

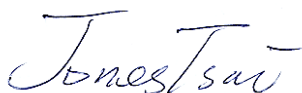
# FCC RADIO TEST REPORT

FCC ID : MSQZ01QD  
Equipment : ASUS Phone (Mobile Phone)  
Brand Name : ASUS  
Model Name : ASUS\_Z01QD  
Applicant : ASUSTeK COMPUTER INC.  
4F, No. 150, LI-TE RD., PEITOU, TAIPEI, TAIWAN  
Manufacturer : Arima Communications (Jiangsu) Co., LTD  
No. 168, Jiao Tong North Road, Wu Jiang, Su Zhou,  
Jiang Su, PRC.  
Standard : FCC Part 15 Subpart C §15.247

The product was received on May 24, 2018 and testing was started from Jun. 14, 2018 and completed on Jul. 14, 2018. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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



Approved by: Jones Tsai

**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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## History of this test report

| Report No. | Version | Description             | Issued Date   |
|------------|---------|-------------------------|---------------|
| FR852405C  | 01      | Initial issue of report | Jul. 25, 2018 |
|            |         |                         |               |
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|            |         |                         |               |

## Summary of Test Result

| Report Clause | Ref Std. Clause    | Test Items                                         | Result (PASS/FAIL) | Remark                                    |
|---------------|--------------------|----------------------------------------------------|--------------------|-------------------------------------------|
| 3.1           | 15.247(a)(2)       | 6dB Bandwidth                                      | Pass               | -                                         |
| 3.1           | 2.1049             | 99% Occupied Bandwidth                             | Reporting only     | -                                         |
| 3.2           | 15.247(b)          | Power Output Measurement                           | Pass               | -                                         |
| 3.3           | 15.247(e)          | Power Spectral Density                             | Pass               | -                                         |
| 3.4           | 15.247(d)          | Conducted Band Edges                               | Pass               | -                                         |
|               |                    | Conducted Spurious Emission                        | Pass               | -                                         |
| 3.5           | 15.247(d)          | Radiated Band Edges and Radiated Spurious Emission | Pass               | Under limit<br>2.23 dB at<br>2483.520 MHz |
| 3.6           | 15.207             | AC Conducted Emission                              | Pass               | Under limit<br>9.88 dB at<br>0.152 MHz    |
| 3.7           | 15.203 & 15.247(b) | Antenna Requirement                                | Pass               | -                                         |

**Reviewed by: Joseph Lin**

**Report Producer: Polly Tsai**



# 1 General Description

## 1.1 Product Feature of Equipment Under Test

GSM/WCDMA/LTE, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n/ac, FM Receiver, NFC, WiGig, and GNSS

| Product Specification subjective to this standard |                                                                                                                                                                                            |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Antenna Type                                      | WWAN: PIFA Antenna<br>WLAN: PIFA Antenna<br>Bluetooth: PIFA Antenna<br>GPS/Glonass/Galileo/BDS: PIFA Antenna<br>NFC: Loop Antenna<br>WiGig: Patch Antenna<br>FM: using earphone as antenna |

## 1.2 Modification of EUT

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

## 1.3 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

|                    |                                                                                                                       |         |
|--------------------|-----------------------------------------------------------------------------------------------------------------------|---------|
| Test Site          | SPORTON INTERNATIONAL INC.                                                                                            |         |
| Test Site Location | No.52, Huaya 1st Rd., Guishan Dist.,<br>Taoyuan City, Taiwan (R.O.C.)<br>TEL: +886-3-327-3456<br>FAX: +886-3-328-4978 |         |
| Test Site No.      | Sporton Site No.                                                                                                      |         |
|                    | TH05-HY                                                                                                               | CO05-HY |

**Note:** The test site complies with ANSI C63.4 2014 requirement.

|                    |                                                                                                                                           |  |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--|
| Test Site          | SPORTON INTERNATIONAL INC.                                                                                                                |  |
| Test Site Location | No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist.,<br>Taoyuan City, Taiwan (R.O.C.)<br>TEL: +886-3-327-0868<br>FAX: +886-3-327-0855 |  |
| Test Site No.      | Sporton Site No.                                                                                                                          |  |
|                    | 03CH15-HY                                                                                                                                 |  |

**Note:** The test site complies with ANSI C63.4 2014 requirement.



## 1.4 Applicable Standards

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

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

## 2 Test Configuration of Equipment Under Test

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

### 2.1 Carrier Frequency and Channel

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

## 2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

### Single Antenna

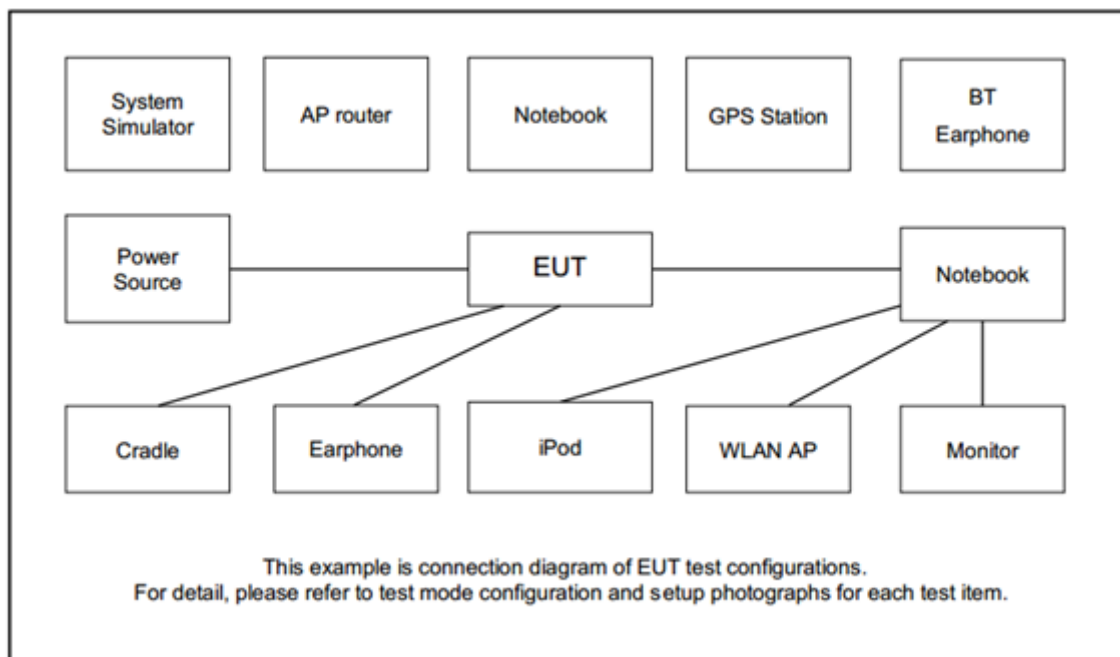
| Modulation   | Data Rate |
|--------------|-----------|
| 802.11b      | 1 Mbps    |
| 802.11g      | 6 Mbps    |
| 802.11n HT20 | MCS0      |

### MIMO Antenna

| Modulation   | Data Rate |
|--------------|-----------|
| 802.11b      | 1 Mbps    |
| 802.11g      | 6 Mbps    |
| 802.11n HT20 | MCS0      |

| Test Cases                           |                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AC<br/>Conducted<br/>Emission</b> | Mode 1: GSM850 Idle + Bluetooth Link + WLAN (2.4GHz) Link + NFC On + X Mode + Aura Sync + Pro Dongle Connect to JEDI (Bottom USB Port) + USB Type A - Port 1_Connect with USB 3.0 Storage Device + USB Type A - Port 2_Connect with USB 3.0 Storage Device + LAN Link + MPEG4 (Color Bar) + Pro Dongle (Charging from Adapter) + Copy Data Port 1 to 2 + SIM 1 |

## 2.3 Connection Diagram of Test System



## 2.4 Support Unit used in test configuration and system

| Item | Equipment           | Trade Name | Model Name     | FCC ID                                       | Data Cable        | Power Cord                                                 |
|------|---------------------|------------|----------------|----------------------------------------------|-------------------|------------------------------------------------------------|
| 1.   | System Simulator    | Anritsu    | MT8820C        | N/A                                          | N/A               | Unshielded, 1.8 m                                          |
| 2.   | WLAN AP             | ASUS       | RT-AC66U       | MSQ-RTAC66U                                  | N/A               | Unshielded, 1.8 m                                          |
| 3.   | Notebook            | DELL       | Latitude E6320 | FCC DoC/<br>Contains FCC ID:<br>QDS-BRCM1054 | N/A               | AC I/P:<br>Unshielded, 1.2 m<br>DC O/P:<br>Shielded, 1.8 m |
| 4.   | Notebook            | DELL       | Latitude 5480  | FCC DoC                                      | N/A               | N/A                                                        |
| 5.   | Bluetooth Earphone  | Sony       | SBH20          | PY7-RD0010                                   | N/A               | Unshielded, 1.8m                                           |
| 6.   | USB 3.0 Flash Drive | Transcend  | JetFlash700    | FCC DoC                                      | Shielded, 1.0m    | N/A                                                        |
| 7.   | Pro Dongle          | ASUS       | ADSU001        | FCC DoC                                      | Unshielded, 0.63m | N/A                                                        |
| 8.   | Earphone            | ASUS       | EA009          | N/A                                          | Unshielded 0.84m  | N/A                                                        |

## 2.5 EUT Operation Test Setup

The RF test items, utility "QRCT" was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.



## **2.6 Measurement Results Explanation Example**

**For all conducted test items:**

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

Example:

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

*Offset = RF cable loss + attenuator factor.*

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

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

### 3 Test Result

#### 3.1 6dB and 99% Bandwidth Measurement

##### 3.1.1 Limit of 6dB and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

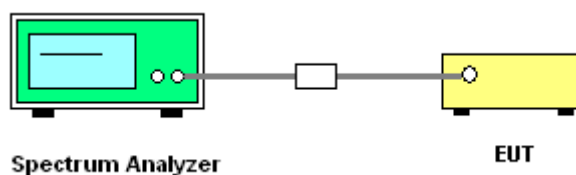
##### 3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

##### 3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v04.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW)  $\geq 3 * RBW$ .
6. Measure and record the results in the test report.

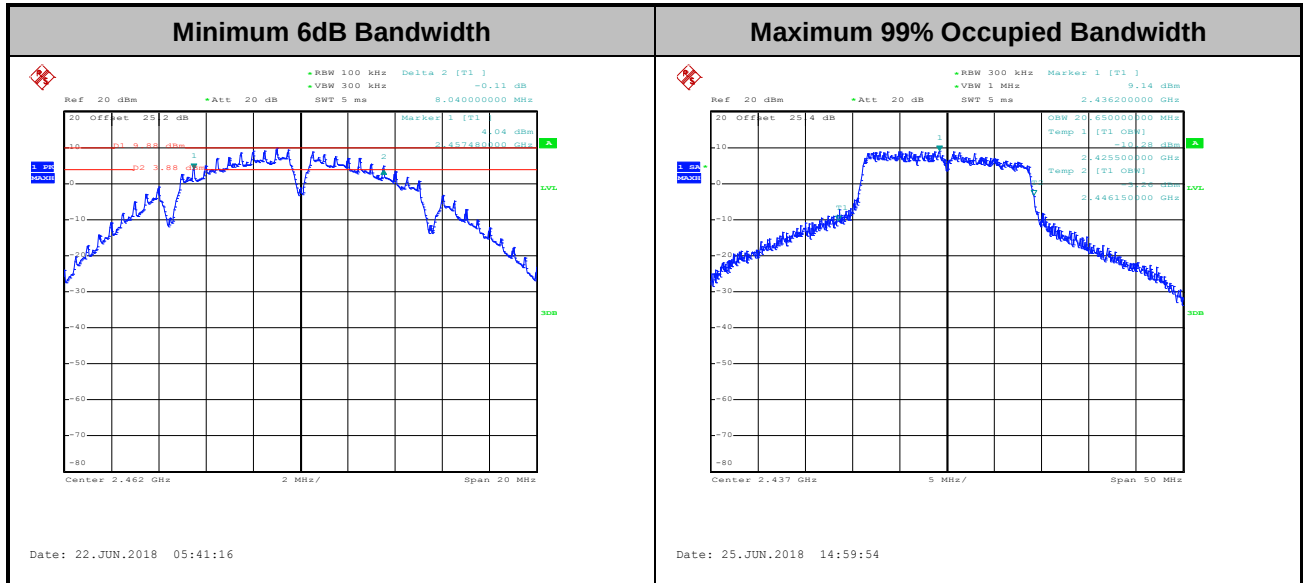
##### 3.1.4 Test Setup





### 3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Please refer to Appendix A.



Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

## 3.2 Output Power Measurement

### 3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting antenna with directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

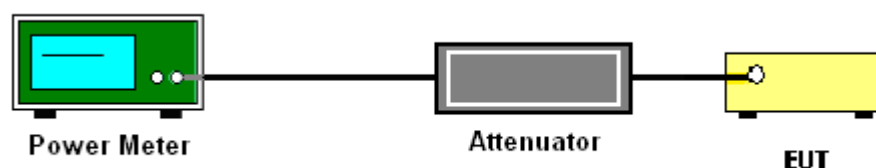
### 3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

### 3.2.3 Test Procedures

1. For Peak Power, the testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v04 section 9.1.3 PKPM1 Peak power meter method.
2. For Average Power, the testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v04 section 9.2.3.1 Method AVGPM.
3. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. Set to the maximum power setting and enable the EUT transmit continuously.
5. Measure the conducted output power and record the results in the test report.
6. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

### 3.2.4 Test Setup



### 3.2.5 Test Result of Peak Output Power

Please refer to Appendix A.

### 3.2.6 Test Result of Average output Power (Reporting Only)

Please refer to Appendix A.

### 3.3 Power Spectral Density Measurement

#### 3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

#### 3.3.2 Measuring Instruments

See list of measuring equipment of this test report.

#### 3.3.3 Test Procedures

1. The testing follows Measurement Procedure 10.2 Method PKPSD of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.
7. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

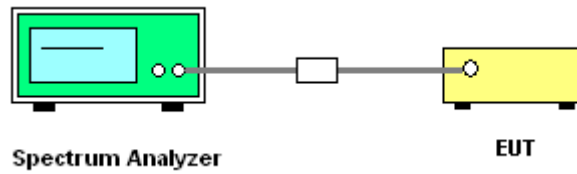
If measurements performed using method (2) plus  $10 \log(N)$  exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

Method (1): Measure and sum the spectra across the outputs.

The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

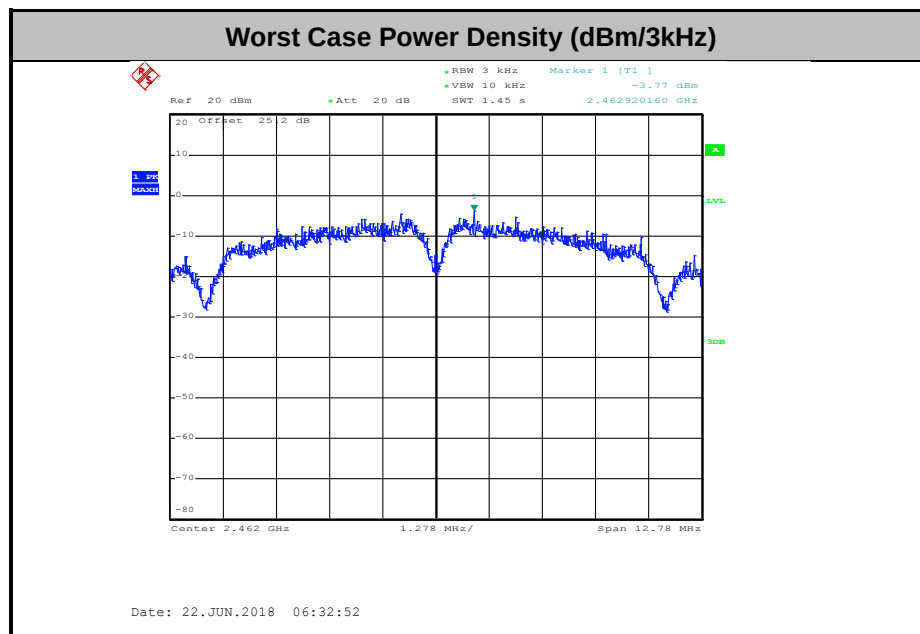
Method (2): Measure and add  $10 \log(N)$  dB, where N is the number of outputs. (N=2)

### 3.3.4 Test Setup



### 3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



### 3.4 Conducted Band Edges and Spurious Emission Measurement

#### 3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement.

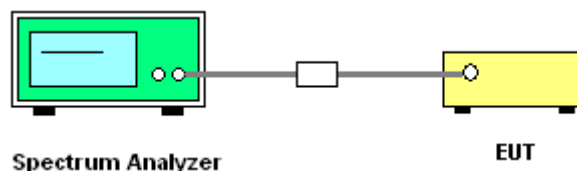
#### 3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

#### 3.4.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

#### 3.4.4 Test Setup



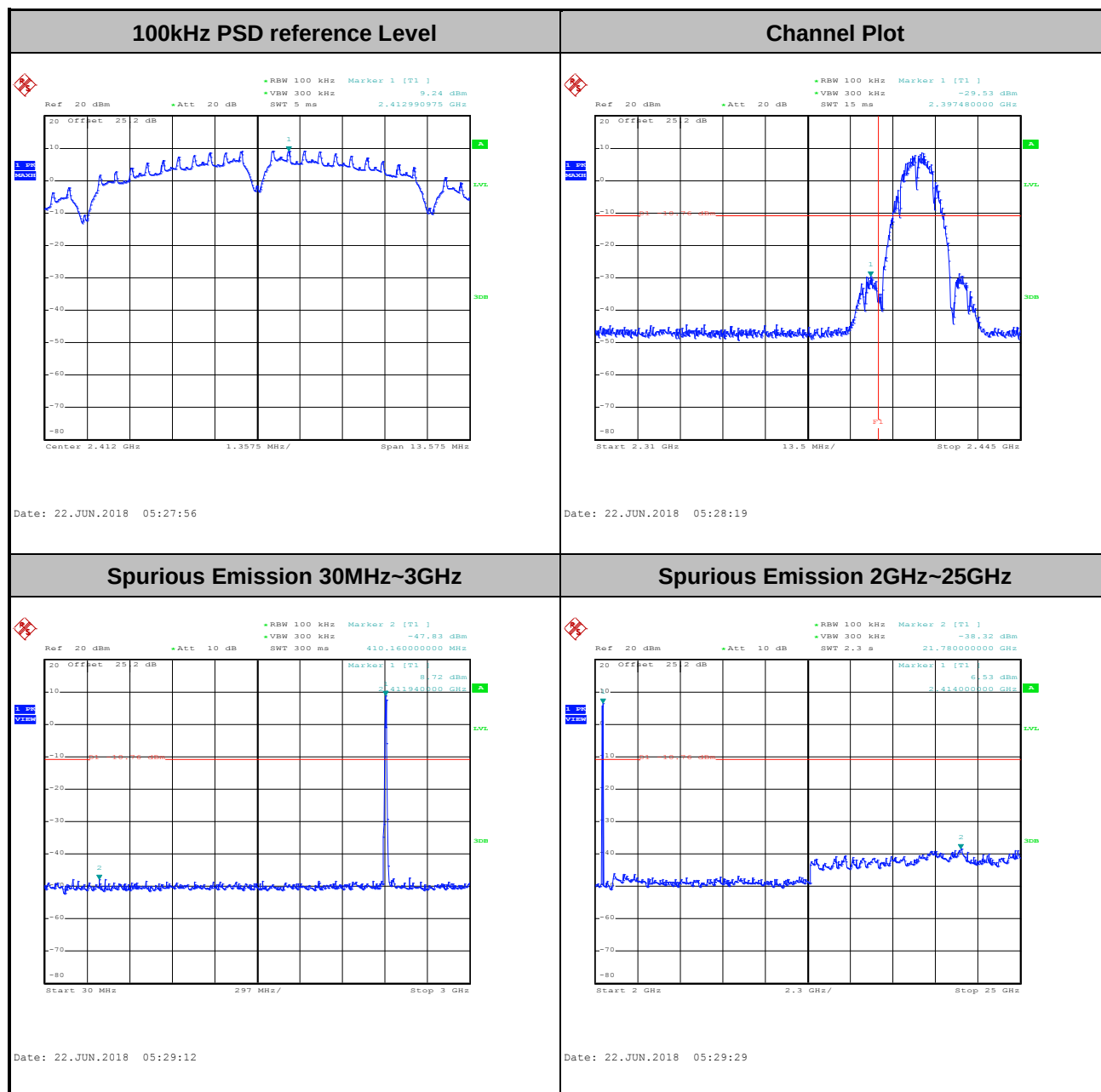


## 3.4.5 Test Result of Conducted Band Edges and Spurious Emission

|                 |                           |                     |         |
|-----------------|---------------------------|---------------------|---------|
| Test Engineer : | Luffy Lin and Shiang Wang | Temperature :       | 21~25°C |
|                 |                           | Relative Humidity : | 51~54%  |

Number of TX = 1, Ant. 1 (Measured)

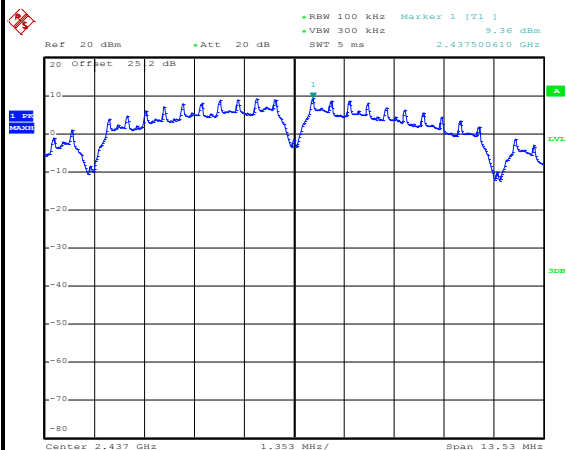
|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11b | Test Channel : | 01 |
|-------------|---------|----------------|----|





|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11b | Test Channel : | 06 |
|-------------|---------|----------------|----|

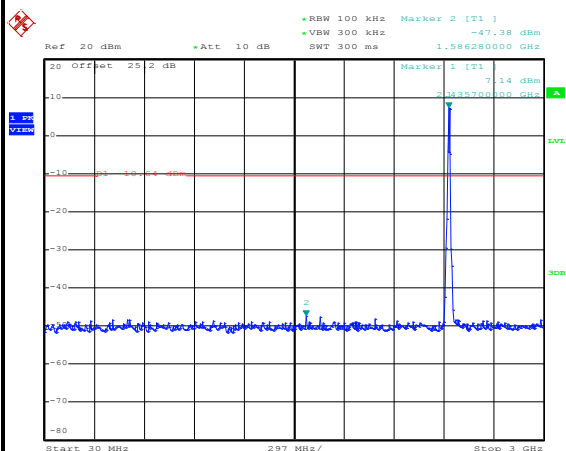
100kHz PSD reference Level



Date: 22.JUN.2018 05:33:40

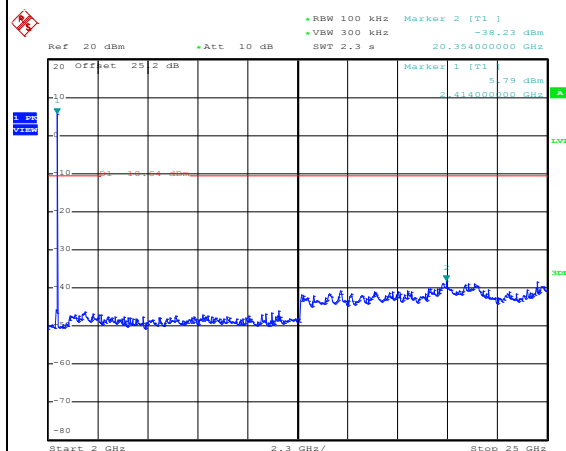
Channel Plot

Spurious Emission 30MHz~3GHz



Date: 22.JUN.2018 05:33:57

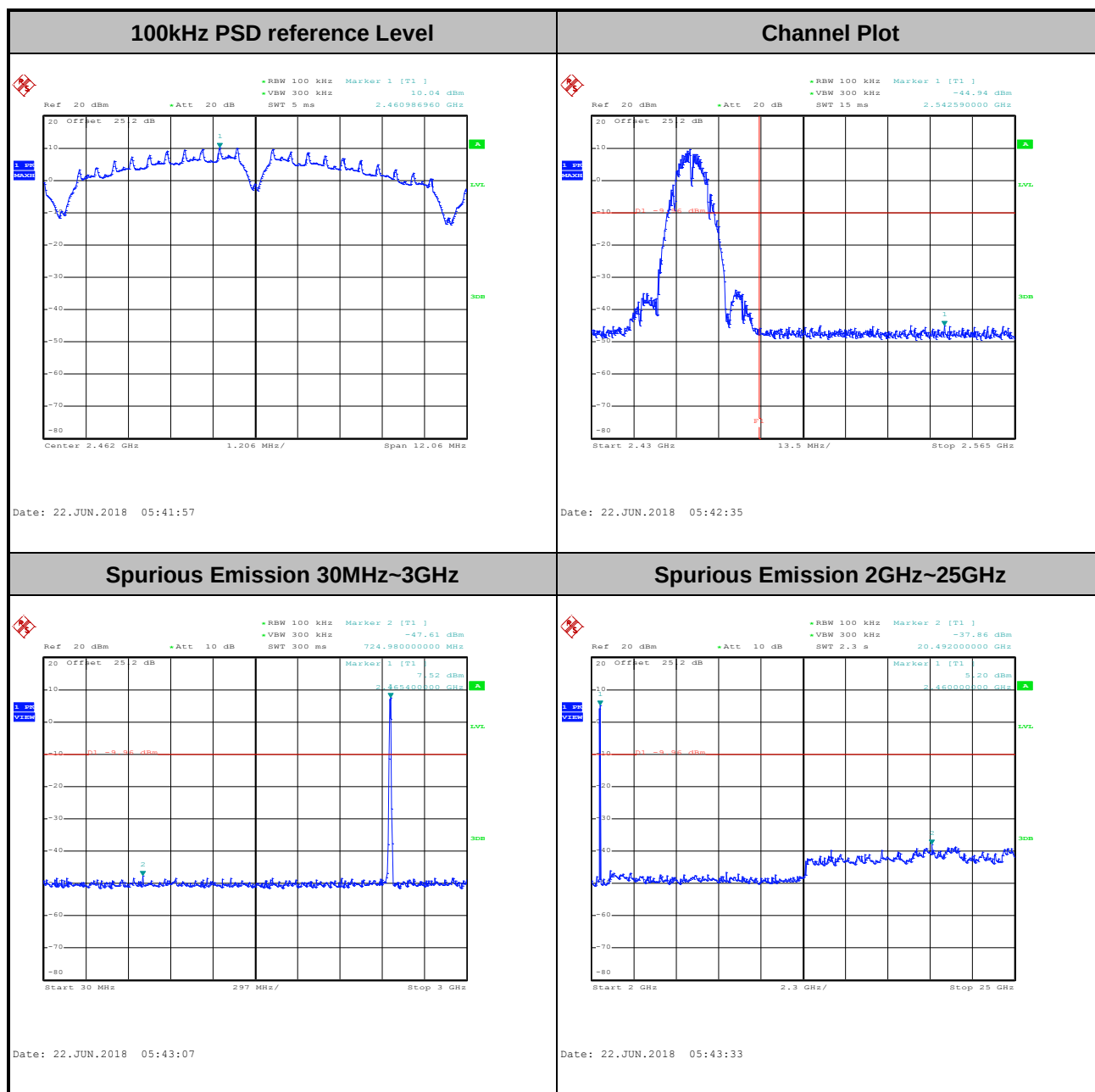
Spurious Emission 2GHz~25GHz



Date: 22.JUN.2018 05:34:23



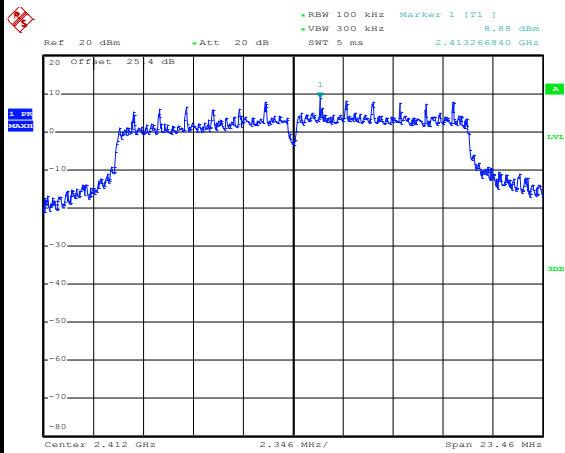
|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11b | Test Channel : | 11 |
|-------------|---------|----------------|----|





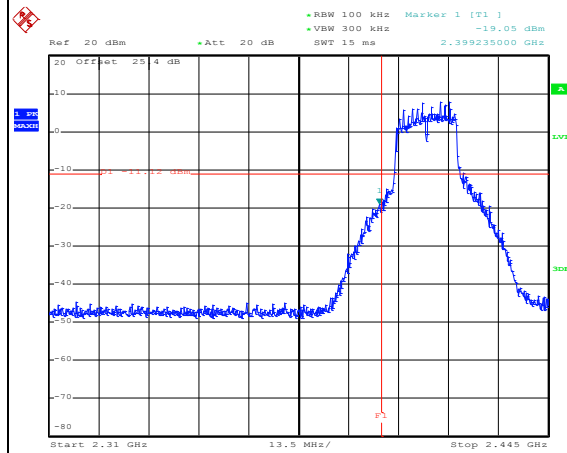
|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11g | Test Channel : | 01 |
|-------------|---------|----------------|----|

100kHz PSD reference Level



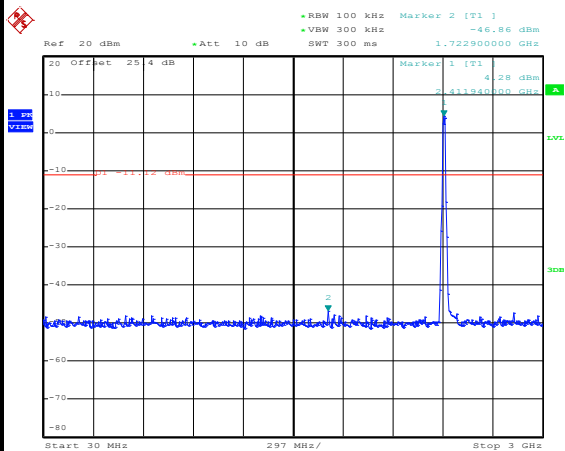
Date: 25.JUN.2018 11:42:39

Channel Plot



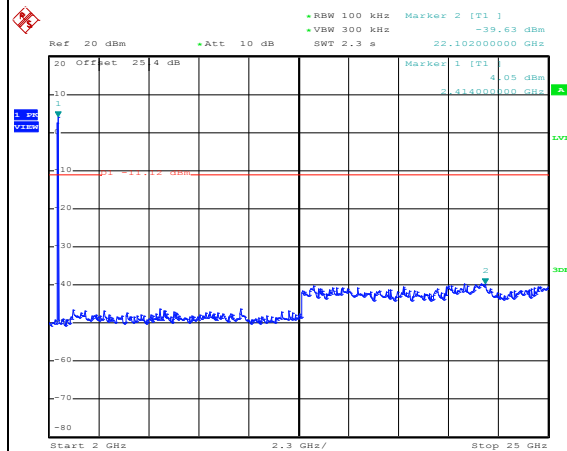
Date: 25.JUN.2018 11:42:54

Spurious Emission 30MHz~3GHz



Date: 25.JUN.2018 11:43:20

Spurious Emission 2GHz~25GHz

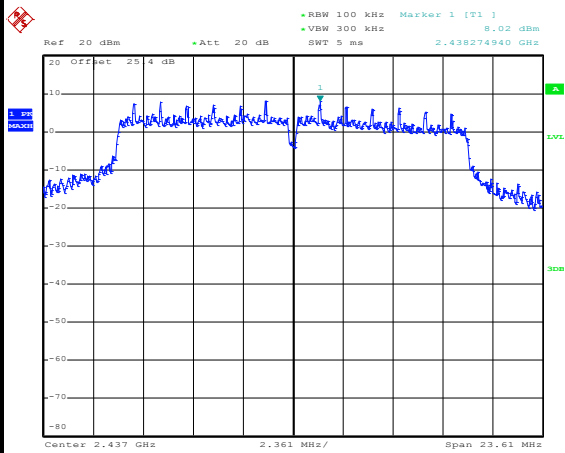


Date: 25.JUN.2018 11:43:34



|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11g | Test Channel : | 06 |
|-------------|---------|----------------|----|

