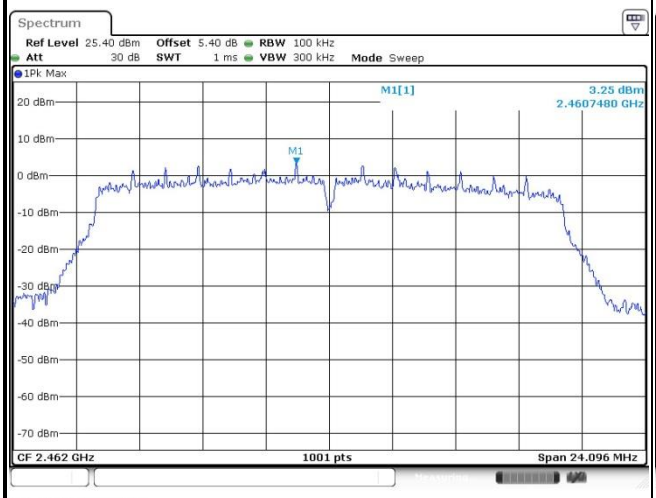
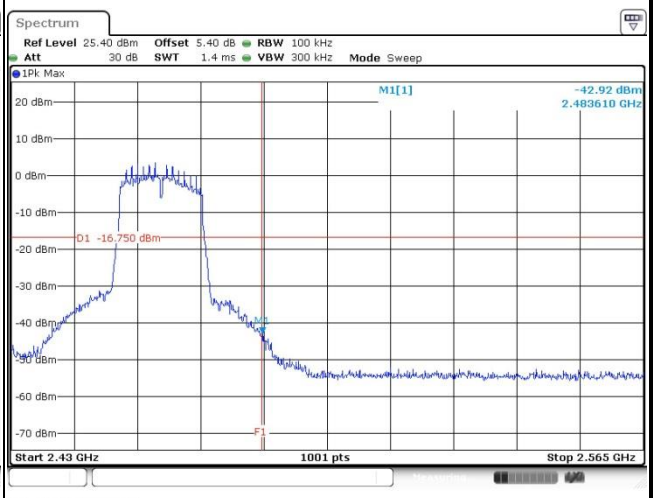
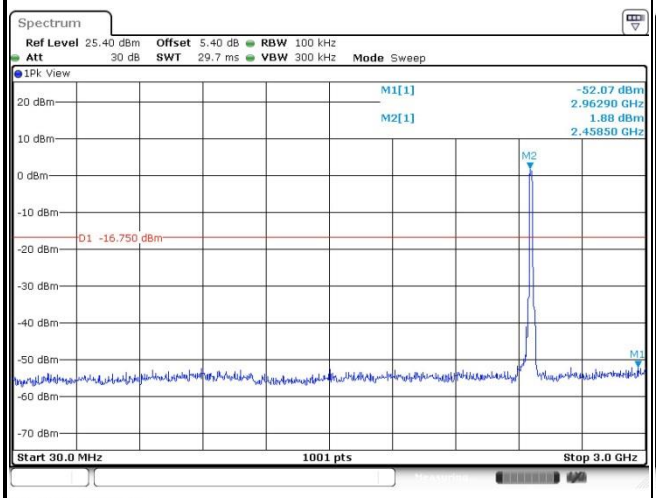
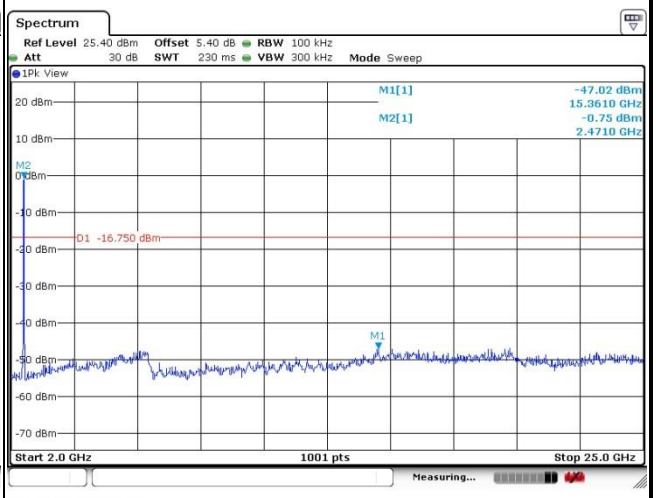
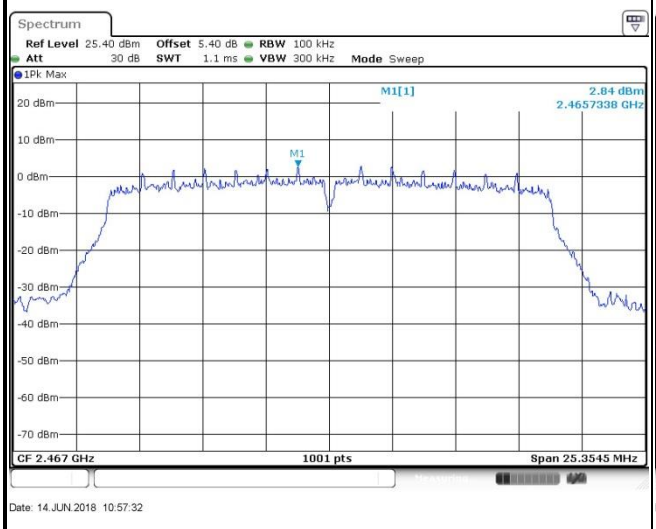
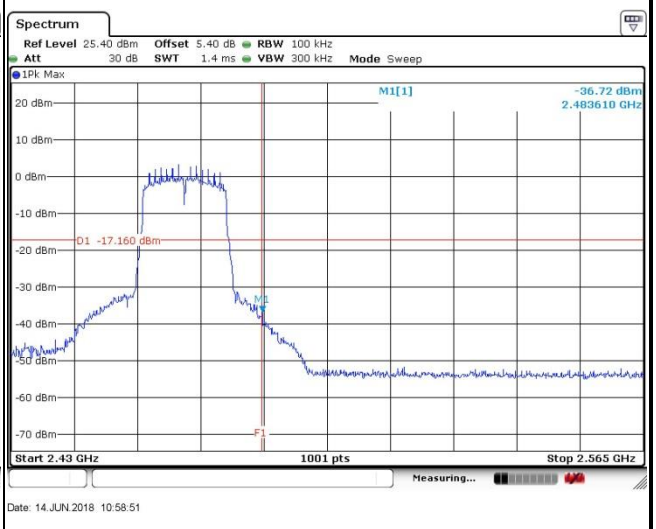
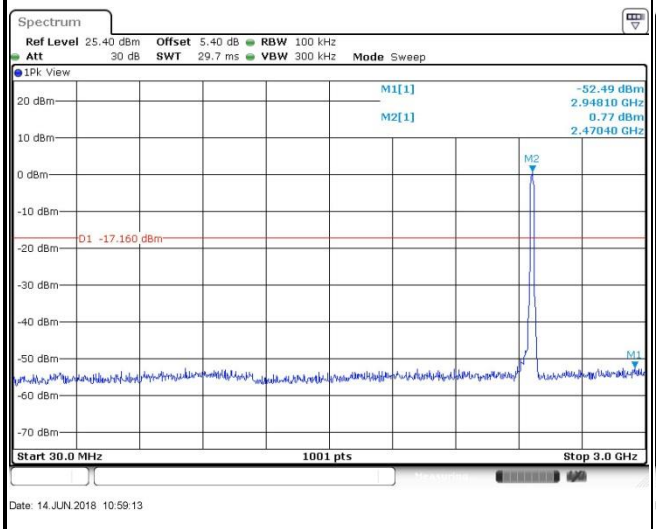
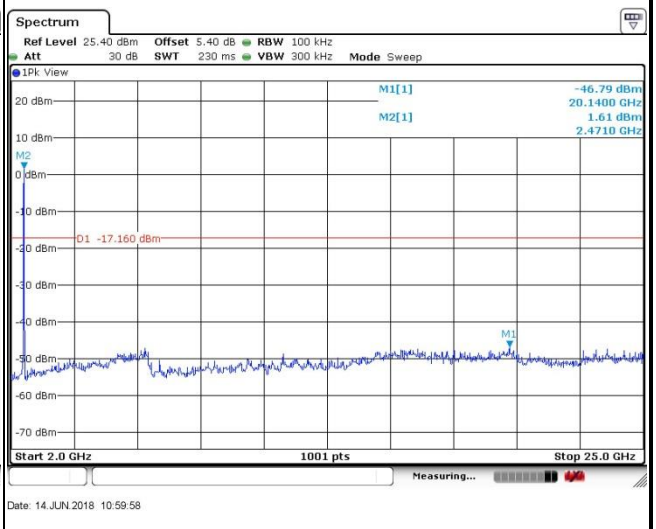
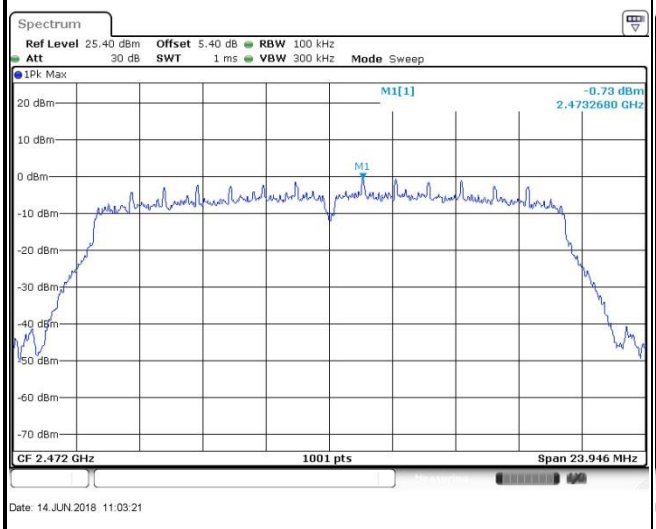
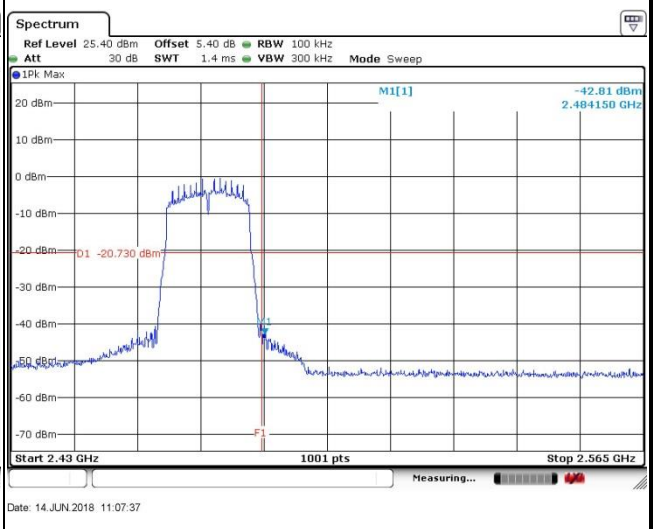
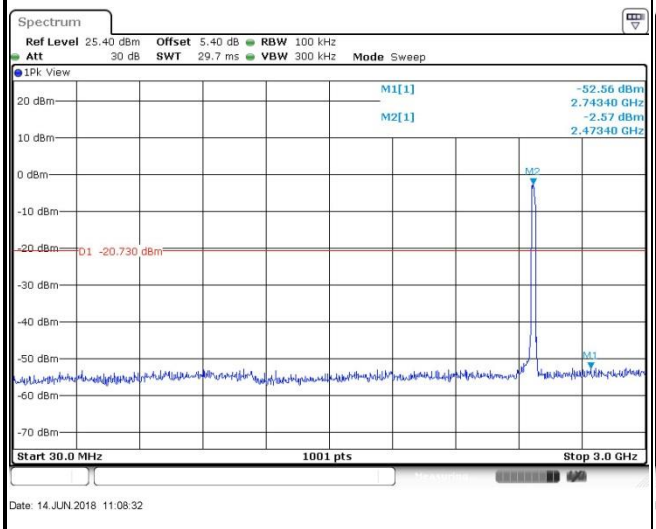
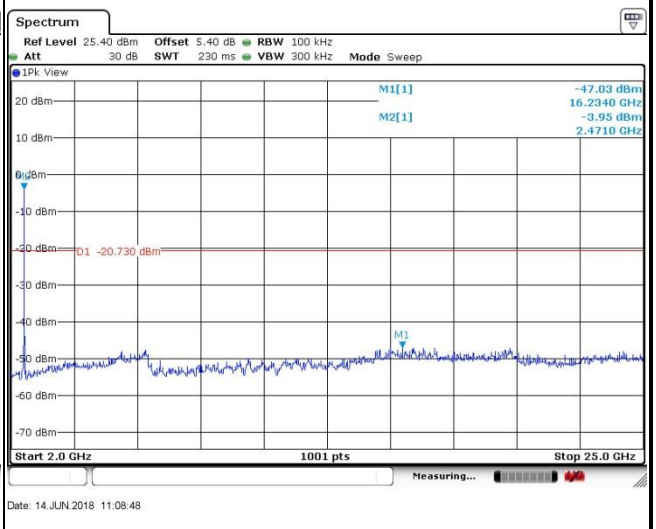
| Test Mode : | 802.11n HT20 | Test Channel : | 11 |
|---|---|---|---|

| 100kHz PSD reference Level | Channel Plot |
|---|---|
|  |  |
| **Spurious Emission 30MHz~3GHz** | **Spurious Emission 2GHz~25GHz** |
|  |  |

