      | -22.19 | 74         | 46.01    | 32.56    | 6.48   | 33.24  | 176    | 318     | P     | V     |
|                             |      | 2384.76   | 42.8       | -11.2  | 54         | 36.94    | 32.58    | 6.51   | 33.23  | 176    | 318     | A     | V     |
|                             | *    | 2437      | 109.64     | -      | -          | 103.55   | 32.65    | 6.59   | 33.15  | 176    | 318     | P     | V     |
|                             | *    | 2437      | 103.29     | -      | -          | 97.2     | 32.65    | 6.59   | 33.15  | 176    | 318     | A     | V     |
|                             |      | 2492.16   | 51.04      | -22.96 | 74         | 44.74    | 32.7     | 6.7    | 33.1   | 176    | 318     | P     | V     |
|                             |      | 2489.36   | 41.97      | -12.03 | 54         | 35.71    | 32.7     | 6.66   | 33.1   | 176    | 318     | A     | V     |



|                                      |   |         |        |        |    |        |       |      |       |     |     |   |   |
|--------------------------------------|---|---------|--------|--------|----|--------|-------|------|-------|-----|-----|---|---|
| <b>802.11g<br/>CH 11<br/>2462MHz</b> | *   | 2462    | 99.05  | -      | -  | 92.89  | 32.67 | 6.63 | 33.14 | 151 | 316 | P | H |
|                                      | *   | 2462    | 91.81  | -      | -  | 85.65  | 32.67 | 6.63 | 33.14 | 151 | 316 | A | H |
|                                      |   | 2484.4  | 53.83  | -20.17 | 74 | 47.61  | 32.68 | 6.66 | 33.12 | 151 | 316 | P | H |
|                                      |   | 2483.56 | 40.77  | -13.23 | 54 | 34.55  | 32.68 | 6.66 | 33.12 | 151 | 316 | A | H |
|                                      | *   | 2462    | 108.62 | -      | -  | 102.46 | 32.67 | 6.63 | 33.14 | 151 | 302 | P | V |
|                                      | *   | 2462    | 101.88 | -      | -  | 95.72  | 32.67 | 6.63 | 33.14 | 151 | 302 | A | V |
|                                      |   | 2484.8  | 62.23  | -11.77 | 74 | 56.01  | 32.68 | 6.66 | 33.12 | 151 | 302 | P | V |
|                                      |   | 2483.52 | 49.27  | -4.73  | 54 | 43.05  | 32.68 | 6.66 | 33.12 | 151 | 302 | A | V |
| Remark                               | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |         |        |        |    |        |       |      |       |     |     |   |   |





**15C 2.4GHz 2400~2483.5MHz**  
**WIFI 802.11g (Harmonic @ 3m)**

| WIFI                        | Note  | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak  | Pol.  |
|-----------------------------|---|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                        |   |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 1+2                         |   | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 802.11g<br>CH 01<br>2412MHz |   | 4824      | 47.04      | -26.96 | 74         | 59.74    | 34.4     | 9.5    | 56.6   | 150    | 360     | P     | H     |
|                             |   | 4824      | 55.45      | -18.55 | 74         | 68.15    | 34.4     | 9.5    | 56.6   | 150    | 360     | P     | V     |
|                             |   | 4824      | 49.63      | -4.37  | 54         | 62.33    | 34.4     | 9.5    | 56.6   | 150    | 360     | A     | V     |
| 802.11g<br>CH 06<br>2437MHz |   | 4874      | 46.43      | -27.57 | 74         | 59.35    | 34.43    | 9.56   | 56.91  | 150    | 360     | P     | H     |
|                             |   | 7311      | 48.86      | -25.14 | 74         | 58.98    | 36.22    | 11.66  | 58     | 174    | 100     | P     | H     |
|                             |   | 4874      | 56.6       | -17.4  | 74         | 69.52    | 34.43    | 9.56   | 56.91  | 150    | 360     | P     | V     |
|                             |   | 4874      | 49.29      | -4.71  | 54         | 62.21    | 34.43    | 9.56   | 56.91  | 150    | 360     | A     | V     |
|                             |   | 7311      | 50.56      | -23.44 | 74         | 60.68    | 36.22    | 11.66  | 58     | 150    | 360     | P     | V     |
| 802.11g<br>CH 11<br>2462MHz |   | 4924      | 46.66      | -27.34 | 74         | 58.67    | 34.46    | 9.61   | 56.08  | 150    | 347     | P     | H     |
|                             |   | 7386      | 47.25      | -26.75 | 74         | 57.32    | 36.26    | 11.68  | 58.01  | 150    | 274     | P     | H     |
|                             |   | 4924      | 57.7       | -16.3  | 74         | 69.71    | 34.46    | 9.61   | 56.08  | 150    | 360     | P     | V     |
|                             |   | 4924      | 49.84      | -4.16  | 54         | 61.85    | 34.46    | 9.61   | 56.08  | 150    | 360     | A     | V     |
|                             |   | 7386      | 50.71      | -23.29 | 74         | 60.78    | 36.26    | 11.68  | 58.01  | 150    | 350     | P     | V     |
| Remark                      | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |            |        |            |          |          |        |        |        |         |       |       |