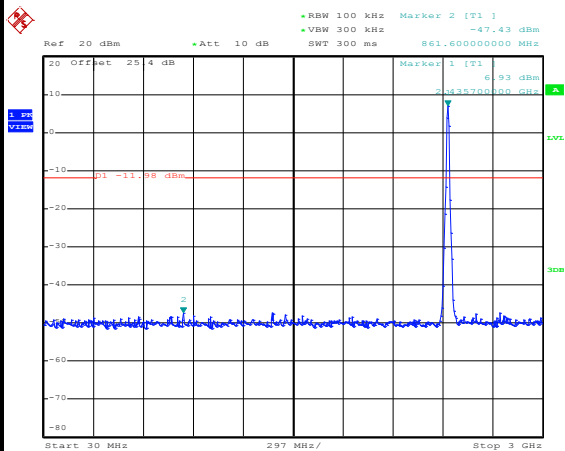
100kHz PSD reference Level



Date: 25.JUN.2018 11:46:14

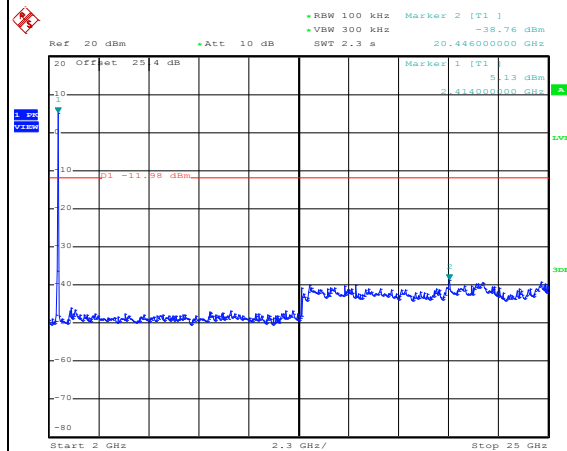
Channel Plot

Spurious Emission 30MHz~3GHz



Date: 25.JUN.2018 11:46:43

Spurious Emission 2GHz~25GHz

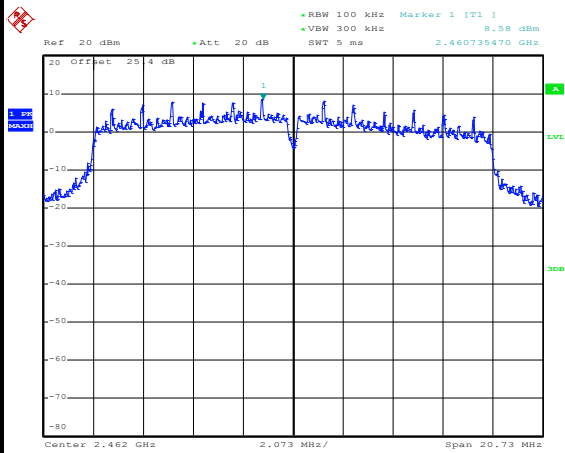


Date: 25.JUN.2018 11:47:00



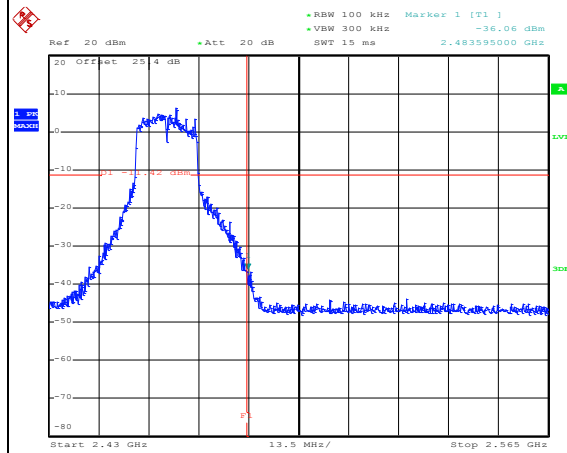
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|-------------|---------|----------------|----|
| Test Mode : | 802.11g | Test Channel : | 11 |
|-------------|---------|----------------|----|

100kHz PSD reference Level



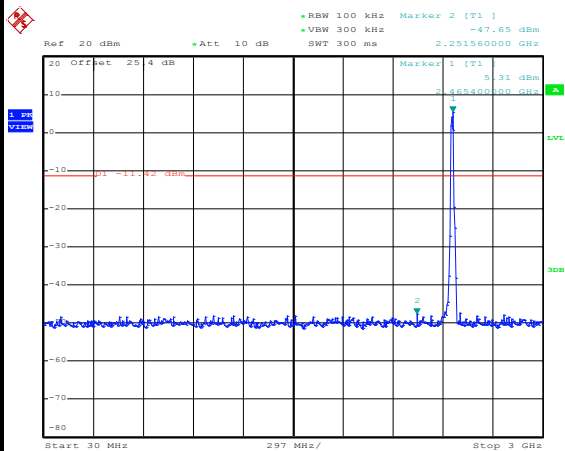
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Channel Plot



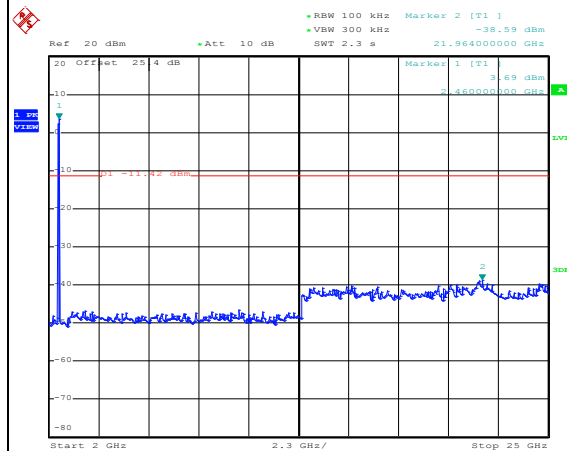
Date: 25.JUN.2018 11:50:23

Spurious Emission 30MHz~3GHz



Date: 25.JUN.2018 11:50:41

Spurious Emission 2GHz~25GHz



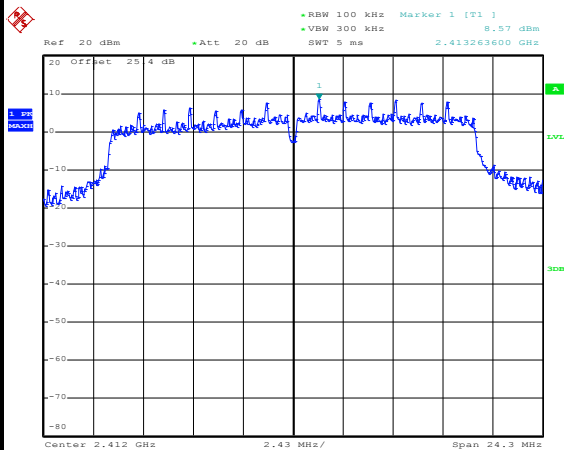
Date: 25.JUN.2018 11:50:56



Test Mode : 802.11n HT20

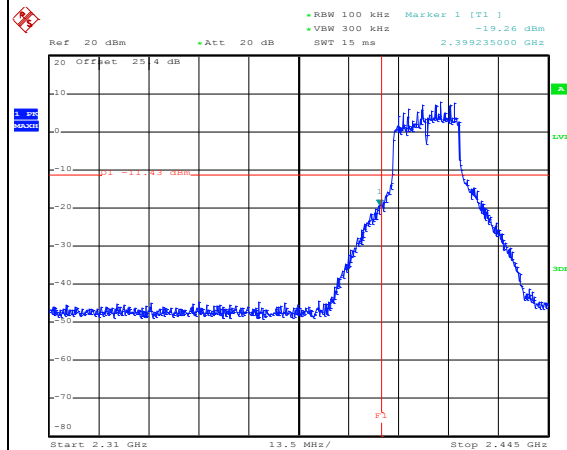
Test Channel : 01

## 100kHz PSD reference Level



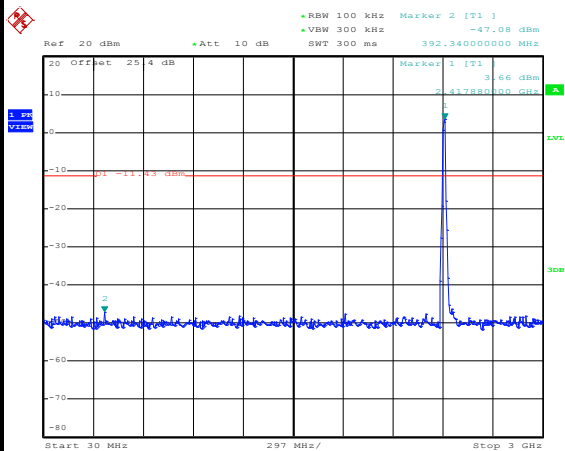
Date: 25.JUN.2018 14:53:48

## Channel Plot



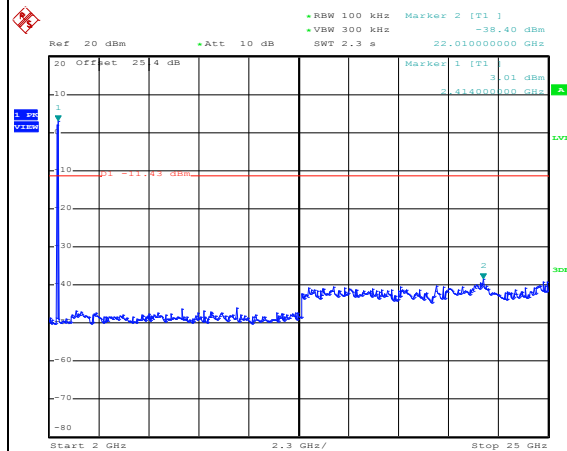
Date: 25.JUN.2018 14:54:03

## Spurious Emission 30MHz~3GHz



Date: 25.JUN.2018 14:54:29

## Spurious Emission 2GHz~25GHz

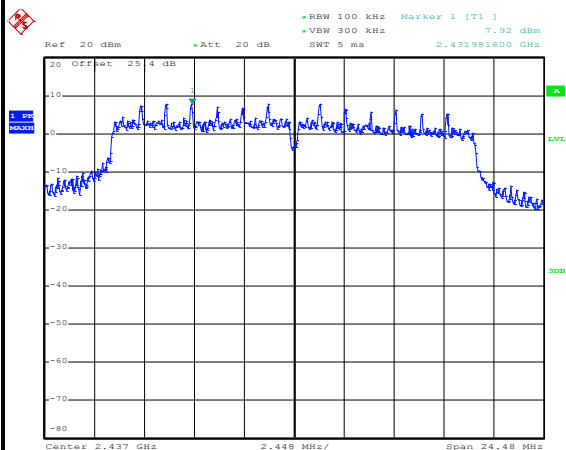


Date: 25.JUN.2018 14:55:05



|             |              |                |    |
|-------------|--------------|----------------|----|
| Test Mode : | 802.11n HT20 | Test Channel : | 06 |
|-------------|--------------|----------------|----|

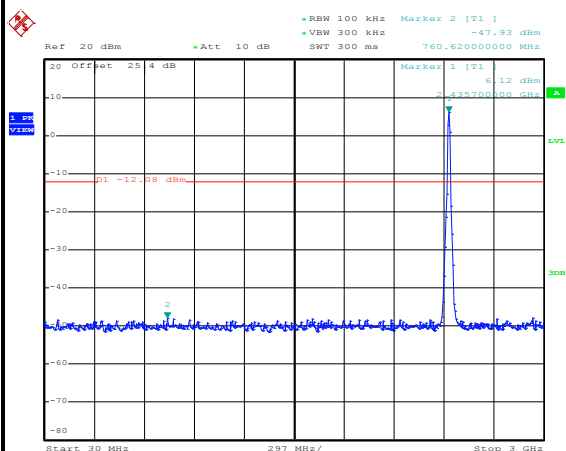
## 100kHz PSD reference Level



Date: 25.JUN.2018 14:57:17

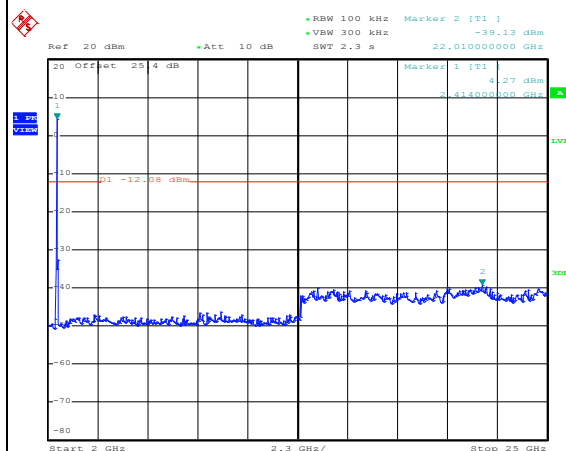
## Channel Plot

## Spurious Emission 30MHz~3GHz

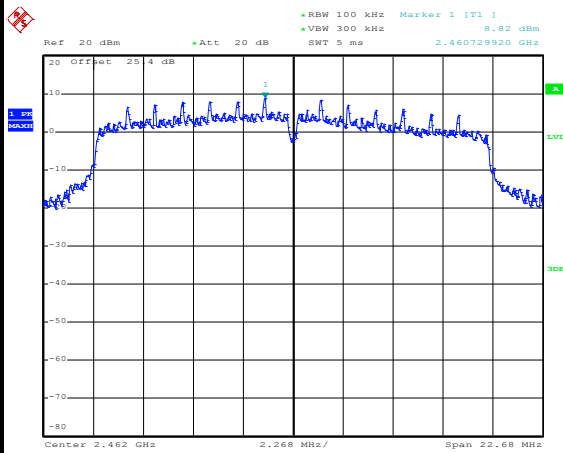


Date: 25.JUN.2018 14:58:16

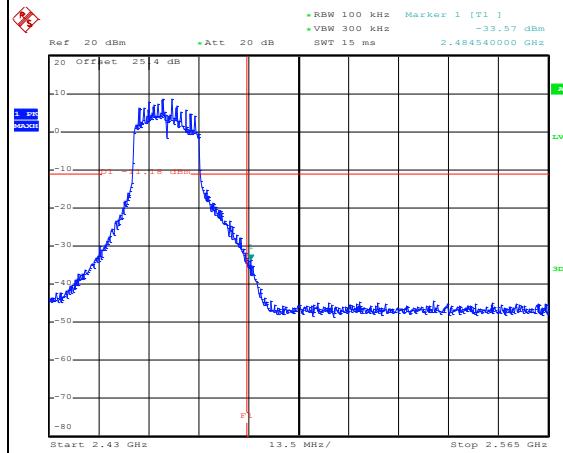
## Spurious Emission 2GHz~25GHz



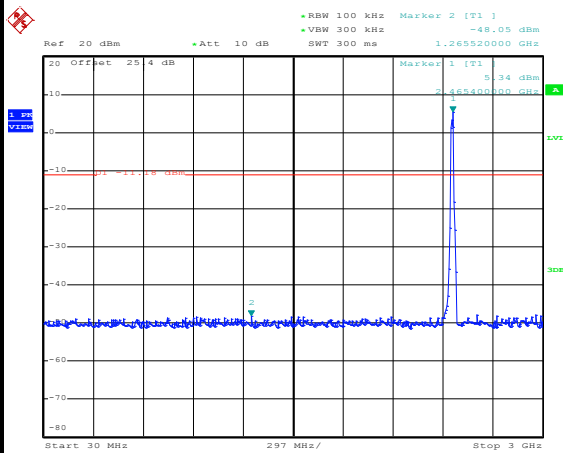
Date: 25.JUN.2018 14:59:37

**Test Mode :** 802.11n HT20**Test Channel :** 11**100kHz PSD reference Level**

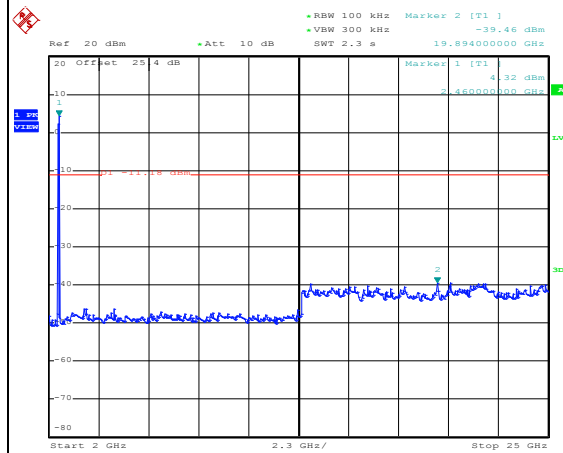
Date: 25.JUN.2018 15:02:56

**Channel Plot**

Date: 25.JUN.2018 15:03:33

**Spurious Emission 30MHz~3GHz**

Date: 25.JUN.2018 15:04:04

**Spurious Emission 2GHz~25GHz**

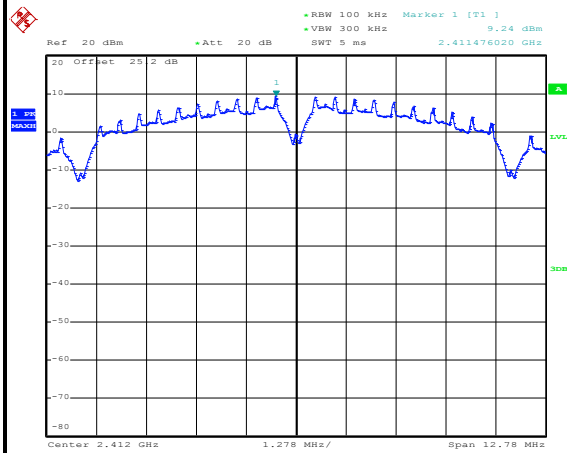
Date: 25.JUN.2018 15:04:19



Number of TX = 1, Ant. 2 (Measured)

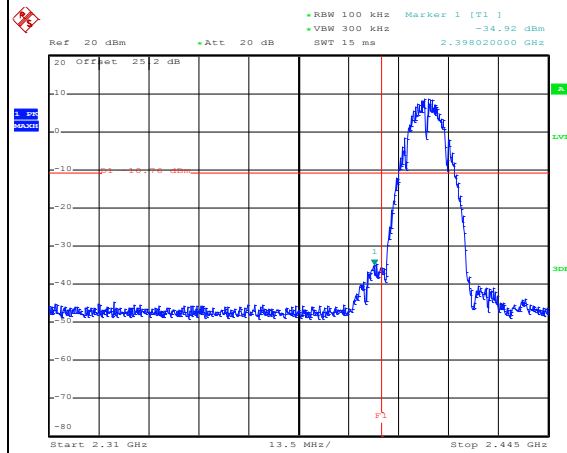
|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11b | Test Channel : | 01 |
|-------------|---------|----------------|----|

100kHz PSD reference Level



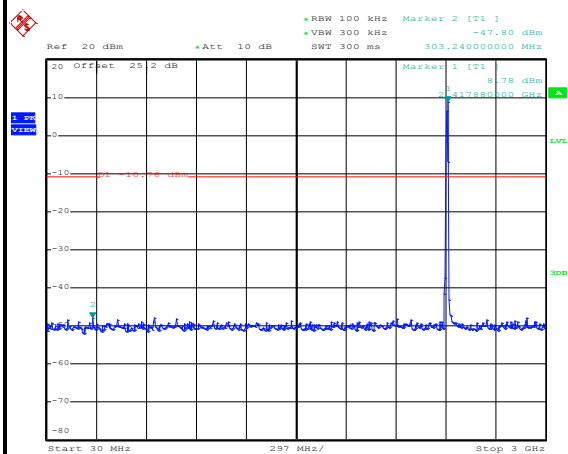
Date: 22.JUN.2018 06:25:47

Channel Plot



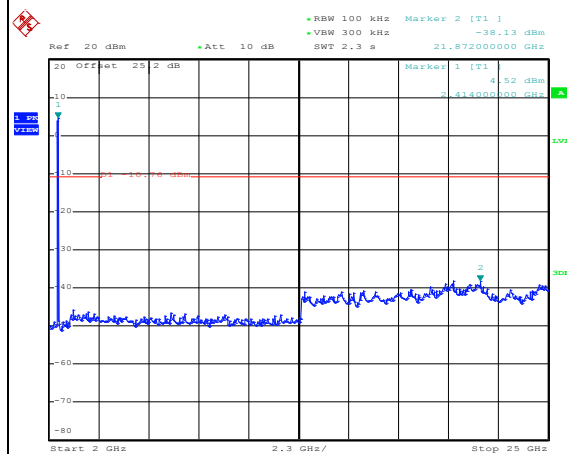
Date: 22.JUN.2018 06:26:05

Spurious Emission 30MHz~3GHz



Date: 22.JUN.2018 06:27:00

Spurious Emission 2GHz~25GHz

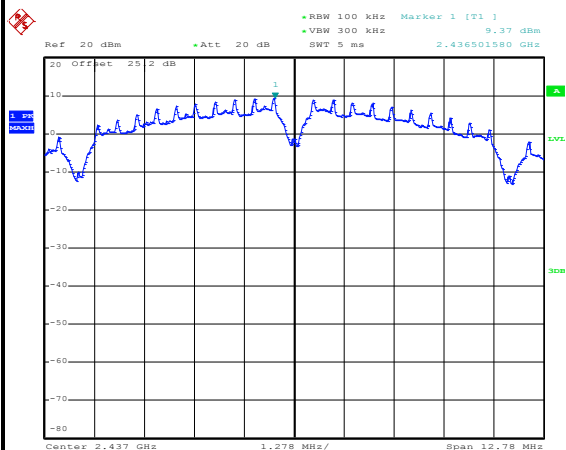


Date: 22.JUN.2018 06:27:16



|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11b | Test Channel : | 06 |
|-------------|---------|----------------|----|

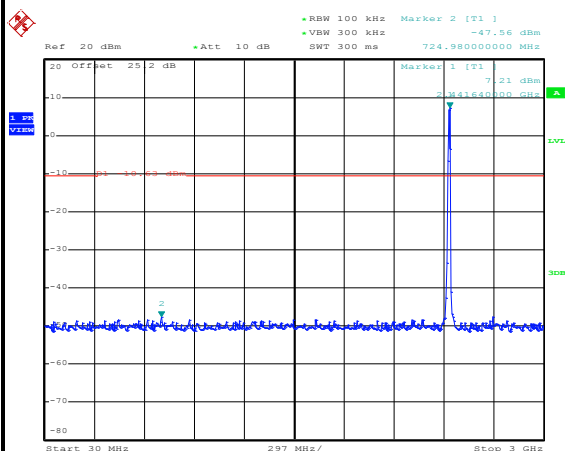
100kHz PSD reference Level



Date: 22.JUN.2018 06:29:48

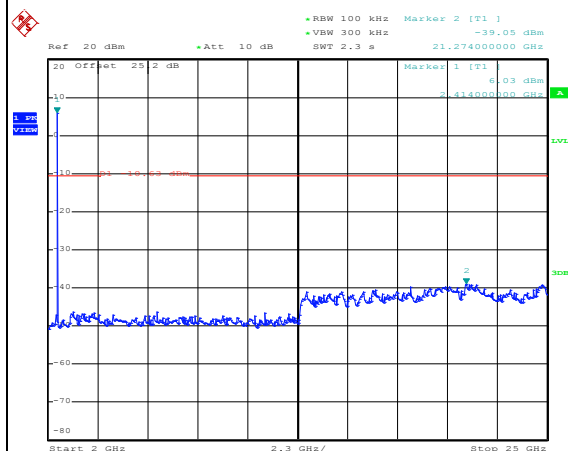
Channel Plot

Spurious Emission 30MHz~3GHz



Date: 22.JUN.2018 06:30:13

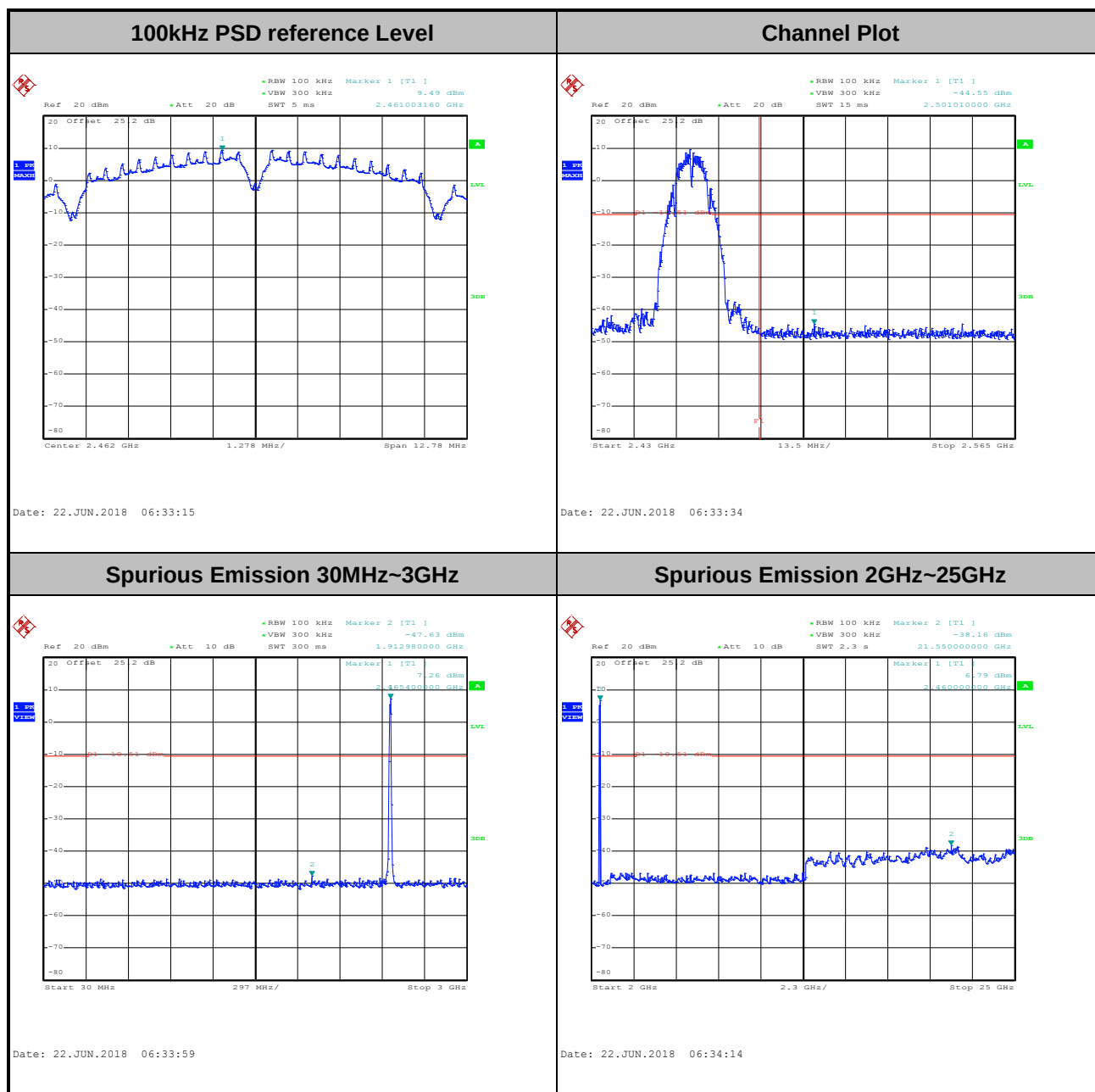
Spurious Emission 2GHz~25GHz



Date: 22.JUN.2018 06:30:31



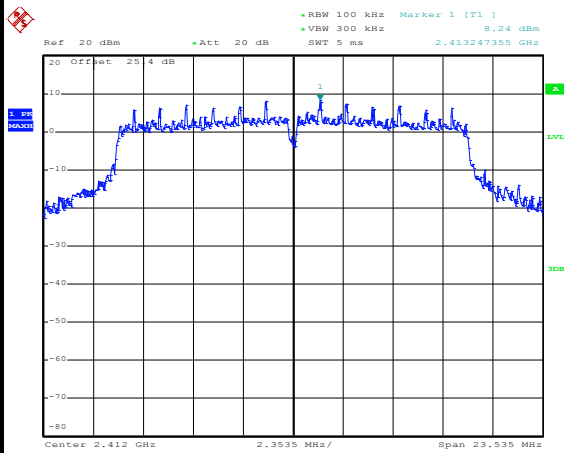
|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11b | Test Channel : | 11 |
|-------------|---------|----------------|----|





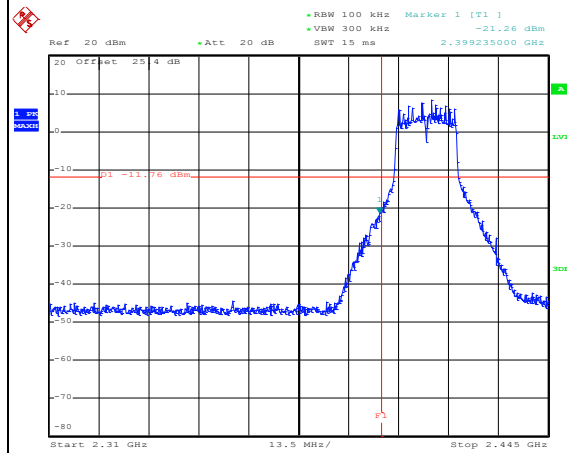
|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11g | Test Channel : | 01 |
|-------------|---------|----------------|----|