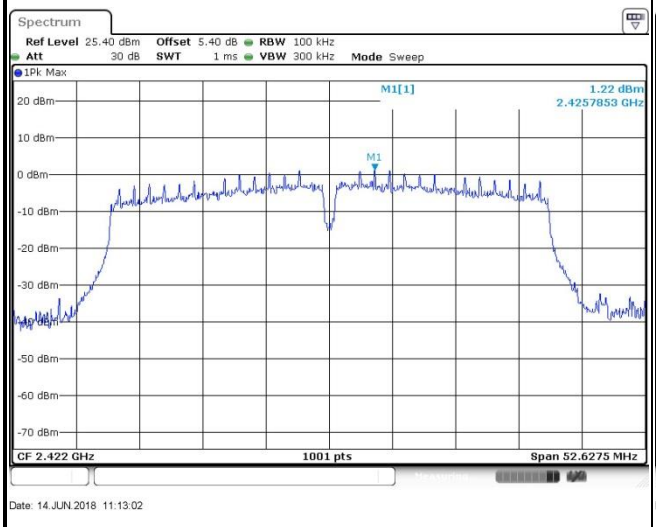
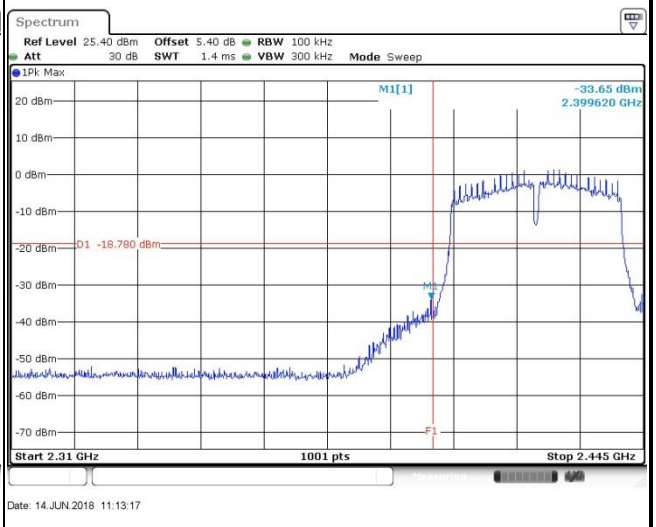
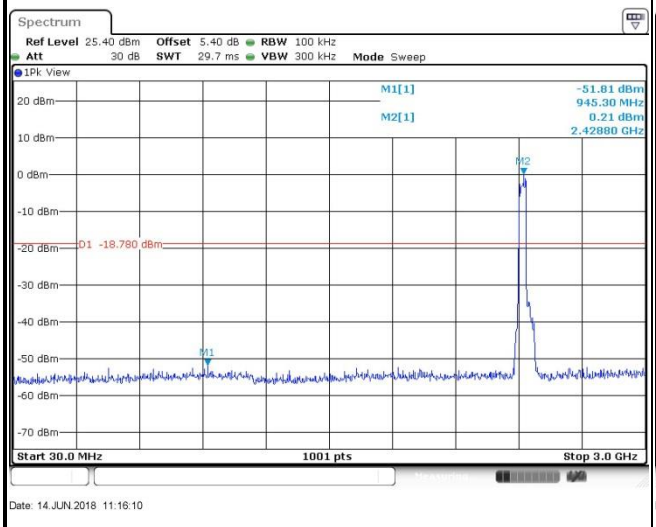
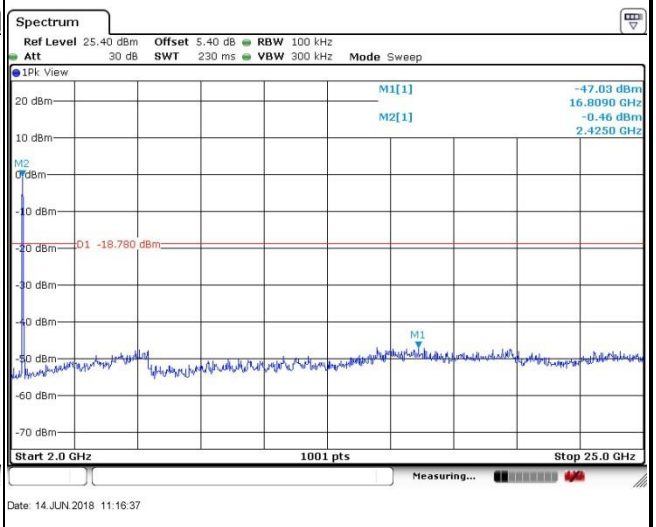
| Test Mode : | 802.11n HT20 | Test Channel : | 12 |
|---|---|---|---|

| 100kHz PSD reference Level | Channel Plot |
|---|---|
|  |  |
| **Spurious Emission 30MHz~3GHz** | **Spurious Emission 2GHz~25GHz** |
|  |  |

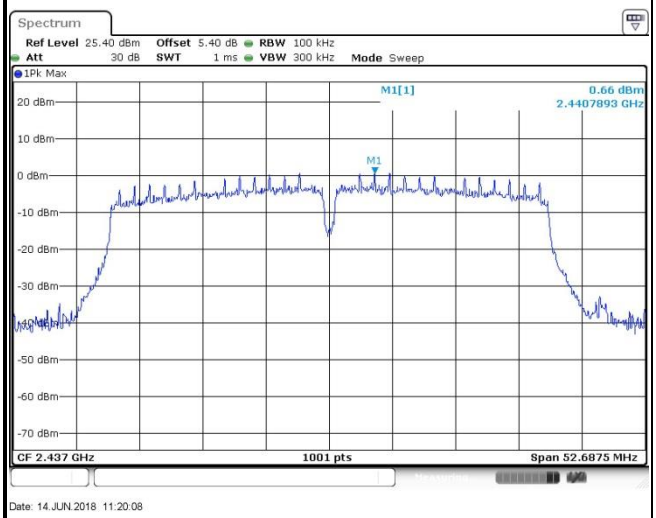
| Test Mode : | 802.11n HT20 | Test Channel : | 13 |
|---|---|---|---|

| 100kHz PSD reference Level | Channel Plot |
|---|---|
|  |  |
| **Spurious Emission 30MHz~3GHz** | **Spurious Emission 2GHz~25GHz** |
|  |  |

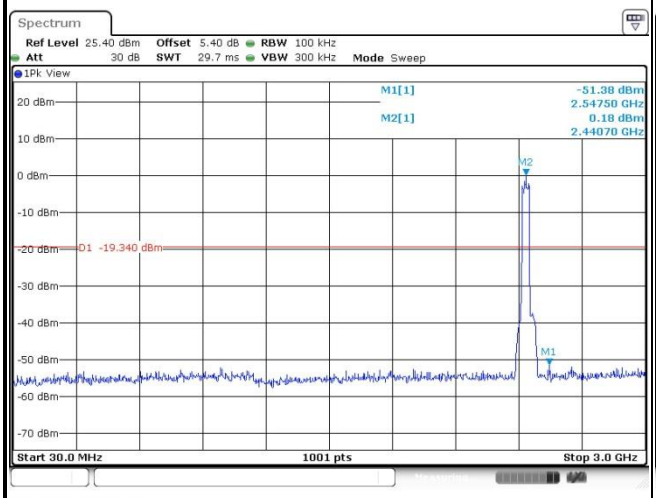
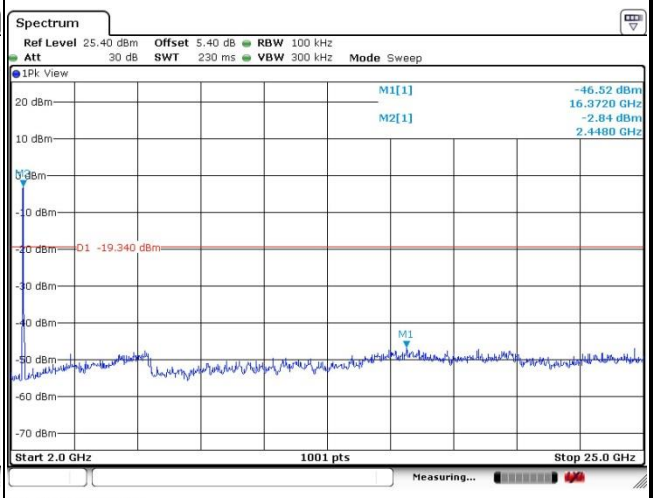
| Test Mode : | 802.11n HT40 | Test Channel : | 03 |
|---|---|---|---|

| 100kHz PSD reference Level | Channel Plot |
|---|---|
|  |  |
| **Spurious Emission 30MHz~3GHz** | **Spurious Emission 2GHz~25GHz** |
|  |  |

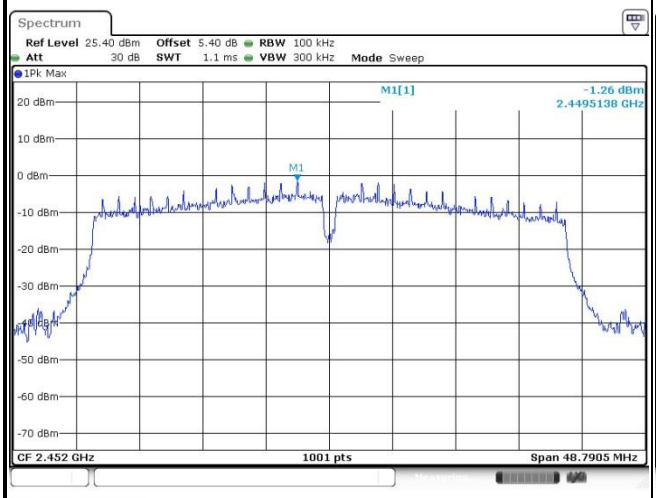
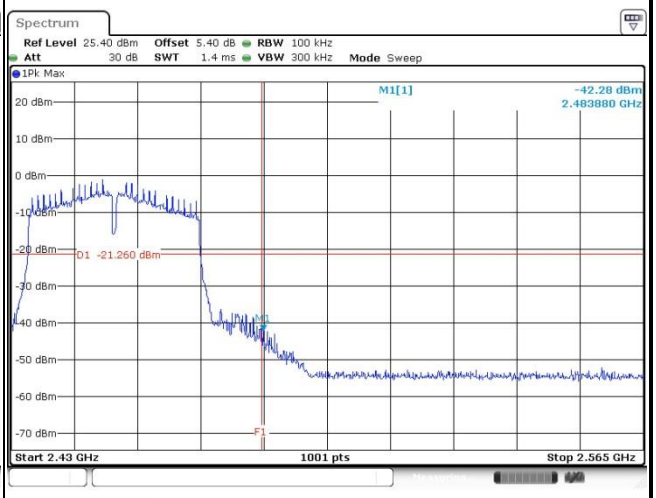
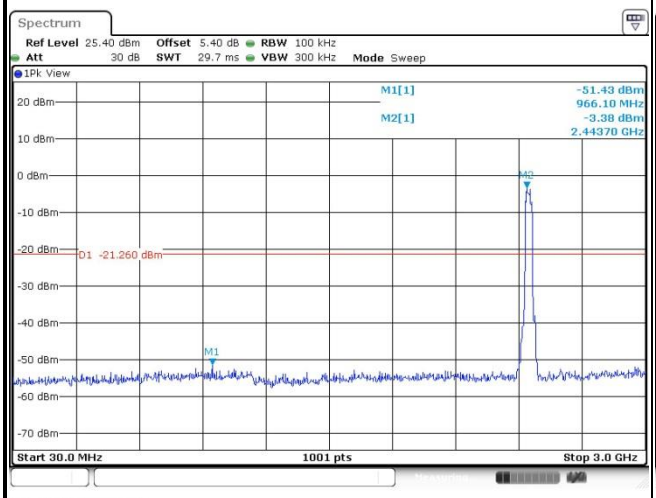
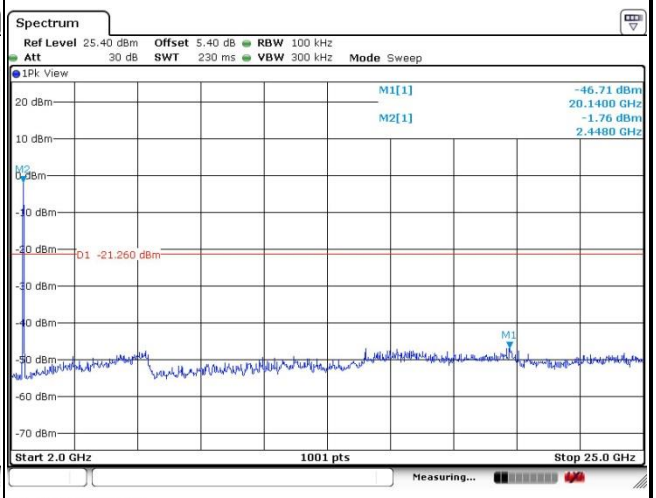
| Test Mode : | 802.11n HT40 | Test Channel : | 06 |
|---|---|---|---|

| 100kHz PSD reference Level | Channel Plot |
|---|---|
|  | |

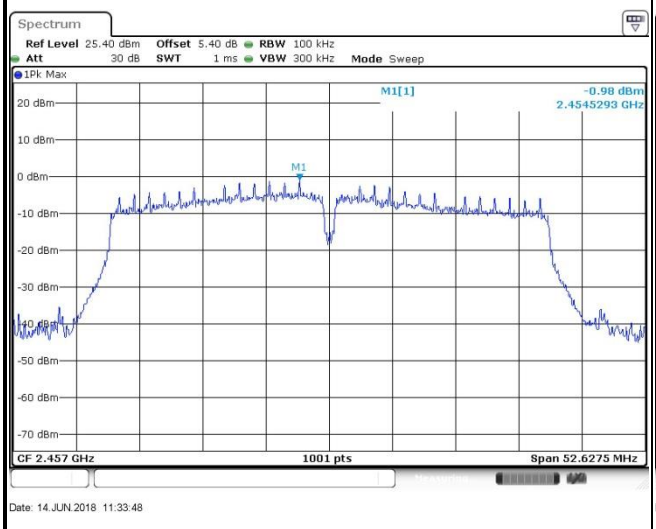
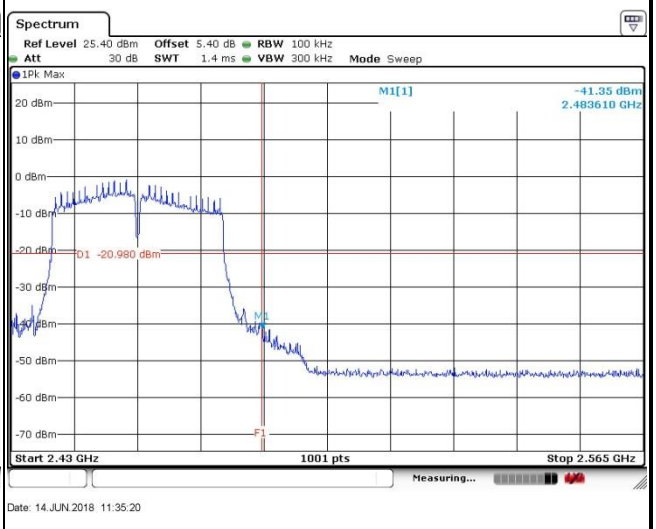
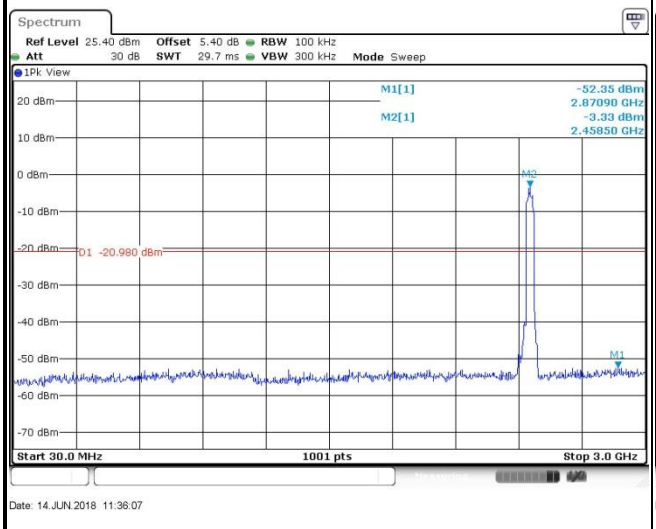
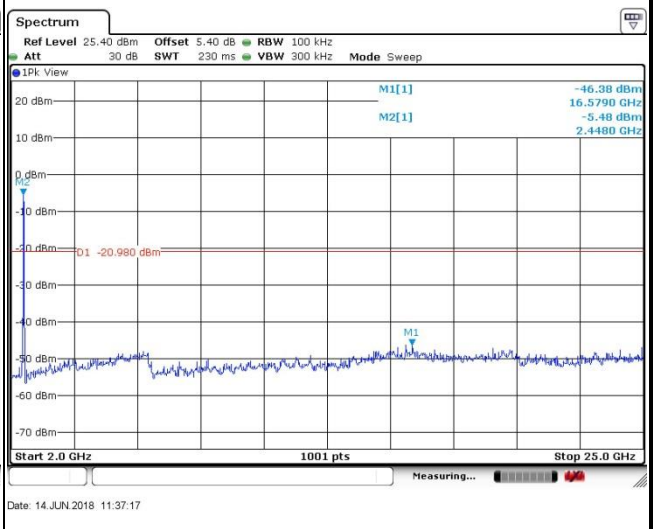


| Spurious Emission 30MHz~3GHz | Spurious Emission 2GHz~25GHz |
|---|---|
|  |  |