## 15C 2.4GHz 2400~2483.5MHz

## WIFI 802.11n HT20 (Band Edge @ 3m)

| WIFI                                | Note | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak  | Pol.  |
|-------------------------------------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                                |      |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 1+2                                 |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 802.11n<br>HT20<br>CH 01<br>2412MHz |      | 2388.645  | 51.29      | -22.71 | 74         | 45.39    | 32.6     | 6.51   | 33.21  | 227    | 271     | P     | H     |
|                                     |      | 2390      | 39.98      | -14.02 | 54         | 34.04    | 32.6     | 6.55   | 33.21  | 227    | 271     | A     | H     |
|                                     | *    | 2412      | 99.26      | -      | -          | 93.29    | 32.61    | 6.55   | 33.19  | 227    | 271     | P     | H     |
|                                     | *    | 2412      | 92.77      | -      | -          | 86.8     | 32.61    | 6.55   | 33.19  | 227    | 271     | A     | H     |
|                                     |      | 2388.33   | 61.76      | -12.24 | 74         | 55.86    | 32.6     | 6.51   | 33.21  | 150    | 307     | P     | V     |
|                                     |      | 2389.8    | 49.31      | -4.69  | 54         | 43.37    | 32.6     | 6.55   | 33.21  | 150    | 307     | A     | V     |
|                                     | *    | 2412      | 107.55     | -      | -          | 101.58   | 32.61    | 6.55   | 33.19  | 150    | 307     | P     | V     |
|                                     | *    | 2412      | 101.08     | -      | -          | 95.11    | 32.61    | 6.55   | 33.19  | 150    | 307     | A     | V     |
| 802.11n<br>HT20<br>CH 06<br>2437MHz |      | 2346.54   | 46.68      | -27.32 | 74         | 40.92    | 32.54    | 6.48   | 33.26  | 215    | 272     | P     | H     |
|                                     |      | 2384.9    | 37.16      | -16.84 | 54         | 31.3     | 32.58    | 6.51   | 33.23  | 215    | 272     | A     | H     |
|                                     | *    | 2437      | 99.05      | -      | -          | 92.96    | 32.65    | 6.59   | 33.15  | 215    | 272     | P     | H     |
|                                     | *    | 2437      | 91.58      | -      | -          | 85.49    | 32.65    | 6.59   | 33.15  | 215    | 272     | A     | H     |
|                                     |      | 2491.18   | 46.67      | -27.33 | 74         | 40.37    | 32.7     | 6.7    | 33.1   | 215    | 272     | P     | H     |
|                                     |      | 2489.01   | 36.78      | -17.22 | 54         | 30.52    | 32.7     | 6.66   | 33.1   | 215    | 272     | A     | H     |
|                                     |      | 2383.08   | 51.57      | -22.43 | 74         | 45.71    | 32.58    | 6.51   | 33.23  | 170    | 318     | P     | V     |
|                                     |      | 2385.46   | 42.95      | -11.05 | 54         | 37.09    | 32.58    | 6.51   | 33.23  | 170    | 318     | A     | V     |
|                                     | *    | 2437      | 108.86     | -      | -          | 102.77   | 32.65    | 6.59   | 33.15  | 170    | 318     | P     | V     |
|                                     | *    | 2437      | 102.82     | -      | -          | 96.73    | 32.65    | 6.59   | 33.15  | 170    | 318     | A     | V     |
|                                     |      | 2492.09   | 51.21      | -22.79 | 74         | 44.91    | 32.7     | 6.7    | 33.1   | 170    | 318     | P     | V     |
|                                     |      | 2488.87   | 41.87      | -12.13 | 54         | 35.61    | 32.7     | 6.66   | 33.1   | 170    | 318     | A     | V     |