100kHz PSD reference Level



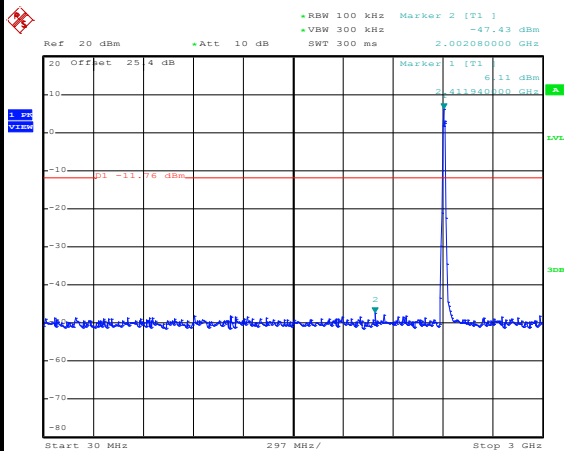
Date: 25.JUN.2018 13:39:19

Channel Plot



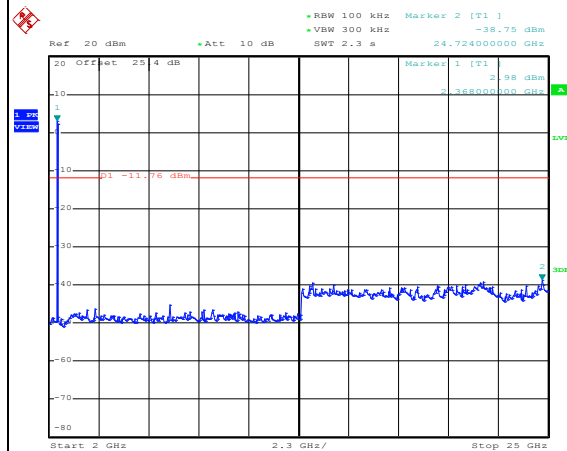
Date: 25.JUN.2018 13:39:46

Spurious Emission 30MHz~3GHz



Date: 25.JUN.2018 13:40:12

Spurious Emission 2GHz~25GHz

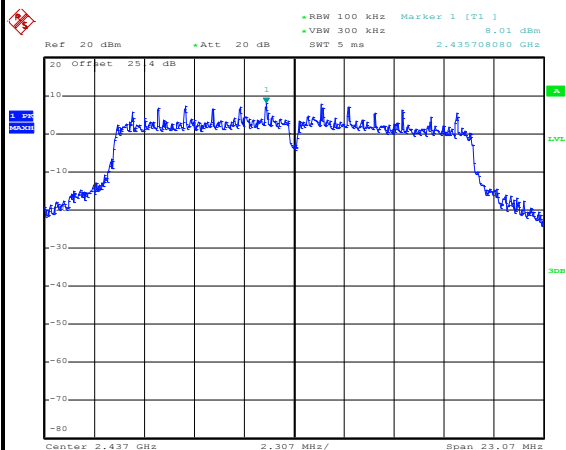


Date: 25.JUN.2018 13:40:27



|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11g | Test Channel : | 06 |
|-------------|---------|----------------|----|

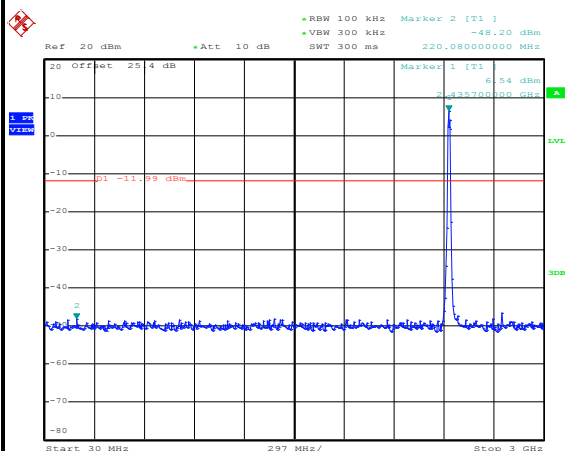
100kHz PSD reference Level



Date: 25.JUN.2018 13:44:03

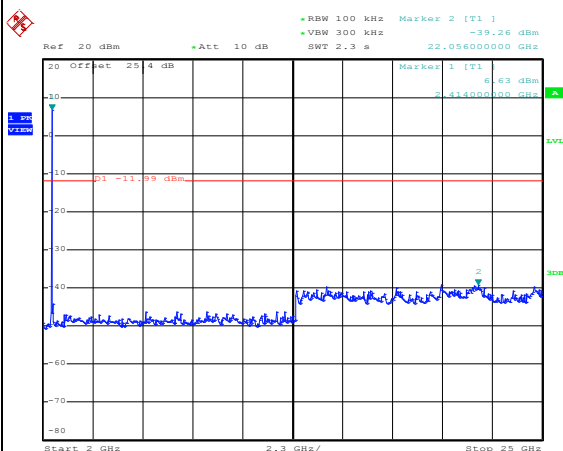
Channel Plot

Spurious Emission 30MHz~3GHz

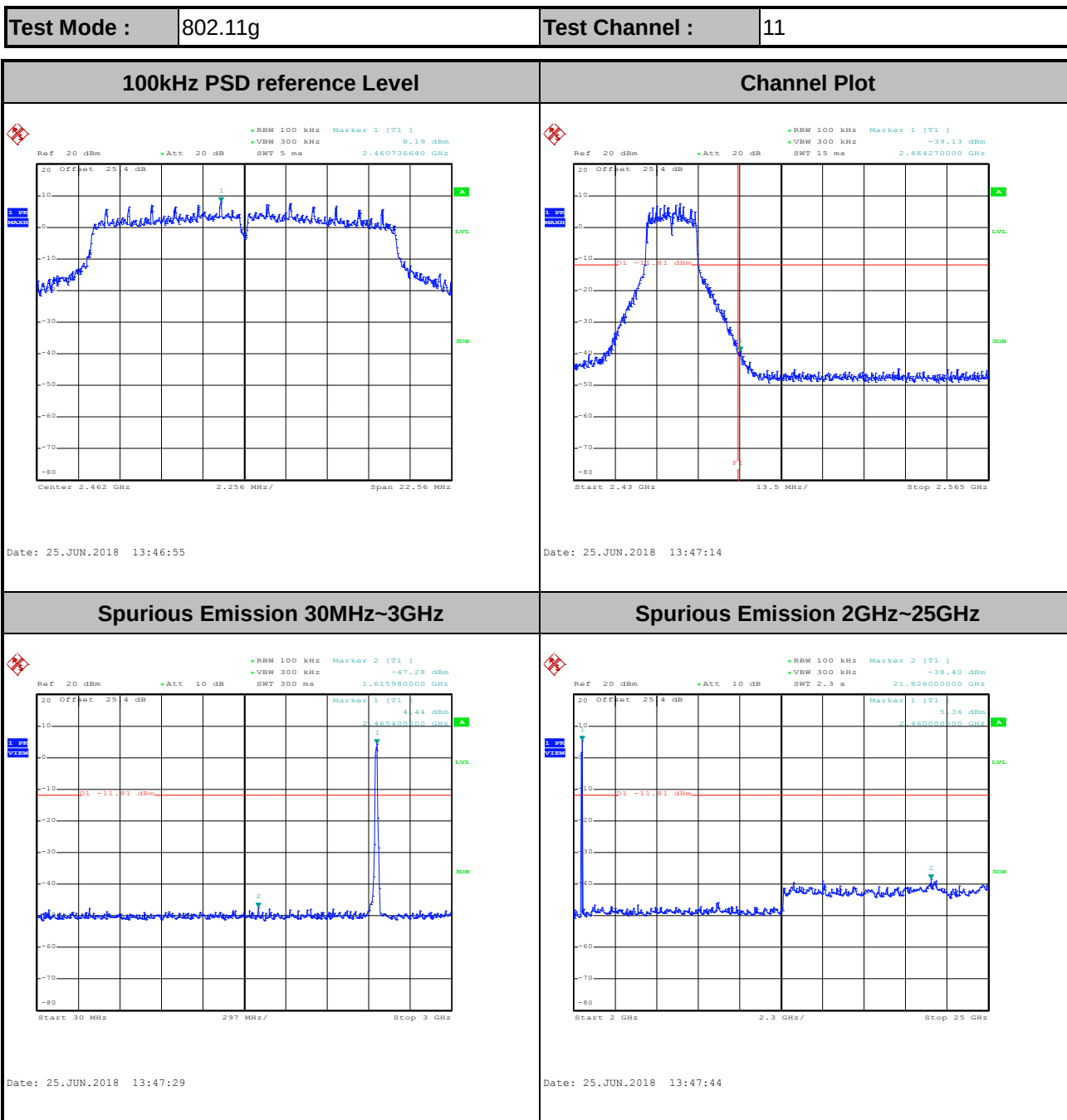


Date: 25.JUN.2018 13:44:20

Spurious Emission 2GHz~25GHz

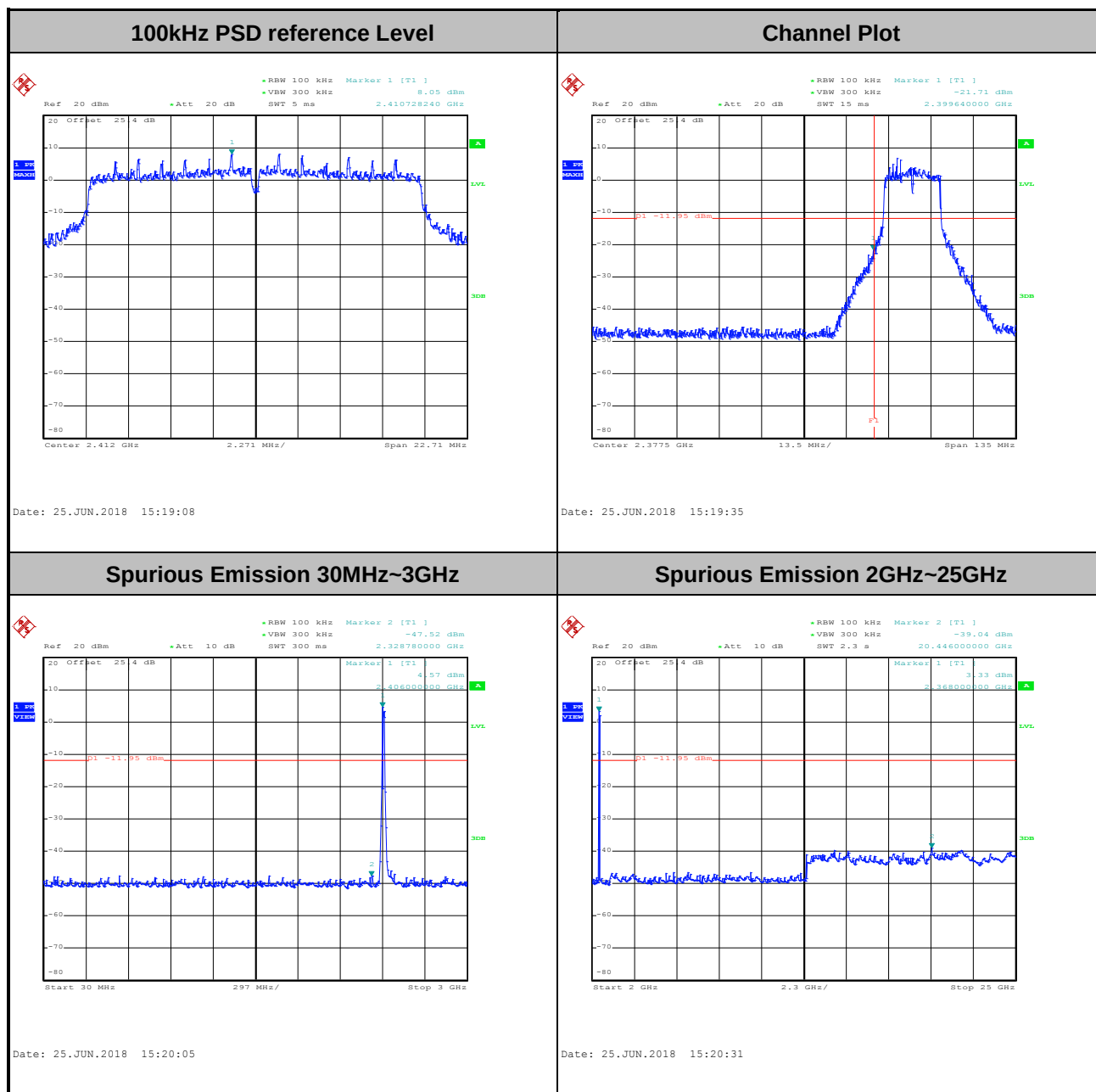


Date: 25.JUN.2018 13:44:34



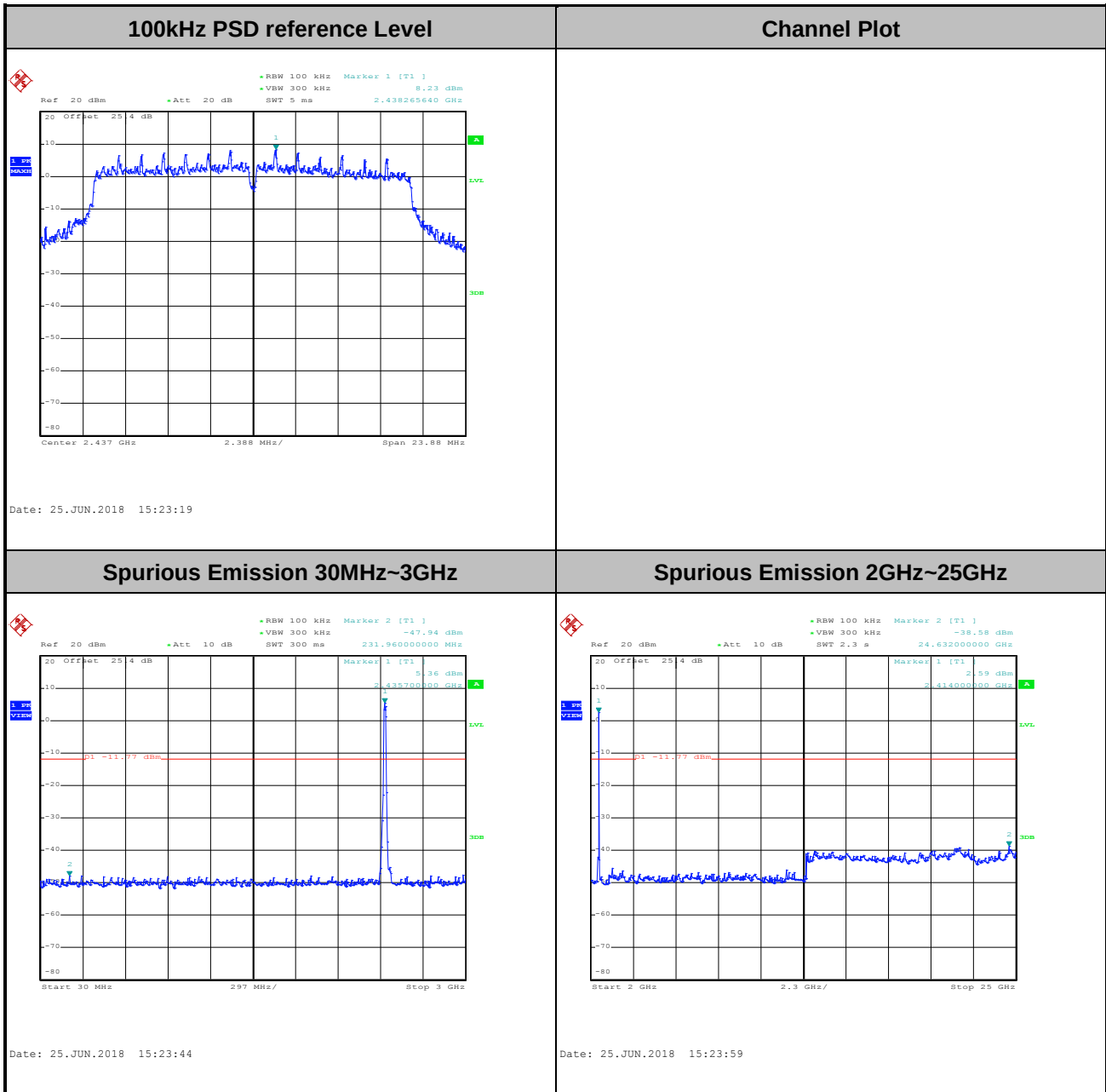


|             |              |                |    |
|-------------|--------------|----------------|----|
| Test Mode : | 802.11n HT20 | Test Channel : | 01 |
|-------------|--------------|----------------|----|





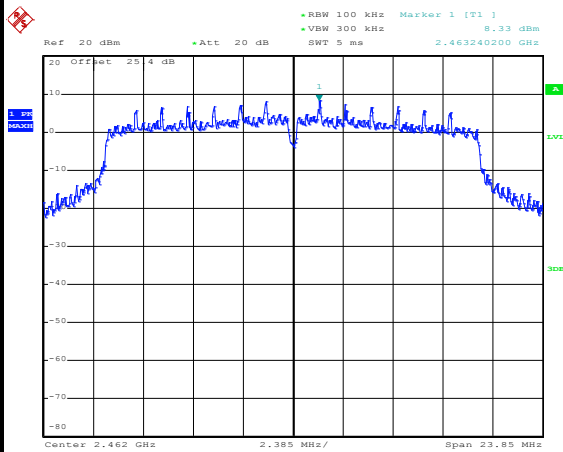
|             |              |                |    |
|-------------|--------------|----------------|----|
| Test Mode : | 802.11n HT20 | Test Channel : | 06 |
|-------------|--------------|----------------|----|





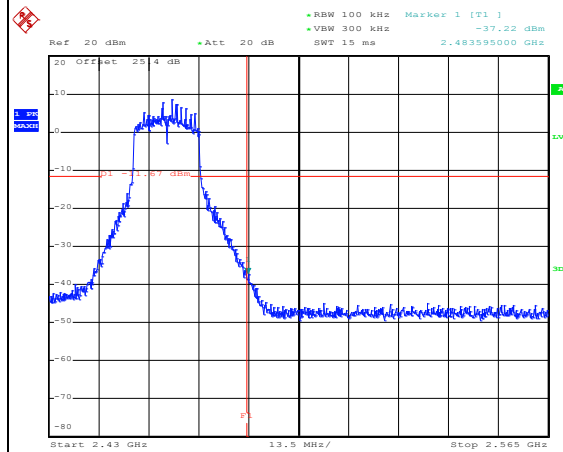
|             |              |                |    |
|-------------|--------------|----------------|----|
| Test Mode : | 802.11n HT20 | Test Channel : | 11 |
|-------------|--------------|----------------|----|

100kHz PSD reference Level



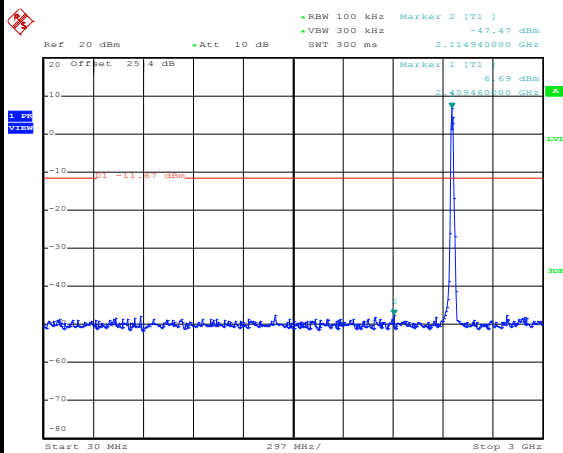
Date: 25.JUN.2018 15:26:19

Channel Plot



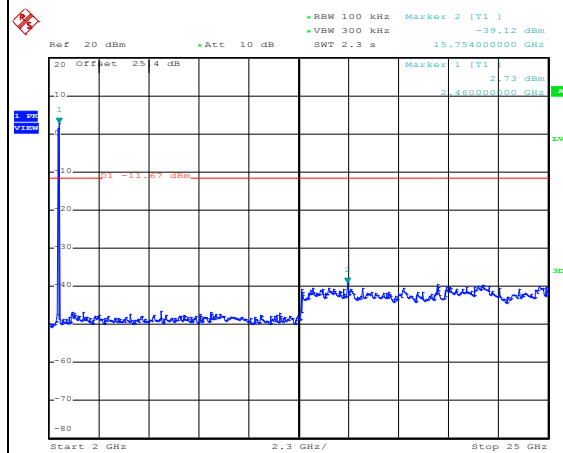
Date: 25.JUN.2018 15:26:36

Spurious Emission 30MHz~3GHz



Date: 25.JUN.2018 15:26:52

Spurious Emission 2GHz~25GHz



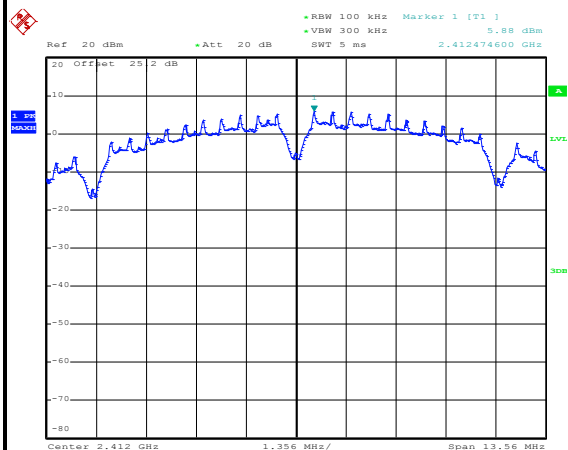
Date: 25.JUN.2018 15:27:06



Number of TX = 2, Ant. 1 (Measured)

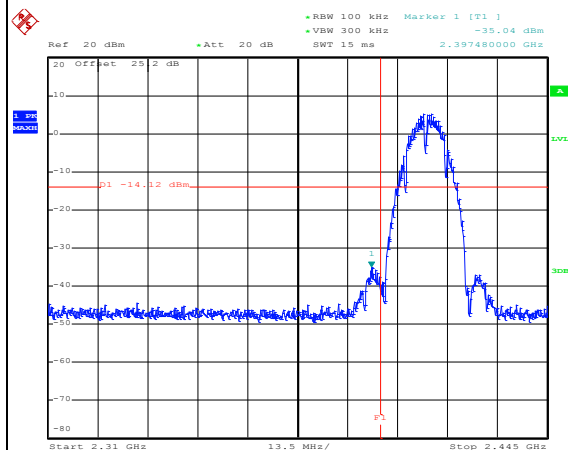
|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11b | Test Channel : | 01 |
|-------------|---------|----------------|----|

100kHz PSD reference Level



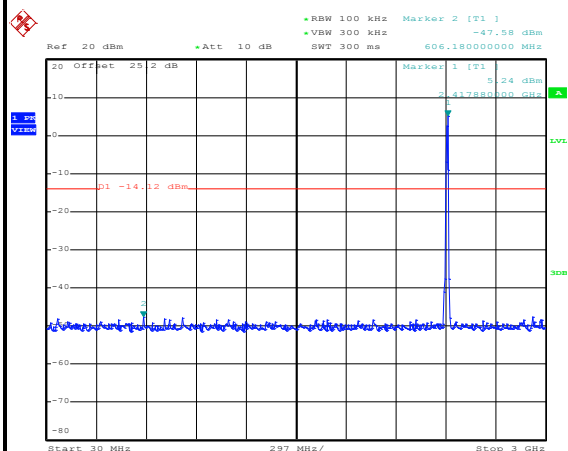
Date: 22.JUN.2018 07:07:40

Channel Plot



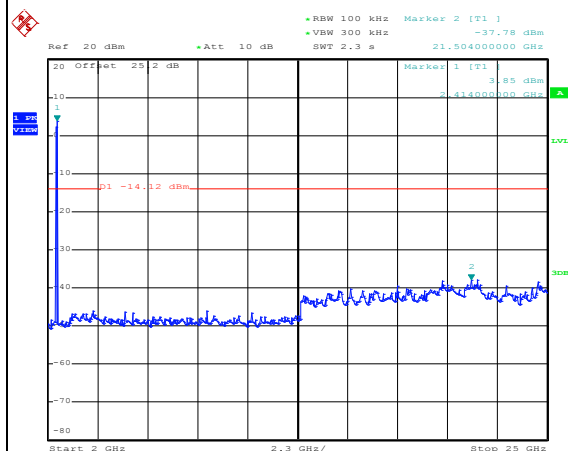
Date: 22.JUN.2018 07:07:55

Spurious Emission 30MHz~3GHz



Date: 22.JUN.2018 07:08:49

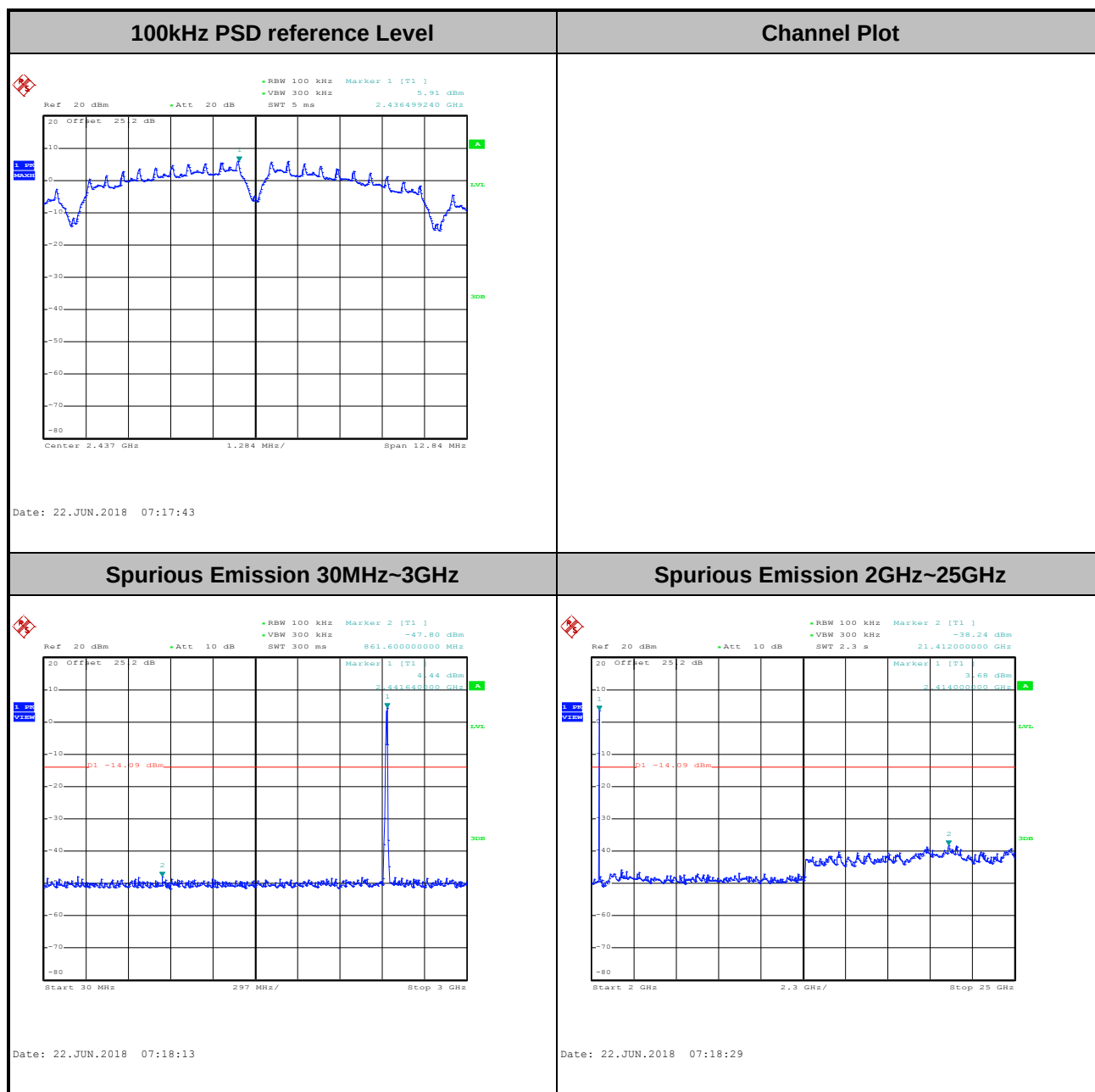
Spurious Emission 2GHz~25GHz



Date: 22.JUN.2018 07:09:08



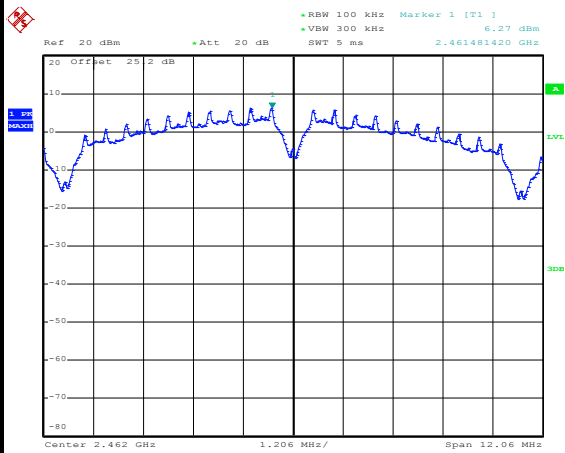
|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11b | Test Channel : | 06 |
|-------------|---------|----------------|----|





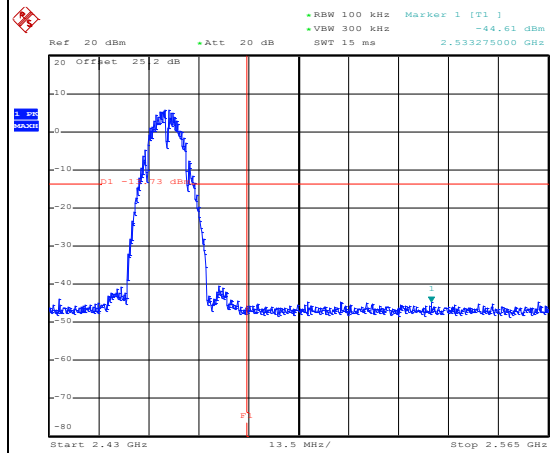
|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11b | Test Channel : | 11 |
|-------------|---------|----------------|----|