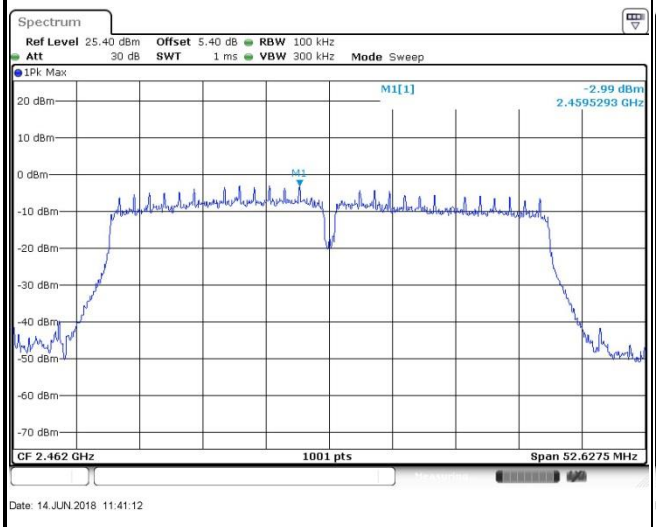
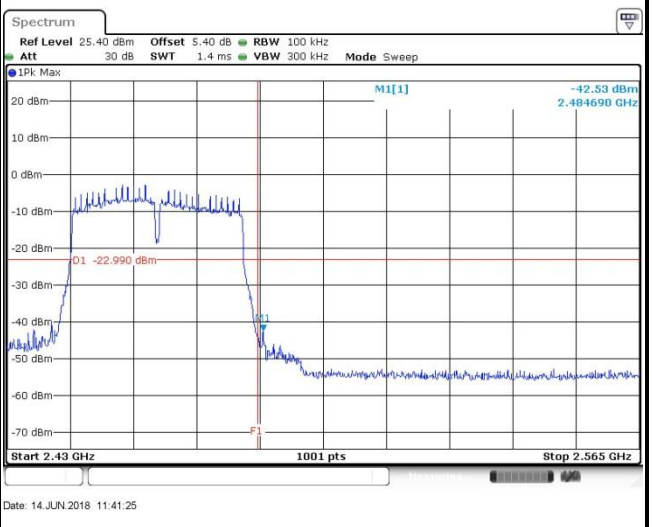
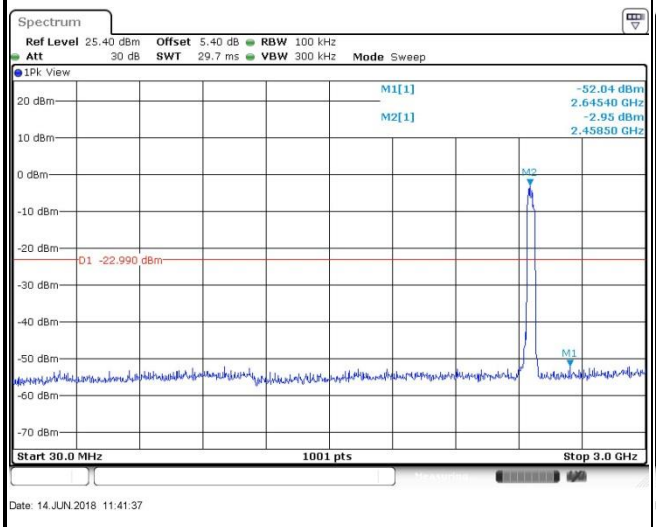
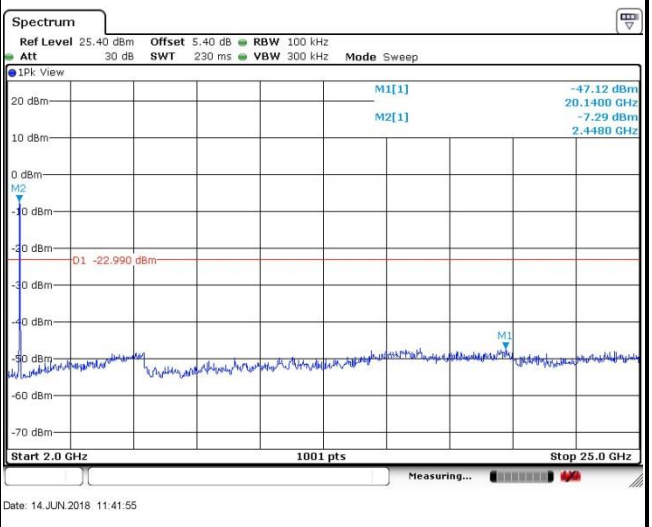
| Test Mode : | 802.11n HT40 | Test Channel : | 09 |
|---|---|---|---|

| 100kHz PSD reference Level | Channel Plot |
|---|---|
|  |  |
| **Spurious Emission 30MHz~3GHz** | **Spurious Emission 2GHz~25GHz** |
|  |  |

| Test Mode : | 802.11n HT40 | Test Channel : | 10 |
|---|---|---|---|

| 100kHz PSD reference Level | Channel Plot |
|---|---|
|  |  |
| **Spurious Emission 30MHz~3GHz** | **Spurious Emission 2GHz~25GHz** |
|  |  |

| Test Mode : | 802.11n HT40 | Test Channel : | 11 |
|---|---|---|---|

| 100kHz PSD reference Level | Channel Plot |
|---|---|
|  |  |
| **Spurious Emission 30MHz~3GHz** | **Spurious Emission 2GHz~25GHz** |
|  |  |

# 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 limits as below.

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

## 3.5.2 Measuring Instruments

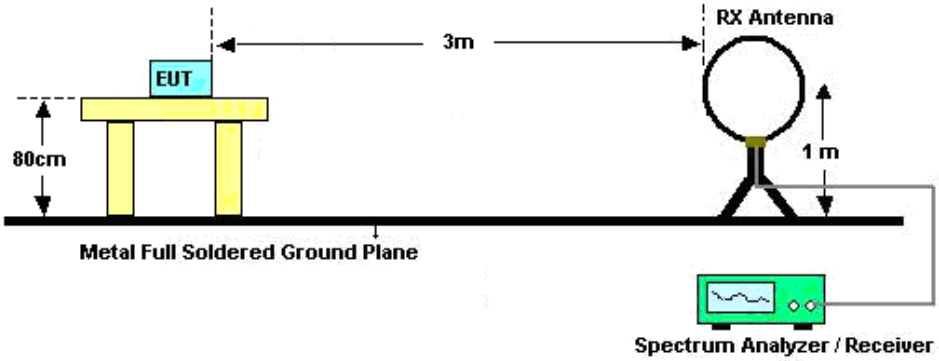
The measuring equipment is listed in the section 4 of this test report.

### 3.5.3 Test Procedures

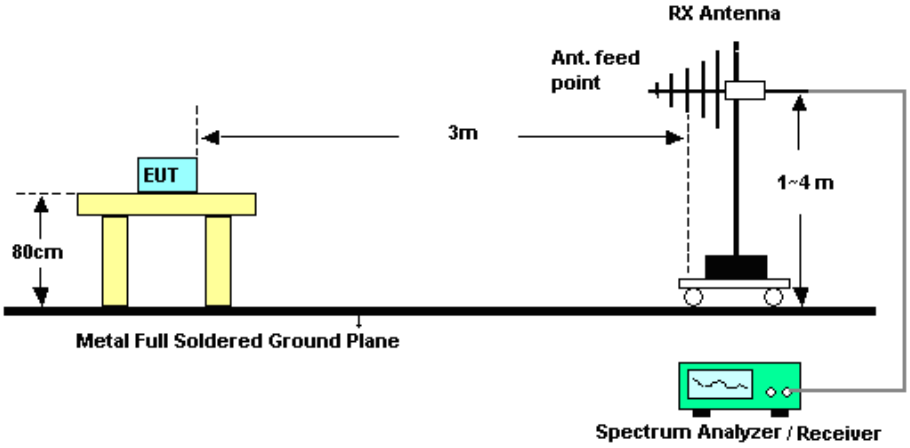
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test 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 testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. 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 ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 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

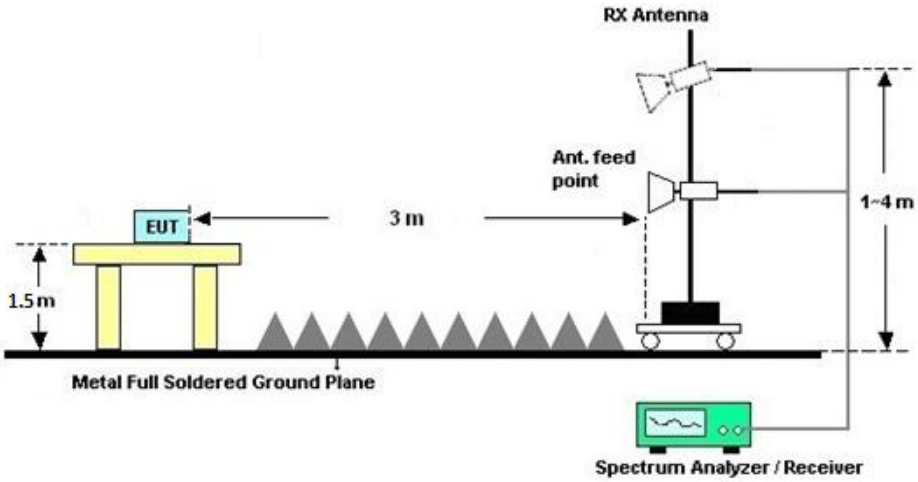
**For radiated emissions below 30MHz**




**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 was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

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

Please refer to Appendix C.

### 3.5.7 Duty Cycle

Please refer to Appendix D.

### 3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10$^{th}$ Harmonic)

Please refer to Appendix C.

# 3.6 AC Conducted Emission Measurement

## 3.6.1 Limit of AC Conducted Emission

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

| Frequency of Emission (MHz) | Conducted Limit (dBμV) | |
|---|---|---|
| | Quasi-Peak | Average |
| 0.15-0.5 | 66 to 56* | 56 to 46* |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

*Decreases with the logarithm of the frequency.

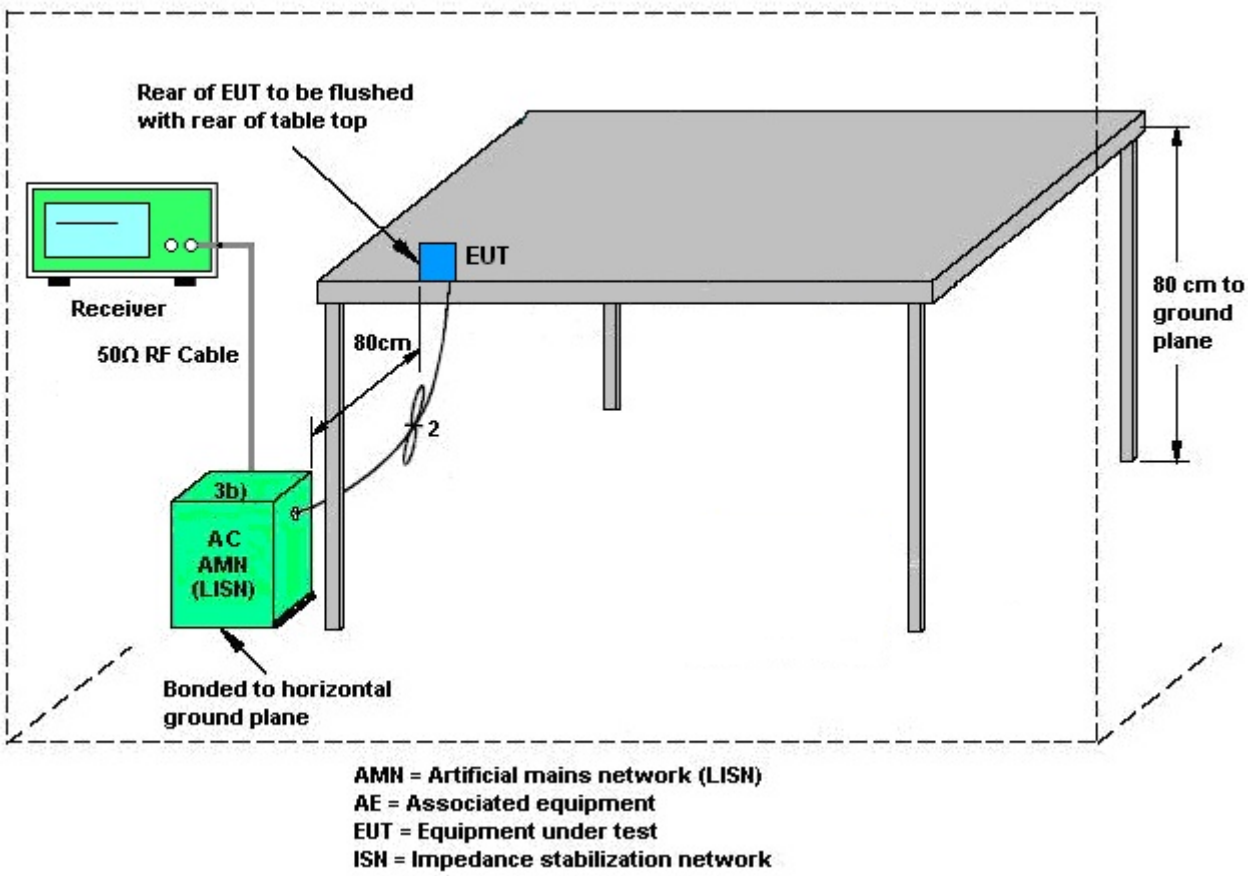
## 3.6.2 Measuring Instruments

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

## 3.6.3 Test Procedures

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

### 3.6.4 Test Setup




### 3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

# 3.7 Antenna Requirements

## 3.7.1 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.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 rule.