|   |   |         |        |        |    |        |       |      |       |     |     |   |   |
|---|---|---------|--------|--------|----|--------|-------|------|-------|-----|-----|---|---|
| <b>802.11n</b><br><b>HT20</b><br><b>CH 11</b><br><b>2462MHz</b> | *   | 2462    | 98.9   | -      | -  | 92.74  | 32.67 | 6.63 | 33.14 | 199 | 298 | P | H |
|   | *   | 2462    | 92.68  | -      | -  | 86.52  | 32.67 | 6.63 | 33.14 | 199 | 298 | A | H |
|   |   | 2484.72 | 60.16  | -13.84 | 74 | 53.94  | 32.68 | 6.66 | 33.12 | 199 | 298 | P | H |
|   |   | 2483.52 | 43.01  | -10.99 | 54 | 36.79  | 32.68 | 6.66 | 33.12 | 199 | 298 | A | H |
|   | *   | 2462    | 107.09 | -      | -  | 100.93 | 32.67 | 6.63 | 33.14 | 156 | 308 | P | V |
|   | *   | 2462    | 101.13 | -      | -  | 94.97  | 32.67 | 6.63 | 33.14 | 156 | 308 | A | V |
|   |   | 2484.56 | 61     | -13    | 74 | 54.78  | 32.68 | 6.66 | 33.12 | 156 | 308 | P | V |
|   |   | 2483.56 | 49.44  | -4.56  | 54 | 43.22  | 32.68 | 6.66 | 33.12 | 156 | 308 | A | V |
| Remark  | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |         |        |        |    |        |       |      |       |     |     |   |   |



## 15C 2.4GHz 2400~2483.5MHz

## WIFI 802.11n HT20 (Harmonic @ 3m)

| WIFI                                | Note  | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak  | Pol.  |
|-------------------------------------|---|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                                |   |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 1+2                                 |   | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 802.11n<br>HT20<br>CH 01<br>2412MHz |   | 4824      | 45.64      | -28.36 | 74         | 58.34    | 34.4     | 9.5    | 56.6   | 150    | 360     | P     | H     |
|                                     |   | 4824      | 46.36      | -27.64 | 74         | 59.06    | 34.4     | 9.5    | 56.6   | 150    | 360     | P     | V     |
| 802.11n<br>HT20<br>CH 06<br>2437MHz |   | 4874      | 45.98      | -28.02 | 74         | 58.9     | 34.43    | 9.56   | 56.91  | 150    | 360     | P     | H     |
|                                     |   | 7311      | 48.57      | -25.43 | 74         | 58.69    | 36.22    | 11.66  | 58     | 174    | 100     | P     | H     |
|                                     |   | 4874      | 49.21      | -24.79 | 74         | 62.13    | 34.43    | 9.56   | 56.91  | 150    | 360     | P     | V     |
|                                     |   | 7311      | 47.65      | -26.35 | 74         | 57.77    | 36.22    | 11.66  | 58     | 174    | 100     | P     | V     |
| 802.11n<br>HT20<br>CH 11<br>2462MHz |   | 4924      | 46.45      | -27.55 | 74         | 58.46    | 34.46    | 9.61   | 56.08  | 150    | 347     | P     | H     |
|                                     |   | 7386      | 47.85      | -26.15 | 74         | 57.92    | 36.26    | 11.68  | 58.01  | 150    | 274     | P     | H     |
|                                     |   | 4924      | 49.1       | -24.9  | 74         | 61.11    | 34.46    | 9.61   | 56.08  | 150    | 347     | P     | V     |
|                                     |   | 7386      | 47.51      | -26.49 | 74         | 57.58    | 36.26    | 11.68  | 58.01  | 150    | 274     | P     | V     |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |            |        |            |          |          |        |        |        |         |       |       |