100kHz PSD reference Level



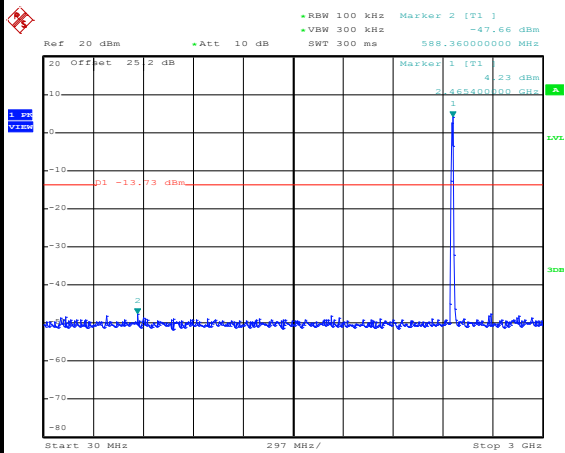
Date: 22.JUN.2018 07:25:43

Channel Plot



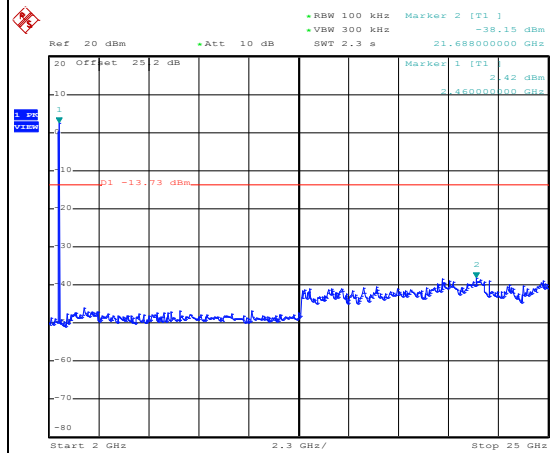
Date: 22.JUN.2018 07:26:22

Spurious Emission 30MHz~3GHz



Date: 22.JUN.2018 07:26:47

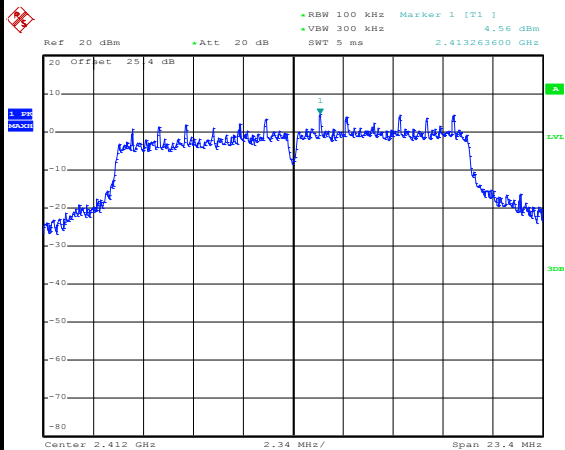
Spurious Emission 2GHz~25GHz



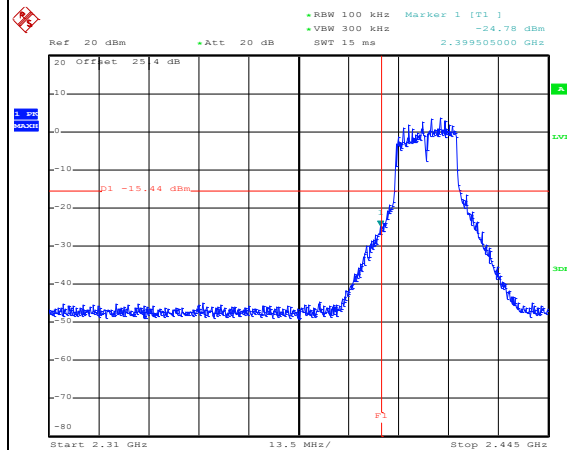
Date: 22.JUN.2018 07:27:03



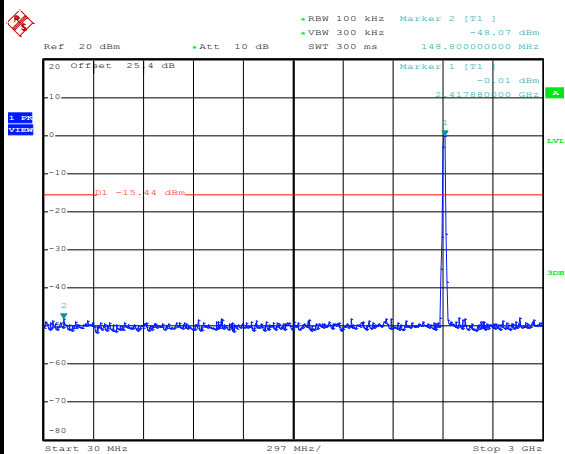
|                    |         |                       |    |
|--------------------|---------|-----------------------|----|
| <b>Test Mode :</b> | 802.11g | <b>Test Channel :</b> | 01 |
|--------------------|---------|-----------------------|----|

**100kHz PSD reference Level**

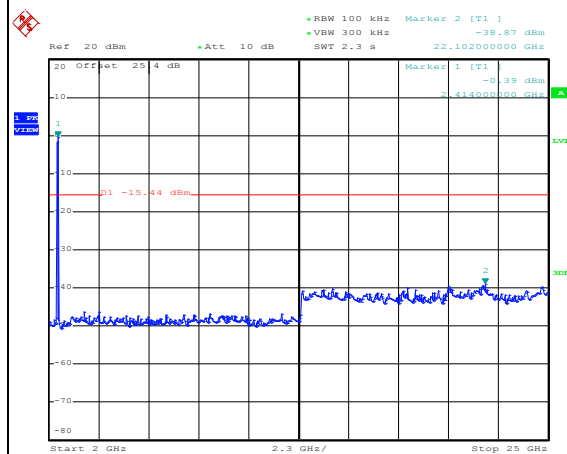
Date: 25.JUN.2018 13:58:53

**Channel Plot**

Date: 25.JUN.2018 13:59:10

**Spurious Emission 30MHz~3GHz**

Date: 25.JUN.2018 13:59:35

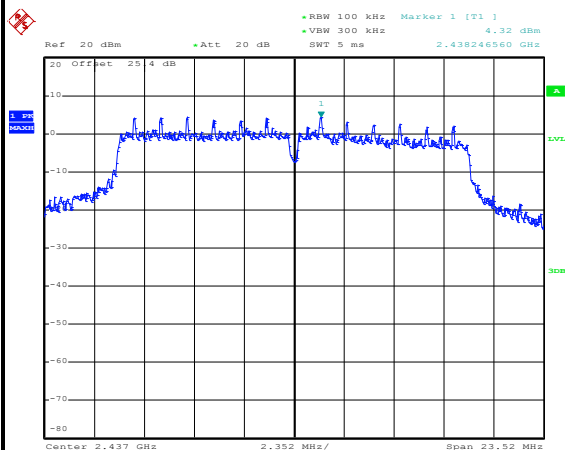
**Spurious Emission 2GHz~25GHz**

Date: 25.JUN.2018 13:59:53



|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11g | Test Channel : | 06 |
|-------------|---------|----------------|----|

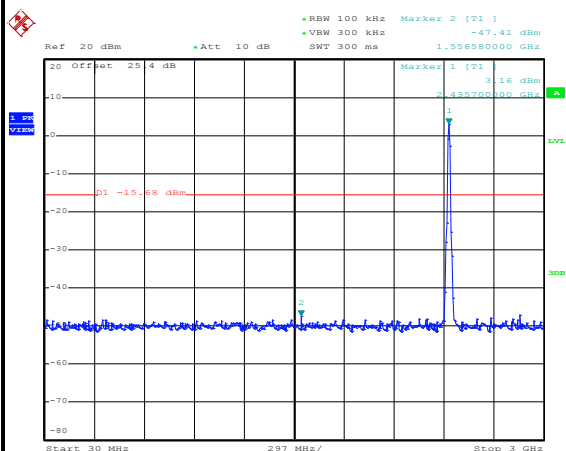
100kHz PSD reference Level



Date: 25.JUN.2018 14:02:39

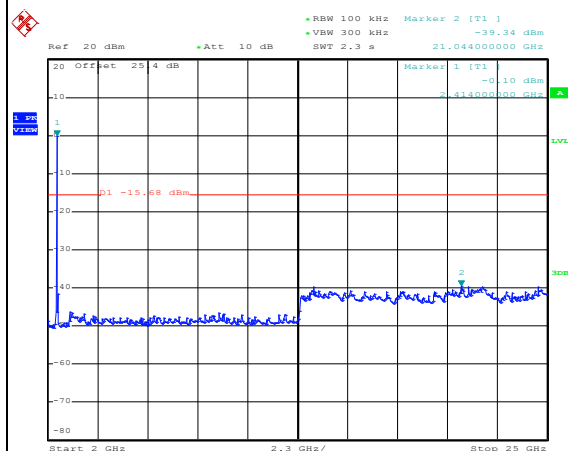
Channel Plot

Spurious Emission 30MHz~3GHz



Date: 25.JUN.2018 14:03:01

Spurious Emission 2GHz~25GHz

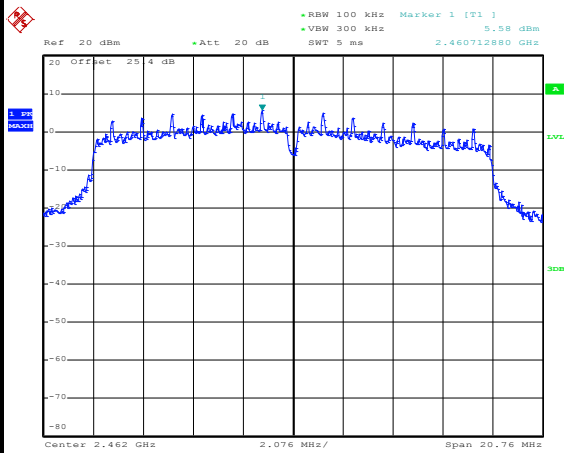


Date: 25.JUN.2018 14:03:26



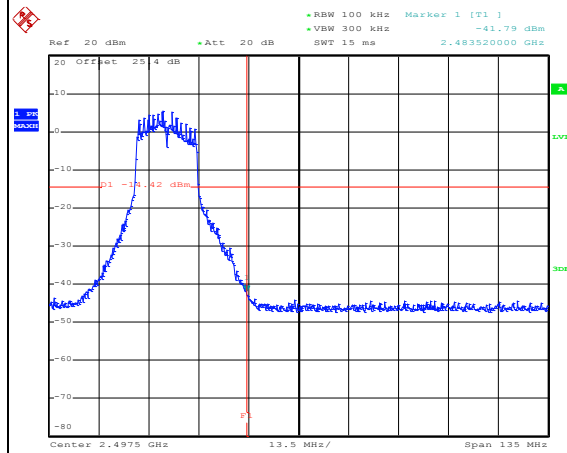
|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11g | Test Channel : | 11 |
|-------------|---------|----------------|----|

100kHz PSD reference Level



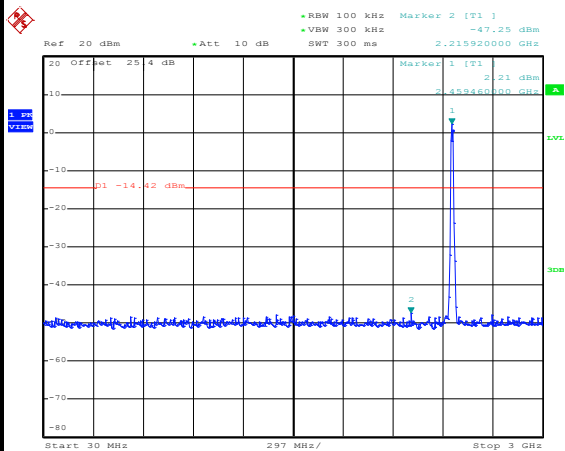
Date: 25.JUN.2018 14:11:08

Channel Plot



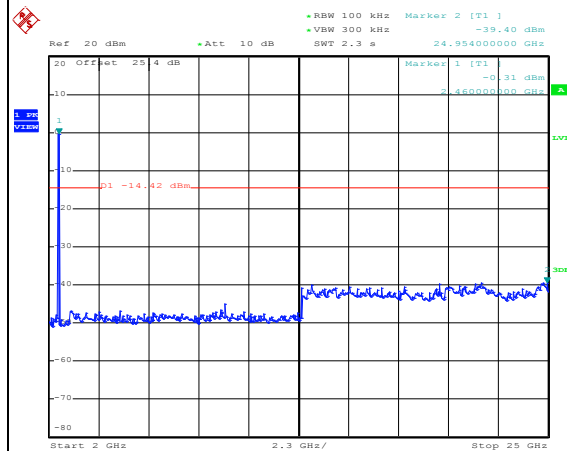
Date: 25.JUN.2018 14:13:10

Spurious Emission 30MHz~3GHz



Date: 25.JUN.2018 14:13:32

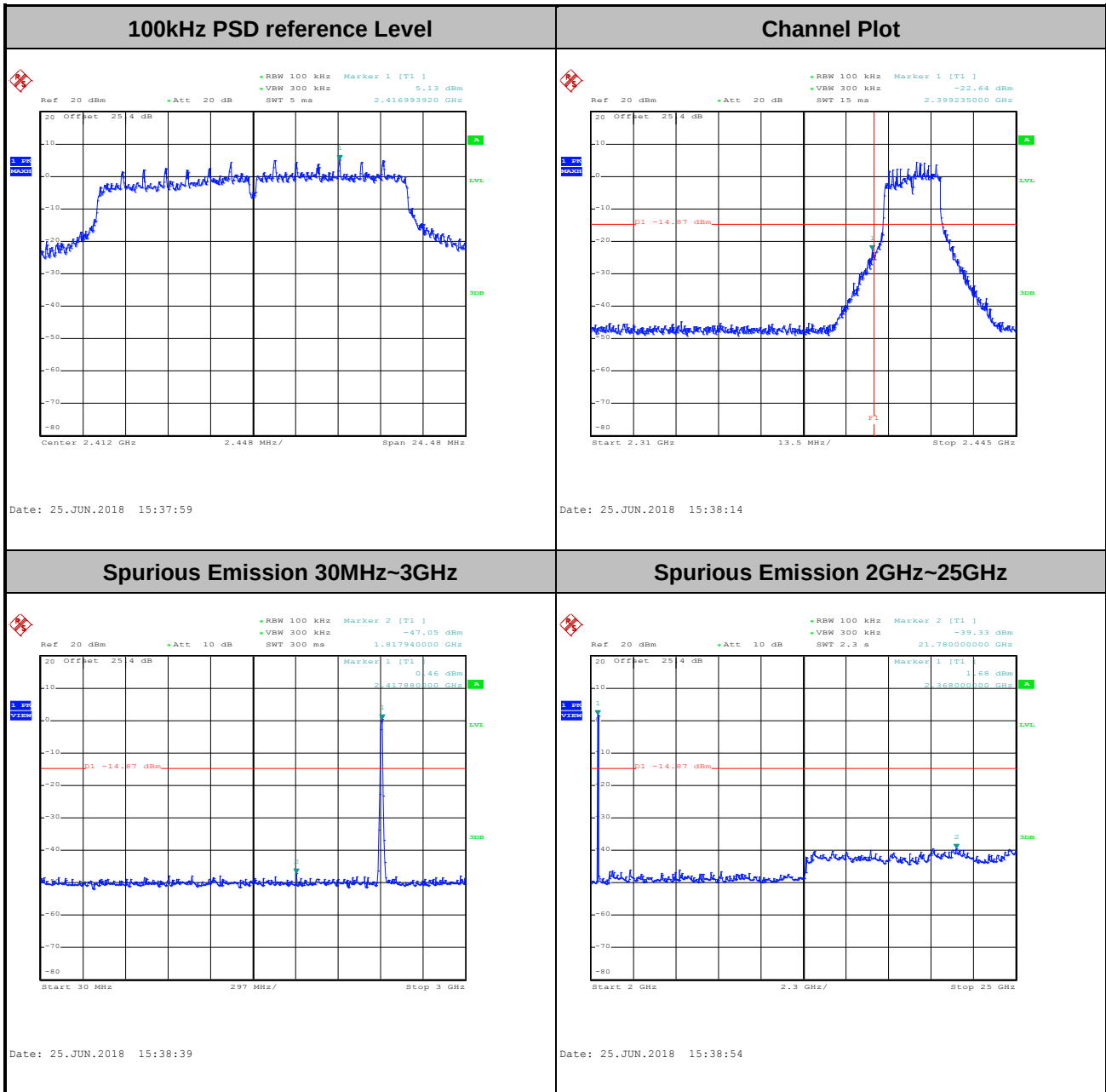
Spurious Emission 2GHz~25GHz



Date: 25.JUN.2018 14:14:49

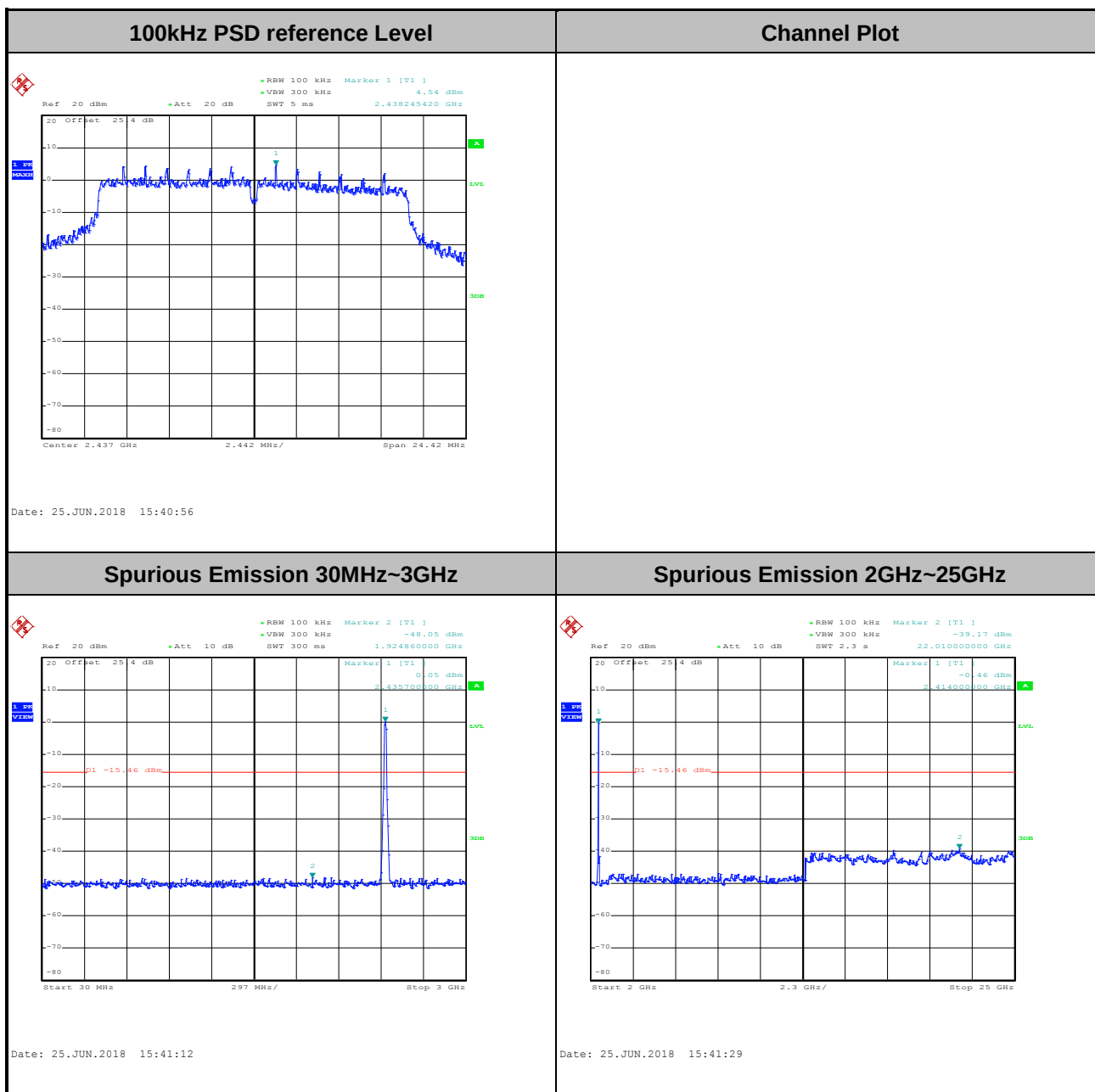


|                    |              |                       |    |
|--------------------|--------------|-----------------------|----|
| <b>Test Mode :</b> | 802.11n HT20 | <b>Test Channel :</b> | 01 |
|--------------------|--------------|-----------------------|----|



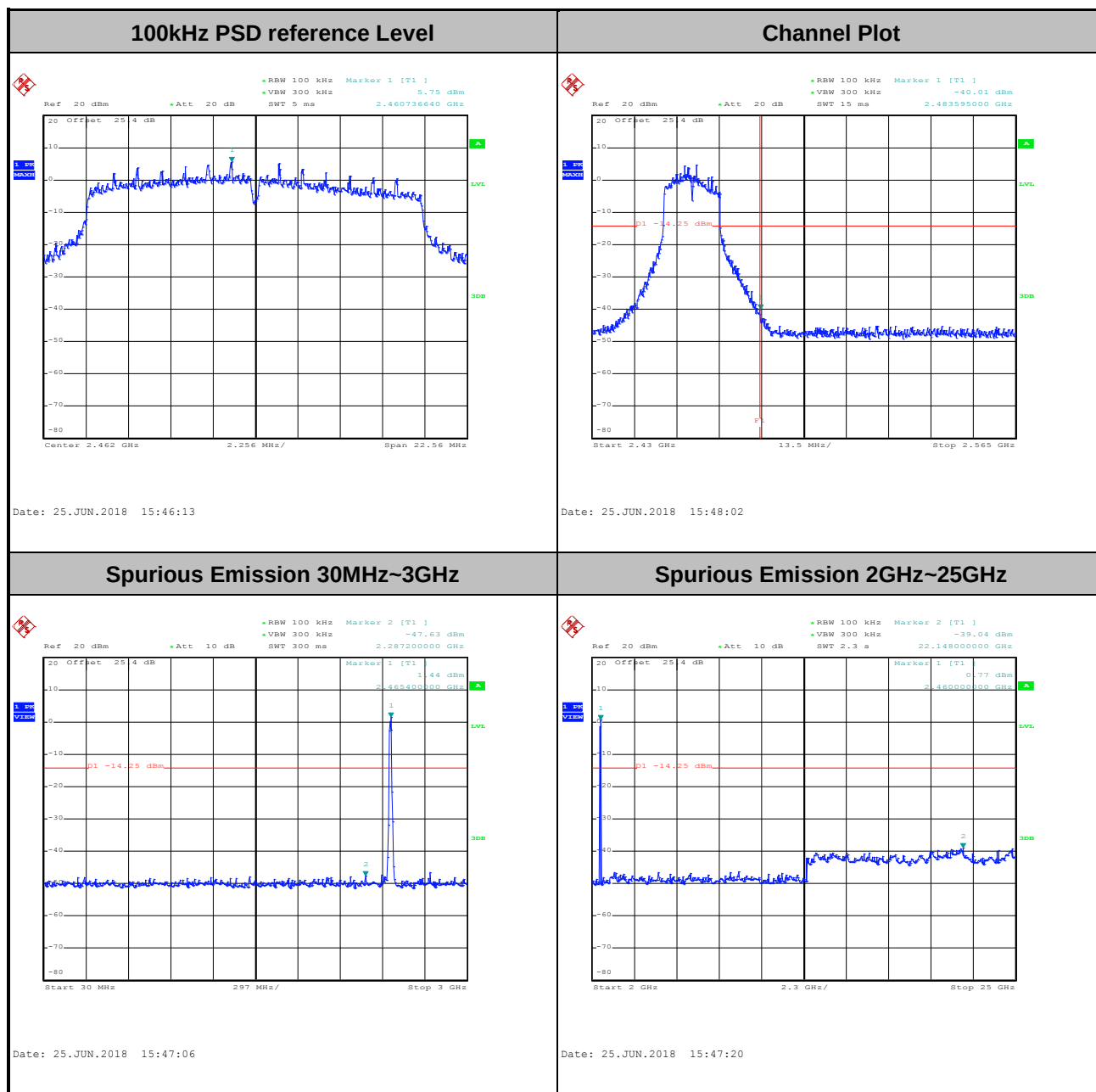


|             |              |                |    |
|-------------|--------------|----------------|----|
| Test Mode : | 802.11n HT20 | Test Channel : | 06 |
|-------------|--------------|----------------|----|





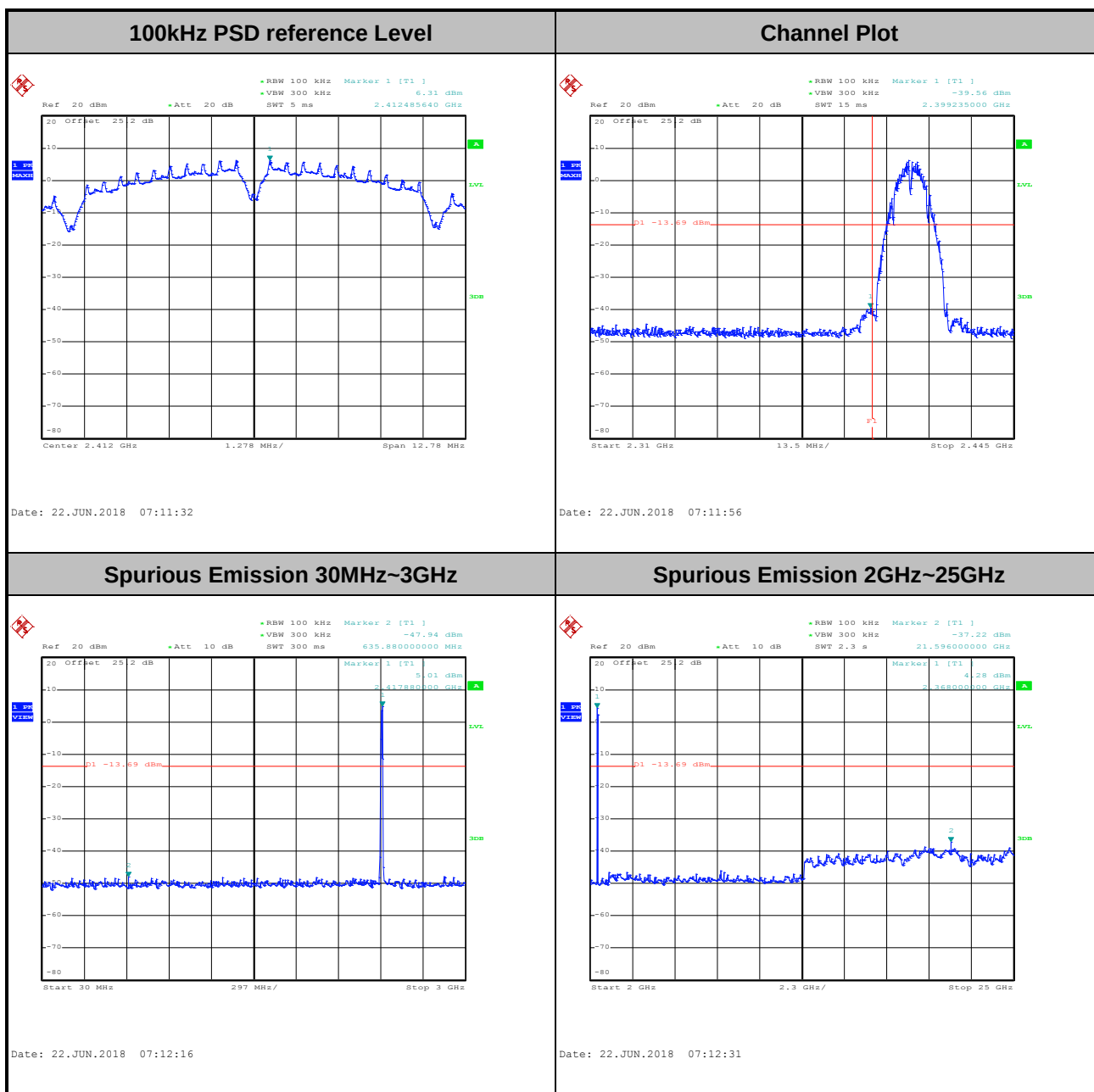
|             |              |                |    |
|-------------|--------------|----------------|----|
| Test Mode : | 802.11n HT20 | Test Channel : | 11 |
|-------------|--------------|----------------|----|





Number of TX = 2, Ant. 2 (Measured)

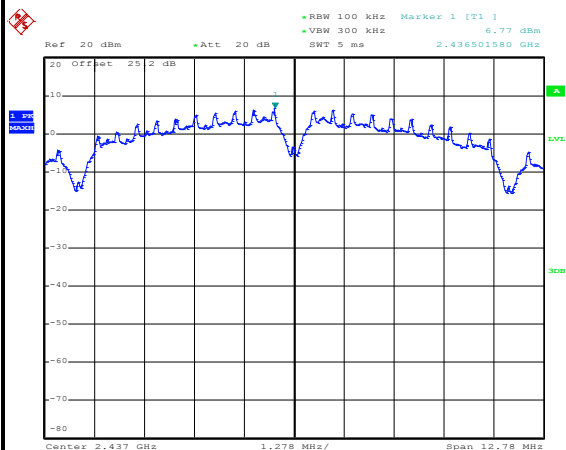
|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11b | Test Channel : | 01 |
|-------------|---------|----------------|----|





|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11b | Test Channel : | 06 |
|-------------|---------|----------------|----|