## 3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

## 3.7.3 Antenna Gain

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

# 4 List of Measuring Equipment

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Test Date | Due Date | Remark |
|---|---|---|---|---|---|---|---|---|
| Spectrum Analyzer | R&S | FSV40 | 101040 | 10Hz~40GHz | Aug. 08, 2017 | Jun. 14, 2018 | Aug. 07, 2018 | Conducted (TH01-KS) |
| Pulse Power Senor | Anritsu | MA2411B | 0917070 | 300MHz~40GHz | Jan. 18, 2018 | Jun. 14, 2018 | Jan. 17, 2019 | Conducted (TH01-KS) |
| Power Meter | Anritsu | ML2495A | 1005002 | 50MHz Bandwidth | Jan. 18, 2018 | Jun. 14, 2018 | Jan. 17, 2019 | Conducted (TH01-KS) |
| EMI Test Receiver | R&S | ESR7 | 101403 | 9kHz~7GHz;Max 30dBm | Aug. 08, 2017 | May 18, 2018 | Aug. 07, 2018 | Radiation (03CH02-KS) |
| EXA Spectrum Analyzer | Keysight | N9010A | MY55150208 | 10Hz-44G,MAX 30dB | Apr. 17, 2018 | May 18, 2018 | Apr. 16, 2019 | Radiation (03CH02-KS) |
| Loop Antenna | R&S | HFH2-Z2 | 100321 | 9kHz~30MHz | Oct. 22, 2017 | May 18, 2018 | Oct. 21, 2018 | Radiation (03CH02-KS) |
| Bilog Antenna | TeseQ | CBL6112D | 23182 | 30MHz-2GHz | Jan. 29, 2018 | May 18, 2018 | Jan. 28, 2019 | Radiation (03CH02-KS) |
| Double Ridge Horn Antenna | ETS-Lindgren | 3117 | 75957 | 1GHz~18GHz | Oct. 21, 2017 | May 18, 2018 | Oct. 20, 2018 | Radiation (03CH02-KS) |
| high gain Amplifier | MITEQ | AMF-7D-00101800-30-10P | 2025788 | 100MHz-18GHz | Apr. 17, 2018 | May 18, 2018 | Apr. 16, 2019 | Radiation (03CH02-KS) |
| SHF-EHF Horn | Schwarzbeck | BBHA 9170 | BBHA170249 | 15GHz~40GHz | Feb. 07, 2018 | May 18, 2018 | Feb. 06, 2019 | Radiation (03CH02-KS) |
| Amplifier | SONOMA | 310N | 187289 | 9KHz-1GHz | Aug. 07, 2017 | May 18, 2018 | Aug. 06, 2018 | Radiation (03CH02-KS) |
| Amplifier | Agilent | 8449B | 3008A02384 | 1GHz~26.5GHz | Oct. 12, 2017 | May 18, 2018 | Oct. 11, 2018 | Radiation (03CH02-KS) |
| Amplifier | MITEQ | TTA1840-35-HG | 1887435 | 18~40GHz | Oct. 12, 2017 | May 18, 2018 | Oct. 11, 2018 | Radiation (03CH02-KS) |
| AC Power Source | Chroma | 61601 | 616010002473 | N/A | NCR | May 18, 2018 | NCR | Radiation (03CH02-KS) |
| Turn Table | MF | MF7802 | N/A | 0~360 degree | NCR | May 18, 2018 | NCR | Radiation (03CH02-KS) |
| Antenna Mast | MF | MF7802 | N/A | 1 m~4 m | NCR | May 18, 2018 | NCR | Radiation (03CH02-KS) |
| EMI Receiver | R&S | ESCI7 | 100768 | 9kHz~7GHz; | Apr. 19, 2018 | May 23, 2018 | Apr. 18, 2019 | Conduction (CO01-KS) |
| AC LISN | MessTec | AN3016 | 060103 | 9kHz~30MHz | Oct. 13, 2017 | May 23, 2018 | Oct. 12, 2018 | Conduction (CO01-KS) |
| AC LISN (for auxiliary equipment) | MessTec | AN3016 | 060105 | 9kHz~30MHz | Oct. 13, 2017 | May 23, 2018 | Oct. 12, 2018 | Conduction (CO01-KS) |
| AC Power Source | Chroma | 61602 | ABP000000811 | AC 0V~300V, 45Hz~1000Hz | Oct. 12, 2017 | May 23, 2018 | Oct. 11, 2018 | Conduction (CO01-KS) |

NCR: No Calibration Required

# 5 Uncertainty of Evaluation

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

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **2.9 dB** |

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

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **4.2 dB** |

**Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)**

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **4.2 dB** |

**Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)**

| | |
|---|---|
| **Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))** | **4.7 dB** |

## A1 - DTS Part

| | | | | |
|---|---|---|---|---|
| Test Engineer: | Silent Hai | Temperature: | 21~25 | °C |
| Test Date: | 2018/6/14 | Relative Humidity: | 51~55 | % |

***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 |
| 11b | 1Mbps | 1 | 1 | 2412 | 12.89 | 8.05 | 0.50 | Pass |
| 11b | 1Mbps | 1 | 6 | 2437 | 12.99 | 7.09 | 0.50 | Pass |
| 11b | 1Mbps | 1 | 11 | 2462 | 13.04 | 8.51 | 0.50 | Pass |
| 11b | 1Mbps | 1 | 12 | 2467 | 13.14 | 8.05 | 0.50 | Pass |
| 11b | 1Mbps | 1 | 13 | 2472 | 12.99 | 8.51 | 0.50 | Pass |
| 11g | 6Mbps | 1 | 1 | 2412 | 17.93 | 15.47 | 0.50 | Pass |
| 11g | 6Mbps | 1 | 6 | 2437 | 18.08 | 15.68 | 0.50 | Pass |
| 11g | 6Mbps | 1 | 11 | 2462 | 18.18 | 15.68 | 0.50 | Pass |
| 11g | 6Mbps | 1 | 12 | 2467 | 18.28 | 16.04 | 0.50 | Pass |
| 11g | 6Mbps | 1 | 13 | 2472 | 18.13 | 15.47 | 0.50 | Pass |
| HT20 | MCS0 | 1 | 1 | 2412 | 18.43 | 16.06 | 0.50 | Pass |
| HT20 | MCS0 | 1 | 6 | 2437 | 18.43 | 15.94 | 0.50 | Pass |
| HT20 | MCS0 | 1 | 11 | 2462 | 18.63 | 16.06 | 0.50 | Pass |
| HT20 | MCS0 | 1 | 12 | 2467 | 18.73 | 16.90 | 0.50 | Pass |
| HT20 | MCS0 | 1 | 13 | 2472 | 18.28 | 15.96 | 0.50 | Pass |
| HT40 | MCS0 | 1 | 3 | 2422 | 36.46 | 35.09 | 0.50 | Pass |
| HT40 | MCS0 | 1 | 6 | 2437 | 36.36 | 35.13 | 0.50 | Pass |
| HT40 | MCS0 | 1 | 9 | 2452 | 36.26 | 32.53 | 0.50 | Pass |
| HT40 | MCS0 | 1 | 10 | 2457 | 36.26 | 35.09 | 0.50 | Pass |
| HT40 | MCS0 | 1 | 11 | 2462 | 36.56 | 35.09 | 0.50 | Pass |

## ***TEST RESULTS DATA***
## ***Peak Power Table***

| 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 |
| 11b | 1Mbps | 1 | 1 | 2412 | 16.48 | 30.00 | 1.25 | 17.73 | 36.00 | Pass |
| 11b | 1Mbps | 1 | 6 | 2437 | 16.75 | 30.00 | 1.25 | 18.00 | 36.00 | Pass |
| 11b | 1Mbps | 1 | 11 | 2462 | 16.35 | 30.00 | 1.25 | 17.60 | 36.00 | Pass |
| 11b | 1Mbps | 1 | 12 | 2467 | 16.06 | 30.00 | 1.25 | 17.31 | 36.00 | Pass |
| 11b | 1Mbps | 1 | 13 | 2472 | 15.86 | 30.00 | 1.25 | 17.11 | 36.00 | Pass |
| 11g | 6Mbps | 1 | 1 | 2412 | 24.73 | 30.00 | 1.25 | 25.98 | 36.00 | Pass |
| 11g | 6Mbps | 1 | 6 | 2437 | 24.75 | 30.00 | 1.25 | 26.00 | 36.00 | Pass |
| 11g | 6Mbps | 1 | 11 | 2462 | 23.96 | 30.00 | 1.25 | 25.21 | 36.00 | Pass |
| 11g | 6Mbps | 1 | 12 | 2467 | 23.93 | 30.00 | 1.25 | 25.18 | 36.00 | Pass |
| 11g | 6Mbps | 1 | 13 | 2472 | 20.86 | 30.00 | 1.25 | 22.11 | 36.00 | Pass |
| HT20 | MCS0 | 1 | 1 | 2412 | 25.05 | 30.00 | 1.25 | 26.30 | 36.00 | Pass |
| HT20 | MCS0 | 1 | 6 | 2437 | 25.06 | 30.00 | 1.25 | 26.31 | 36.00 | Pass |
| HT20 | MCS0 | 1 | 11 | 2462 | 24.33 | 30.00 | 1.25 | 25.58 | 36.00 | Pass |
| HT20 | MCS0 | 1 | 12 | 2467 | 24.36 | 30.00 | 1.25 | 25.61 | 36.00 | Pass |
| HT20 | MCS0 | 1 | 13 | 2472 | 20.89 | 30.00 | 1.25 | 22.14 | 36.00 | Pass |
| HT40 | MCS0 | 1 | 3 | 2422 | 25.06 | 30.00 | 1.25 | 26.31 | 36.00 | Pass |
| HT40 | MCS0 | 1 | 6 | 2437 | 25.03 | 30.00 | 1.25 | 26.28 | 36.00 | Pass |
| HT40 | MCS0 | 1 | 9 | 2452 | 23.73 | 30.00 | 1.25 | 24.98 | 36.00 | Pass |
| HT40 | MCS0 | 1 | 10 | 2457 | 23.99 | 30.00 | 1.25 | 25.24 | 36.00 | Pass |
| HT40 | MCS0 | 1 | 11 | 2462 | 22.48 | 30.00 | 1.25 | 23.73 | 36.00 | Pass |

***TEST RESULTS DATA***
***Average Power Table***
***(Reporting Only)***

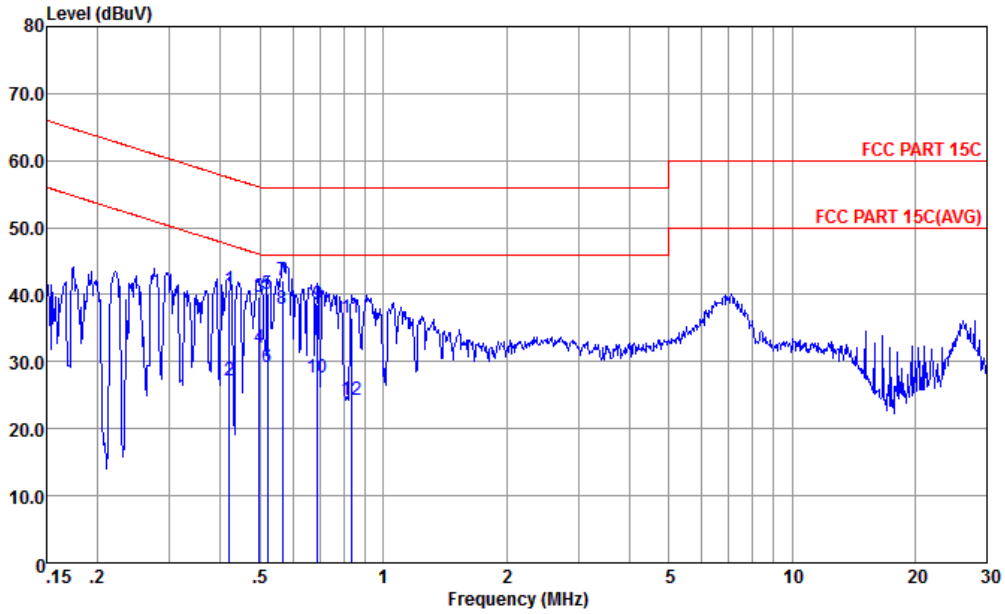
| 2.4GHz Band | | | | | | |
|---|---|---|---|---|---|---|
| Mod. | Data Rate | NTX | CH. | Freq. (MHz) | Duty Factor (dB) | Average Conducted Power (dBm) |
| 11b | 1Mbps | 1 | 1 | 2412 | 0.00 | 14.02 |
| 11b | 1Mbps | 1 | 6 | 2437 | 0.00 | 14.28 |
| 11b | 1Mbps | 1 | 11 | 2462 | 0.00 | 13.85 |
| 11b | 1Mbps | 1 | 12 | 2467 | 0.00 | 13.68 |
| 11b | 1Mbps | 1 | 13 | 2472 | 0.00 | 13.62 |
| 11g | 6Mbps | 1 | 1 | 2412 | 0.11 | 13.76 |
| 11g | 6Mbps | 1 | 6 | 2437 | 0.11 | 14.13 |
| 11g | 6Mbps | 1 | 11 | 2462 | 0.11 | 13.73 |
| 11g | 6Mbps | 1 | 12 | 2467 | 0.11 | 13.60 |
| 11g | 6Mbps | 1 | 13 | 2472 | 0.11 | 10.93 |
| HT20 | MCS0 | 1 | 1 | 2412 | 0.12 | 13.73 |
| HT20 | MCS0 | 1 | 6 | 2437 | 0.12 | 14.09 |
| HT20 | MCS0 | 1 | 11 | 2462 | 0.12 | 13.60 |
| HT20 | MCS0 | 1 | 12 | 2467 | 0.12 | 13.53 |
| HT20 | MCS0 | 1 | 13 | 2472 | 0.12 | 9.36 |
| HT40 | MCS0 | 1 | 3 | 2422 | 0.25 | 13.96 |
| HT40 | MCS0 | 1 | 6 | 2437 | 0.25 | 13.93 |
| HT40 | MCS0 | 1 | 9 | 2452 | 0.25 | 10.83 |
| HT40 | MCS0 | 1 | 10 | 2457 | 0.25 | 11.26 |
| HT40 | MCS0 | 1 | 11 | 2462 | 0.25 | 10.20 |

## ***TEST RESULTS DATA***
## ***Peak Power Density***

| 2.4GHz Band | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Mod. | Data Rate | NTX | CH. | Freq. (MHz) | Peak PSD (dBm /3kHz) | DG (dBi) | Peak PSD Limit (dBm /3kHz) | Pass/Fail |
| 11b | 1Mbps | 1 | 1 | 2412 | -11.20 | 1.25 | 8.00 | Pass |
| 11b | 1Mbps | 1 | 6 | 2437 | -11.40 | 1.25 | 8.00 | Pass |
| 11b | 1Mbps | 1 | 11 | 2462 | -11.74 | 1.25 | 8.00 | Pass |
| 11b | 1Mbps | 1 | 12 | 2467 | -11.70 | 1.25 | 8.00 | Pass |
| 11b | 1Mbps | 1 | 13 | 2472 | -11.26 | 1.25 | 8.00 | Pass |
| 11g | 6Mbps | 1 | 1 | 2412 | -12.40 | 1.25 | 8.00 | Pass |
| 11g | 6Mbps | 1 | 6 | 2437 | -11.46 | 1.25 | 8.00 | Pass |
| 11g | 6Mbps | 1 | 11 | 2462 | -10.95 | 1.25 | 8.00 | Pass |
| 11g | 6Mbps | 1 | 12 | 2467 | -11.56 | 1.25 | 8.00 | Pass |
| 11g | 6Mbps | 1 | 13 | 2472 | -15.27 | 1.25 | 8.00 | Pass |
| HT20 | MCS0 | 1 | 1 | 2412 | -11.57 | 1.25 | 8.00 | Pass |
| HT20 | MCS0 | 1 | 6 | 2437 | -12.46 | 1.25 | 8.00 | Pass |
| HT20 | MCS0 | 1 | 11 | 2462 | -11.97 | 1.25 | 8.00 | Pass |
| HT20 | MCS0 | 1 | 12 | 2467 | -12.36 | 1.25 | 8.00 | Pass |
| HT20 | MCS0 | 1 | 13 | 2472 | -16.16 | 1.25 | 8.00 | Pass |
| HT40 | MCS0 | 1 | 3 | 2422 | -13.92 | 1.25 | 8.00 | Pass |
| HT40 | MCS0 | 1 | 6 | 2437 | -14.77 | 1.25 | 8.00 | Pass |
| HT40 | MCS0 | 1 | 9 | 2452 | -17.21 | 1.25 | 8.00 | Pass |
| HT40 | MCS0 | 1 | 10 | 2457 | -15.97 | 1.25 | 8.00 | Pass |
| HT40 | MCS0 | 1 | 11 | 2462 | -19.03 | 1.25 | 8.00 | Pass |