## 15C 2.4GHz 2400~2483.5MHz

## WIFI 802.11n HT40 (Band Edge @ 3m)

| WIFI                                | Note | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak  | Pol.  |
|-------------------------------------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                                |      |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 1+2                                 |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 802.11n<br>HT40<br>CH 03<br>2422MHz |      | 2387.42   | 48.32      | -25.68 | 74         | 42.42    | 32.6     | 6.51   | 33.21  | 250    | 314     | P     | H     |
|                                     |      | 2385.6    | 38.45      | -15.55 | 54         | 32.55    | 32.6     | 6.51   | 33.21  | 250    | 314     | A     | H     |
|                                     | *    | 2422      | 90.56      | -      | -          | 84.51    | 32.63    | 6.59   | 33.17  | 250    | 314     | P     | H     |
|                                     | *    | 2422      | 84.62      | -      | -          | 78.57    | 32.63    | 6.59   | 33.17  | 250    | 314     | A     | H     |
|                                     |      | 2489.43   | 46.71      | -27.29 | 74         | 40.45    | 32.7     | 6.66   | 33.1   | 250    | 314     | P     | H     |
|                                     |      | 2484.6    | 37.73      | -16.27 | 54         | 31.51    | 32.68    | 6.66   | 33.12  | 250    | 314     | A     | H     |
|                                     |      | 2387      | 58.56      | -15.44 | 74         | 52.66    | 32.6     | 6.51   | 33.21  | 150    | 325     | P     | V     |
|                                     |      | 2389.52   | 49.06      | -4.94  | 54         | 43.16    | 32.6     | 6.51   | 33.21  | 150    | 325     | A     | V     |
|                                     | *    | 2422      | 102.11     | -      | -          | 96.06    | 32.63    | 6.59   | 33.17  | 150    | 325     | P     | V     |
|                                     | *    | 2422      | 96.42      | -      | -          | 90.37    | 32.63    | 6.59   | 33.17  | 150    | 325     | A     | V     |
|                                     |      | 2497.69   | 50.28      | -23.72 | 74         | 43.98    | 32.7     | 6.7    | 33.1   | 150    | 325     | P     | V     |
|                                     |      | 2484.39   | 41.24      | -12.76 | 54         | 35.02    | 32.68    | 6.66   | 33.12  | 150    | 325     | A     | V     |
| 802.11n<br>HT40<br>CH 06<br>2437MHz |      | 2331.98   | 46.56      | -27.44 | 74         | 40.87    | 32.53    | 6.44   | 33.28  | 247    | 312     | P     | H     |
|                                     |      | 2358.86   | 37.36      | -16.64 | 54         | 31.56    | 32.56    | 6.48   | 33.24  | 247    | 312     | A     | H     |
|                                     | *    | 2437      | 90.01      | -      | -          | 83.92    | 32.65    | 6.59   | 33.15  | 247    | 312     | P     | H     |
|                                     | *    | 2437      | 84.38      | -      | -          | 78.29    | 32.65    | 6.59   | 33.15  | 247    | 312     | A     | H     |
|                                     |      | 2487.05   | 46.43      | -27.57 | 74         | 40.21    | 32.68    | 6.66   | 33.12  | 247    | 312     | P     | H     |
|                                     |      | 2484.81   | 37.87      | -16.13 | 54         | 31.65    | 32.68    | 6.66   | 33.12  | 247    | 312     | A     | H     |
|                                     |      | 2389.52   | 52.36      | -21.64 | 74         | 46.46    | 32.6     | 6.51   | 33.21  | 216    | 307     | P     | V     |
|                                     |      | 2389.38   | 42.91      | -11.09 | 54         | 37.01    | 32.6     | 6.51   | 33.21  | 216    | 307     | A     | V     |
|                                     | *    | 2437      | 102.14     | -      | -          | 96.05    | 32.65    | 6.59   | 33.15  | 216    | 307     | P     | V     |
|                                     | *    | 2437      | 96.41      | -      | -          | 90.32    | 32.65    | 6.59   | 33.15  | 216    | 307     | A     | V     |
|                                     |      | 2483.55   | 53.91      | -20.09 | 74         | 47.69    | 32.68    | 6.66   | 33.12  | 216    | 307     | P     | V     |
|                                     |      | 2484.25   | 43.74      | -10.26 | 54         | 37.52    | 32.68    | 6.66   | 33.12  | 216    | 307     | A     | V     |