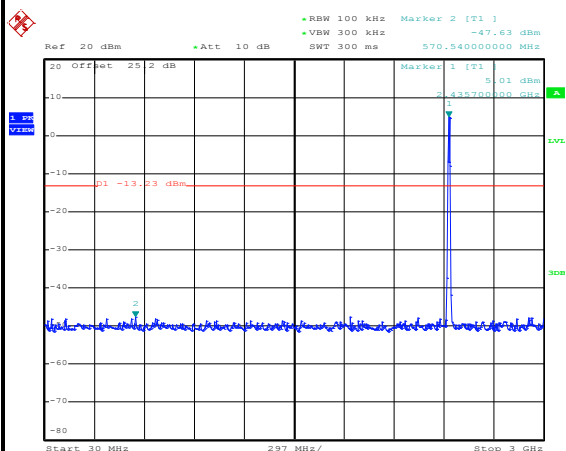
100kHz PSD reference Level



Date: 22.JUN.2018 07:21:40

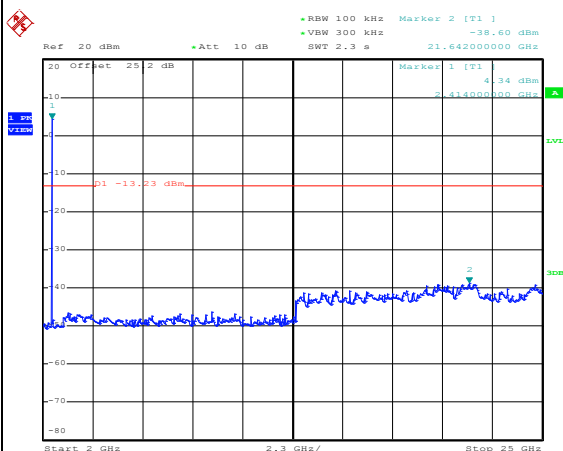
Channel Plot

Spurious Emission 30MHz~3GHz

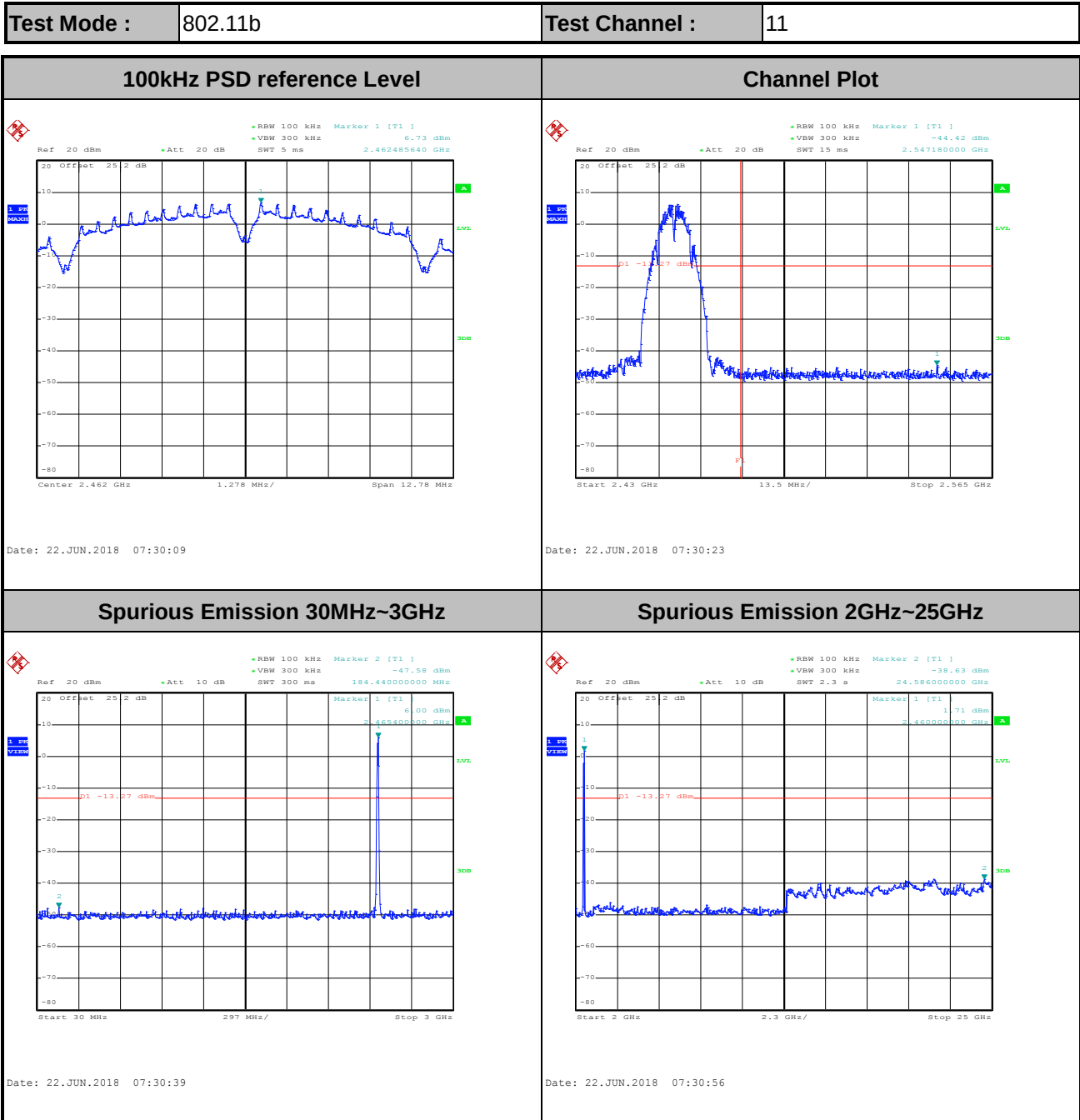


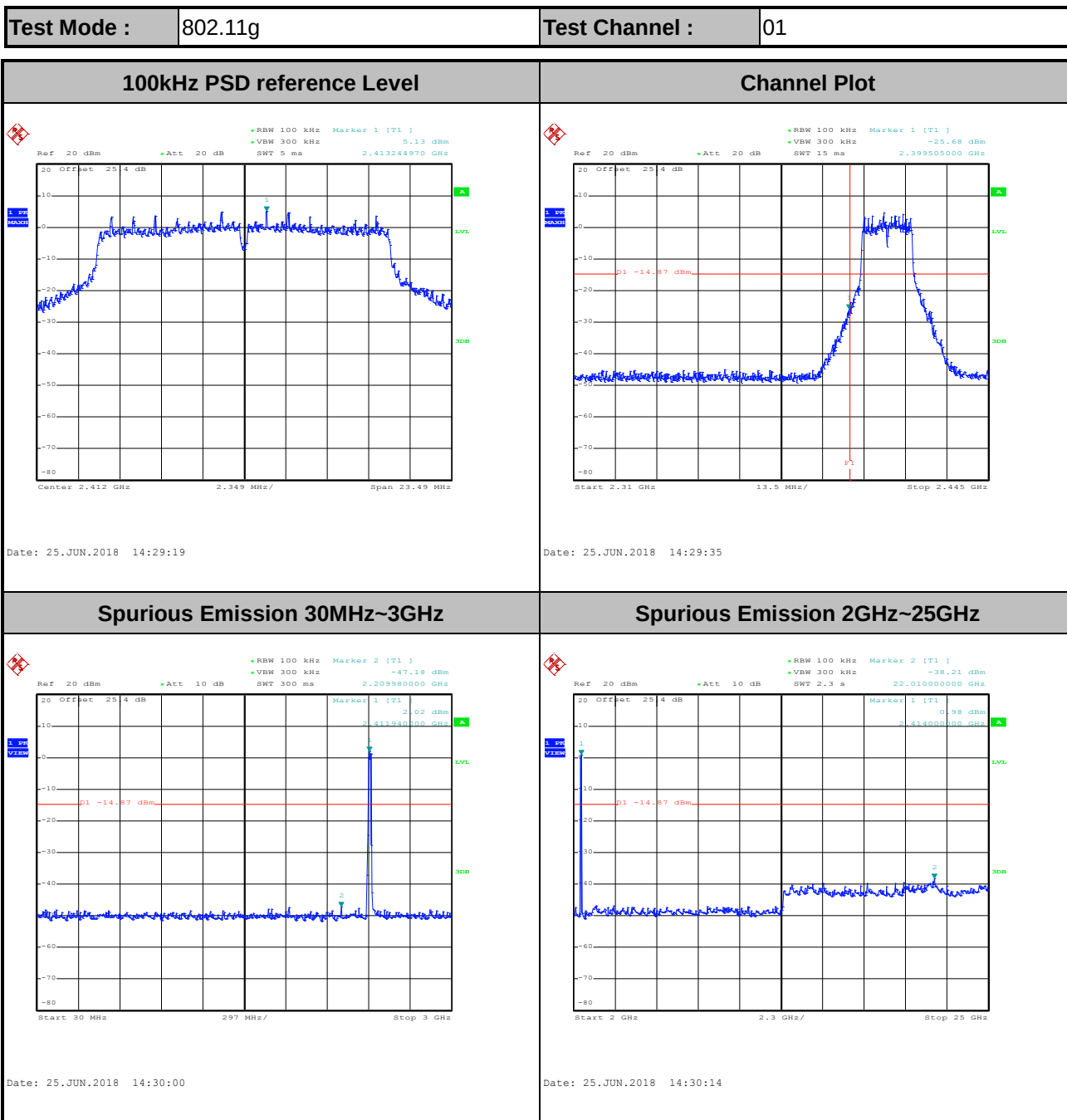
Date: 22.JUN.2018 07:21:58

Spurious Emission 2GHz~25GHz



Date: 22.JUN.2018 07:22:15

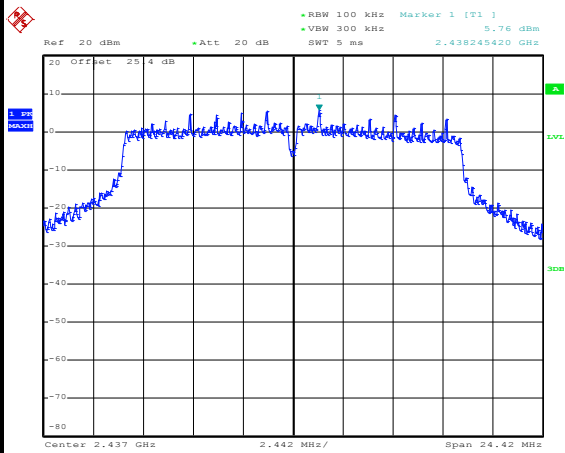






|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11g | Test Channel : | 06 |
|-------------|---------|----------------|----|

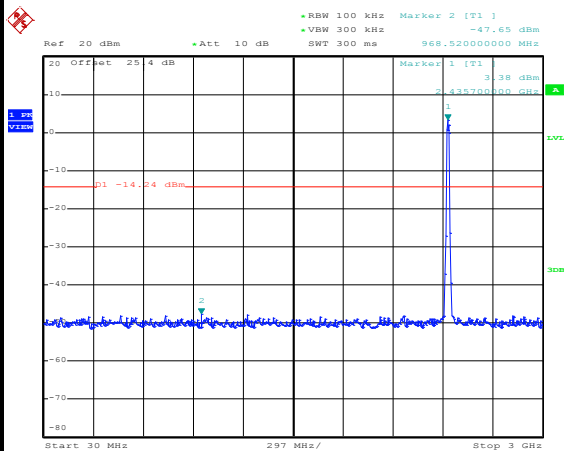
100kHz PSD reference Level



Date: 25.JUN.2018 14:32:10

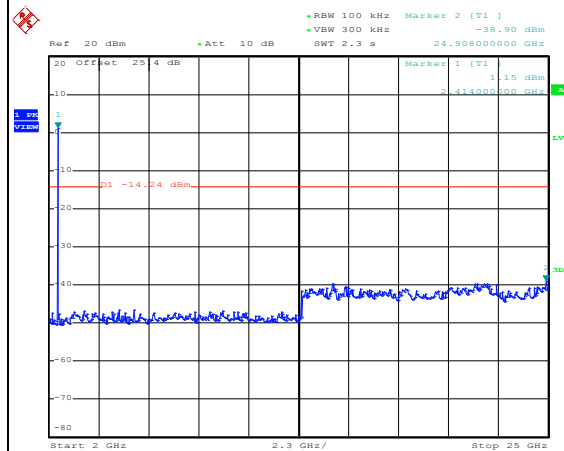
Channel Plot

Spurious Emission 30MHz~3GHz



Date: 25.JUN.2018 14:32:25

Spurious Emission 2GHz~25GHz

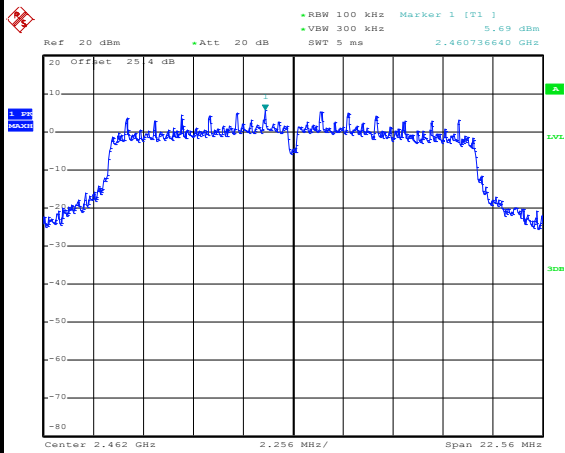


Date: 25.JUN.2018 14:32:40



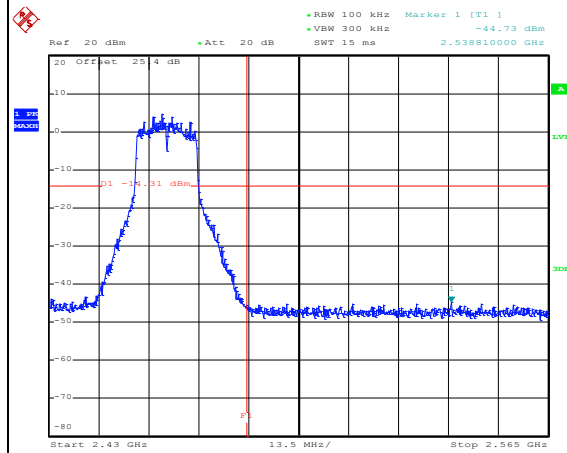
|             |         |                |    |
|-------------|---------|----------------|----|
| Test Mode : | 802.11g | Test Channel : | 11 |
|-------------|---------|----------------|----|

100kHz PSD reference Level



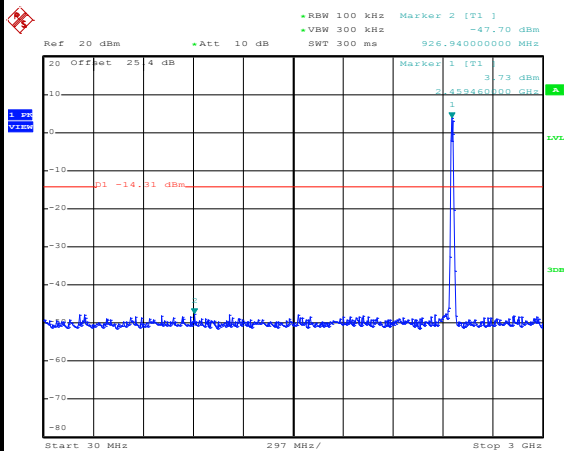
Date: 25.JUN.2018 14:36:27

Channel Plot



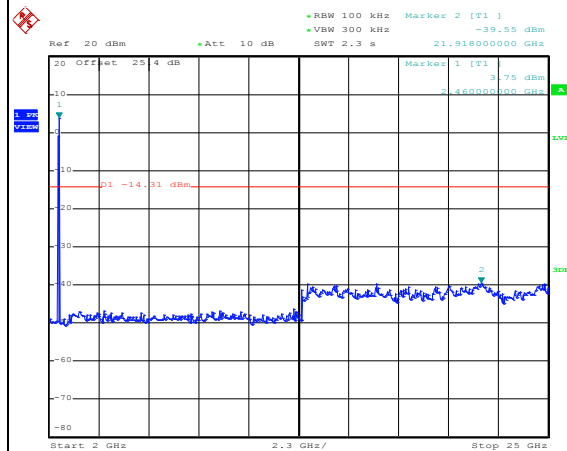
Date: 25.JUN.2018 14:36:45

Spurious Emission 30MHz~3GHz

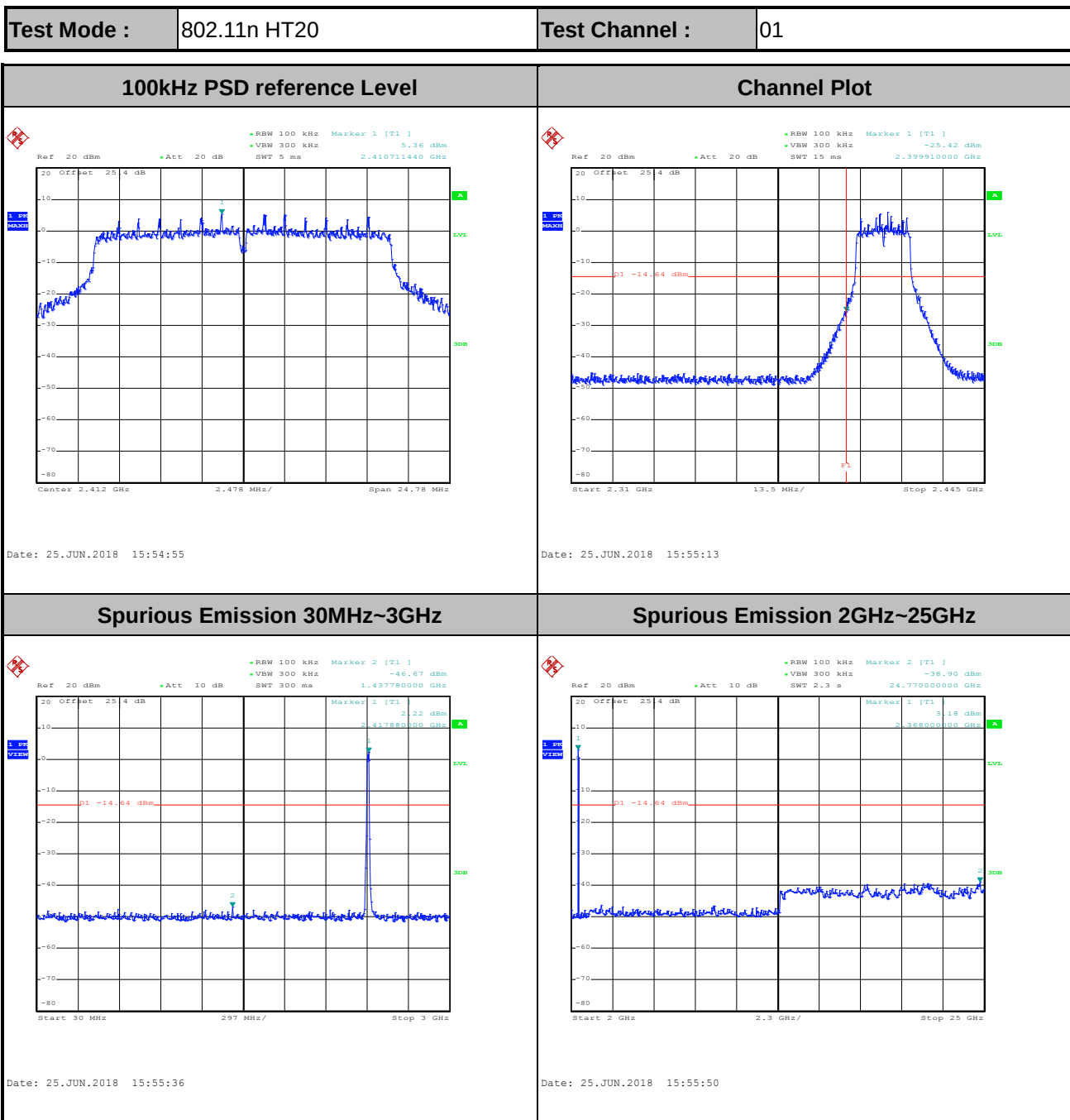


Date: 25.JUN.2018 14:37:00

Spurious Emission 2GHz~25GHz



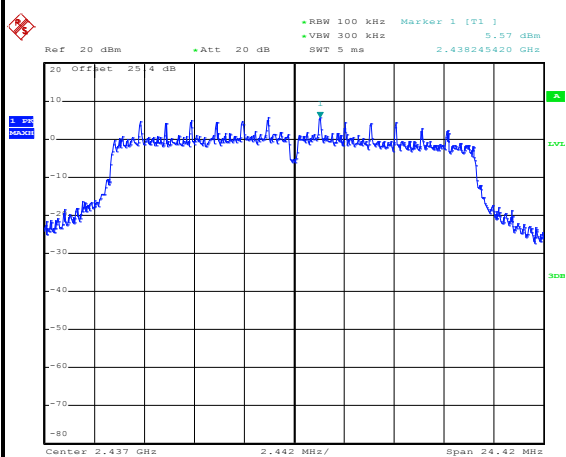
Date: 25.JUN.2018 14:37:15





|             |              |                |    |
|-------------|--------------|----------------|----|
| Test Mode : | 802.11n HT20 | Test Channel : | 06 |
|-------------|--------------|----------------|----|

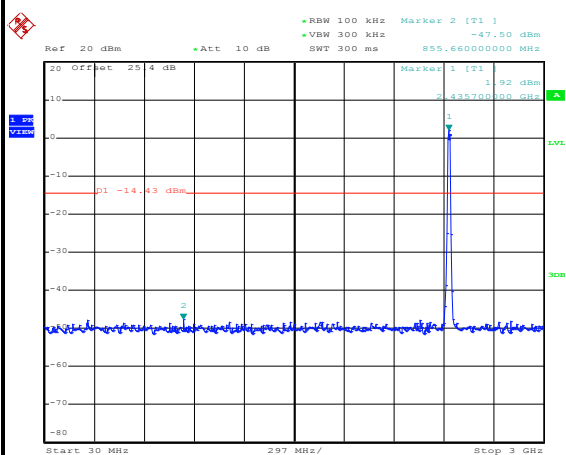
## 100kHz PSD reference Level



Date: 25.JUN.2018 15:57:32

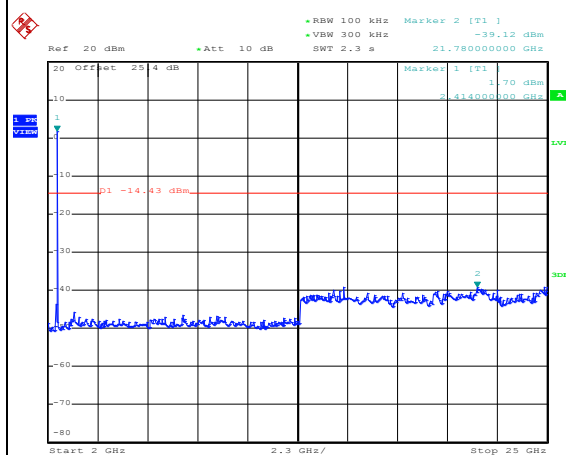
## Channel Plot

## Spurious Emission 30MHz~3GHz

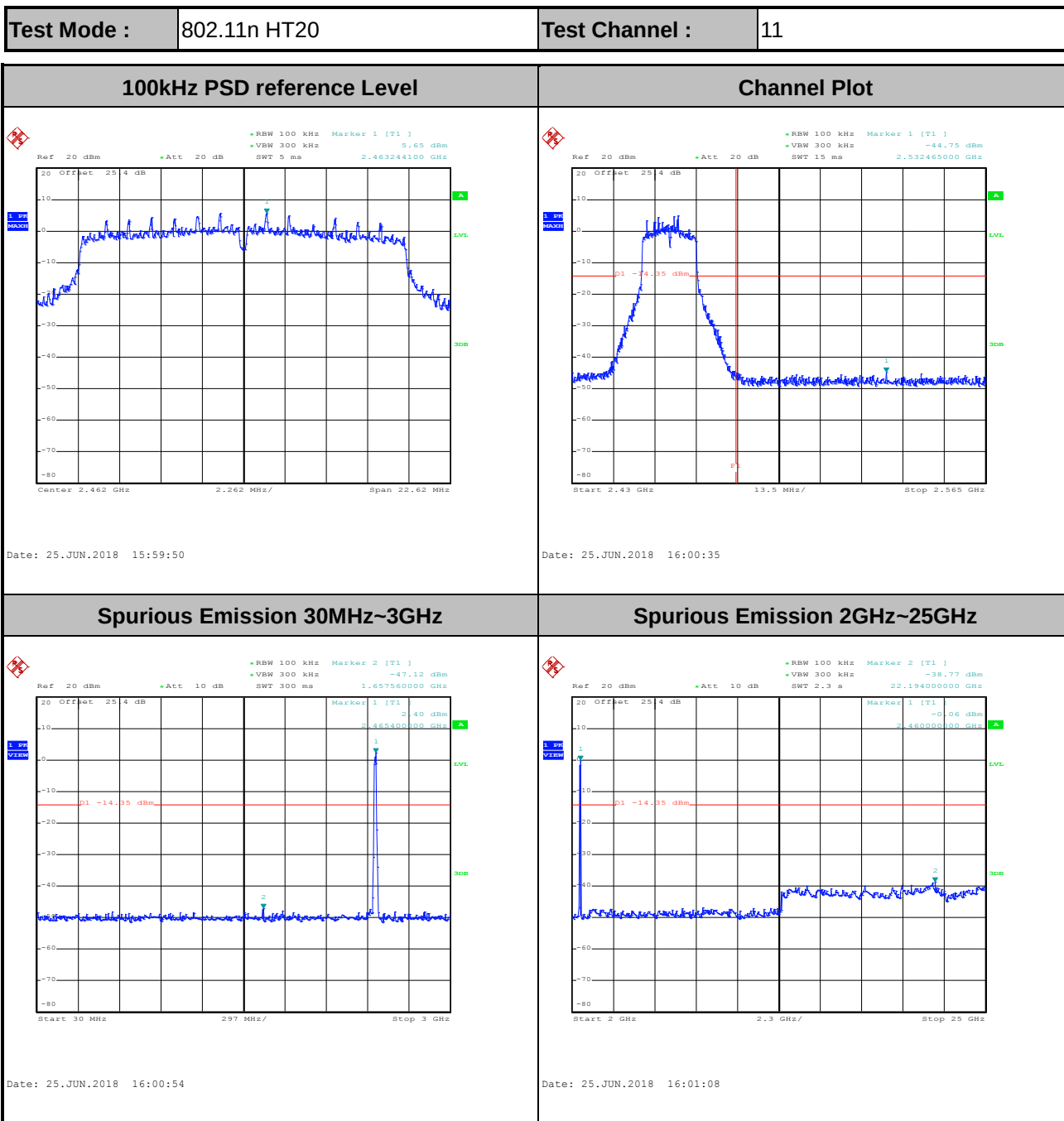


Date: 25.JUN.2018 15:57:53

## Spurious Emission 2GHz~25GHz



Date: 25.JUN.2018 15:58:07



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

#### 3.5.2 Measuring Instruments

See list of measuring equipment of this test report.

### 3.5.3 Test Procedures

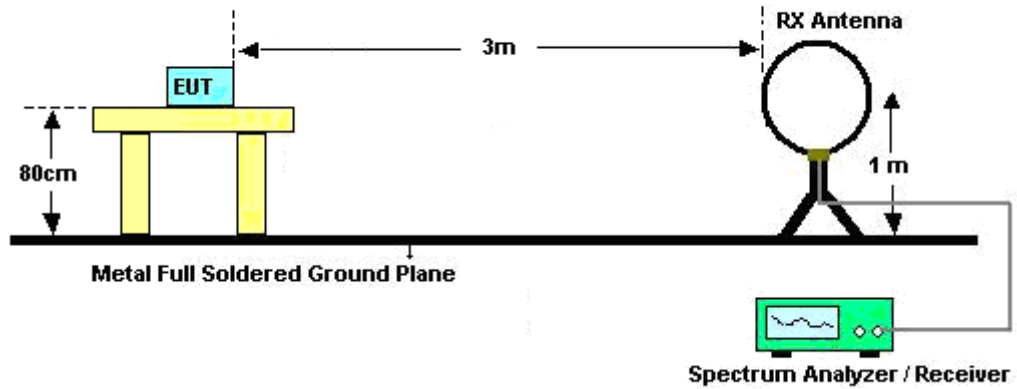
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test 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  $\geq$  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:

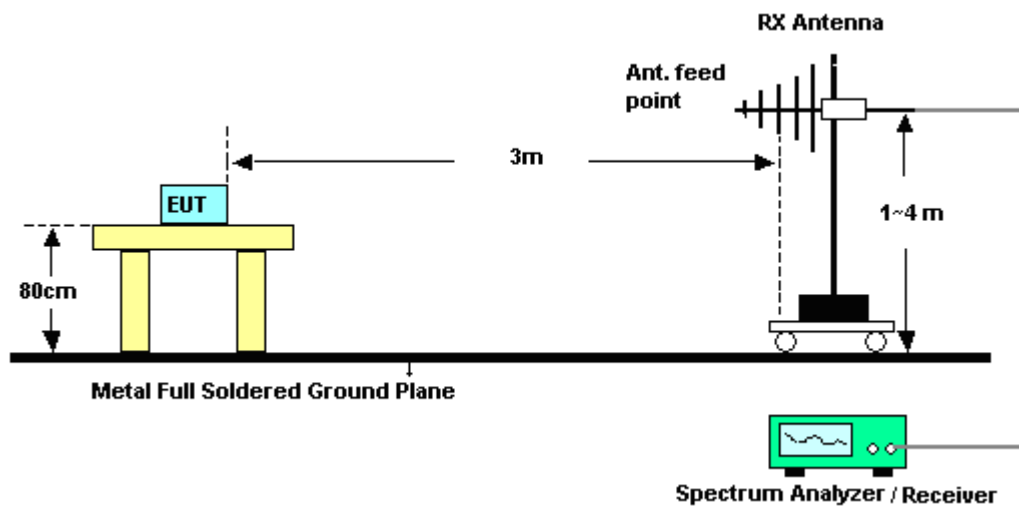
    - VBW = 10 Hz, when duty cycle is no less than 98 percent.
    - VBW  $\geq 1/T$ , when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

### 3.5.4 Test Setup

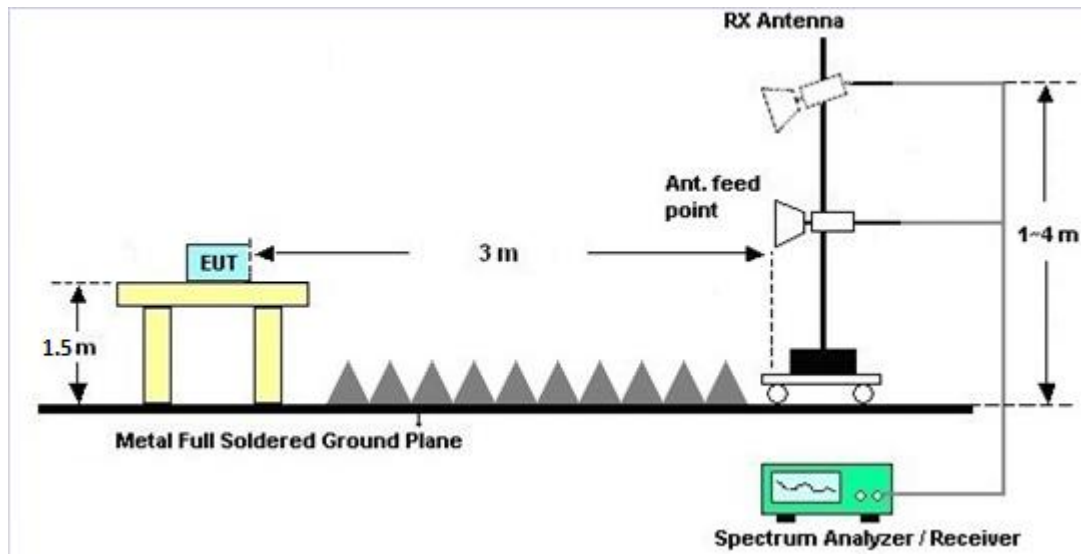
For radiated emissions below 30MHz



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 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 and D.

### 3.5.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

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

\*Decreases with the logarithm of the frequency.