# Appendix B. AC Conducted Emission Test Results

| | | | |
|---|---|---|---|
| **Test Engineer :** | Amos Zhang | **Temperature :** | 24.4~24.7℃ |
| | | **Relative Humidity :** | 47~49% |
| **Test Voltage :** | 120Vac / 60Hz | **Phase :** | Line |

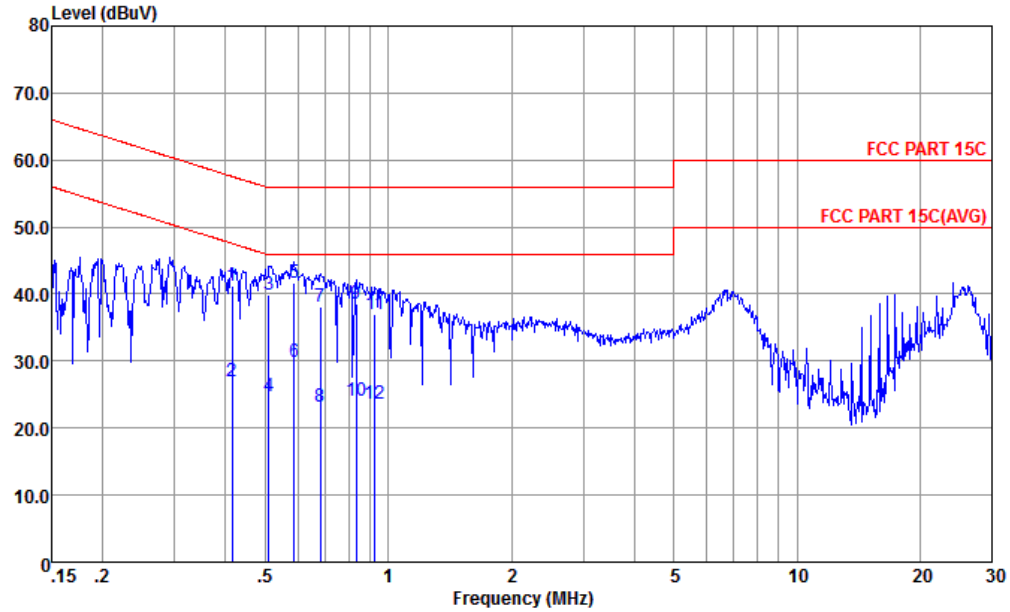



Site : CO01-KS
Condition : FCC PART 15C LISN-L-171013-060103 LINE

mode : Mode 5
: 353930090005084/353930090010084 #3

| | | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | | 0.419 | 40.84 | -16.62 | 57.46 | 30.20 | 0.25 | 10.39 | QP |
| 2 | | 0.419 | 27.24 | -20.22 | 47.46 | 16.60 | 0.25 | 10.39 | Average |
| 3 | | 0.497 | 39.77 | -16.28 | 56.05 | 29.20 | 0.26 | 10.31 | QP |
| 4 | | 0.497 | 32.17 | -13.88 | 46.05 | 21.60 | 0.26 | 10.31 | Average |
| 5 | | 0.521 | 40.15 | -15.85 | 56.00 | 29.60 | 0.26 | 10.29 | QP |
| 6 | | 0.521 | 29.15 | -16.85 | 46.00 | 18.60 | 0.26 | 10.29 | Average |
| 7 | | 0.567 | 42.01 | -13.99 | 56.00 | 31.50 | 0.26 | 10.25 | QP |
| 8 | * | 0.567 | 37.81 | -8.19 | 46.00 | 27.30 | 0.26 | 10.25 | Average |
| 9 | | 0.690 | 38.63 | -17.37 | 56.00 | 28.20 | 0.26 | 10.17 | QP |
| 10 | | 0.690 | 27.63 | -18.37 | 46.00 | 17.20 | 0.26 | 10.17 | Average |
| 11 | | 0.835 | 36.56 | -19.44 | 56.00 | 26.20 | 0.26 | 10.10 | QP |
| 12 | | 0.835 | 24.26 | -21.74 | 46.00 | 13.90 | 0.26 | 10.10 | Average |

| Test Engineer : | Amos Zhang | Temperature : | 24.4~24.7℃ |
|---|---|---|---|
| | | Relative Humidity : | 47~49% |
| Test Voltage : | 120Vac / 60Hz | Phase : | Neutral |




Site : CO01-KS
Condition : FCC PART 15C LISN-N-171013-060103 NEUTRAL

mode : Mode 5
: 353930090005084/353930090010084 #3

| | | Freq | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | dB | |
| 1 | | 0.415 | 41.18 | -16.37 | 57.55 | 30.50 | 0.29 | 10.39 | QP |
| 2 | | 0.415 | 26.88 | -20.67 | 47.55 | 16.20 | 0.29 | 10.39 | Average |
| 3 | | 0.510 | 39.79 | -16.21 | 56.00 | 29.20 | 0.29 | 10.30 | QP |
| 4 | | 0.510 | 24.79 | -21.21 | 46.00 | 14.20 | 0.29 | 10.30 | Average |
| 5 | * | 0.589 | 41.73 | -14.27 | 56.00 | 31.20 | 0.29 | 10.24 | QP |
| 6 | | 0.589 | 29.83 | -16.17 | 46.00 | 19.30 | 0.29 | 10.24 | Average |
| 7 | | 0.683 | 38.07 | -17.93 | 56.00 | 27.60 | 0.30 | 10.17 | QP |
| 8 | | 0.683 | 23.07 | -22.93 | 46.00 | 12.60 | 0.30 | 10.17 | Average |
| 9 | | 0.835 | 38.61 | -17.39 | 56.00 | 28.21 | 0.30 | 10.10 | QP |
| 10 | | 0.835 | 24.01 | -21.99 | 46.00 | 13.61 | 0.30 | 10.10 | Average |
| 11 | | 0.928 | 37.01 | -18.99 | 56.00 | 26.59 | 0.31 | 10.11 | QP |
| 12 | | 0.928 | 23.71 | -22.29 | 46.00 | 13.29 | 0.31 | 10.11 | Average |

# Appendix C. Radiated Spurious Emission

**2.4GHz 2400~2483.5MHz**

**WIFI 802.11b (Band Edge @ 3m)**

| WIFI Ant. | Note | Frequency | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Peak Avg. | Pol. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | ( MHz ) | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 802.11b CH 01 2412MHz | | 2386.44 | 52.85 | -21.15 | 74 | 50.04 | 31.3 | 5.65 | 34.14 | 163 | 25 | P | H |
| | | 2389.43 | 41.14 | -12.86 | 54 | 38.33 | 31.3 | 5.65 | 34.14 | 163 | 25 | A | H |
| | * | 2414 | 102.67 | - | - | 99.83 | 31.33 | 5.67 | 34.16 | 163 | 25 | P | H |
| | * | 2414 | 99.57 | - | - | 96.73 | 31.33 | 5.67 | 34.16 | 163 | 25 | A | H |
| | | 2385.4 | 52.55 | -21.45 | 74 | 49.79 | 31.27 | 5.63 | 34.14 | 325 | 119 | P | V |
| | | 2385.4 | 41.11 | -12.89 | 54 | 38.35 | 31.27 | 5.63 | 34.14 | 325 | 119 | A | V |
| | * | 2414 | 99.22 | - | - | 96.38 | 31.33 | 5.67 | 34.16 | 325 | 119 | P | V |
| | * | 2414 | 95.99 | - | - | 93.15 | 31.33 | 5.67 | 34.16 | 325 | 119 | A | V |
| 802.11b CH 11 2462MHz | * | 2464 | 103.91 | - | - | 101.02 | 31.41 | 5.73 | 34.25 | 215 | 27 | P | H |
| | * | 2462 | 100.68 | - | - | 97.79 | 31.41 | 5.73 | 34.25 | 215 | 27 | A | H |
| | | 2494.84 | 52.9 | -21.1 | 74 | 49.96 | 31.47 | 5.77 | 34.3 | 215 | 27 | P | H |
| | | 2483.5 | 41.81 | -12.19 | 54 | 38.9 | 31.44 | 5.75 | 34.28 | 215 | 27 | A | H |
| | * | 2464 | 99.36 | - | - | 96.47 | 31.41 | 5.73 | 34.25 | 349 | 118 | P | V |
| | * | 2464 | 96.21 | - | - | 93.32 | 31.41 | 5.73 | 34.25 | 349 | 118 | A | V |
| | | 2498.02 | 52.51 | -21.49 | 74 | 49.57 | 31.47 | 5.77 | 34.3 | 349 | 118 | P | V |
| | | 2494.6 | 41.29 | -12.71 | 54 | 38.35 | 31.47 | 5.77 | 34.3 | 349 | 118 | A | V |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **802.11b CH 12 2467MHz** | * | 2466 | 103.54 | - | - | 100.65 | 31.41 | 5.73 | 34.25 | 161 | 28 | P | H |
| | * | 2466 | 100.52 | - | - | 97.63 | 31.41 | 5.73 | 34.25 | 161 | 28 | A | H |
| | | 2484.34 | 53.62 | -20.38 | 74 | 50.71 | 31.44 | 5.75 | 34.28 | 161 | 28 | P | H |
| | | 2483.8 | 43.29 | -10.71 | 54 | 40.38 | 31.44 | 5.75 | 34.28 | 161 | 28 | A | H |
| | * | 2466 | 98.9 | - | - | 96.01 | 31.41 | 5.73 | 34.25 | 358 | 117 | P | V |
| | * | 2466 | 95.64 | - | - | 92.75 | 31.41 | 5.73 | 34.25 | 358 | 117 | A | V |
| | | 2490.04 | 52.68 | -21.32 | 74 | 49.74 | 31.47 | 5.77 | 34.3 | 358 | 117 | P | V |
| | | 2483.56 | 41.47 | -12.53 | 54 | 38.56 | 31.44 | 5.75 | 34.28 | 358 | 117 | A | V |
| **802.11b CH 13 2472MHz** | * | 2472 | 103.56 | - | - | 100.65 | 31.44 | 5.75 | 34.28 | 237 | 27 | P | H |
| | * | 2470 | 100.61 | - | - | 97.72 | 31.41 | 5.73 | 34.25 | 237 | 27 | A | H |
| | | 2483.98 | 55.46 | -18.54 | 74 | 52.55 | 31.44 | 5.75 | 34.28 | 237 | 27 | P | H |
| | | 2483.68 | 46.12 | -7.88 | 54 | 43.21 | 31.44 | 5.75 | 34.28 | 237 | 27 | A | H |
| | * | 2472 | 99.53 | - | - | 96.62 | 31.44 | 5.75 | 34.28 | 349 | 108 | P | V |
| | * | 2470 | 96.3 | - | - | 93.41 | 31.41 | 5.73 | 34.25 | 349 | 108 | A | V |
| | | 2485.06 | 53.26 | -20.74 | 74 | 50.35 | 31.44 | 5.75 | 34.28 | 349 | 108 | P | V |
| | | 2483.74 | 43.42 | -10.58 | 54 | 40.51 | 31.44 | 5.75 | 34.28 | 349 | 108 | A | V |
| **Remark** | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. | | | | | | | | | | | | |

## 2.4GHz 2400~2483.5MHz

## WIFI 802.11b (Harmonic @ 3m)

| WIFI Ant. 1 | Note | Frequency ( MHz ) | Level ( dBµV/m ) | Over Limit ( dB ) | Limit Line ( dBµV/m ) | Read Level ( dBµV ) | Antenna Factor ( dB/m ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Peak Avg. (P/A) | Pol. (H/V) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 802.11b CH 01 2412MHz | | 4824 | 53.17 | -20.83 | 74 | 74.19 | 35.65 | 7.86 | 64.53 | 100 | 360 | P | H |
| | | 4824 | 50.98 | -3.02 | 54 | 72 | 35.65 | 7.86 | 64.53 | 100 | 360 | A | H |
| | | 4824 | 53.45 | -20.55 | 74 | 74.47 | 35.65 | 7.86 | 64.53 | 100 | 360 | P | V |
| | | 4824 | 50.15 | -3.85 | 54 | 71.17 | 35.65 | 7.86 | 64.53 | 100 | 264 | A | V |
| 802.11b CH 06 2437MHz | | 4872 | 48.4 | -25.6 | 74 | 69.49 | 35.61 | 7.9 | 64.6 | 100 | 360 | P | H |
| | | 7308 | 42.69 | -31.31 | 74 | 62.31 | 35.89 | 9.5 | 65.01 | 100 | 360 | P | H |
| | | 4872 | 48.73 | -25.27 | 74 | 69.82 | 35.61 | 7.9 | 64.6 | 100 | 360 | P | V |
| | | 7308 | 44.91 | -29.09 | 74 | 64.53 | 35.89 | 9.5 | 65.01 | 100 | 360 | P | V |
| 802.11b CH 11 2462MHz | | 4926 | 46.78 | -27.22 | 74 | 67.95 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | H |
| | | 7386 | 41.58 | -32.42 | 74 | 61.16 | 35.94 | 9.53 | 65.05 | 100 | 360 | P | H |
| | | 4926 | 46.56 | -27.44 | 74 | 67.73 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | V |
| | | 7386 | 44.05 | -29.95 | 74 | 63.63 | 35.94 | 9.53 | 65.05 | 100 | 360 | P | V |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **802.11b CH 12 2467MHz** | | 4932 | 45.94 | -28.06 | 74 | 67.11 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | H |
| | | 7404 | 40.85 | -33.15 | 74 | 60.42 | 35.95 | 9.54 | 65.06 | 100 | 360 | P | H |
| | | 4932 | 45.43 | -28.57 | 74 | 66.6 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | V |
| | | 7404 | 44.34 | -29.66 | 74 | 63.91 | 35.95 | 9.54 | 65.06 | 100 | 360 | P | V |
| **802.11b CH 13 2472MHz** | | 4944 | 46.32 | -27.68 | 74 | 67.51 | 35.55 | 7.96 | 64.7 | 100 | 360 | P | H |
| | | 7416 | 40.9 | -33.1 | 74 | 60.47 | 35.95 | 9.54 | 65.06 | 100 | 360 | P | H |
| | | 4944 | 47.59 | -26.41 | 74 | 68.78 | 35.55 | 7.96 | 64.7 | 100 | 360 | P | V |
| | | 7416 | 43.44 | -30.56 | 74 | 63.01 | 35.95 | 9.54 | 65.06 | 100 | 360 | P | V |
| **Remark** | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. | | | | | | | | | | | | |