|   |  |         |        |        |    |       |       |      |       |     |     |   |   |
|---|--|---------|--------|--------|----|-------|-------|------|-------|-----|-----|---|---|
| <b>802.11n</b><br><b>HT40</b><br><b>CH 09</b><br><b>2452MHz</b> |  | 2363.62 | 47.16  | -26.84 | 74 | 41.36 | 32.56 | 6.48 | 33.24 | 245 | 313 | P | H |
|   |  | 2366.56 | 37.66  | -16.34 | 54 | 31.83 | 32.56 | 6.51 | 33.24 | 245 | 313 | A | H |
|   | *  | 2452    | 91.39  | -      | -  | 85.26 | 32.65 | 6.63 | 33.15 | 245 | 313 | P | H |
|   | *  | 2452    | 85.15  | -      | -  | 79.02 | 32.65 | 6.63 | 33.15 | 245 | 313 | A | H |
|   |  | 2484.04 | 50.7   | -23.3  | 74 | 44.48 | 32.68 | 6.66 | 33.12 | 245 | 313 | P | H |
|   |  | 2483.62 | 39.21  | -14.79 | 54 | 32.99 | 32.68 | 6.66 | 33.12 | 245 | 313 | A | H |
|   |  | 2386.72 | 50.17  | -23.83 | 74 | 44.27 | 32.6  | 6.51 | 33.21 | 158 | 327 | P | V |
|   |  | 2385.74 | 41.07  | -12.93 | 54 | 35.17 | 32.6  | 6.51 | 33.21 | 158 | 327 | A | V |
|   | *  | 2452    | 101.58 | -      | -  | 95.45 | 32.65 | 6.63 | 33.15 | 158 | 327 | P | V |
|   | *  | 2452    | 95.23  | -      | -  | 89.1  | 32.65 | 6.63 | 33.15 | 158 | 327 | A | V |
|   |  | 2484.39 | 63.1   | -10.9  | 74 | 56.88 | 32.68 | 6.66 | 33.12 | 158 | 327 | P | V |
|   |  | 2484.81 | 50.3   | -3.7   | 54 | 44.08 | 32.68 | 6.66 | 33.12 | 158 | 327 | A | V |
|   | <b>Remark</b><br>1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |         |        |        |    |       |       |      |       |     |     |   |   |



**15C 2.4GHz 2400~2483.5MHz**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**

| WIFI                                | Note  | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak  | Pol.  |
|-------------------------------------|---|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                                |   |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 1+2                                 |   | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 802.11n<br>HT40<br>CH 03<br>2422MHz |   | 4844      | 46.01      | -27.99 | 74         | 58.65    | 34.41    | 9.53   | 56.58  | 150    | 360     | P     | H     |
|                                     |   | 7266      | 48.3       | -25.7  | 74         | 58.71    | 36.21    | 11.65  | 58.27  | 200    | 360     | P     | H     |
|                                     |   | 4844      | 50.6       | -23.4  | 74         | 63.24    | 34.41    | 9.53   | 56.58  | 150    | 360     | P     | V     |
|                                     |   | 7266      | 48.57      | -25.43 | 74         | 58.98    | 36.21    | 11.65  | 58.27  | 200    | 360     | P     | V     |
| 802.11n<br>HT40<br>CH 06<br>2437MHz |   | 4874      | 45.53      | -28.47 | 74         | 58.45    | 34.43    | 9.56   | 56.91  | 150    | 163     | P     | H     |
|                                     |   | 7311      | 48.41      | -25.59 | 74         | 58.53    | 36.22    | 11.66  | 58     | 150    | 360     | P     | H     |
|                                     |   | 4874      | 49.68      | -24.32 | 74         | 62.6     | 34.43    | 9.56   | 56.91  | 150    | 163     | P     | V     |
|                                     |   | 7311      | 48.09      | -25.91 | 74         | 58.21    | 36.22    | 11.66  | 58     | 150    | 360     | P     | V     |
| 802.11n<br>HT40<br>CH 09<br>2452MHz |   | 4904      | 45.57      | -28.43 | 74         | 57.88    | 34.45    | 9.59   | 56.35  | 150    | 360     | P     | H     |
|                                     |   | 7356      | 49.38      | -24.62 | 74         | 59.44    | 36.24    | 11.66  | 57.96  | 150    | 320     | P     | H     |
|                                     |   | 4904      | 50.93      | -23.07 | 74         | 63.24    | 34.45    | 9.59   | 56.35  | 150    | 360     | P     | V     |
|                                     |   | 7356      | 48.35      | -25.65 | 74         | 58.41    | 36.24    | 11.66  | 57.96  | 150    | 320     | P     | V     |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |           |            |        |            |          |          |        |        |        |         |       |       |