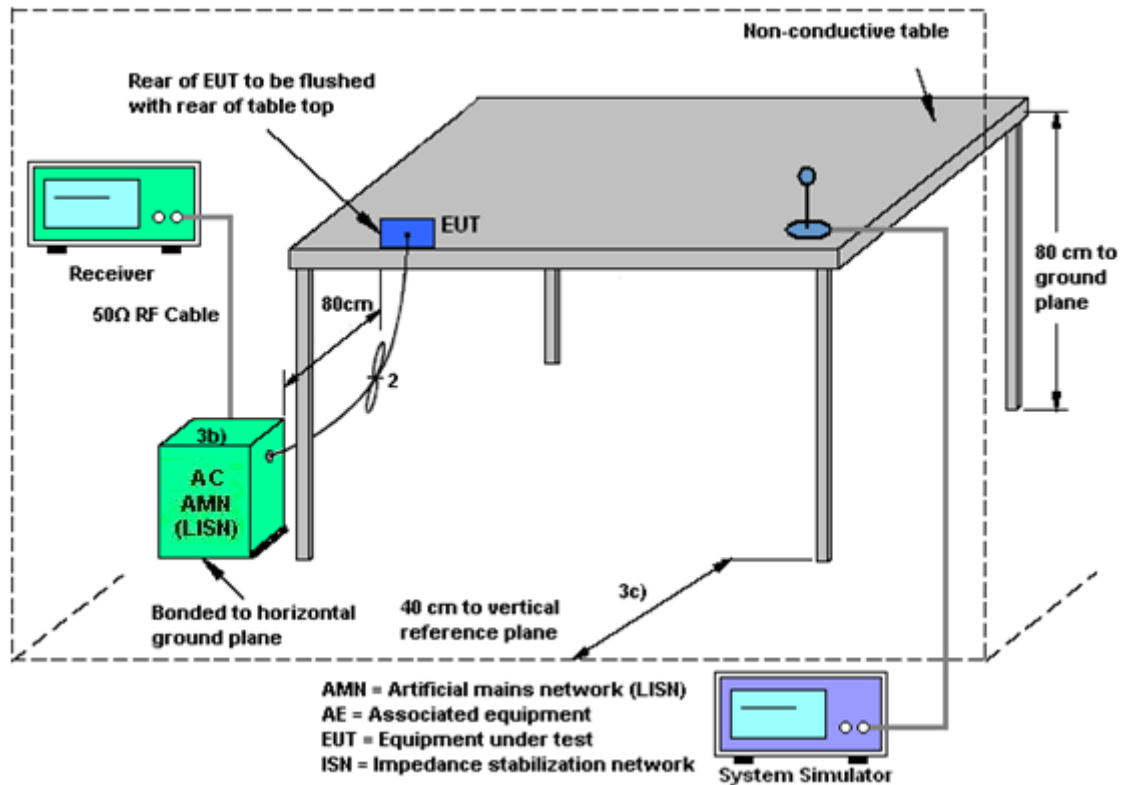
### 3.6.2 Measuring Instruments

See list of measuring equipment 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

##### <CDD Modes>

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 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.

| <CDD Modes> |        |        |       |       |           |           |
|-------------|--------|--------|-------|-------|-----------|-----------|
|             |        |        | 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     | -1.93  | -4.01  | -1.93 | 0.10  | 0.00      | 0.00      |

*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                  |
|-----------------------|-------------------|-----------------|---------------|-------------------|------------------|---------------------------------|---------------|-------------------------|
| Power Meter           | Anritsu           | ML2495A         | 1240001       | N/A               | Sep. 07, 2017    | Jun. 15, 2018~<br>Jun. 25, 2018 | Sep. 06, 2018 | Conducted<br>(TH05-HY)  |
| Power Sensor          | Anritsu           | MA2411B         | 1207349       | 300MHz~40GHz<br>z | Sep. 07, 2017    | Jun. 15, 2018~<br>Jun. 25, 2018 | Sep. 06, 2018 | Conducted<br>(TH05-HY)  |
| Spectrum Analyzer     | Rohde & Schwarz   | FSP40           | 100057        | 9kHz~40GHz        | Nov. 21, 2017    | Jun. 15, 2018~<br>Jun. 25, 2018 | Nov. 20, 2018 | Conducted<br>(TH05-HY)  |
| Switch Box & RF Cable | Burgeon           | ETF-058         | EC130048<br>4 | N/A               | Mar. 01, 2018    | Jun. 15, 2018~<br>Jun. 25, 2018 | Feb. 28, 2019 | Conducted<br>(TH05-HY)  |
| AC Power Source       | ChainTek          | APC-1000W       | N/A           | N/A               | N/A              | Jul. 14, 2018                   | N/A           | Conduction<br>(CO05-HY) |
| EMI Test Receiver     | Rohde & Schwarz   | ESR3            | 102388        | 3.6GHz            | Dec. 08, 2017    | Jul. 14, 2018                   | Dec. 07, 2018 | Conduction<br>(CO05-HY) |
| LISN                  | Rohde & Schwarz   | ENV216          | 100080        | 9kHz~30MHz        | Nov. 30, 2017    | Jul. 14, 2018                   | Nov. 29, 2018 | Conduction<br>(CO05-HY) |
| LISN                  | Rohde & Schwarz   | ENV216          | 100081        | 9kHz~30MHz        | Dec. 08, 2017    | Jul. 14, 2018                   | Dec. 07, 2018 | Conduction<br>(CO05-HY) |
| Software              | Rohde & Schwarz   | EMC32<br>V10.30 | N/A           | N/A               | N/A              | Jul. 14, 2018                   | N/A           | Conduction<br>(CO05-HY) |
| LF Cable              | HUBER +<br>SUHNER | RG-214/U        | LF01          | N/A               | Jan. 03, 2018    | Jul. 14, 2018                   | Jan. 02, 2019 | Conduction<br>(CO05-HY) |
| Pulse Limiter         | Rohde & Schwarz   | ESH3-Z2         | 100851        | N/A               | Jan. 03, 2018    | Jul. 14, 2018                   | Jan. 02, 2019 | Conduction<br>(CO05-HY) |



| Instrument           | Manufacturer                              | Model No.                                 | Serial No.                              | Characteristics | Calibration Date | Test Date                     | Due Date      | Remark                |
|----------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------|-----------------|------------------|-------------------------------|---------------|-----------------------|
| Loop Antenna         | Rohde & Schwarz                           | HFH2-Z2                                   | 100488                                  | 9 kHz~30 MHz    | Nov. 23, 2017    | Jun. 14, 2018 ~ Jul. 08, 2018 | Nov. 22, 2018 | Radiation (03CH15-HY) |
| Preamplifier         | Jet-Power                                 | JPA0010180<br>0-30-10P                    | 160118000<br>2                          | 1GHz~18GHz      | Jul. 31, 2017    | Jun. 14, 2018 ~ Jul. 08, 2018 | Jul. 30, 2018 | Radiation (03CH15-HY) |
| Preamplifier         | EMEC                                      | EM18G40G                                  | 060715                                  | 18GHz ~ 40GHz   | Dec. 05, 2017    | Jun. 14, 2018 ~ Jul. 08, 2018 | Dec. 04, 2018 | Radiation (03CH15-HY) |
| Amplifier            | SONOMA                                    | 310N                                      | 363440                                  | 9kHz~1GHz       | Dec. 26, 2017    | Jun. 14, 2018 ~ Jul. 08, 2018 | Dec. 25, 2018 | Radiation (03CH15-HY) |
| Bilog Antenna        | TESEQ                                     | CBL6111D&<br>00800N1D0<br>1N-06           | 41912&05                                | 30MHz to 1GHz   | Jan. 10, 2018    | Jun. 14, 2018 ~ Jul. 08, 2018 | Jan. 09, 2019 | Radiation (03CH15-HY) |
| EMI Test Receiver    | Keysight                                  | N9038A<br>(MXE)                           | MY541300<br>85                          | 20Hz ~ 8.4GHz   | Oct. 31, 2017    | Jun. 14, 2018 ~ Jul. 08, 2018 | Oct. 30, 2018 | Radiation (03CH15-HY) |
| Horn Antenna         | SCHWARZBE<br>CK                           | BBHA<br>9120D                             | 9120D-162<br>0                          | 1G~18GHz        | Oct. 03, 2017    | Jun. 14, 2018 ~ Jul. 08, 2018 | Oct. 02, 2018 | Radiation (03CH15-HY) |
| Preamplifier         | Keysight                                  | 83017A                                    | MY532701<br>95                          | 1GHz~26.5GHz    | Aug. 21, 2017    | Jun. 14, 2018 ~ Jul. 08, 2018 | Aug. 20, 2018 | Radiation (03CH15-HY) |
| Spectrum Analyzer    | Agilent                                   | E4446A                                    | MY501801<br>36                          | 3Hz~44GHz       | Apr. 25, 2018    | Jun. 14, 2018 ~ Jul. 08, 2018 | Apr. 24, 2019 | Radiation (03CH15-HY) |
| Antenna Mast         | ChainTek                                  | MBS-520-1                                 | N/A                                     | 1m~4m           | N/A              | Jun. 14, 2018 ~ Jul. 08, 2018 | N/A           | Radiation (03CH15-HY) |
| Turn Table           | ChainTek                                  | T-200-S-1                                 | N/A                                     | 0~360 Degree    | N/A              | Jun. 14, 2018 ~ Jul. 08, 2018 | N/A           | Radiation (03CH15-HY) |
| SHF-EHF Horn Antenna | SCHWARZBE<br>CK                           | BBHA 9170                                 | BBHA9170<br>584                         | 18GHz- 40GHz    | Nov. 27, 2017    | Jun. 14, 2018 ~ Jul. 08, 2018 | Nov. 26, 2018 | Radiation (03CH15-HY) |
| Software             | Audix                                     | E3<br>6.2009-8-24                         | RK-00104<br>2                           | N/A             | N/A              | Jun. 14, 2018 ~ Jul. 08, 2018 | N/A           | Radiation (03CH15-HY) |
| RF Cable             | HUBER +<br>SUHNER /<br>MTJ<br>Cooperation | SUCOFLEX<br>104 /<br>000000-MT1<br>8A-100 | MY36980/<br>4,<br>MY9838/4<br>PE, D3210 | 30MHz~1GHz      | Mar. 15, 2018    | Jun. 14, 2018 ~ Jul. 08, 2018 | Mar. 14, 2019 | Radiation (03CH15-HY) |
| RF Cable             | HUBER +<br>SUHNER /<br>MTJ<br>Cooperation | SUCOFLEX<br>104 /<br>000000-MT1<br>8A-100 | MY36980/<br>4,<br>MY9838/4<br>PE, D3210 | 1GHz~18GHz      | Mar. 15, 2018    | Jun. 26, 2018 ~ Jul. 04, 2018 | Mar. 14, 2019 | Radiation (03CH15-HY) |
| RF Cable             | HUBER +<br>SUHNER                         | SUCOFLEX<br>102                           | 505134/2                                | 30M~40GHz       | Oct. 17, 2017    | Jun. 26, 2018 ~ Jul. 04, 2018 | Oct. 16, 2018 | Radiation (03CH15-HY) |

## 5 Uncertainty of Evaluation

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

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 2.7 |
|-------------------------------------------------------------------------|-----|

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

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.2 |
|-------------------------------------------------------------------------|-----|

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

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.5 |
|-------------------------------------------------------------------------|-----|

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

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 5.2 |
|-------------------------------------------------------------------------|-----|

**Appendix A. Test Result of Conducted Test Items**

|                |                       |                    |       |    |
|----------------|-----------------------|--------------------|-------|----|
| Test Engineer: | Luffy Lin/Shiang Wang | Temperature:       | 21~25 | °C |
| Test Date:     | 2018/6/15~2018/6/25   | Relative Humidity: | 51~54 | %  |

**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        | 14.30                 | 13.80 | 9.05         | 8.52  | 0.50               | Pass      |
| 11b         | 1Mbps     | 1   | 6   | 2437        | 14.60                 | 13.65 | 9.02         | 8.52  | 0.50               | Pass      |
| 11b         | 1Mbps     | 1   | 11  | 2462        | 13.40                 | 13.80 | 8.04         | 8.52  | 0.50               | Pass      |
| 11g         | 6Mbps     | 1   | 1   | 2412        | 18.25                 | 16.95 | 15.64        | 15.69 | 0.50               | Pass      |
| 11g         | 6Mbps     | 1   | 6   | 2437        | 19.85                 | 16.80 | 15.74        | 15.38 | 0.50               | Pass      |
| 11g         | 6Mbps     | 1   | 11  | 2462        | 16.70                 | 16.90 | 13.82        | 15.04 | 0.50               | Pass      |
| HT20        | MCS0      | 1   | 1   | 2412        | 19.10                 | 18.05 | 16.20        | 15.14 | 0.50               | Pass      |
| HT20        | MCS0      | 1   | 6   | 2437        | 20.65                 | 17.95 | 16.32        | 15.92 | 0.50               | Pass      |
| HT20        | MCS0      | 1   | 11  | 2462        | 17.80                 | 17.90 | 15.12        | 15.90 | 0.50               | Pass      |
| 11b         | 1Mbps     | 2   | 1   | 2412        | 14.25                 | 13.80 | 9.04         | 8.52  | 0.50               | Pass      |
| 11b         | 1Mbps     | 2   | 6   | 2437        | 14.45                 | 13.80 | 8.56         | 8.52  | 0.50               | Pass      |
| 11b         | 1Mbps     | 2   | 11  | 2462        | 13.35                 | 13.75 | 8.04         | 8.52  | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 1   | 2412        | 17.10                 | 16.75 | 15.60        | 15.66 | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 6   | 2437        | 18.00                 | 16.75 | 15.68        | 16.28 | 0.50               | Pass      |
| 11g         | 6Mbps     | 2   | 11  | 2462        | 16.60                 | 16.60 | 13.84        | 15.04 | 0.50               | Pass      |
| HT20        | MCS0      | 2   | 1   | 2412        | 18.10                 | 17.90 | 16.32        | 16.52 | 0.50               | Pass      |
| HT20        | MCS0      | 2   | 6   | 2437        | 19.05                 | 17.90 | 16.28        | 16.28 | 0.50               | Pass      |
| HT20        | MCS0      | 2   | 11  | 2462        | 17.65                 | 17.75 | 15.04        | 15.08 | 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        | 19.75                      | 20.17 | -     | 30.00                       | 30.00 | -1.93    | -4.01 | 17.82            | 16.16 | 36.00                  | 36.00 | Pass       |
| 11b         | 1Mbps     | 1   | 6   | 2437        | 19.92                      | 20.11 | -     | 30.00                       | 30.00 | -1.93    | -4.01 | 17.99            | 16.10 | 36.00                  | 36.00 | Pass       |
| 11b         | 1Mbps     | 1   | 11  | 2462        | 20.32                      | 20.15 | -     | 30.00                       | 30.00 | -1.93    | -4.01 | 18.39            | 16.14 | 36.00                  | 36.00 | Pass       |
| 11g         | 6Mbps     | 1   | 1   | 2412        | 21.80                      | 22.07 | -     | 30.00                       | 30.00 | -1.93    | -4.01 | 19.87            | 18.06 | 36.00                  | 36.00 | Pass       |
| 11g         | 6Mbps     | 1   | 6   | 2437        | 21.75                      | 22.11 | -     | 30.00                       | 30.00 | -1.93    | -4.01 | 19.82            | 18.10 | 36.00                  | 36.00 | Pass       |
| 11g         | 6Mbps     | 1   | 11  | 2462        | 22.21                      | 22.13 | -     | 30.00                       | 30.00 | -1.93    | -4.01 | 20.28            | 18.12 | 36.00                  | 36.00 | Pass       |
| HT20        | MCS0      | 1   | 1   | 2412        | 21.88                      | 22.14 | -     | 30.00                       | 30.00 | -1.93    | -4.01 | 19.95            | 18.13 | 36.00                  | 36.00 | Pass       |
| HT20        | MCS0      | 1   | 6   | 2437        | 21.79                      | 22.13 | -     | 30.00                       | 30.00 | -1.93    | -4.01 | 19.86            | 18.12 | 36.00                  | 36.00 | Pass       |
| HT20        | MCS0      | 1   | 11  | 2462        | 21.85                      | 22.16 | -     | 30.00                       | 30.00 | -1.93    | -4.01 | 19.92            | 18.15 | 36.00                  | 36.00 | Pass       |
| 11b         | 1Mbps     | 2   | 1   | 2412        | 16.39                      | 17.33 | 19.90 | 30.00                       |       | -1.93    |       | 17.97            |       | 36.00                  |       | Pass       |
| 11b         | 1Mbps     | 2   | 6   | 2437        | 16.52                      | 17.49 | 20.04 | 30.00                       |       | -1.93    |       | 18.11            |       | 36.00                  |       | Pass       |
| 11b         | 1Mbps     | 2   | 11  | 2462        | 16.46                      | 17.25 | 19.88 | 30.00                       |       | -1.93    |       | 17.96            |       | 36.00                  |       | Pass       |
| 11g         | 6Mbps     | 2   | 1   | 2412        | 19.03                      | 19.62 | 22.35 | 30.00                       |       | -1.93    |       | 20.42            |       | 36.00                  |       | Pass       |
| 11g         | 6Mbps     | 2   | 6   | 2437        | 18.96                      | 20.11 | 22.58 | 30.00                       |       | -1.93    |       | 20.66            |       | 36.00                  |       | Pass       |
| 11g         | 6Mbps     | 2   | 11  | 2462        | 19.71                      | 20.02 | 22.88 | 30.00                       |       | -1.93    |       | 20.95            |       | 36.00                  |       | Pass       |
| HT20        | MCS0      | 2   | 1   | 2412        | 19.36                      | 20.11 | 22.76 | 30.00                       |       | -1.93    |       | 20.83            |       | 36.00                  |       | Pass       |
| HT20        | MCS0      | 2   | 6   | 2437        | 19.40                      | 20.05 | 22.75 | 30.00                       |       | -1.93    |       | 20.82            |       | 36.00                  |       | Pass       |
| HT20        | MCS0      | 2   | 11  | 2462        | 19.40                      | 20.03 | 22.74 | 30.00                       |       | -1.93    |       | 20.81            |       | 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        | 0.04             | 0.06  | 17.79                         | 17.90 | -     |
| 11b         | 1Mbps     | 1   | 6   | 2437        | 0.04             | 0.06  | 17.85                         | 17.85 |       |
| 11b         | 1Mbps     | 1   | 11  | 2462        | 0.04             | 0.06  | 17.99                         | 17.88 |       |
| 11g         | 6Mbps     | 1   | 1   | 2412        | 0.09             | 0.09  | 17.96                         | 17.92 |       |
| 11g         | 6Mbps     | 1   | 6   | 2437        | 0.09             | 0.09  | 17.79                         | 17.86 |       |
| 11g         | 6Mbps     | 1   | 11  | 2462        | 0.09             | 0.09  | 17.98                         | 17.96 |       |
| HT20        | MCS0      | 1   | 1   | 2412        | 0.13             | 0.11  | 17.99                         | 17.80 |       |
| HT20        | MCS0      | 1   | 6   | 2437        | 0.13             | 0.11  | 17.74                         | 17.71 |       |
| HT20        | MCS0      | 1   | 11  | 2462        | 0.13             | 0.11  | 17.91                         | 17.90 |       |
| 11b         | 1Mbps     | 2   | 1   | 2412        | 0.04             | 0.04  | 14.55                         | 15.05 | 17.82 |
| 11b         | 1Mbps     | 2   | 6   | 2437        | 0.04             | 0.04  | 14.39                         | 15.26 | 17.86 |
| 11b         | 1Mbps     | 2   | 11  | 2462        | 0.04             | 0.04  | 14.21                         | 15.12 | 17.70 |
| 11g         | 6Mbps     | 2   | 1   | 2412        | 0.08             | 0.08  | 14.41                         | 15.05 | 17.75 |
| 11g         | 6Mbps     | 2   | 6   | 2437        | 0.08             | 0.08  | 14.50                         | 15.38 | 17.97 |
| 11g         | 6Mbps     | 2   | 11  | 2462        | 0.08             | 0.08  | 14.60                         | 15.32 | 17.99 |
| HT20        | MCS0      | 2   | 1   | 2412        | 0.09             | 0.09  | 14.68                         | 15.20 | 17.96 |
| HT20        | MCS0      | 2   | 6   | 2437        | 0.09             | 0.09  | 14.53                         | 15.27 | 17.93 |
| HT20        | MCS0      | 2   | 11  | 2462        | 0.09             | 0.09  | 14.55                         | 15.23 | 17.91 |

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        | -5.10               | -5.22  | -            | -1.93    | -4.01 | 8.00                      | 8.00  | Pass      |
| 11b         | 1Mbps     | 1   | 6   | 2437        | -5.01               | -4.19  | -            | -1.93    | -4.01 | 8.00                      | 8.00  | Pass      |
| 11b         | 1Mbps     | 1   | 11  | 2462        | -4.51               | -3.77  | -            | -1.93    | -4.01 | 8.00                      | 8.00  | Pass      |
| 11g         | 6Mbps     | 1   | 1   | 2412        | -7.40               | -7.50  | -            | -1.93    | -4.01 | 8.00                      | 8.00  | Pass      |
| 11g         | 6Mbps     | 1   | 6   | 2437        | -7.28               | -7.60  | -            | -1.93    | -4.01 | 8.00                      | 8.00  | Pass      |
| 11g         | 6Mbps     | 1   | 11  | 2462        | -6.36               | -6.48  | -            | -1.93    | -4.01 | 8.00                      | 8.00  | Pass      |
| HT20        | MCS0      | 1   | 1   | 2412        | -6.99               | -7.94  | -            | -1.93    | -4.01 | 8.00                      | 8.00  | Pass      |
| HT20        | MCS0      | 1   | 6   | 2437        | -8.60               | -7.94  | -            | -1.93    | -4.01 | 8.00                      | 8.00  | Pass      |
| HT20        | MCS0      | 1   | 11  | 2462        | -6.38               | -7.07  | -            | -1.93    | -4.01 | 8.00                      | 8.00  | Pass      |
| 11b         | 1Mbps     | 2   | 1   | 2412        | -8.27               | -8.00  | -4.99        | 0.10     |       | 8.00                      |       | Pass      |
| 11b         | 1Mbps     | 2   | 6   | 2437        | -8.67               | -7.98  | -4.97        | 0.10     |       | 8.00                      |       | Pass      |
| 11b         | 1Mbps     | 2   | 11  | 2462        | -8.94               | -7.40  | -4.39        | 0.10     |       | 8.00                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 1   | 2412        | -9.29               | -11.12 | -6.28        | 0.10     |       | 8.00                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 6   | 2437        | -10.96              | -10.55 | -7.54        | 0.10     |       | 8.00                      |       | Pass      |
| 11g         | 6Mbps     | 2   | 11  | 2462        | -10.66              | -9.68  | -6.67        | 0.10     |       | 8.00                      |       | Pass      |
| HT20        | MCS0      | 2   | 1   | 2412        | -9.66               | -10.57 | -6.65        | 0.10     |       | 8.00                      |       | Pass      |
| HT20        | MCS0      | 2   | 6   | 2437        | -9.80               | -9.24  | -6.23        | 0.10     |       | 8.00                      |       | Pass      |
| HT20        | MCS0      | 2   | 11  | 2462        | -10.74              | -10.67 | -7.66        | 0.10     |       | 8.00                      |       | Pass      |

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



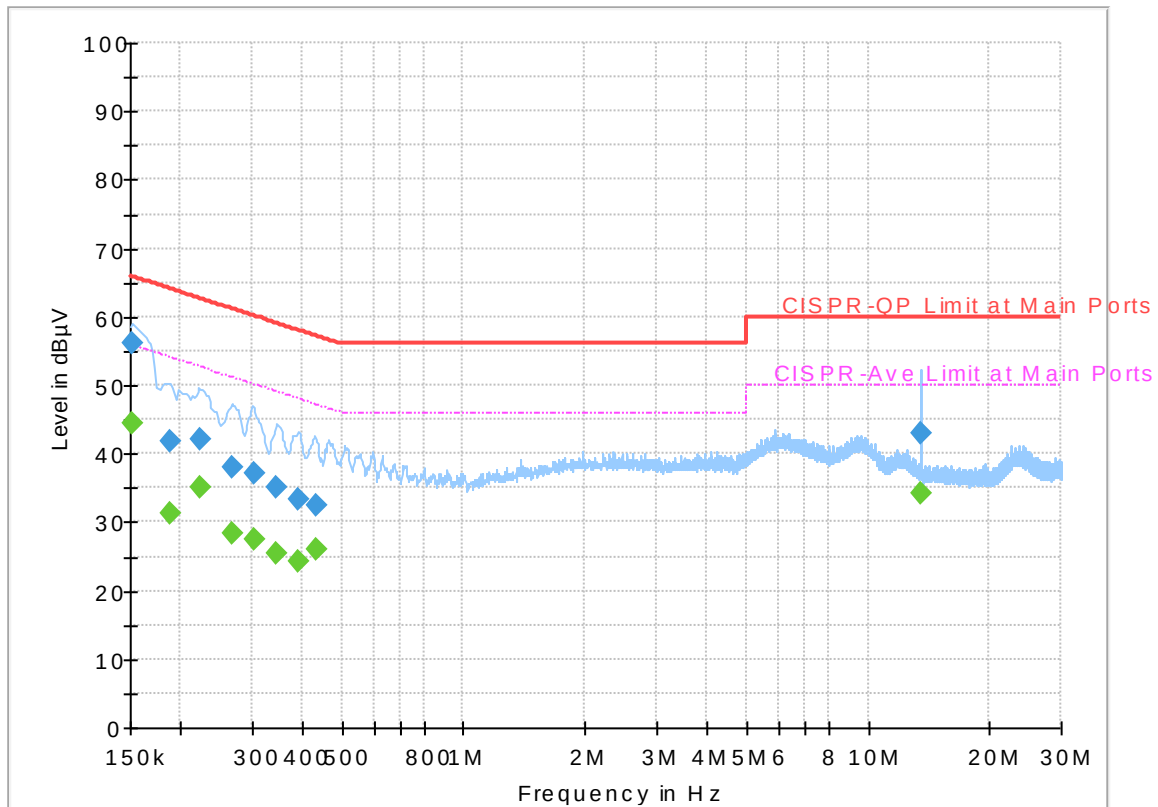
## **Appendix B. AC Conducted Emission Test Results**

|                        |              |                            |        |
|------------------------|--------------|----------------------------|--------|
| <b>Test Engineer :</b> | Arthur Hsieh | <b>Temperature :</b>       | 25~27℃ |
|                        |              | <b>Relative Humidity :</b> | 51~53% |

## EUT Information

Report NO : 852405  
 Test Mode : Mode 1  
 Test Voltage : 120Vac/60Hz  
 Phase : Line

Full Spectrum



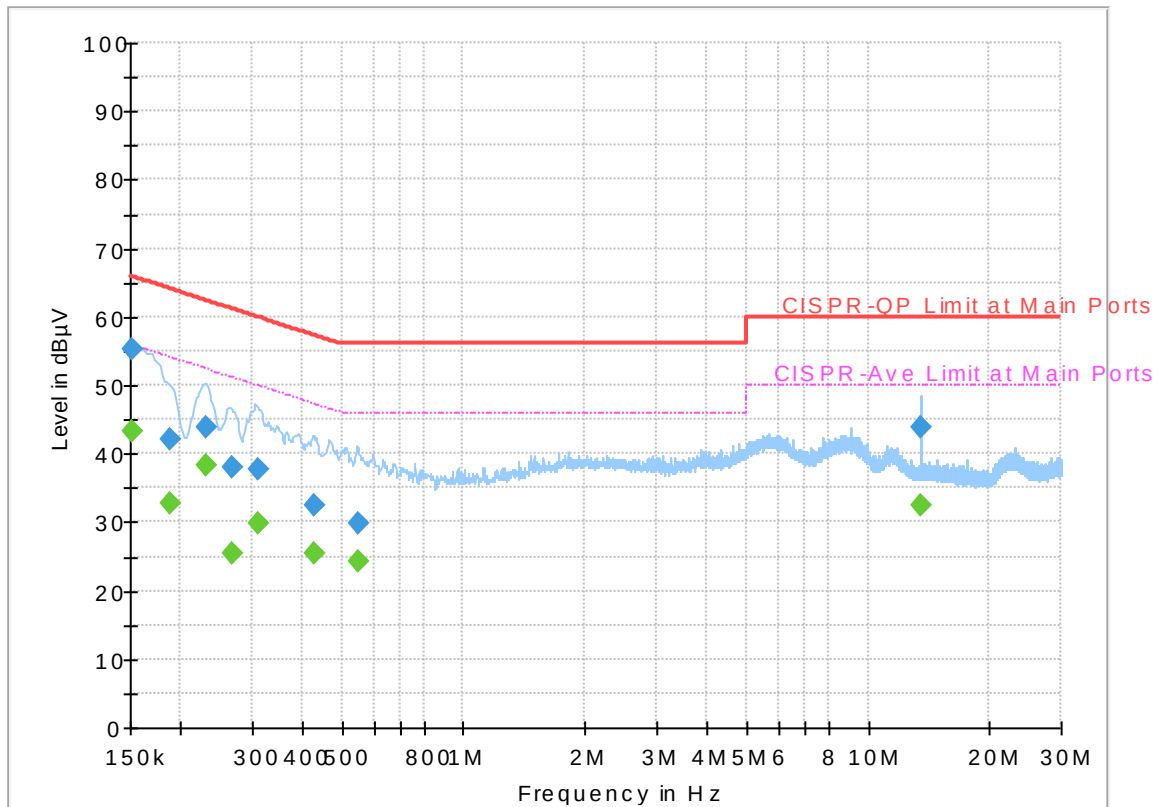
## Final Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.152250        | ---              | 44.50           | 55.88        | 11.38       | L1   | OFF    | 19.5       |
| 0.152250        | 56.00            | ---             | 65.88        | 9.88        | L1   | OFF    | 19.5       |
| 0.188250        | ---              | 31.39           | 54.11        | 22.72       | L1   | OFF    | 19.5       |
| 0.188250        | 41.77            | ---             | 64.11        | 22.34       | L1   | OFF    | 19.5       |
| 0.224250        | ---              | 34.98           | 52.66        | 17.68       | L1   | OFF    | 19.5       |
| 0.224250        | 42.14            | ---             | 62.66        | 20.52       | L1   | OFF    | 19.5       |
| 0.269250        | ---              | 28.35           | 51.14        | 22.79       | L1   | OFF    | 19.5       |
| 0.269250        | 38.16            | ---             | 61.14        | 22.98       | L1   | OFF    | 19.5       |
| 0.303000        | ---              | 27.52           | 50.16        | 22.64       | L1   | OFF    | 19.5       |
| 0.303000        | 37.02            | ---             | 60.16        | 23.14       | L1   | OFF    | 19.5       |
| 0.345750        | ---              | 25.47           | 49.06        | 23.59       | L1   | OFF    | 19.5       |
| 0.345750        | 35.02            | ---             | 59.06        | 24.04       | L1   | OFF    | 19.5       |
| 0.388500        | ---              | 24.36           | 48.10        | 23.74       | L1   | OFF    | 19.5       |
| 0.388500        | 33.36            | ---             | 58.10        | 24.74       | L1   | OFF    | 19.5       |
| 0.431250        | ---              | 26.03           | 47.23        | 21.20       | L1   | OFF    | 19.5       |
| 0.431250        | 32.52            | ---             | 57.23        | 24.71       | L1   | OFF    | 19.5       |
| 13.560000       | ---              | 34.33           | 50.00        | 15.67       | L1   | OFF    | 20.0       |
| 13.560000       | 42.95            | ---             | 60.00        | 17.05       | L1   | OFF    | 20.0       |

## EUT Information

Report NO : 852405  
Test Mode : Mode 1  
Test Voltage : 120Vac/60Hz  
Phase : Neutral

Full Spectrum



## Final Result

| Frequency (MHz) | QuasiPeak (dBµV) | CAverage (dBµV) | Limit (dBµV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.152250        | ---              | 43.35           | 55.88        | 12.53       | N    | OFF    | 19.5       |
| 0.152250        | 55.14            | ---             | 65.88        | 10.74       | N    | OFF    | 19.5       |
| 0.188250        | ---              | 32.77           | 54.11        | 21.34       | N    | OFF    | 19.5       |
| 0.188250        | 42.21            | ---             | 64.11        | 21.90       | N    | OFF    | 19.5       |
| 0.231000        | ---              | 38.23           | 52.41        | 14.18       | N    | OFF    | 19.5       |
| 0.231000        | 43.72            | ---             | 62.41        | 18.69       | N    | OFF    | 19.5       |
| 0.267000        | ---              | 25.52           | 51.21        | 25.69       | N    | OFF    | 19.5       |
| 0.267000        | 38.02            | ---             | 61.21        | 23.19       | N    | OFF    | 19.5       |
| 0.309750        | ---              | 29.74           | 49.98        | 20.24       | N    | OFF    | 19.5       |
| 0.309750        | 37.73            | ---             | 59.98        | 22.25       | N    | OFF    | 19.5       |
| 0.426750        | ---              | 25.42           | 47.32        | 21.90       | N    | OFF    | 19.5       |
| 0.426750        | 32.43            | ---             | 57.32        | 24.89       | N    | OFF    | 19.5       |
| 0.548250        | ---              | 24.15           | 46.00        | 21.85       | N    | OFF    | 19.5       |
| 0.548250        | 29.93            | ---             | 56.00        | 26.07       | N    | OFF    | 19.5       |
| 13.560000       | ---              | 32.40           | 50.00        | 17.60       | N    | OFF    | 20.1       |
| 13.560000       | 44.00            | ---             | 60.00        | 16.00       | N    | OFF    | 20.1       |



## Appendix C. Radiated Spurious Emission

|                 |                                           |                     |         |
|-----------------|-------------------------------------------|---------------------|---------|
| Test Engineer : | Bill Chang, Kyle Jhuang, and Lance Chiang | Temperature :       | 22~26°C |
|                 |                                           | Relative Humidity : | 52~56%  |