## 2.4GHz 2400~2483.5MHz

## WIFI 802.11g (Band Edge @ 3m)

| WIFI Ant. 1 | Note | Frequency ( MHz ) | Level ( dBμV/m ) | Over Limit ( dB ) | Limit Line ( dBμV/m ) | Read Level ( dBμV ) | Antenna Factor ( dB/m ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Peak Avg. (P/A) | Pol. (H/V) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 802.11g CH 01 2412MHz | | 2389.95 | 54.95 | -19.05 | 74 | 52.14 | 31.3 | 5.65 | 34.14 | 114 | 62 | P | H |
| | | 2389.82 | 43.11 | -10.89 | 54 | 40.3 | 31.3 | 5.65 | 34.14 | 114 | 62 | A | H |
| | * | 2418 | 103.73 | - | - | 100.89 | 31.33 | 5.67 | 34.16 | 114 | 62 | P | H |
| | * | 2418 | 96.02 | - | - | 93.18 | 31.33 | 5.67 | 34.16 | 114 | 62 | A | H |
| | | 2389.3 | 52.68 | -21.32 | 74 | 49.87 | 31.3 | 5.65 | 34.14 | 132 | 260 | P | V |
| | | 2389.56 | 42.4 | -11.6 | 54 | 39.59 | 31.3 | 5.65 | 34.14 | 132 | 260 | A | V |
| | * | 2420 | 102.09 | - | - | 99.23 | 31.36 | 5.69 | 34.19 | 132 | 260 | P | V |
| | * | 2420 | 94.35 | - | - | 91.49 | 31.36 | 5.69 | 34.19 | 132 | 260 | A | V |
| 802.11g CH 11 2462MHz | * | 2464 | 105.4 | - | - | 102.51 | 31.41 | 5.73 | 34.25 | 159 | 38 | P | H |
| | * | 2464 | 97.7 | - | - | 94.81 | 31.41 | 5.73 | 34.25 | 159 | 38 | A | H |
| | | 2483.62 | 61.97 | -12.03 | 74 | 59.06 | 31.44 | 5.75 | 34.28 | 159 | 38 | P | H |
| | | 2483.68 | 46.42 | -7.58 | 54 | 43.51 | 31.44 | 5.75 | 34.28 | 159 | 38 | A | H |
| | * | 2464 | 101.86 | - | - | 98.97 | 31.41 | 5.73 | 34.25 | 130 | 284 | P | V |
| | * | 2464 | 94.19 | - | - | 91.3 | 31.41 | 5.73 | 34.25 | 130 | 284 | A | V |
| | | 2484.94 | 58.49 | -15.51 | 74 | 55.58 | 31.44 | 5.75 | 34.28 | 130 | 284 | P | V |
| | | 2483.51 | 44.08 | -9.92 | 54 | 41.17 | 31.44 | 5.75 | 34.28 | 130 | 284 | A | V |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **802.11g CH 12 2467MHz** | * | 2466 | 105.56 | - | - | 102.67 | 31.41 | 5.73 | 34.25 | 162 | 38 | P | H |
| | * | 2466 | 97.93 | - | - | 95.04 | 31.41 | 5.73 | 34.25 | 162 | 38 | A | H |
| | | 2484.22 | 61.03 | -12.97 | 74 | 58.12 | 31.44 | 5.75 | 34.28 | 162 | 38 | P | H |
| | | 2483.62 | 49.28 | -4.72 | 54 | 46.37 | 31.44 | 5.75 | 34.28 | 162 | 38 | A | H |
| | * | 2466 | 104.28 | - | - | 101.39 | 31.41 | 5.73 | 34.25 | 354 | 103 | P | V |
| | * | 2466 | 96.83 | - | - | 93.94 | 31.41 | 5.73 | 34.25 | 354 | 103 | A | V |
| | | 2484.52 | 60.04 | -13.96 | 74 | 57.13 | 31.44 | 5.75 | 34.28 | 354 | 103 | P | V |
| | | 2483.86 | 47.63 | -6.37 | 54 | 44.72 | 31.44 | 5.75 | 34.28 | 354 | 103 | A | V |
| **802.11g CH 13 2472MHz** | * | 2470 | 102.88 | - | - | 99.99 | 31.41 | 5.73 | 34.25 | 166 | 38 | P | H |
| | * | 2470 | 95.17 | - | - | 92.28 | 31.41 | 5.73 | 34.25 | 166 | 38 | A | H |
| | | 2483.56 | 62.1 | -11.9 | 74 | 59.19 | 31.44 | 5.75 | 34.28 | 166 | 38 | P | H |
| | | 2483.51 | 49.56 | -4.44 | 54 | 46.65 | 31.44 | 5.75 | 34.28 | 166 | 38 | A | H |
| | * | 2470 | 100.96 | - | - | 98.07 | 31.41 | 5.73 | 34.25 | 115 | 252 | P | V |
| | * | 2470 | 93.27 | - | - | 90.38 | 31.41 | 5.73 | 34.25 | 115 | 252 | A | V |
| | | 2483.62 | 59.69 | -14.31 | 74 | 56.78 | 31.44 | 5.75 | 34.28 | 115 | 252 | P | V |
| | | 2483.51 | 46.98 | -7.02 | 54 | 44.07 | 31.44 | 5.75 | 34.28 | 115 | 252 | A | V |
| **Remark** | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. | | | | | | | | | | | | |

## 2.4GHz 2400~2483.5MHz

## WIFI 802.11g (Harmonic @ 3m)

| WIFI Ant. 1 | Note | Frequency ( MHz ) | Level ( dBµV/m ) | Over Limit ( dB ) | Limit Line ( dBµV/m ) | Read Level ( dBµV ) | Antenna Factor ( dB/m ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Peak Avg. (P/A) | Pol. (H/V) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 802.11g CH 01 2412MHz | | 4824 | 47.19 | -26.81 | 74 | 68.21 | 35.65 | 7.86 | 64.53 | 100 | 360 | P | H |
| | | 4824 | 50.24 | -23.76 | 74 | 71.26 | 35.65 | 7.86 | 64.53 | 300 | 0 | P | V |
| 802.11g CH 06 2437MHz | | 4872 | 45.14 | -28.86 | 74 | 66.23 | 35.61 | 7.9 | 64.6 | 100 | 360 | P | H |
| | | 7308 | 45.27 | -28.73 | 74 | 64.89 | 35.89 | 9.5 | 65.01 | 100 | 360 | P | H |
| | | 4872 | 47.4 | -26.6 | 74 | 68.49 | 35.61 | 7.9 | 64.6 | 100 | 360 | P | V |
| | | 7308 | 50.13 | -23.87 | 74 | 69.75 | 35.89 | 9.5 | 65.01 | 100 | 360 | P | V |
| 802.11g CH 11 2462MHz | | 4926 | 45.12 | -28.88 | 74 | 66.29 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | H |
| | | 7386 | 42.85 | -31.15 | 74 | 62.43 | 35.94 | 9.53 | 65.05 | 100 | 360 | P | H |
| | | 4926 | 46.45 | -27.55 | 74 | 67.62 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | V |
| | | 7386 | 46.02 | -27.98 | 74 | 65.6 | 35.94 | 9.53 | 65.05 | 100 | 360 | P | V |
| 802.11g CH 12 2467MHz | | 4932 | 43.25 | -30.75 | 74 | 64.42 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | H |
| | | 7401 | 42.62 | -31.38 | 74 | 62.19 | 35.95 | 9.54 | 65.06 | 100 | 360 | P | H |
| | | 4932 | 45.35 | -28.65 | 74 | 66.52 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | V |
| | | 7398 | 45.71 | -28.29 | 74 | 65.29 | 35.94 | 9.53 | 65.05 | 100 | 360 | P | V |
| 802.11g CH 13 2472MHz | | 4944 | 42.46 | -31.54 | 74 | 63.65 | 35.55 | 7.96 | 64.7 | 100 | 360 | P | H |
| | | 7416 | 40.98 | -33.02 | 74 | 60.55 | 35.95 | 9.54 | 65.06 | 100 | 360 | P | H |
| | | 4944 | 43.3 | -30.7 | 74 | 64.49 | 35.55 | 7.96 | 64.7 | 100 | 360 | P | V |
| | | 7416 | 43.44 | -30.56 | 74 | 63.01 | 35.95 | 9.54 | 65.06 | 100 | 360 | P | V |
| Remark | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. | | | | | | | | | | | | |

## 2.4GHz 2400~2483.5MHz

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

| WIFI Ant. 1 | Note | Frequency ( MHz ) | Level ( dBμV/m ) | Over Limit ( dB ) | Limit Line ( dBμV/m ) | Read Level ( dBμV ) | Antenna Factor ( dB/m ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Peak Avg. (P/A) | Pol. (H/V) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2388.91 | 57.49 | -16.51 | 74 | 54.68 | 31.3 | 5.65 | 34.14 | 209 | 40 | P | H |
| | | 2389.95 | 42.88 | -11.12 | 54 | 40.07 | 31.3 | 5.65 | 34.14 | 209 | 40 | A | H |
| 802.11n | * | 2420 | 103.03 | - | - | 100.17 | 31.36 | 5.69 | 34.19 | 209 | 40 | P | H |
| HT20 | * | 2420 | 95.25 | - | - | 92.39 | 31.36 | 5.69 | 34.19 | 209 | 40 | A | H |
| CH 01 | | 2389.56 | 54.69 | -19.31 | 74 | 51.88 | 31.3 | 5.65 | 34.14 | 137 | 259 | P | V |
| 2412MHz | | 2389.82 | 42.4 | -11.6 | 54 | 39.59 | 31.3 | 5.65 | 34.14 | 137 | 259 | A | V |
| | * | 2420 | 101.45 | - | - | 98.59 | 31.36 | 5.69 | 34.19 | 137 | 259 | P | V |
| | * | 2420 | 93.84 | - | - | 90.98 | 31.36 | 5.69 | 34.19 | 137 | 259 | A | V |
| | * | 2464 | 103.9 | - | - | 101.01 | 31.41 | 5.73 | 34.25 | 176 | 54 | P | H |
| | * | 2464 | 96.23 | - | - | 93.34 | 31.41 | 5.73 | 34.25 | 176 | 54 | A | H |
| 802.11n | | 2483.51 | 67.21 | -6.79 | 74 | 64.3 | 31.44 | 5.75 | 34.28 | 176 | 54 | P | H |
| HT20 | | 2483.51 | 46.14 | -7.86 | 54 | 43.23 | 31.44 | 5.75 | 34.28 | 176 | 54 | A | H |
| CH 11 | * | 2464 | 103.1 | - | - | 100.21 | 31.41 | 5.73 | 34.25 | 113 | 267 | P | V |
| 2462MHz | * | 2464 | 95.13 | - | - | 92.24 | 31.41 | 5.73 | 34.25 | 113 | 267 | A | V |
| | | 2483.56 | 65.34 | -8.66 | 74 | 62.43 | 31.44 | 5.75 | 34.28 | 113 | 267 | P | V |
| | | 2483.86 | 45.02 | -8.98 | 54 | 42.11 | 31.44 | 5.75 | 34.28 | 113 | 267 | A | V |
| **Remark** | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | * | 2466 | 103.38 | - | - | 100.49 | 31.41 | 5.73 | 34.25 | 241 | 54 | P | H |
| | * | 2466 | 95.82 | - | - | 92.93 | 31.41 | 5.73 | 34.25 | 241 | 54 | A | H |
| **802.11n** | | 2483.56 | 66.54 | -7.46 | 74 | 63.63 | 31.44 | 5.75 | 34.28 | 241 | 54 | P | H |
| **HT20** | | 2483.51 | 48.17 | -5.83 | 54 | 45.26 | 31.44 | 5.75 | 34.28 | 241 | 54 | A | H |
| **CH 12** | * | 2466 | 102.84 | - | - | 99.95 | 31.41 | 5.73 | 34.25 | 117 | 264 | P | V |
| **2467MHz** | * | 2466 | 95.24 | - | - | 92.35 | 31.41 | 5.73 | 34.25 | 117 | 264 | A | V |
| | | 2483.56 | 64.2 | -9.8 | 74 | 61.29 | 31.44 | 5.75 | 34.28 | 117 | 264 | P | V |
| | | 2483.51 | 46.32 | -7.68 | 54 | 43.41 | 31.44 | 5.75 | 34.28 | 117 | 264 | A | V |
| | | 2484.4 | 63.02 | -10.98 | 74 | 60.11 | 31.44 | 5.75 | 34.28 | 170 | 53 | P | H |
| | | 2483.5 | 51.87 | -2.13 | 54 | 48.96 | 31.44 | 5.75 | 34.28 | 170 | 53 | A | H |
| **802.11n** | * | 2470 | 102.61 | - | - | 99.72 | 31.41 | 5.73 | 34.25 | 170 | 53 | P | H |
| **HT20** | * | 2470 | 93.9 | - | - | 91.01 | 31.41 | 5.73 | 34.25 | 170 | 53 | A | H |
| **CH 13** | | 2484.82 | 58.53 | -15.47 | 74 | 55.62 | 31.44 | 5.75 | 34.28 | 266 | 90 | P | V |
| **2472MHz** | | 2483.5 | 47.25 | -6.75 | 54 | 44.34 | 31.44 | 5.75 | 34.28 | 266 | 90 | A | V |
| | * | 2470 | 96.48 | - | - | 93.59 | 31.41 | 5.73 | 34.25 | 266 | 90 | P | V |
| | * | 2468 | 88.64 | - | - | 85.75 | 31.41 | 5.73 | 34.25 | 266 | 90 | A | V |