## 15C Emission below 1GHz

## 2.4GHz WIFI 802.11n HT40 (LF)

| WIFI                            | Note   | Frequency | Level      | Over   | Limit      | Read   | Antenna  | Cable  | Preamp | Ant    | Table   | Peak  | Pol.  |
|---------------------------------|--|-----------|------------|--------|------------|--------|----------|--------|--------|--------|---------|-------|-------|
| Ant.                            |  |           |            | Limit  | Line       | Level  | Factor   | Loss   | Factor | Pos    | Pos     | Avg.  |       |
| 1+2                             |  | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | (dBμV) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 2.4GHz<br>802.11n<br>HT40<br>LF |  | 30        | 26.63      | -13.37 | 40         | 30.51  | 26.6     | 1.22   | 31.7   | -      | -       | P     | H     |
|                                 |  | 527.61    | 30.56      | -15.44 | 46         | 35.4   | 23.42    | 3.14   | 31.4   | -      | -       | P     | H     |
|                                 |  | 579.99    | 30.69      | -15.31 | 46         | 34.56  | 24.34    | 3.25   | 31.46  | -      | -       | P     | H     |
|                                 |  | 676.99    | 31.69      | -14.31 | 46         | 33.75  | 25.95    | 3.49   | 31.5   | -      | -       | P     | H     |
|                                 |  | 725.49    | 32.28      | -13.72 | 46         | 33.43  | 26.75    | 3.6    | 31.5   | -      | -       | P     | H     |
|                                 |  | 773.02    | 35.12      | -10.88 | 46         | 35.71  | 27.18    | 3.73   | 31.5   | 100    | 0       | P     | H     |
|                                 |  | 31.94     | 26.7       | -13.3  | 40         | 31.29  | 25.84    | 1.22   | 31.65  | -      | -       | P     | V     |
|                                 |  | 214.3     | 29.74      | -13.76 | 43.5       | 43.08  | 15.65    | 2.18   | 31.17  | -      | -       | P     | V     |
|                                 |  | 593.57    | 32.48      | -13.52 | 46         | 36.23  | 24.45    | 3.29   | 31.49  | -      | -       | P     | V     |
|                                 |  | 676.99    | 33.57      | -12.43 | 46         | 35.63  | 25.95    | 3.49   | 31.5   | 100    | 0       | P     | V     |
|                                 |  | 773.02    | 32.39      | -13.61 | 46         | 32.98  | 27.18    | 3.73   | 31.5   | -      | -       | P     | V     |
|                                 |  | 984.48    | 32.35      | -21.65 | 54         | 30.45  | 29.25    | 4.15   | 31.5   | -      | -       | P     | V     |
| Remark                          | 1. No other spurious found.<br>2. All results are PASS against limit line. |           |            |        |            |        |          |        |        |        |         |       |       |



**Note symbol**

|     |  |
|-----|--|
| *   | <b>Fundamental Frequency</b> which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency per 15.209(c). |
| !   | Test result is <b>over limit</b> line.   |
| P/A | <b>P</b> eak or <b>A</b> verage  |
| H/V | <b>H</b> orizontal or <b>V</b> ertical   |



A calculation example for radiated spurious emission is shown as below:

| WIFI                        | Note | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Cable  | Preamp | Ant    | Table   | Peak    | Pol.    |
|-----------------------------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.                        |      |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
| 1+2                         |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| 802.11b<br>CH 01<br>2412MHz |      | 2390      | 55.45      | -18.55 | 74         | 54.51    | 32.22    | 4.58   | 35.86  | 103    | 308     | P       | H       |
|                             |      | 2390      | 43.54      | -10.46 | 54         | 42.6     | 32.22    | 4.58   | 35.86  | 103    | 308     | A       | H       |