## 2.4GHz 2400~2483.5MHz

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

| WIFI                        | Note | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Path   | Preamp | Ant    | Table   | Peak    | Pol.    |
|-----------------------------|------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.                        |      |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
| 1                           |      | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| 802.11b<br>CH 01<br>2412MHz |      | 2387.07   | 53.51      | -20.49 | 74         | 41.29    | 27.31    | 15.77  | 30.86  | 229    | 335     | P       | H       |
|                             |      | 2387.28   | 44.2       | -9.8   | 54         | 31.98    | 27.31    | 15.77  | 30.86  | 229    | 335     | A       | H       |
|                             | *    | 2412      | 106.28     | -      | -          | 93.96    | 27.36    | 15.81  | 30.85  | 229    | 335     | P       | H       |
|                             | *    | 2412      | 103.35     | -      | -          | 91.03    | 27.36    | 15.81  | 30.85  | 229    | 335     | A       | H       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         | H       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         | H       |
|                             |      | 2389.38   | 53.11      | -20.89 | 74         | 40.89    | 27.31    | 15.77  | 30.86  | 368    | 276     | P       | V       |
|                             |      | 2387.385  | 43.36      | -10.64 | 54         | 31.14    | 27.31    | 15.77  | 30.86  | 368    | 276     | A       | V       |
|                             | *    | 2412      | 105.07     | -      | -          | 92.75    | 27.36    | 15.81  | 30.85  | 368    | 276     | P       | V       |
|                             | *    | 2412      | 101.97     | -      | -          | 89.65    | 27.36    | 15.81  | 30.85  | 368    | 276     | A       | V       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         | V       |
|                             |      |           |            |        |            |          |          |        |        |        |         |         | V       |
| 802.11b<br>CH 06<br>2437MHz |      | 2359.98   | 53.53      | -20.47 | 74         | 41.47    | 27.21    | 15.73  | 30.88  | 248    | 337     | P       | H       |
|                             |      | 2389.94   | 43.04      | -10.96 | 54         | 30.81    | 27.31    | 15.77  | 30.85  | 248    | 337     | A       | H       |
|                             | *    | 2437      | 105.88     | -      | -          | 93.42    | 27.46    | 15.84  | 30.84  | 248    | 337     | P       | H       |
|                             | *    | 2437      | 102.75     | -      | -          | 90.29    | 27.46    | 15.84  | 30.84  | 248    | 337     | A       | H       |
|                             |      | 2485.51   | 53.41      | -20.59 | 74         | 40.77    | 27.55    | 15.91  | 30.82  | 248    | 337     | P       | H       |
|                             |      | 2483.9    | 43.03      | -10.97 | 54         | 30.39    | 27.55    | 15.91  | 30.82  | 248    | 337     | A       | H       |
|                             |      | 2343.6    | 53.18      | -20.82 | 74         | 41.18    | 27.17    | 15.71  | 30.88  | 326    | 279     | P       | V       |
|                             |      | 2389.94   | 42.8       | -11.2  | 54         | 30.57    | 27.31    | 15.77  | 30.85  | 326    | 279     | A       | V       |
|                             | *    | 2437      | 104.05     | -      | -          | 91.59    | 27.46    | 15.84  | 30.84  | 326    | 279     | P       | V       |
|                             | *    | 2437      | 100.85     | -      | -          | 88.39    | 27.46    | 15.84  | 30.84  | 326    | 279     | A       | V       |
|                             |      | 2499.3    | 53.02      | -20.98 | 74         | 40.3     | 27.6     | 15.93  | 30.81  | 326    | 279     | P       | V       |
|                             |      | 2484.25   | 42.8       | -11.2  | 54         | 30.16    | 27.55    | 15.91  | 30.82  | 326    | 279     | A       | V       |



|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   |   |
|--------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|-------|-------|-----|-----|---|---|
| <b>802.11b<br/>CH 11<br/>2462MHz</b> | *                                                                                           | 2462    | 105.06 | -      | -  | 92.51 | 27.5  | 15.88 | 30.83 | 350 | 327 | P | H |
|                                      | *                                                                                           | 2462    | 101.95 | -      | -  | 89.4  | 27.5  | 15.88 | 30.83 | 350 | 327 | A | H |
|                                      |                                                                                             | 2491.08 | 53.66  | -20.34 | 74 | 40.96 | 27.6  | 15.92 | 30.82 | 350 | 327 | P | H |
|                                      |                                                                                             | 2487.48 | 43.34  | -10.66 | 54 | 30.7  | 27.55 | 15.91 | 30.82 | 350 | 327 | A | H |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                      | *                                                                                           | 2462    | 104.38 | -      | -  | 91.83 | 27.5  | 15.88 | 30.83 | 376 | 269 | P | V |
|                                      | *                                                                                           | 2462    | 100.79 | -      | -  | 88.24 | 27.5  | 15.88 | 30.83 | 376 | 269 | A | V |
|                                      |                                                                                             | 2498.68 | 53.56  | -20.44 | 74 | 40.84 | 27.6  | 15.93 | 30.81 | 376 | 269 | P | V |
|                                      |                                                                                             | 2487.16 | 43.07  | -10.93 | 54 | 30.43 | 27.55 | 15.91 | 30.82 | 376 | 269 | A | V |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
| <b>Remark</b>                        | 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<br>Ant.<br>1           | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11b<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 37.83               | -36.17                  | 74                          | 56.54                     | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4824                 | 37.21               | -36.79                  | 74                          | 55.92                     | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11b<br>CH 06<br>2437MHz |                                                                                             | 4874                 | 38.89               | -35.11                  | 74                          | 57.33                     | 31.46                         | 8.19                   | 58.55                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7311                 | 43.08               | -30.92                  | 74                          | 54.56                     | 36.08                         | 10.78                  | 58.83                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4874                 | 37.42               | -36.58                  | 74                          | 55.86                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7311                 | 42.73               | -31.27                  | 74                          | 54.21                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11b<br>CH 11<br>2462MHz |                                                                                             | 4924                 | 38.6                | -35.4                   | 74                          | 56.77                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7386                 | 43.33               | -30.67                  | 74                          | 54.52                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4924                 | 36.68               | -37.32                  | 74                          | 54.85                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7386                 | 43.58               | -30.42                  | 74                          | 54.77                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | 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<br>Ant.<br>1                    | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>802.11g<br/>CH 01<br/>2412MHz</b> |      | 2389.695             | 60.97               | -13.03                  | 74                          | 48.75                     | 27.31                         | 15.77                  | 30.86                      | 200                  | 329                     | P                       | H               |
|                                      |      | 2390                 | 51.39               | -2.61                   | 54                          | 39.15                     | 27.31                         | 15.78                  | 30.85                      | 200                  | 329                     | A                       | H               |
|                                      | *    | 2412                 | 107.22              | -                       | -                           | 94.9                      | 27.36                         | 15.81                  | 30.85                      | 200                  | 329                     | P                       | H               |
|                                      | *    | 2412                 | 99.06               | -                       | -                           | 86.74                     | 27.36                         | 15.81                  | 30.85                      | 200                  | 329                     | A                       | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      | 2389.905             | 60.78               | -13.22                  | 74                          | 48.55                     | 27.31                         | 15.77                  | 30.85                      | 242                  | 279                     | P                       | V               |
|                                      |      | 2390                 | 50.4                | -3.6                    | 54                          | 38.16                     | 27.31                         | 15.78                  | 30.85                      | 242                  | 279                     | A                       | V               |
|                                      | *    | 2412                 | 105.18              | -                       | -                           | 92.86                     | 27.36                         | 15.81                  | 30.85                      | 242                  | 279                     | P                       | V               |
|                                      | *    | 2412                 | 98.05               | -                       | -                           | 85.73                     | 27.36                         | 15.81                  | 30.85                      | 242                  | 279                     | A                       | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| <b>802.11g<br/>CH 06<br/>2437MHz</b> |      | 2383.22              | 53.01               | -20.99                  | 74                          | 40.85                     | 27.26                         | 15.76                  | 30.86                      | 226                  | 225                     | P                       | H               |
|                                      |      | 2389.94              | 43.26               | -10.74                  | 54                          | 31.03                     | 27.31                         | 15.77                  | 30.85                      | 226                  | 225                     | A                       | H               |
|                                      | *    | 2437                 | 105.73              | -                       | -                           | 93.27                     | 27.46                         | 15.84                  | 30.84                      | 226                  | 225                     | P                       | H               |
|                                      | *    | 2437                 | 98.24               | -                       | -                           | 85.78                     | 27.46                         | 15.84                  | 30.84                      | 226                  | 225                     | A                       | H               |
|                                      |      | 2495.87              | 52.59               | -21.41                  | 74                          | 39.88                     | 27.6                          | 15.92                  | 30.81                      | 226                  | 225                     | P                       | H               |
|                                      |      | 2483.55              | 42.86               | -11.14                  | 54                          | 30.22                     | 27.55                         | 15.91                  | 30.82                      | 226                  | 225                     | A                       | H               |
|                                      |      | 2373.7               | 52.89               | -21.11                  | 74                          | 40.74                     | 27.26                         | 15.75                  | 30.86                      | 265                  | 246                     | P                       | V               |
|                                      |      | 2389.94              | 42.98               | -11.02                  | 54                          | 30.75                     | 27.31                         | 15.77                  | 30.85                      | 265                  | 246                     | A                       | V               |
|                                      | *    | 2437                 | 104.64              | -                       | -                           | 92.18                     | 27.46                         | 15.84                  | 30.84                      | 265                  | 246                     | P                       | V               |
|                                      | *    | 2437                 | 97.14               | -                       | -                           | 84.68                     | 27.46                         | 15.84                  | 30.84                      | 265                  | 246                     | A                       | V               |
|                                      |      | 2487.12              | 53.67               | -20.33                  | 74                          | 41.03                     | 27.55                         | 15.91                  | 30.82                      | 265                  | 246                     | P                       | V               |
|                                      |      | 2483.5               | 42.75               | -11.25                  | 54                          | 30.11                     | 27.55                         | 15.91                  | 30.82                      | 265                  | 246                     | A                       | V               |



|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   |   |
|--------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|-------|-------|-----|-----|---|---|
| <b>802.11g<br/>CH 11<br/>2462MHz</b> | *                                                                                           | 2462    | 107.54 | -      | -  | 94.99 | 27.5  | 15.88 | 30.83 | 399 | 145 | P | H |
|                                      | *                                                                                           | 2462    | 99.34  | -      | -  | 86.79 | 27.5  | 15.88 | 30.83 | 399 | 145 | A | H |
|                                      |                                                                                             | 2483.52 | 61.58  | -12.42 | 74 | 48.94 | 27.55 | 15.91 | 30.82 | 399 | 145 | P | H |
|                                      |                                                                                             | 2483.52 | 50.1   | -3.9   | 54 | 37.46 | 27.55 | 15.91 | 30.82 | 399 | 145 | A | H |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                      | *                                                                                           | 2462    | 104.78 | -      | -  | 92.23 | 27.5  | 15.88 | 30.83 | 301 | 265 | P | V |
|                                      | *                                                                                           | 2462    | 97.45  | -      | -  | 84.9  | 27.5  | 15.88 | 30.83 | 301 | 265 | A | V |
|                                      |                                                                                             | 2484.44 | 59.2   | -14.8  | 74 | 46.56 | 27.55 | 15.91 | 30.82 | 301 | 265 | P | V |
|                                      |                                                                                             | 2483.52 | 47.37  | -6.63  | 54 | 34.73 | 27.55 | 15.91 | 30.82 | 301 | 265 | A | V |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
| <b>Remark</b>                        | 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<br>Ant.<br>1           | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11g<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 36.35               | -37.65                  | 74                          | 55.06                     | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4824                 | 36.75               | -37.25                  | 74                          | 55.46                     | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11g<br>CH 06<br>2437MHz |                                                                                             | 4874                 | 38.11               | -35.89                  | 74                          | 56.55                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7311                 | 43.07               | -30.93                  | 74                          | 54.55                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4874                 | 37.47               | -36.53                  | 74                          | 55.91                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7311                 | 42.95               | -31.05                  | 74                          | 54.43                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11g<br>CH 11<br>2462MHz |                                                                                             | 4924                 | 37.45               | -36.55                  | 74                          | 55.62                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7386                 | 43.32               | -30.68                  | 74                          | 54.51                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4924                 | 37.56               | -36.44                  | 74                          | 55.73                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7386                 | 42.58               | -31.42                  | 74                          | 53.77                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | 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<br>Ant.<br>1                   | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 01<br>2412MHz |      | 2389.695             | 61.68               | -12.32                  | 74                          | 49.46                     | 27.31                         | 15.77                  | 30.86                      | 227                  | 335                     | P                       | H               |
|                                     |      | 2390                 | 51.48               | -2.52                   | 54                          | 39.24                     | 27.31                         | 15.78                  | 30.85                      | 227                  | 335                     | A                       | H               |
|                                     | *    | 2412                 | 105.11              | -                       | -                           | 92.79                     | 27.36                         | 15.81                  | 30.85                      | 227                  | 335                     | P                       | H               |
|                                     | *    | 2412                 | 97.04               | -                       | -                           | 84.72                     | 27.36                         | 15.81                  | 30.85                      | 227                  | 335                     | A                       | H               |
|                                     |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |      | 2389.905             | 61.63               | -12.37                  | 74                          | 49.4                      | 27.31                         | 15.77                  | 30.85                      | 330                  | 275                     | P                       | V               |
|                                     |      | 2390                 | 51.45               | -2.55                   | 54                          | 39.21                     | 27.31                         | 15.78                  | 30.85                      | 330                  | 275                     | A                       | V               |
|                                     | *    | 2412                 | 105.21              | -                       | -                           | 92.89                     | 27.36                         | 15.81                  | 30.85                      | 330                  | 275                     | P                       | V               |
|                                     | *    | 2412                 | 97.54               | -                       | -                           | 85.22                     | 27.36                         | 15.81                  | 30.85                      | 330                  | 275                     | A                       | V               |
|                                     |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                     |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 06<br>2437MHz |      | 2376.78              | 53.34               | -20.66                  | 74                          | 41.18                     | 27.26                         | 15.76                  | 30.86                      | 256                  | 338                     | P                       | H               |
|                                     |      | 2389.38              | 44.34               | -9.66                   | 54                          | 32.12                     | 27.31                         | 15.77                  | 30.86                      | 256                  | 338                     | A                       | H               |
|                                     | *    | 2437                 | 106.73              | -                       | -                           | 94.27                     | 27.46                         | 15.84                  | 30.84                      | 256                  | 338                     | P                       | H               |
|                                     | *    | 2437                 | 99.2                | -                       | -                           | 86.74                     | 27.46                         | 15.84                  | 30.84                      | 256                  | 338                     | A                       | H               |
|                                     |      | 2485.58              | 53.9                | -20.1                   | 74                          | 41.26                     | 27.55                         | 15.91                  | 30.82                      | 256                  | 338                     | P                       | H               |
|                                     |      | 2483.83              | 43.82               | -10.18                  | 54                          | 31.18                     | 27.55                         | 15.91                  | 30.82                      | 256                  | 338                     | A                       | H               |
|                                     |      | 2387.14              | 52.99               | -21.01                  | 74                          | 40.77                     | 27.31                         | 15.77                  | 30.86                      | 363                  | 278                     | P                       | V               |
|                                     |      | 2389.94              | 43.91               | -10.09                  | 54                          | 31.68                     | 27.31                         | 15.77                  | 30.85                      | 363                  | 278                     | A                       | V               |
|                                     | *    | 2437                 | 104.96              | -                       | -                           | 92.5                      | 27.46                         | 15.84                  | 30.84                      | 363                  | 278                     | P                       | V               |
|                                     | *    | 2437                 | 97.78               | -                       | -                           | 85.32                     | 27.46                         | 15.84                  | 30.84                      | 363                  | 278                     | A                       | V               |
|                                     |      | 2490.13              | 53.25               | -20.75                  | 74                          | 40.55                     | 27.6                          | 15.92                  | 30.82                      | 363                  | 278                     | P                       | V               |
|                                     |      | 2487.4               | 43.68               | -10.32                  | 54                          | 31.04                     | 27.55                         | 15.91                  | 30.82                      | 363                  | 278                     | A                       | V               |



|                                                                 |                                                                                             |         |        |        |    |       |       |       |       |     |     |   |   |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|-------|-------|-----|-----|---|---|
| <b>802.11n</b><br><b>HT20</b><br><b>CH 11</b><br><b>2462MHz</b> | *                                                                                           | 2462    | 106.73 | -      | -  | 94.18 | 27.5  | 15.88 | 30.83 | 224 | 335 | P | H |
|                                                                 | *                                                                                           | 2462    | 98.63  | -      | -  | 86.08 | 27.5  | 15.88 | 30.83 | 224 | 335 | A | H |
|                                                                 |                                                                                             | 2483.76 | 61.48  | -12.52 | 74 | 48.84 | 27.55 | 15.91 | 30.82 | 224 | 335 | P | H |
|                                                                 |                                                                                             | 2483.52 | 51.77  | -2.23  | 54 | 39.13 | 27.55 | 15.91 | 30.82 | 224 | 335 | A | H |
|                                                                 |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                                                 |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                                                 | *                                                                                           | 2462    | 104.88 | -      | -  | 92.33 | 27.5  | 15.88 | 30.83 | 343 | 271 | P | V |
|                                                                 | *                                                                                           | 2462    | 96.97  | -      | -  | 84.42 | 27.5  | 15.88 | 30.83 | 343 | 271 | A | V |
|                                                                 |                                                                                             | 2484.56 | 61.22  | -12.78 | 74 | 48.58 | 27.55 | 15.91 | 30.82 | 343 | 271 | P | V |
|                                                                 |                                                                                             | 2483.6  | 50.87  | -3.13  | 54 | 38.23 | 27.55 | 15.91 | 30.82 | 343 | 271 | A | V |
|                                                                 |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
|                                                                 |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
| <b>Remark</b>                                                   | 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 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1                   | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 36.43               | -37.57                  | 74                          | 55.14                     | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             | 4824                 | 36.79               | -37.21                  | 74                          | 55.5                      | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 06<br>2437MHz |                                                                                             | 4874                 | 37.27               | -36.73                  | 74                          | 55.71                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             | 7311                 | 42.87               | -31.13                  | 74                          | 54.35                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             | 4874                 | 37.16               | -36.84                  | 74                          | 55.6                      | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             | 7311                 | 42.33               | -31.67                  | 74                          | 53.81                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 11<br>2462MHz |                                                                                             | 4924                 | 36.85               | -37.15                  | 74                          | 55.02                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             | 7386                 | 43.64               | -30.36                  | 74                          | 54.83                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             | 4924                 | 37.47               | -36.53                  | 74                          | 55.64                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             | 7386                 | 42.94               | -31.06                  | 74                          | 54.13                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



## Emission below 1GHz

## 2.4GHz WIFI 802.11n HT20 (LF)

| WIFI                            | Note                                                                       | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Path   | Preamp | Ant    | Table   | Peak    | Pol.    |
|---------------------------------|----------------------------------------------------------------------------|-----------|------------|--------|------------|----------|----------|--------|--------|--------|---------|---------|---------|
| Ant.                            |                                                                            |           |            | Limit  | Line       | Level    | Factor   | Loss   | Factor | Pos    | Pos     | Avg.    |         |
| 1                               |                                                                            | ( MHz )   | ( dBμV/m ) | ( dB ) | ( dBμV/m ) | ( dBμV ) | ( dB/m ) | ( dB ) | ( dB ) | ( cm ) | ( deg ) | ( P/A ) | ( H/V ) |
| 2.4GHz<br>802.11n<br>HT20<br>LF |                                                                            | 96.42     | 38.07      | -5.43  | 43.5       | 53.75    | 15.59    | 1.3    | 32.57  | 100    | 0       | P       | H       |
|                                 |                                                                            | 153.93    | 33.79      | -9.71  | 43.5       | 47.83    | 16.89    | 1.62   | 32.55  |        |         | P       | H       |
|                                 |                                                                            | 168.78    | 30.23      | -13.27 | 43.5       | 45.18    | 15.85    | 1.75   | 32.55  |        |         | P       | H       |
|                                 |                                                                            | 374.9     | 27.2       | -18.8  | 46         | 35.98    | 21.35    | 2.4    | 32.53  |        |         | P       | H       |
|                                 |                                                                            | 382.6     | 26.23      | -19.77 | 46         | 34.71    | 21.62    | 2.43   | 32.53  |        |         | P       | H       |
|                                 |                                                                            | 738.2     | 30.66      | -15.34 | 46         | 31.76    | 27.99    | 3.3    | 32.39  |        |         | P       | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            | 76.71     | 28.98      | -11.02 | 40         | 47.27    | 13.15    | 1.15   | 32.59  | 100    | 0       | P       | V       |
|                                 |                                                                            | 95.61     | 31.47      | -12.03 | 43.5       | 47.27    | 15.48    | 1.29   | 32.57  |        |         | P       | V       |
|                                 |                                                                            | 153.12    | 28.43      | -15.07 | 43.5       | 42.41    | 16.95    | 1.62   | 32.55  |        |         | P       | V       |
|                                 |                                                                            | 478.5     | 24.4       | -21.6  | 46         | 30.42    | 23.85    | 2.68   | 32.55  |        |         | P       | V       |
|                                 |                                                                            | 832       | 31.99      | -14.01 | 46         | 31.5     | 28.95    | 3.59   | 32.05  |        |         | P       | V       |
|                                 |                                                                            | 895.7     | 32.3       | -13.7  | 46         | 30.95    | 29.35    | 3.72   | 31.72  |        |         | P       | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
| Remark                          | 1. No other spurious found.<br>2. All results are PASS against limit line. |           |            |        |            |          |          |        |        |        |         |         |         |



## 2.4GHz 2400~2483.5MHz

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

| WIFI                        | Note | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Path   | 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<br>CH 01<br>2412MHz |      | 2389.485  | 53.94      | -20.06 | 74         | 41.72    | 27.31    | 15.77  | 30.86  | 386    | 332     | P     | H     |
|                             |      | 2389.065  | 42.81      | -11.19 | 54         | 30.59    | 27.31    | 15.77  | 30.86  | 386    | 332     | A     | H     |
|                             | *    | 2412      | 103.44     | -      | -          | 91.12    | 27.36    | 15.81  | 30.85  | 386    | 332     | P     | H     |
|                             | *    | 2412      | 100.36     | -      | -          | 88.04    | 27.36    | 15.81  | 30.85  | 386    | 332     | A     | H     |
|                             |      |           |            |        |            |          |          |        |        |        |         |       | H     |
|                             |      |           |            |        |            |          |          |        |        |        |         |       | H     |
|                             |      | 2373.42   | 53.48      | -20.52 | 74         | 41.33    | 27.26    | 15.75  | 30.86  | 295    | 35      | P     | V     |
|                             |      | 2388.96   | 42.56      | -11.44 | 54         | 30.34    | 27.31    | 15.77  | 30.86  | 295    | 35      | A     | V     |
|                             | *    | 2412      | 100.43     | -      | -          | 88.11    | 27.36    | 15.81  | 30.85  | 295    | 35      | P     | V     |
|                             | *    | 2412      | 97.23      | -      | -          | 84.91    | 27.36    | 15.81  | 30.85  | 295    | 35      | A     | V     |
|                             |      |           |            |        |            |          |          |        |        |        |         |       | V     |
|                             |      |           |            |        |            |          |          |        |        |        |         |       | V     |
|                             |      | 2362.22   | 52.88      | -21.12 | 74         | 40.82    | 27.21    | 15.73  | 30.88  | 379    | 339     | P     | H     |
|                             |      | 2389.8    | 42.46      | -11.54 | 54         | 30.23    | 27.31    | 15.77  | 30.85  | 379    | 339     | A     | H     |
| 802.11b<br>CH 06<br>2437MHz | *    | 2437      | 104.16     | -      | -          | 91.7     | 27.46    | 15.84  | 30.84  | 379    | 339     | P     | H     |
|                             | *    | 2437      | 101.05     | -      | -          | 88.59    | 27.46    | 15.84  | 30.84  | 379    | 339     | A     | H     |
|                             |      | 2492.93   | 53.48      | -20.52 | 74         | 40.77    | 27.6     | 15.92  | 30.81  | 379    | 339     | P     | H     |
|                             |      | 2483.9    | 42.77      | -11.23 | 54         | 30.13    | 27.55    | 15.91  | 30.82  | 379    | 339     | A     | H     |
|                             |      | 2345.7    | 52.87      | -21.13 | 74         | 40.87    | 27.17    | 15.71  | 30.88  | 290    | 34      | P     | V     |
|                             |      | 2389.94   | 42.46      | -11.54 | 54         | 30.23    | 27.31    | 15.77  | 30.85  | 290    | 34      | A     | V     |
|                             | *    | 2437      | 100.22     | -      | -          | 87.76    | 27.46    | 15.84  | 30.84  | 290    | 34      | P     | V     |
|                             | *    | 2437      | 97.11      | -      | -          | 84.65    | 27.46    | 15.84  | 30.84  | 290    | 34      | A     | V     |
|                             |      | 2498.6    | 52.98      | -21.02 | 74         | 40.26    | 27.6     | 15.93  | 30.81  | 290    | 34      | P     | V     |
|                             |      | 2496.01   | 42.77      | -11.23 | 54         | 30.06    | 27.6     | 15.92  | 30.81  | 290    | 34      | A     | V     |
|                             |      |           |            |        |            |          |          |        |        |        |         |       |       |
|                             |      |           |            |        |            |          |          |        |        |        |         |       |       |



|                                                  |                                                                                             |         |        |        |    |       |       |       |       |     |     |   |   |
|--------------------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|-------|-------|-----|-----|---|---|
| <b>802.11b</b><br><b>CH 11</b><br><b>2462MHz</b> | *                                                                                           | 2462    | 103.31 | -      | -  | 90.76 | 27.5  | 15.88 | 30.83 | 372 | 341 | P | H |
|                                                  | *                                                                                           | 2462    | 100.07 | -      | -  | 87.52 | 27.5  | 15.88 | 30.83 | 372 | 341 | A | H |
|                                                  |                                                                                             | 2497.96 | 53.78  | -20.22 | 74 | 41.06 | 27.6  | 15.93 | 30.81 | 372 | 341 | P | H |
|                                                  |                                                                                             | 2483.72 | 42.91  | -11.09 | 54 | 30.27 | 27.55 | 15.91 | 30.82 | 372 | 341 | A | H |
|                                                  |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                                  |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                                  | *                                                                                           | 2462    | 100.15 | -      | -  | 87.6  | 27.5  | 15.88 | 30.83 | 282 | 34  | P | V |
|                                                  | *                                                                                           | 2462    | 97     | -      | -  | 84.45 | 27.5  | 15.88 | 30.83 | 282 | 34  | A | V |
|                                                  |                                                                                             | 2496.56 | 53.58  | -20.42 | 74 | 40.86 | 27.6  | 15.93 | 30.81 | 282 | 34  | P | V |
|                                                  |                                                                                             | 2483.52 | 42.8   | -11.2  | 54 | 30.16 | 27.55 | 15.91 | 30.82 | 282 | 34  | A | V |
|                                                  |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
|                                                  |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
| <b>Remark</b>                                    | 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<br>Ant.<br>2           | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11b<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 36.69               | -37.31                  | 74                          | 55.4                      | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4824                 | 37.14               | -36.86                  | 74                          | 55.85                     | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11b<br>CH 06<br>2437MHz |                                                                                             | 4874                 | 37.6                | -36.4                   | 74                          | 56.04                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7311                 | 42.95               | -31.05                  | 74                          | 54.43                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4874                 | 37.58               | -36.42                  | 74                          | 56.02                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7311                 | 42.74               | -31.26                  | 74                          | 54.22                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11b<br>CH 11<br>2462MHz |                                                                                             | 4924                 | 37.34               | -36.66                  | 74                          | 55.51                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7386                 | 43.44               | -30.56                  | 74                          | 54.63                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4924                 | 37.24               | -36.76                  | 74                          | 55.41                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7386                 | 43.56               | -30.44                  | 74                          | 54.75                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | 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<br>Ant.<br>2                    | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>802.11g<br/>CH 01<br/>2412MHz</b> |      | 2389.17              | 53.9                | -20.1                   | 74                          | 41.68                     | 27.31                         | 15.77                  | 30.86                      | 309                  | 339                     | P                       | H               |
|                                      |      | 2390                 | 44.42               | -9.58                   | 54                          | 32.18                     | 27.31                         | 15.78                  | 30.85                      | 309                  | 339                     | A                       | H               |
|                                      | *    | 2412                 | 104.57              | -                       | -                           | 92.25                     | 27.36                         | 15.81                  | 30.85                      | 309                  | 339                     | P                       | H               |
|                                      | *    | 2412                 | 96.69               | -                       | -                           | 84.37                     | 27.36                         | 15.81                  | 30.85                      | 309                  | 339                     | A                       | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      | 2343.81              | 53.21               | -20.79                  | 74                          | 41.21                     | 27.17                         | 15.71                  | 30.88                      | 294                  | 34                      | P                       | V               |
|                                      |      | 2390                 | 43.52               | -10.48                  | 54                          | 31.28                     | 27.31                         | 15.78                  | 30.85                      | 294                  | 34                      | A                       | V               |
|                                      | *    | 2412                 | 100.54              | -                       | -                           | 88.22                     | 27.36                         | 15.81                  | 30.85                      | 294                  | 34                      | P                       | V               |
|                                      | *    | 2412                 | 93.01               | -                       | -                           | 80.69                     | 27.36                         | 15.81                  | 30.85                      | 294                  | 34                      | A                       | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| <b>802.11g<br/>CH 06<br/>2437MHz</b> |      | 2365.72              | 53.09               | -20.91                  | 74                          | 41                        | 27.21                         | 15.74                  | 30.86                      | 378                  | 339                     | P                       | H               |
|                                      |      | 2389.94              | 42.7                | -11.3                   | 54                          | 30.47                     | 27.31                         | 15.77                  | 30.85                      | 378                  | 339                     | A                       | H               |
|                                      | *    | 2437                 | 105.68              | -                       | -                           | 93.22                     | 27.46                         | 15.84                  | 30.84                      | 378                  | 339                     | P                       | H               |
|                                      | *    | 2437                 | 98.26               | -                       | -                           | 85.8                      | 27.46                         | 15.84                  | 30.84                      | 378                  | 339                     | A                       | H               |
|                                      |      | 2490.76              | 53.81               | -20.19                  | 74                          | 41.11                     | 27.6                          | 15.92                  | 30.82                      | 378                  | 339                     | P                       | H               |
|                                      |      | 2483.55              | 43.07               | -10.93                  | 54                          | 30.43                     | 27.55                         | 15.91                  | 30.82                      | 378                  | 339                     | A                       | H               |
|                                      |      | 2359.42              | 53.29               | -20.71                  | 74                          | 41.23                     | 27.21                         | 15.73                  | 30.88                      | 289                  | 35                      | P                       | V               |
|                                      |      | 2389.8               | 42.6                | -11.4                   | 54                          | 30.37                     | 27.31                         | 15.77                  | 30.85                      | 289                  | 35                      | A                       | V               |
|                                      | *    | 2437                 | 102.04              | -                       | -                           | 89.58                     | 27.46                         | 15.84                  | 30.84                      | 289                  | 35                      | P                       | V               |
|                                      | *    | 2437                 | 94.41               | -                       | -                           | 81.95                     | 27.46                         | 15.84                  | 30.84                      | 289                  | 35                      | A                       | V               |
|                                      |      | 2493.98              | 53.11               | -20.89                  | 74                          | 40.4                      | 27.6                          | 15.92                  | 30.81                      | 289                  | 35                      | P                       | V               |
|                                      |      | 2483.55              | 42.91               | -11.09                  | 54                          | 30.27                     | 27.55                         | 15.91                  | 30.82                      | 289                  | 35                      | A                       | V               |