**Remark**

3. No other spurious found.
4. All results are PASS against Peak and Average limit line.

## 2.4GHz 2400~2483.5MHz

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

| WIFI Ant. 1 | Note | Frequency ( MHz ) | Level ( dBμV/m ) | Over Limit ( dB ) | Limit Line ( dBμV/m ) | Read Level ( dBμV ) | Antenna Factor ( dB/m ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Peak Avg. (P/A) | Pol. (H/V) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 802.11n HT20 CH 01 2412MHz | | 4824 | 49.02 | -24.98 | 74 | 70.04 | 35.65 | 7.86 | 64.53 | 100 | 360 | P | H |
| | | 4824 | 50.54 | -23.46 | 74 | 71.56 | 35.65 | 7.86 | 64.53 | 100 | 360 | P | V |
| 802.11n HT20 CH 06 2437MHz | | 4872 | 46.39 | -27.61 | 74 | 67.48 | 35.61 | 7.9 | 64.6 | 100 | 360 | P | H |
| | | 7308 | 43.15 | -30.85 | 74 | 62.77 | 35.89 | 9.5 | 65.01 | 100 | 360 | P | H |
| | | 4872 | 46.01 | -27.99 | 74 | 67.1 | 35.61 | 7.9 | 64.6 | 100 | 360 | P | V |
| | | 7308 | 48.95 | -25.05 | 74 | 68.57 | 35.89 | 9.5 | 65.01 | 100 | 360 | P | V |
| 802.11n HT20 CH 11 2462MHz | | 4926 | 45.27 | -28.73 | 74 | 66.44 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | H |
| | | 7386 | 43.56 | -30.44 | 74 | 63.14 | 35.94 | 9.53 | 65.05 | 100 | 360 | P | H |
| | | 4926 | 47.59 | -26.41 | 74 | 68.76 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | V |
| | | 7386 | 46.6 | -27.4 | 74 | 66.18 | 35.94 | 9.53 | 65.05 | 100 | 360 | P | V |
| 802.11n HT20 CH 12 2467MHz | | 4932 | 45.4 | -28.6 | 74 | 66.57 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | H |
| | | 7404 | 42.19 | -31.81 | 74 | 61.76 | 35.95 | 9.54 | 65.06 | 100 | 360 | P | H |
| | | 4932 | 44.37 | -29.63 | 74 | 65.54 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | V |
| | | 7404 | 51.04 | -22.96 | 74 | 70.61 | 35.95 | 9.54 | 65.06 | 100 | 360 | P | V |
| | | 7404 | 40.67 | -13.33 | 54 | 60.24 | 35.95 | 9.54 | 65.06 | 100 | 360 | A | V |
| 802.11n HT20 CH 13 2472MHz | | 4944 | 41.9 | -32.1 | 74 | 63.09 | 35.55 | 7.96 | 64.7 | 100 | 360 | P | H |
| | | 7416 | 41.13 | -32.87 | 74 | 60.7 | 35.95 | 9.54 | 65.06 | 100 | 360 | P | H |
| | | 4944 | 42.2 | -31.8 | 74 | 63.39 | 35.55 | 7.96 | 64.7 | 100 | 360 | P | V |
| | | 7416 | 41.84 | -32.16 | 74 | 61.41 | 35.95 | 9.54 | 65.06 | 100 | 360 | P | V |
| Remark | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. | | | | | | | | | | | | |

## 2.4GHz 2400~2483.5MHz

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

| WIFI Ant. 1 | Note | Frequency ( MHz ) | Level ( dBμV/m ) | Over Limit ( dB ) | Limit Line ( dBμV/m ) | Read Level ( dBμV ) | Antenna Factor ( dB/m ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Peak Avg. (P/A) | Pol. (H/V) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2389.43 | 59.74 | -14.26 | 74 | 56.93 | 31.3 | 5.65 | 34.14 | 300 | 30 | P | H |
| | | 2389.95 | 47.26 | -6.74 | 54 | 44.45 | 31.3 | 5.65 | 34.14 | 300 | 30 | A | H |
| | * | 2426 | 103.56 | - | - | 100.7 | 31.36 | 5.69 | 34.19 | 300 | 30 | P | H |
| | * | 2426 | 96.06 | - | - | 93.2 | 31.36 | 5.69 | 34.19 | 300 | 30 | A | H |
| 802.11n | | 2484.04 | 61.32 | -12.68 | 74 | 58.41 | 31.44 | 5.75 | 34.28 | 300 | 30 | P | H |
| HT40 | | 2483.74 | 45.94 | -8.06 | 54 | 43.03 | 31.44 | 5.75 | 34.28 | 300 | 30 | A | H |
| CH 03 | | 2389.95 | 57.14 | -16.86 | 74 | 54.33 | 31.3 | 5.65 | 34.14 | 322 | 228 | P | V |
| 2422MHz | | 2389.95 | 45.03 | -8.97 | 54 | 42.22 | 31.3 | 5.65 | 34.14 | 322 | 228 | A | V |
| | * | 2426 | 100.31 | - | - | 97.45 | 31.36 | 5.69 | 34.19 | 322 | 228 | P | V |
| | * | 2426 | 92.84 | - | - | 89.98 | 31.36 | 5.69 | 34.19 | 322 | 228 | A | V |
| | | 2483.62 | 57.81 | -16.19 | 74 | 54.9 | 31.44 | 5.75 | 34.28 | 322 | 228 | P | V |
| | | 2483.51 | 43.62 | -10.38 | 54 | 40.71 | 31.44 | 5.75 | 34.28 | 322 | 228 | A | V |
| | | 2389.82 | 57.24 | -16.76 | 74 | 54.43 | 31.3 | 5.65 | 34.14 | 143 | 71 | P | H |
| | | 2389.43 | 44.04 | -9.96 | 54 | 41.23 | 31.3 | 5.65 | 34.14 | 143 | 71 | A | H |
| | | 2483.8 | 61.88 | -12.12 | 74 | 58.97 | 31.44 | 5.75 | 34.28 | 143 | 71 | P | H |
| | | 2483.5 | 46.86 | -7.14 | 54 | 43.95 | 31.44 | 5.75 | 34.28 | 143 | 71 | A | H |
| 802.11n | * | 2428 | 101.87 | - | - | 99.01 | 31.36 | 5.69 | 34.19 | 143 | 71 | P | H |
| HT40 | * | 2426 | 94.34 | - | - | 91.48 | 31.36 | 5.69 | 34.19 | 143 | 71 | A | H |
| CH 06 | | 2389.95 | 53.2 | -20.8 | 74 | 50.39 | 31.3 | 5.65 | 34.14 | 100 | 303 | P | V |
| 2437MHz | | 2389.43 | 42.29 | -11.71 | 54 | 39.48 | 31.3 | 5.65 | 34.14 | 100 | 303 | A | V |
| | | 2484.34 | 58.13 | -15.87 | 74 | 55.22 | 31.44 | 5.75 | 34.28 | 100 | 303 | P | V |
| | | 2483.56 | 44.35 | -9.65 | 54 | 41.44 | 31.44 | 5.75 | 34.28 | 100 | 303 | A | V |
| | * | 2428 | 97.01 | - | - | 94.15 | 31.36 | 5.69 | 34.19 | 100 | 303 | P | V |
| | * | 2426 | 89.53 | - | - | 86.67 | 31.36 | 5.69 | 34.19 | 100 | 303 | A | V |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2356.8 | 52.3 | -21.7 | 74 | 49.58 | 31.25 | 5.61 | 34.14 | 178 | 31 | P | H |
| | | 2384.23 | 42.66 | -11.34 | 54 | 39.9 | 31.27 | 5.63 | 34.14 | 178 | 31 | A | H |
| | * | 2462 | 99.59 | - | - | 96.7 | 31.41 | 5.73 | 34.25 | 178 | 31 | P | H |
| | * | 2462 | 92.19 | - | - | 89.3 | 31.41 | 5.73 | 34.25 | 178 | 31 | A | H |
| 802.11n | | 2483.62 | 66.82 | -7.18 | 74 | 63.91 | 31.44 | 5.75 | 34.28 | 178 | 31 | P | H |
| HT40 | | 2483.51 | 51.87 | -2.13 | 54 | 48.96 | 31.44 | 5.75 | 34.28 | 178 | 31 | A | H |
| CH 09 | | 2376.17 | 52.42 | -21.58 | 74 | 49.66 | 31.27 | 5.63 | 34.14 | 100 | 117 | P | V |
| 2452MHz | | 2388.78 | 42.59 | -11.41 | 54 | 39.78 | 31.3 | 5.65 | 34.14 | 100 | 117 | A | V |
| | * | 2462 | 94.22 | - | - | 91.33 | 31.41 | 5.73 | 34.25 | 100 | 117 | P | V |
| | * | 2462 | 86.76 | - | - | 83.87 | 31.41 | 5.73 | 34.25 | 100 | 117 | A | V |
| | | 2485.36 | 59.65 | -14.35 | 74 | 56.74 | 31.44 | 5.75 | 34.28 | 100 | 117 | P | V |
| | | 2485.84 | 46.29 | -7.71 | 54 | 43.38 | 31.44 | 5.75 | 34.28 | 100 | 117 | A | V |
| | | 2354.59 | 51.94 | -22.06 | 74 | 49.22 | 31.25 | 5.61 | 34.14 | 384 | 83 | P | H |
| | | 2380.72 | 42.15 | -11.85 | 54 | 39.39 | 31.27 | 5.63 | 34.14 | 384 | 83 | A | H |
| | * | 2462 | 99.03 | - | - | 96.14 | 31.41 | 5.73 | 34.25 | 384 | 83 | P | H |
| | * | 2460 | 91.54 | - | - | 88.65 | 31.41 | 5.73 | 34.25 | 384 | 83 | A | H |
| 802.11n | | 2483.51 | 63.07 | -10.93 | 74 | 60.16 | 31.44 | 5.75 | 34.28 | 384 | 83 | P | H |
| HT40 | | 2483.56 | 51.38 | -2.62 | 54 | 48.47 | 31.44 | 5.75 | 34.28 | 384 | 83 | A | H |
| CH 10 | | 2369.54 | 52.13 | -21.87 | 74 | 49.37 | 31.27 | 5.63 | 34.14 | 303 | 122 | P | V |
| 2457MHz | | 2384.36 | 42.32 | -11.68 | 54 | 39.56 | 31.27 | 5.63 | 34.14 | 303 | 122 | A | V |
| | * | 2464 | 95.4 | - | - | 92.51 | 31.41 | 5.73 | 34.25 | 303 | 122 | P | V |
| | * | 2464 | 87.89 | - | - | 85 | 31.41 | 5.73 | 34.25 | 303 | 122 | A | V |
| | | 2483.86 | 60.45 | -13.55 | 74 | 57.54 | 31.44 | 5.75 | 34.28 | 303 | 122 | P | V |
| | | 2483.51 | 48.16 | -5.84 | 54 | 45.25 | 31.44 | 5.75 | 34.28 | 303 | 122 | A | V |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2383.58 | 52.1 | -21.9 | 74 | 49.34 | 31.27 | 5.63 | 34.14 | 101 | 56 | P | H |
| | | 2385.79 | 42.34 | -11.66 | 54 | 39.53 | 31.3 | 5.65 | 34.14 | 101 | 56 | A | H |
| | | 2483.5 | 63.87 | -10.13 | 74 | 60.96 | 31.44 | 5.75 | 34.28 | 101 | 56 | P | H |
| | | 2483.5 | 52.47 | -1.53 | 54 | 49.56 | 31.44 | 5.75 | 34.28 | 101 | 56 | A | H |
| 802.11n | * | 2464 | 99.89 | - | - | 97 | 31.41 | 5.73 | 34.25 | 101 | 56 | P | H |
| HT40 | * | 2464 | 92.44 | - | - | 89.55 | 31.41 | 5.73 | 34.25 | 101 | 56 | A | H |
| CH 11 | | 2361.22 | 53.01 | -20.99 | 74 | 50.29 | 31.25 | 5.61 | 34.14 | 396 | 113 | P | V |
| 2462MHz | | 2384.75 | 42.63 | -11.37 | 54 | 39.87 | 31.27 | 5.63 | 34.14 | 396 | 113 | A | V |
| | | 2483.5 | 62.72 | -11.28 | 74 | 59.81 | 31.44 | 5.75 | 34.28 | 396 | 113 | P | V |
| | | 2483.51 | 50.68 | -3.32 | 54 | 47.77 | 31.44 | 5.75 | 34.28 | 396 | 113 | A | V |
| | * | 2466 | 97.1 | - | - | 94.21 | 31.41 | 5.73 | 34.25 | 396 | 113 | P | V |
| | * | 2464 | 89.71 | - | - | 86.82 | 31.41 | 5.73 | 34.25 | 396 | 113 | A | V |
| | | 2354.46 | 52.63 | -21.37 | 74 | 49.91 | 31.25 | 5.61 | 34.14 | 220 | 217 | P | H |
| | | 2337.95 | 42.38 | -11.62 | 54 | 39.71 | 31.22 | 5.59 | 34.14 | 220 | 217 | A | H |
| 802.11n | | 2460 | 96 | - | - | 93.11 | 31.41 | 5.73 | 34.25 | 220 | 217 | P | H |
| HT40 | | 2464 | 88.61 | - | - | 85.72 | 31.41 | 5.73 | 34.25 | 220 | 217 | A | H |
| CH 11 | * | 2483.5 | 61.62 | -12.38 | 74 | 58.71 | 31.44 | 5.75 | 34.28 | 220 | 217 | P | H |
| 2462MHz | * | 2484.46 | 50.6 | -3.4 | 54 | 47.69 | 31.44 | 5.75 | 34.28 | 220 | 217 | A | H |
| Battery | | 2340.03 | 52.24 | -21.76 | 74 | 49.57 | 31.22 | 5.59 | 34.14 | 264 | 360 | P | V |
| module | | 2349.52 | 42.28 | -11.72 | 54 | 39.61 | 31.22 | 5.59 | 34.14 | 264 | 360 | A | V |
| 3620 | | 2464 | 95.35 | - | - | 92.46 | 31.41 | 5.73 | 34.25 | 264 | 360 | P | V |
| Charging | | 2464 | 87.87 | - | - | 84.98 | 31.41 | 5.73 | 34.25 | 264 | 360 | A | V |
| | * | 2483.5 | 61.78 | -12.22 | 74 | 58.87 | 31.44 | 5.75 | 34.28 | 264 | 360 | P | V |
| | * | 2483.56 | 50.1 | -3.9 | 54 | 47.19 | 31.44 | 5.75 | 34.28 | 264 | 360 | A | V |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 802.11n HT40 CH 11 2462MHz Battery module 4370 Charging | | 2340.03 | 52.16 | -21.84 | 74 | 49.49 | 31.22 | 5.59 | 34.14 | 168 | 234 | P | H |
| | | 2375 | 42.19 | -11.81 | 54 | 39.43 | 31.27 | 5.63 | 34.14 | 168 | 234 | A | H |
| | | 2460 | 98.21 | - | - | 95.32 | 31.41 | 5.73 | 34.25 | 168 | 234 | P | H |
| | | 2460 | 90.67 | - | - | 87.78 | 31.41 | 5.73 | 34.25 | 168 | 234 | A | H |
| | * | 2483.5 | 65.21 | -8.79 | 74 | 62.3 | 31.44 | 5.75 | 34.28 | 168 | 234 | P | H |
| | * | 2484.4 | 52.75 | -1.25 | 54 | 49.84 | 31.44 | 5.75 | 34.28 | 168 | 234 | A | H |
| | | 2312.21 | 52.19 | -21.81 | 74 | 49.62 | 31.16 | 5.55 | 34.14 | 387 | 291 | P | V |
| | | 2385.14 | 42.22 | -11.78 | 54 | 39.46 | 31.27 | 5.63 | 34.14 | 387 | 291 | A | V |
| | * | 2464 | 97.76 | - | - | 94.87 | 31.41 | 5.73 | 34.25 | 387 | 291 | P | V |
| | * | 2464 | 90.46 | - | - | 87.57 | 31.41 | 5.73 | 34.25 | 387 | 291 | A | V |
| | | 2483.5 | 64.22 | -9.78 | 74 | 61.31 | 31.44 | 5.75 | 34.28 | 387 | 291 | P | V |
| | | 2483.5 | 52.6 | -1.4 | 54 | 49.69 | 31.44 | 5.75 | 34.28 | 387 | 291 | A | V |
| **Remark** | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. | | | | | | | | | | | | |