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

**For Peak Limit @ 2390MHz:**

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

**For Average Limit @ 2390MHz:**

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

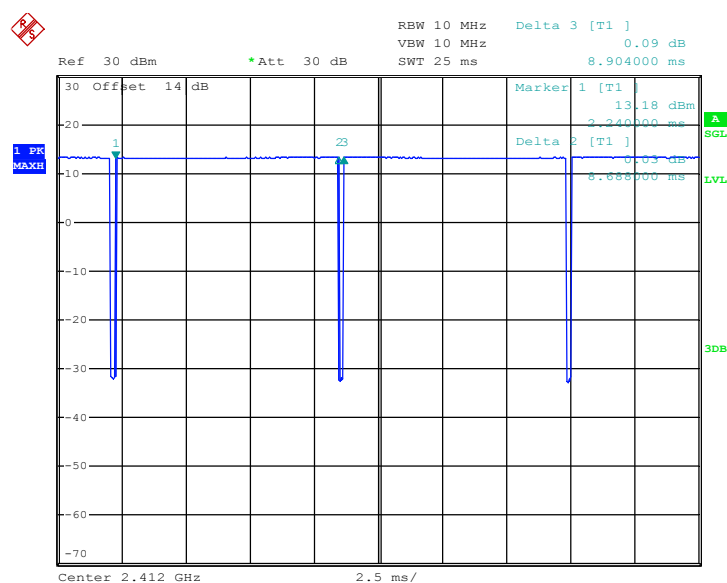
= -10.46(dB)

**Both peak and average measured complies with the limit line, so test result is “PASS”.**

## Appendix C. Duty Cycle Plots

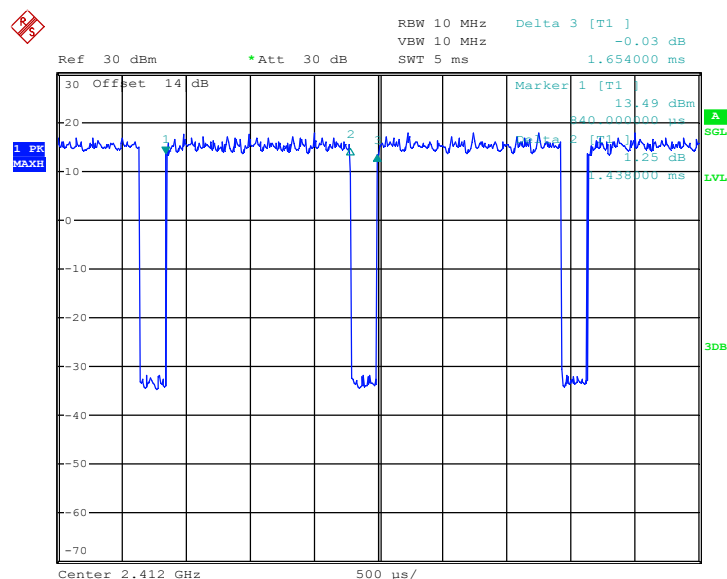
| Antenna | Band         | Duty Cycle(%) | T(ms) | 1/T(kHz) | VBW Setting |
|---------|--------------|---------------|-------|----------|-------------|
| 1+2     | 802.11b      | 97.57         | 8.69  | 0.12     | 300Hz       |
| 1+2     | 802.11g      | 86.94         | 1.44  | 0.70     | 1kHz        |
| 1+2     | 802.11n HT20 | 86.19         | 1.35  | 0.74     | 1kHz        |
| 1+2     | 802.11n HT40 | 76.54         | 0.67  | 1.49     | 3kHz        |

### 802.11b Antenna 1+2

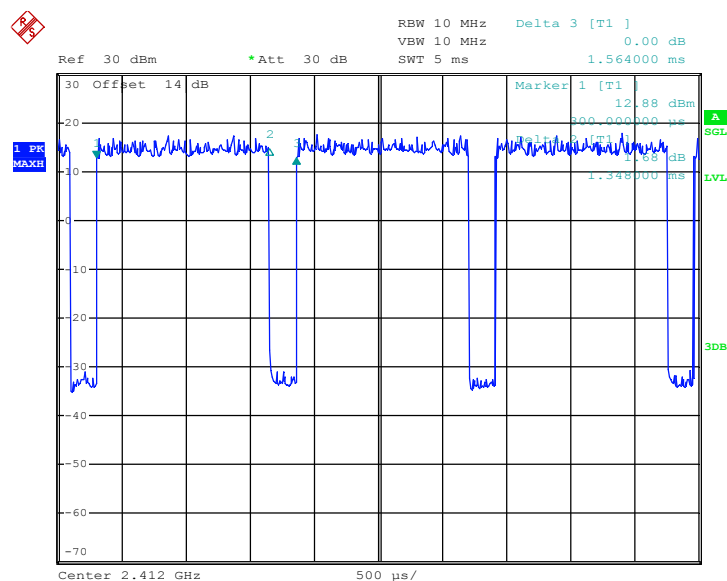




802.11g Antenna 1+2



802.11n HT20 Antenna 1+2





802.11n HT40 Antenna 1+2