## 2.4GHz 2400~2483.5MHz

## WIFI 802.11n HT40 (Harmonic @ 3m)

| WIFI Ant. 1 | Note | Frequency ( MHz ) | Level ( dBµV/m ) | Over Limit ( dB ) | Limit Line ( dBµV/m ) | Read Level ( dBµV ) | Antenna Factor ( dB/m ) | Cable Loss ( dB ) | Preamp Factor ( dB ) | Ant Pos ( cm ) | Table Pos ( deg ) | Peak Avg. (P/A) | Pol. (H/V) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 802.11n | | 4842 | 44.94 | -29.06 | 74 | 65.99 | 35.63 | 7.87 | 64.55 | 100 | 360 | P | H |
| HT40 | | 7266 | 44.01 | -29.99 | 74 | 63.65 | 35.87 | 9.48 | 64.99 | 100 | 360 | P | H |
| CH 03 | | 4842 | 45.07 | -28.93 | 74 | 66.12 | 35.63 | 7.87 | 64.55 | 100 | 360 | P | V |
| 2422MHz | | 7266 | 44.26 | -29.74 | 74 | 63.9 | 35.87 | 9.48 | 64.99 | 100 | 360 | P | V |
| 802.11n | | 4872 | 41.88 | -32.12 | 74 | 62.97 | 35.61 | 7.9 | 64.6 | 100 | 360 | P | H |
| HT40 | | 7308 | 42.7 | -31.3 | 74 | 62.32 | 35.89 | 9.5 | 65.01 | 100 | 360 | P | H |
| CH 06 | | 4872 | 42.94 | -31.06 | 74 | 64.03 | 35.61 | 7.9 | 64.6 | 100 | 360 | P | V |
| 2437MHz | | 7308 | 44.95 | -29.05 | 74 | 64.57 | 35.89 | 9.5 | 65.01 | 100 | 360 | P | V |
| 802.11n | | 4902 | 41.6 | -32.4 | 74 | 62.74 | 35.58 | 7.93 | 64.65 | 100 | 360 | P | H |
| HT40 | | 7356 | 41.06 | -32.94 | 74 | 60.65 | 35.92 | 9.52 | 65.03 | 100 | 360 | P | H |
| CH 09 | | 4902 | 42.72 | -31.28 | 74 | 63.86 | 35.58 | 7.93 | 64.65 | 100 | 360 | P | V |
| 2452MHz | | 7356 | 41.92 | -32.08 | 74 | 61.51 | 35.92 | 9.52 | 65.03 | 100 | 360 | P | V |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 802.11n HT40 CH 10 2457MHz | | 4914 | 41.22 | -32.78 | 74 | 62.36 | 35.58 | 7.93 | 64.65 | 100 | 360 | P | H |
| | | 7371 | 41.23 | -32.77 | 74 | 60.81 | 35.93 | 9.53 | 65.04 | 100 | 360 | P | H |
| | | 4914 | 41.18 | -32.82 | 74 | 62.32 | 35.58 | 7.93 | 64.65 | 100 | 360 | P | V |
| | | 7371 | 42.18 | -31.82 | 74 | 61.76 | 35.93 | 9.53 | 65.04 | 100 | 360 | P | V |
| 802.11n HT40 CH 11 2462MHz | | 4926 | 40.96 | -33.04 | 74 | 62.13 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | H |
| | | 7386 | 40.89 | -33.11 | 74 | 60.47 | 35.94 | 9.53 | 65.05 | 100 | 360 | P | H |
| | | 4926 | 41.19 | -32.81 | 74 | 62.36 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | V |
| | | 7386 | 41.45 | -32.55 | 74 | 61.03 | 35.94 | 9.53 | 65.05 | 100 | 360 | P | V |
| 802.11n HT40 CH 11 2462MHz Battery module 3620 Charging | | 4926 | 41.59 | -32.41 | 74 | 62.76 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | H |
| | | 7386 | 41.05 | -32.95 | 74 | 60.63 | 35.94 | 9.53 | 65.05 | 100 | 360 | P | H |
| | | 4926 | 40.87 | -33.13 | 74 | 62.04 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | V |
| | | 7386 | 42.5 | -31.5 | 74 | 62.08 | 35.94 | 9.53 | 65.05 | 100 | 360 | P | V |
| 802.11n HT40 CH 11 2462MHz Battery module 4370 Charging | | 4926 | 40.73 | -33.27 | 74 | 61.9 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | H |
| | | 7386 | 41.7 | -32.3 | 74 | 61.28 | 35.94 | 9.53 | 65.05 | 100 | 360 | P | H |
| | | 4926 | 41.06 | -32.94 | 74 | 62.23 | 35.57 | 7.94 | 64.68 | 100 | 360 | P | V |
| | | 7386 | 41.15 | -32.85 | 74 | 60.73 | 35.94 | 9.53 | 65.05 | 100 | 360 | P | V |
| Remark | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. | | | | | | | | | | | | |

## 2.4GHz 2400~2483.5MHz

## Emission below 1GHz

## 2.4GHz WIFI 802.11n HT40 (LF)

| WIFI Ant. | Note | Frequency | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Peak Avg. | Pol. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | ( MHz ) | ( dBµV/m ) | ( dB ) | ( dBµV/m ) | (dBµV) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 2.4GHz 802.11n HT40 Battery module 4370 Charging LF | | 31.94 | 21.1 | -18.9 | 40 | 27.46 | 24.1 | 0.6 | 31.06 | - | - | P | H |
| | | 76.56 | 20.55 | -19.45 | 40 | 37.91 | 13.11 | 0.93 | 31.4 | - | - | P | H |
| | | 127 | 21.67 | -21.83 | 43.5 | 34 | 17.24 | 1.24 | 30.81 | - | - | P | H |
| | | 191.99 | 27.95 | -15.55 | 43.5 | 42.53 | 15 | 1.49 | 31.07 | 100 | 214 | P | H |
| | | 226.91 | 27.86 | -18.14 | 46 | 41.42 | 15.97 | 1.62 | 31.15 | - | - | P | H |
| | | 375.32 | 24.21 | -21.79 | 46 | 32.58 | 21.02 | 2.11 | 31.5 | - | - | P | H |
| | | 30 | 36.95 | -3.05 | 40 | 42.28 | 25.2 | 0.57 | 31.1 | 100 | 125 | P | V |
| | | 38.73 | 30.01 | -9.99 | 40 | 40.23 | 20.25 | 0.69 | 31.16 | - | - | P | V |
| | | 75.59 | 27.95 | -12.05 | 40 | 45.38 | 13.04 | 0.93 | 31.4 | - | - | P | V |
| | | 204.6 | 27.85 | -15.65 | 43.5 | 42.38 | 15.05 | 1.53 | 31.11 | - | - | P | V |
| | | 373.38 | 21.42 | -24.58 | 46 | 29.84 | 20.97 | 2.11 | 31.5 | - | - | P | V |
| | | 588.72 | 23.72 | -22.28 | 46 | 27.15 | 25.39 | 2.68 | 31.5 | - | - | P | V |
| Remark | 1. No other spurious found.<br>2. All results are PASS against limit line. | | | | | | | | | | | | |

**Note symbol**

| | |
|---|---|
| * | **Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency. |
| ! | Test result is **over limit** line. |
| P/A | **P**eak or **A**verage |
| H/V | **H**orizontal or **V**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. | |
| 2 | | ( MHz ) | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | (P/A) | (H/V) |
| 802.11b CH 01 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)

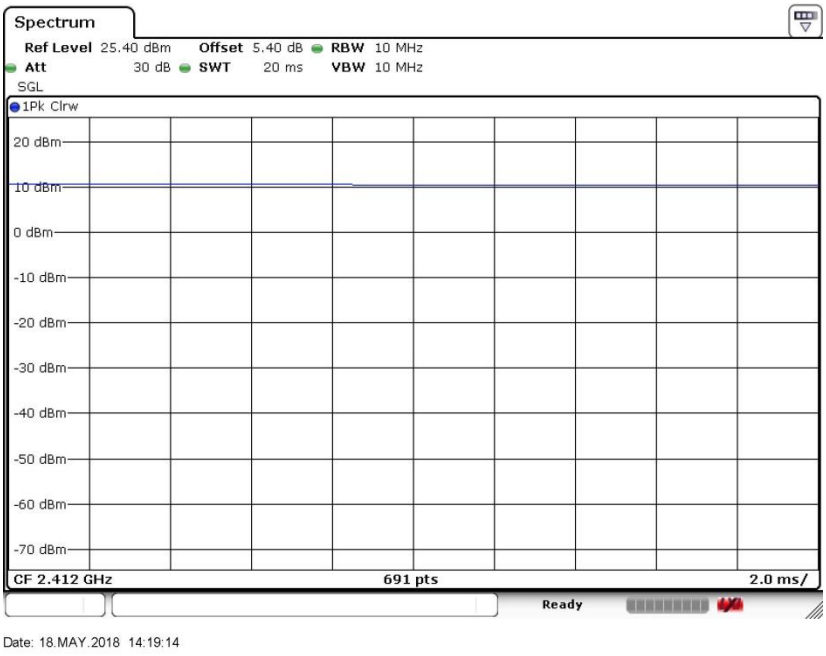
= -10.46(dB)

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

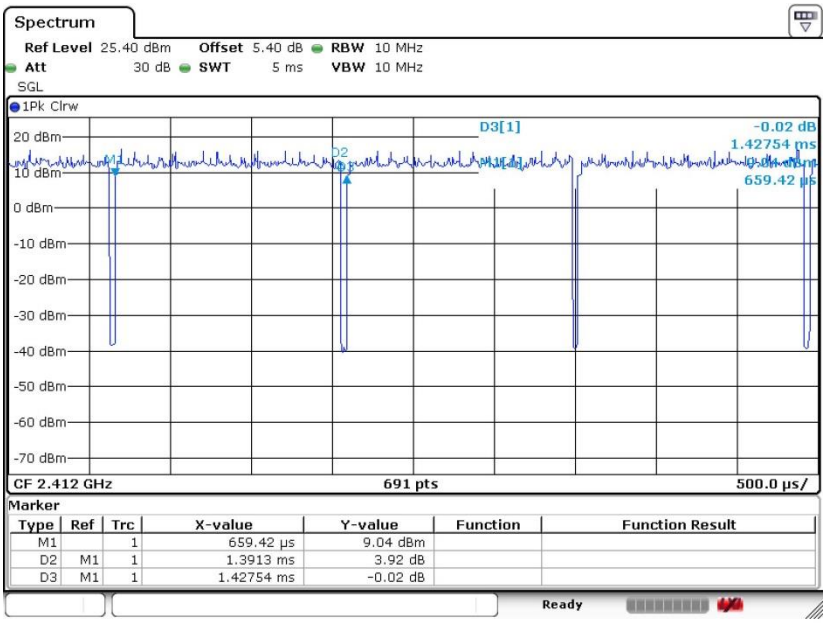
# Appendix D. Duty Cycle Plots

| Band | Duty Cycle(%) | T(ms) | 1/T(kHz) | VBW Setting |
|---|---|---|---|---|
| 11b | 100% | - | - | 10Hz |
| 11g | 97.46 | 1.391 | 0.719 | 1KHz |
| 11n HT20 | 97.30 | 1.304 | 0.767 | 1KHz |
| 11n HT40 | 94.32 | 0.649 | 1.540 | 3KHz |

**11b**

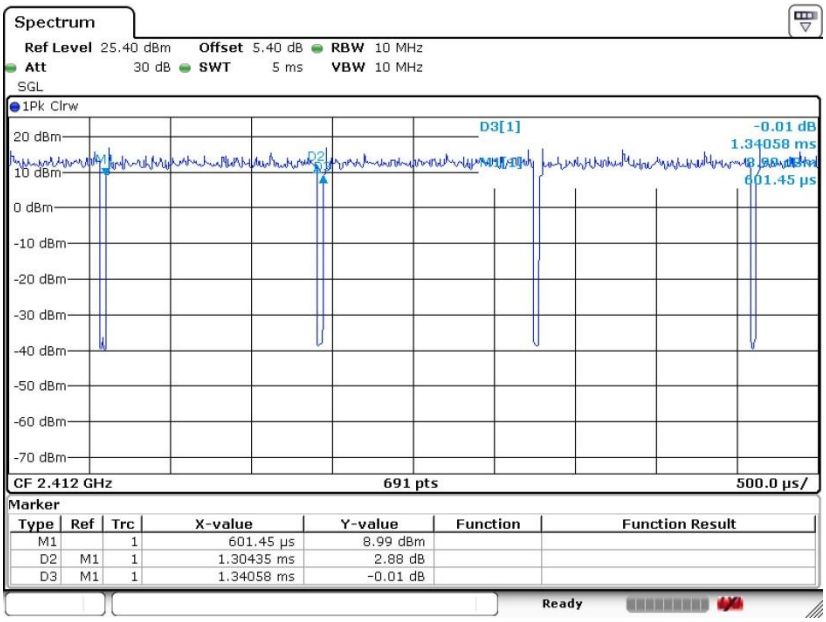


**11g**



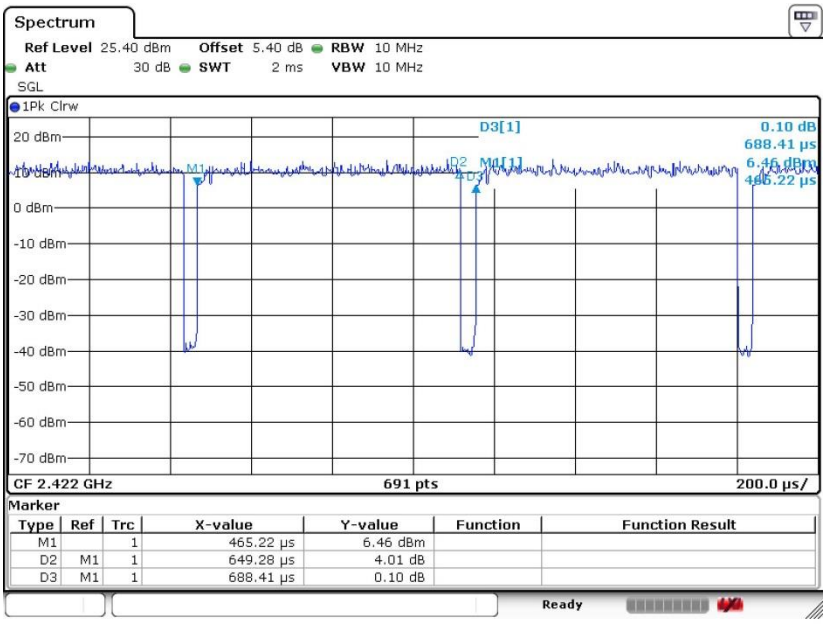

Date: 18.MAY.2018 14:20:09

**11n HT20**




Date: 18.MAY.2018 14:20:54

**11n HT40**

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