|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   |   |
|--------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|-------|-------|-----|-----|---|---|
| <b>802.11g<br/>CH 11<br/>2462MHz</b> | *                                                                                           | 2462    | 104.74 | -      | -  | 92.19 | 27.5  | 15.88 | 30.83 | 366 | 323 | P | H |
|                                      | *                                                                                           | 2462    | 97.16  | -      | -  | 84.61 | 27.5  | 15.88 | 30.83 | 366 | 323 | A | H |
|                                      |                                                                                             | 2483.56 | 56.5   | -17.5  | 74 | 43.86 | 27.55 | 15.91 | 30.82 | 366 | 323 | P | H |
|                                      |                                                                                             | 2483.52 | 47.69  | -6.31  | 54 | 35.05 | 27.55 | 15.91 | 30.82 | 366 | 323 | A | H |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                      | *                                                                                           | 2462    | 101.03 | -      | -  | 88.48 | 27.5  | 15.88 | 30.83 | 282 | 32  | P | V |
|                                      | *                                                                                           | 2462    | 93.54  | -      | -  | 80.99 | 27.5  | 15.88 | 30.83 | 282 | 32  | A | V |
|                                      |                                                                                             | 2484.28 | 55.42  | -18.58 | 74 | 42.78 | 27.55 | 15.91 | 30.82 | 282 | 32  | P | V |
|                                      |                                                                                             | 2483.52 | 45.57  | -8.43  | 54 | 32.93 | 27.55 | 15.91 | 30.82 | 282 | 32  | A | V |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
| <b>Remark</b>                        | 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<br>Ant.<br>2           | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11g<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 36.69               | -37.31                  | 74                          | 55.4                      | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4824                 | 36.61               | -37.39                  | 74                          | 55.32                     | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11g<br>CH 06<br>2437MHz |                                                                                             | 4874                 | 37.69               | -36.31                  | 74                          | 56.13                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7311                 | 43.42               | -30.58                  | 74                          | 54.9                      | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4874                 | 37.28               | -36.72                  | 74                          | 55.72                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7311                 | 42.99               | -31.01                  | 74                          | 54.47                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11g<br>CH 11<br>2462MHz |                                                                                             | 4924                 | 37.42               | -36.58                  | 74                          | 55.59                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7386                 | 43.11               | -30.89                  | 74                          | 54.3                      | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4924                 | 38                  | -36                     | 74                          | 56.17                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7386                 | 42.9                | -31.1                   | 74                          | 54.09                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | 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<br>Ant.<br>2                   | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 01<br>2412MHz |      | 2390                 | 55.2                | -18.8                   | 74                          | 42.96                     | 27.31                         | 15.78                  | 30.85                      | 384                  | 332                     | P                       | H               |
|                                     |      | 2390                 | 46.63               | -7.37                   | 54                          | 34.39                     | 27.31                         | 15.78                  | 30.85                      | 384                  | 332                     | A                       | H               |
|                                     | *    | 2412                 | 105.26              | -                       | -                           | 92.94                     | 27.36                         | 15.81                  | 30.85                      | 384                  | 332                     | P                       | H               |
|                                     | *    | 2412                 | 97.74               | -                       | -                           | 85.42                     | 27.36                         | 15.81                  | 30.85                      | 384                  | 332                     | A                       | H               |
|                                     |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |      | 2389.485             | 53.75               | -20.25                  | 74                          | 41.53                     | 27.31                         | 15.77                  | 30.86                      | 298                  | 35                      | P                       | V               |
|                                     |      | 2390                 | 45.31               | -8.69                   | 54                          | 33.07                     | 27.31                         | 15.78                  | 30.85                      | 298                  | 35                      | A                       | V               |
|                                     | *    | 2412                 | 102.2               | -                       | -                           | 89.88                     | 27.36                         | 15.81                  | 30.85                      | 298                  | 35                      | P                       | V               |
|                                     | *    | 2412                 | 94.48               | -                       | -                           | 82.16                     | 27.36                         | 15.81                  | 30.85                      | 298                  | 35                      | A                       | V               |
|                                     |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                     |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 06<br>2437MHz |      | 2346.82              | 53.45               | -20.55                  | 74                          | 41.45                     | 27.17                         | 15.71                  | 30.88                      | 379                  | 340                     | P                       | H               |
|                                     |      | 2378.46              | 43.29               | -10.71                  | 54                          | 31.13                     | 27.26                         | 15.76                  | 30.86                      | 379                  | 340                     | A                       | H               |
|                                     | *    | 2437                 | 105.33              | -                       | -                           | 92.87                     | 27.46                         | 15.84                  | 30.84                      | 379                  | 340                     | P                       | H               |
|                                     | *    | 2437                 | 97.95               | -                       | -                           | 85.49                     | 27.46                         | 15.84                  | 30.84                      | 379                  | 340                     | A                       | H               |
|                                     |      | 2488.17              | 53.19               | -20.81                  | 74                          | 40.5                      | 27.6                          | 15.91                  | 30.82                      | 379                  | 340                     | P                       | H               |
|                                     |      | 2486.63              | 43.77               | -10.23                  | 54                          | 31.13                     | 27.55                         | 15.91                  | 30.82                      | 379                  | 340                     | A                       | H               |
|                                     |      | 2353.68              | 53.31               | -20.69                  | 74                          | 41.26                     | 27.21                         | 15.72                  | 30.88                      | 287                  | 34                      | P                       | V               |
|                                     |      | 2385.6               | 43.17               | -10.83                  | 54                          | 30.95                     | 27.31                         | 15.77                  | 30.86                      | 287                  | 34                      | A                       | V               |
|                                     | *    | 2437                 | 101.25              | -                       | -                           | 88.79                     | 27.46                         | 15.84                  | 30.84                      | 287                  | 34                      | P                       | V               |
|                                     | *    | 2437                 | 94.08               | -                       | -                           | 81.62                     | 27.46                         | 15.84                  | 30.84                      | 287                  | 34                      | A                       | V               |
|                                     |      | 2493.42              | 55.1                | -18.9                   | 74                          | 42.39                     | 27.6                          | 15.92                  | 30.81                      | 287                  | 34                      | P                       | V               |
|                                     |      | 2497.9               | 43.62               | -10.38                  | 54                          | 30.9                      | 27.6                          | 15.93                  | 30.81                      | 287                  | 34                      | A                       | V               |



|                                                                 |                                                                                             |         |        |        |    |       |       |       |       |     |     |   |   |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|-------|-------|-----|-----|---|---|
| <b>802.11n</b><br><b>HT20</b><br><b>CH 11</b><br><b>2462MHz</b> | *                                                                                           | 2462    | 105.36 | -      | -  | 92.81 | 27.5  | 15.88 | 30.83 | 368 | 341 | P | H |
|                                                                 | *                                                                                           | 2462    | 97.47  | -      | -  | 84.92 | 27.5  | 15.88 | 30.83 | 368 | 341 | A | H |
|                                                                 |                                                                                             | 2483.52 | 59.91  | -14.09 | 74 | 47.27 | 27.55 | 15.91 | 30.82 | 368 | 341 | P | H |
|                                                                 |                                                                                             | 2483.52 | 49.55  | -4.45  | 54 | 36.91 | 27.55 | 15.91 | 30.82 | 368 | 341 | A | H |
|                                                                 |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                                                 |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                                                 | *                                                                                           | 2462    | 101.85 | -      | -  | 89.3  | 27.5  | 15.88 | 30.83 | 282 | 35  | P | V |
|                                                                 | *                                                                                           | 2462    | 94.24  | -      | -  | 81.69 | 27.5  | 15.88 | 30.83 | 282 | 35  | A | V |
|                                                                 |                                                                                             | 2483.56 | 56.2   | -17.8  | 74 | 43.56 | 27.55 | 15.91 | 30.82 | 282 | 35  | P | V |
|                                                                 |                                                                                             | 2483.68 | 47.09  | -6.91  | 54 | 34.45 | 27.55 | 15.91 | 30.82 | 282 | 35  | A | V |
|                                                                 |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
|                                                                 |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
| <b>Remark</b>                                                   | 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 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>2                   | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 36.7                | -37.3                   | 74                          | 55.41                     | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             | 4824                 | 36.48               | -37.52                  | 74                          | 55.19                     | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 06<br>2437MHz |                                                                                             | 4874                 | 37.37               | -36.63                  | 74                          | 55.81                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             | 7311                 | 42.58               | -31.42                  | 74                          | 54.06                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             | 4874                 | 37.09               | -36.91                  | 74                          | 55.53                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             | 7311                 | 42.65               | -31.35                  | 74                          | 54.13                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 11<br>2462MHz |                                                                                             | 4924                 | 37.95               | -36.05                  | 74                          | 56.12                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             | 7386                 | 43.24               | -30.76                  | 74                          | 54.43                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             | 4924                 | 37.32               | -36.68                  | 74                          | 55.49                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             | 7386                 | 43.5                | -30.5                   | 74                          | 54.69                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |



## Emission below 1GHz

## 2.4GHz WIFI 802.11n HT20 (LF)

| WIFI                            | Note                                                                       | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Path   | 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 ) |
| 2.4GHz<br>802.11n<br>HT20<br>LF |                                                                            | 96.42     | 38.6       | -4.9   | 43.5       | 54.28    | 15.59    | 1.3    | 32.57  | 100    | 0       | P       | H       |
|                                 |                                                                            | 155.28    | 31.49      | -12.01 | 43.5       | 45.59    | 16.81    | 1.64   | 32.55  | -      | -       | P       | H       |
|                                 |                                                                            | 245.73    | 28.67      | -17.33 | 46         | 40.4     | 18.8     | 2.01   | 32.54  | -      | -       | P       | H       |
|                                 |                                                                            | 721.4     | 37.87      | -8.13  | 46         | 39.39    | 27.63    | 3.28   | 32.43  | -      | -       | P       | H       |
|                                 |                                                                            | 895.7     | 36.45      | -9.55  | 46         | 35.1     | 29.35    | 3.72   | 31.72  | -      | -       | P       | H       |
|                                 |                                                                            | 953.1     | 34.23      | -11.77 | 46         | 30.53    | 31.05    | 3.9    | 31.25  | -      | -       | P       | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | H       |
|                                 |                                                                            | 77.25     | 29.17      | -10.83 | 40         | 47.39    | 13.22    | 1.15   | 32.59  | -      | -       | P       | V       |
|                                 |                                                                            | 95.61     | 34.62      | -8.88  | 43.5       | 50.42    | 15.48    | 1.29   | 32.57  | 100    | 0       | P       | V       |
|                                 |                                                                            | 246.27    | 28.17      | -17.83 | 46         | 39.87    | 18.82    | 2.02   | 32.54  | -      | -       | P       | V       |
|                                 |                                                                            | 720.7     | 30.35      | -15.65 | 46         | 31.89    | 27.62    | 3.27   | 32.43  | -      | -       | P       | V       |
|                                 |                                                                            | 834.8     | 32         | -14    | 46         | 31.37    | 29.07    | 3.6    | 32.04  | -      | -       | P       | V       |
|                                 |                                                                            | 961.5     | 33.37      | -20.63 | 54         | 29.51    | 31.12    | 3.92   | 31.18  | -      | -       | P       | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
|                                 |                                                                            |           |            |        |            |          |          |        |        |        |         |         | V       |
| Remark                          | 1. No other spurious found.<br>2. All results are PASS against limit line. |           |            |        |            |          |          |        |        |        |         |         |         |



## 2.4GHz 2400~2483.5MHz

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

| WIFI                        | Note | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Path   | 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 |      | 2359.77   | 53.37      | -20.63 | 74         | 41.31    | 27.21    | 15.73  | 30.88  | 248    | 313     | P     | H     |
|                             |      | 2389.695  | 42.72      | -11.28 | 54         | 30.5     | 27.31    | 15.77  | 30.86  | 248    | 313     | A     | H     |
|                             | *    | 2412      | 105.21     | -      | -          | 92.89    | 27.36    | 15.81  | 30.85  | 248    | 313     | P     | H     |
|                             | *    | 2412      | 102.4      | -      | -          | 90.08    | 27.36    | 15.81  | 30.85  | 248    | 313     | A     | H     |
|                             |      |           |            |        |            |          |          |        |        |        |         |       | H     |
|                             |      |           |            |        |            |          |          |        |        |        |         |       | H     |
|                             |      | 2375.415  | 53.63      | -20.37 | 74         | 41.48    | 27.26    | 15.75  | 30.86  | 303    | 262     | P     | V     |
|                             |      | 2389.17   | 42.59      | -11.41 | 54         | 30.37    | 27.31    | 15.77  | 30.86  | 303    | 262     | A     | V     |
|                             | *    | 2412      | 101.72     | -      | -          | 89.4     | 27.36    | 15.81  | 30.85  | 303    | 262     | P     | V     |
|                             | *    | 2412      | 99.01      | -      | -          | 86.69    | 27.36    | 15.81  | 30.85  | 303    | 262     | A     | V     |
|                             |      |           |            |        |            |          |          |        |        |        |         |       | V     |
|                             |      |           |            |        |            |          |          |        |        |        |         |       | V     |
| 802.11b<br>CH 06<br>2437MHz |      | 2327.5    | 53.55      | -20.45 | 74         | 41.64    | 27.12    | 15.68  | 30.89  | 245    | 315     | P     | H     |
|                             |      | 2389.94   | 42.64      | -11.36 | 54         | 30.41    | 27.31    | 15.77  | 30.85  | 245    | 315     | A     | H     |
|                             | *    | 2437      | 104.79     | -      | -          | 92.33    | 27.46    | 15.84  | 30.84  | 245    | 315     | P     | H     |
|                             | *    | 2437      | 101.8      | -      | -          | 89.34    | 27.46    | 15.84  | 30.84  | 245    | 315     | A     | H     |
|                             |      | 2484.39   | 53.92      | -20.08 | 74         | 41.28    | 27.55    | 15.91  | 30.82  | 245    | 315     | P     | H     |
|                             |      | 2483.97   | 43.07      | -10.93 | 54         | 30.43    | 27.55    | 15.91  | 30.82  | 245    | 315     | A     | H     |
|                             |      | 2371.88   | 53.03      | -20.97 | 74         | 40.88    | 27.26    | 15.75  | 30.86  | 289    | 245     | P     | V     |
|                             |      | 2389.94   | 42.47      | -11.53 | 54         | 30.24    | 27.31    | 15.77  | 30.85  | 289    | 245     | A     | V     |
|                             | *    | 2437      | 99.65      | -      | -          | 87.19    | 27.46    | 15.84  | 30.84  | 289    | 245     | P     | V     |
|                             | *    | 2437      | 96.69      | -      | -          | 84.23    | 27.46    | 15.84  | 30.84  | 289    | 245     | A     | V     |
|                             |      | 2492.16   | 53.3       | -20.7  | 74         | 40.59    | 27.6     | 15.92  | 30.81  | 289    | 245     | P     | V     |
|                             |      | 2484.04   | 42.81      | -11.19 | 54         | 30.17    | 27.55    | 15.91  | 30.82  | 289    | 245     | A     | V     |



|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   |   |
|--------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|-------|-------|-----|-----|---|---|
| <b>802.11b<br/>CH 11<br/>2462MHz</b> | *                                                                                           | 2462    | 103.92 | -      | -  | 91.37 | 27.5  | 15.88 | 30.83 | 237 | 314 | P | H |
|                                      | *                                                                                           | 2462    | 100.97 | -      | -  | 88.42 | 27.5  | 15.88 | 30.83 | 237 | 314 | A | H |
|                                      |                                                                                             | 2499.48 | 54.01  | -19.99 | 74 | 41.29 | 27.6  | 15.93 | 30.81 | 237 | 314 | P | H |
|                                      |                                                                                             | 2484    | 42.96  | -11.04 | 54 | 30.32 | 27.55 | 15.91 | 30.82 | 237 | 314 | A | H |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                      | *                                                                                           | 2462    | 99.9   | -      | -  | 87.35 | 27.5  | 15.88 | 30.83 | 216 | 85  | P | V |
|                                      | *                                                                                           | 2462    | 96.79  | -      | -  | 84.24 | 27.5  | 15.88 | 30.83 | 216 | 85  | A | V |
|                                      |                                                                                             | 2499.32 | 53.86  | -20.14 | 74 | 41.14 | 27.6  | 15.93 | 30.81 | 216 | 85  | P | V |
|                                      |                                                                                             | 2499.12 | 42.76  | -11.24 | 54 | 30.04 | 27.6  | 15.93 | 30.81 | 216 | 85  | A | V |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
| <b>Remark</b>                        | 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<br>Ant.<br>1+2         | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11b<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 37.85               | -36.15                  | 74                          | 56.56                     | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4824                 | 36.18               | -37.82                  | 74                          | 54.89                     | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11b<br>CH 06<br>2437MHz |                                                                                             | 4874                 | 38.58               | -35.42                  | 74                          | 57.02                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7311                 | 44.47               | -29.53                  | 74                          | 55.95                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4874                 | 38.03               | -35.97                  | 74                          | 56.47                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7311                 | 42.51               | -31.49                  | 74                          | 53.99                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11b<br>CH 11<br>2462MHz |                                                                                             | 4924                 | 37.26               | -36.74                  | 74                          | 55.43                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7386                 | 42.9                | -31.1                   | 74                          | 54.09                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4924                 | 37.39               | -36.61                  | 74                          | 55.56                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7386                 | 43.23               | -30.77                  | 74                          | 54.42                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | 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<br>Ant.<br>1+2                  | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|--------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| <b>802.11g<br/>CH 01<br/>2412MHz</b> |      | 2389.905             | 57.84               | -16.16                  | 74                          | 45.61                     | 27.31                         | 15.77                  | 30.85                      | 247                  | 314                     | P                       | H               |
|                                      |      | 2389.695             | 47.4                | -6.6                    | 54                          | 35.18                     | 27.31                         | 15.77                  | 30.86                      | 247                  | 314                     | A                       | H               |
|                                      | *    | 2412                 | 108.98              | -                       | -                           | 96.66                     | 27.36                         | 15.81                  | 30.85                      | 247                  | 314                     | P                       | H               |
|                                      | *    | 2412                 | 101.56              | -                       | -                           | 89.24                     | 27.36                         | 15.81                  | 30.85                      | 247                  | 314                     | A                       | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                      |      | 2389.905             | 56.94               | -17.06                  | 74                          | 44.71                     | 27.31                         | 15.77                  | 30.85                      | 262                  | 261                     | P                       | V               |
|                                      |      | 2390                 | 46.53               | -7.47                   | 54                          | 34.29                     | 27.31                         | 15.78                  | 30.85                      | 262                  | 261                     | A                       | V               |
|                                      | *    | 2412                 | 105.98              | -                       | -                           | 93.66                     | 27.36                         | 15.81                  | 30.85                      | 262                  | 261                     | P                       | V               |
|                                      | *    | 2412                 | 98.85               | -                       | -                           | 86.53                     | 27.36                         | 15.81                  | 30.85                      | 262                  | 261                     | A                       | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                      |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| <b>802.11g<br/>CH 06<br/>2437MHz</b> |      | 2389.38              | 54.01               | -19.99                  | 74                          | 41.79                     | 27.31                         | 15.77                  | 30.86                      | 243                  | 316                     | P                       | H               |
|                                      |      | 2389.94              | 43.58               | -10.42                  | 54                          | 31.35                     | 27.31                         | 15.77                  | 30.85                      | 243                  | 316                     | A                       | H               |
|                                      | *    | 2437                 | 108.68              | -                       | -                           | 96.22                     | 27.46                         | 15.84                  | 30.84                      | 243                  | 316                     | P                       | H               |
|                                      | *    | 2437                 | 101.23              | -                       | -                           | 88.77                     | 27.46                         | 15.84                  | 30.84                      | 243                  | 316                     | A                       | H               |
|                                      |      | 2485.79              | 53.25               | -20.75                  | 74                          | 40.61                     | 27.55                         | 15.91                  | 30.82                      | 243                  | 316                     | P                       | H               |
|                                      |      | 2483.83              | 43.41               | -10.59                  | 54                          | 30.77                     | 27.55                         | 15.91                  | 30.82                      | 243                  | 316                     | A                       | H               |
|                                      |      | 2332.82              | 53.28               | -20.72                  | 74                          | 41.36                     | 27.12                         | 15.69                  | 30.89                      | 284                  | 260                     | P                       | V               |
|                                      |      | 2389.94              | 43.48               | -10.52                  | 54                          | 31.25                     | 27.31                         | 15.77                  | 30.85                      | 284                  | 260                     | A                       | V               |
|                                      | *    | 2437                 | 105.5               | -                       | -                           | 93.04                     | 27.46                         | 15.84                  | 30.84                      | 284                  | 260                     | P                       | V               |
|                                      | *    | 2437                 | 97.75               | -                       | -                           | 85.29                     | 27.46                         | 15.84                  | 30.84                      | 284                  | 260                     | A                       | V               |
|                                      |      | 2486.91              | 52.92               | -21.08                  | 74                          | 40.28                     | 27.55                         | 15.91                  | 30.82                      | 284                  | 260                     | P                       | V               |
|                                      |      | 2483.83              | 42.99               | -11.01                  | 54                          | 30.35                     | 27.55                         | 15.91                  | 30.82                      | 284                  | 260                     | A                       | V               |



|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   |   |
|--------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|-------|-------|-----|-----|---|---|
| <b>802.11g<br/>CH 11<br/>2462MHz</b> | *                                                                                           | 2462    | 108.64 | -      | -  | 96.09 | 27.5  | 15.88 | 30.83 | 238 | 312 | P | H |
|                                      | *                                                                                           | 2462    | 101.74 | -      | -  | 89.19 | 27.5  | 15.88 | 30.83 | 238 | 312 | A | H |
|                                      |                                                                                             | 2484.56 | 56.91  | -17.09 | 74 | 44.27 | 27.55 | 15.91 | 30.82 | 238 | 312 | P | H |
|                                      |                                                                                             | 2483.52 | 45.6   | -8.4   | 54 | 32.96 | 27.55 | 15.91 | 30.82 | 238 | 312 | A | H |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                      | *                                                                                           | 2462    | 105.75 | -      | -  | 93.2  | 27.5  | 15.88 | 30.83 | 291 | 263 | P | V |
|                                      | *                                                                                           | 2462    | 97.84  | -      | -  | 85.29 | 27.5  | 15.88 | 30.83 | 291 | 263 | A | V |
|                                      |                                                                                             | 2483.88 | 54.81  | -19.19 | 74 | 42.17 | 27.55 | 15.91 | 30.82 | 291 | 263 | P | V |
|                                      |                                                                                             | 2483.52 | 44.65  | -9.35  | 54 | 32.01 | 27.55 | 15.91 | 30.82 | 291 | 263 | A | V |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
|                                      |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
| <b>Remark</b>                        | 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<br>Ant.<br>1+2         | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-----------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11g<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 36.81               | -37.19                  | 74                          | 55.52                     | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4824                 | 36.67               | -37.33                  | 74                          | 55.38                     | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11g<br>CH 06<br>2437MHz |                                                                                             | 4874                 | 37.33               | -36.67                  | 74                          | 55.77                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7311                 | 43.16               | -30.84                  | 74                          | 54.64                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4874                 | 36.97               | -37.03                  | 74                          | 55.41                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7311                 | 43.14               | -30.86                  | 74                          | 54.62                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11g<br>CH 11<br>2462MHz |                                                                                             | 4924                 | 37.82               | -36.18                  | 74                          | 55.99                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             | 7386                 | 42.97               | -31.03                  | 74                          | 54.16                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                             |                                                                                             | 4924                 | 37.62               | -36.38                  | 74                          | 55.79                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             | 7386                 | 42.97               | -31.03                  | 74                          | 54.16                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                             |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | 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<br>Ant.<br>1+2                 | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 01<br>2412MHz |      | 2389.905             | 60.86               | -13.14                  | 74                          | 48.63                     | 27.31                         | 15.77                  | 30.85                      | 246                  | 313                     | P                       | H               |
|                                     |      | 2390                 | 51.29               | -2.71                   | 54                          | 39.05                     | 27.31                         | 15.78                  | 30.85                      | 246                  | 313                     | A                       | H               |
|                                     | *    | 2412                 | 108.94              | -                       | -                           | 96.62                     | 27.36                         | 15.81                  | 30.85                      | 246                  | 313                     | P                       | H               |
|                                     | *    | 2412                 | 101.7               | -                       | -                           | 89.38                     | 27.36                         | 15.81                  | 30.85                      | 246                  | 313                     | A                       | H               |
|                                     |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |      | 2389.8               | 59.58               | -14.42                  | 74                          | 47.35                     | 27.31                         | 15.77                  | 30.85                      | 306                  | 262                     | P                       | V               |
|                                     |      | 2390                 | 50.34               | -3.66                   | 54                          | 38.1                      | 27.31                         | 15.78                  | 30.85                      | 306                  | 262                     | A                       | V               |
|                                     | *    | 2412                 | 107.49              | -                       | -                           | 95.17                     | 27.36                         | 15.81                  | 30.85                      | 306                  | 262                     | P                       | V               |
|                                     | *    | 2412                 | 99.42               | -                       | -                           | 87.1                      | 27.36                         | 15.81                  | 30.85                      | 306                  | 262                     | A                       | V               |
|                                     |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                     |      |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 06<br>2437MHz |      | 2389.8               | 54.46               | -19.54                  | 74                          | 42.23                     | 27.31                         | 15.77                  | 30.85                      | 246                  | 310                     | P                       | H               |
|                                     |      | 2389.94              | 43.73               | -10.27                  | 54                          | 31.5                      | 27.31                         | 15.77                  | 30.85                      | 246                  | 310                     | A                       | H               |
|                                     | *    | 2437                 | 107.27              | -                       | -                           | 94.81                     | 27.46                         | 15.84                  | 30.84                      | 246                  | 310                     | P                       | H               |
|                                     | *    | 2437                 | 99.7                | -                       | -                           | 87.24                     | 27.46                         | 15.84                  | 30.84                      | 246                  | 310                     | A                       | H               |
|                                     |      | 2492.65              | 53.55               | -20.45                  | 74                          | 40.84                     | 27.6                          | 15.92                  | 30.81                      | 246                  | 310                     | P                       | H               |
|                                     |      | 2487.12              | 43.93               | -10.07                  | 54                          | 31.29                     | 27.55                         | 15.91                  | 30.82                      | 246                  | 310                     | A                       | H               |
|                                     |      | 2361.52              | 53.27               | -20.73                  | 74                          | 41.21                     | 27.21                         | 15.73                  | 30.88                      | 298                  | 261                     | P                       | V               |
|                                     |      | 2389.8               | 43.64               | -10.36                  | 54                          | 31.41                     | 27.31                         | 15.77                  | 30.85                      | 298                  | 261                     | A                       | V               |
|                                     | *    | 2437                 | 103.62              | -                       | -                           | 91.16                     | 27.46                         | 15.84                  | 30.84                      | 298                  | 261                     | P                       | V               |
|                                     | *    | 2437                 | 96.35               | -                       | -                           | 83.89                     | 27.46                         | 15.84                  | 30.84                      | 298                  | 261                     | A                       | V               |
|                                     |      | 2498.25              | 53.8                | -20.2                   | 74                          | 41.08                     | 27.6                          | 15.93                  | 30.81                      | 298                  | 261                     | P                       | V               |
|                                     |      | 2484.11              | 43.8                | -10.2                   | 54                          | 31.16                     | 27.55                         | 15.91                  | 30.82                      | 298                  | 261                     | A                       | V               |



|                                                                 |                                                                                             |         |        |        |    |       |       |       |       |     |     |   |   |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------|--------|--------|----|-------|-------|-------|-------|-----|-----|---|---|
| <b>802.11n</b><br><b>HT20</b><br><b>CH 11</b><br><b>2462MHz</b> | *                                                                                           | 2462    | 106.74 | -      | -  | 94.19 | 27.5  | 15.88 | 30.83 | 240 | 314 | P | H |
|                                                                 | *                                                                                           | 2462    | 98.93  | -      | -  | 86.38 | 27.5  | 15.88 | 30.83 | 240 | 314 | A | H |
|                                                                 |                                                                                             | 2483.56 | 56.82  | -17.18 | 74 | 44.18 | 27.55 | 15.91 | 30.82 | 240 | 314 | P | H |
|                                                                 |                                                                                             | 2483.8  | 47.08  | -6.92  | 54 | 34.44 | 27.55 | 15.91 | 30.82 | 240 | 314 | A | H |
|                                                                 |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                                                 |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | H |
|                                                                 | *                                                                                           | 2462    | 103.36 | -      | -  | 90.81 | 27.5  | 15.88 | 30.83 | 301 | 262 | P | V |
|                                                                 | *                                                                                           | 2462    | 96.48  | -      | -  | 83.93 | 27.5  | 15.88 | 30.83 | 301 | 262 | A | V |
|                                                                 |                                                                                             | 2484.6  | 55.57  | -18.43 | 74 | 42.93 | 27.55 | 15.91 | 30.82 | 301 | 262 | P | V |
|                                                                 |                                                                                             | 2483.6  | 45.75  | -8.25  | 54 | 33.11 | 27.55 | 15.91 | 30.82 | 301 | 262 | A | V |
|                                                                 |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
|                                                                 |                                                                                             |         |        |        |    |       |       |       |       |     |     |   | V |
| <b>Remark</b>                                                   | 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 (Harmonic @ 3m)**

| WIFI<br>Ant.<br>1+2                 | Note                                                                                        | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------------------------|---------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11n<br>HT20<br>CH 01<br>2412MHz |                                                                                             | 4824                 | 38.43               | -35.57                  | 74                          | 57.14                     | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             | 4824                 | 36.53               | -37.47                  | 74                          | 55.24                     | 31.36                         | 8.5                    | 58.57                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 06<br>2437MHz |                                                                                             | 4874                 | 36.65               | -37.35                  | 74                          | 55.09                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             | 7311                 | 42.25               | -31.75                  | 74                          | 53.73                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             | 4874                 | 37.72               | -36.28                  | 74                          | 56.16                     | 31.46                         | 8.65                   | 58.55                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             | 7311                 | 42.38               | -31.62                  | 74                          | 53.86                     | 36.08                         | 11.27                  | 58.83                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| 802.11n<br>HT20<br>CH 11<br>2462MHz |                                                                                             | 4924                 | 37.48               | -36.52                  | 74                          | 55.65                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             | 7386                 | 43.28               | -30.72                  | 74                          | 54.47                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | H               |
|                                     |                                                                                             | 4924                 | 37.45               | -36.55                  | 74                          | 55.62                     | 31.56                         | 8.8                    | 58.53                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             | 7386                 | 43.97               | -30.03                  | 74                          | 55.16                     | 36.27                         | 11.28                  | 58.74                      | 100                  | 0                       | P                       | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
|                                     |                                                                                             |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         | V               |
| Remark                              | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line. |                      |                     |                         |                             |                           |                               |                        |                            |                      |                         |                         |                 |

## Emission below 1GHz

**2.4GHz WIFI 802.11n HT20 (LF)**

| WIFI                                | Note                                                                       | Frequency | Level      | Over   | Limit      | Read   | Antenna  | Path   | 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><br>HT20<br>LF |                                                                            | 109.11    | 39.4       | -4.1   | 43.5       | 53.9   | 16.74    | 1.33   | 32.57  | 100    | 0       | P     | H     |
|                                     |                                                                            | 160.68    | 31.99      | -11.51 | 43.5       | 46.32  | 16.54    | 1.68   | 32.55  | -      | -       | P     | H     |
|                                     |                                                                            | 251.4     | 29.44      | -16.56 | 46         | 40.98  | 18.94    | 2.05   | 32.53  | -      | -       | P     | H     |
|                                     |                                                                            | 381.9     | 27.77      | -18.23 | 46         | 36.3   | 21.58    | 2.42   | 32.53  | -      | -       | P     | H     |
|                                     |                                                                            | 832       | 33.01      | -12.99 | 46         | 32.52  | 28.95    | 3.59   | 32.05  | -      | -       | P     | H     |
|                                     |                                                                            | 964.3     | 33.62      | -20.38 | 54         | 29.81  | 31.04    | 3.93   | 31.16  | -      | -       | P     | H     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | H     |
|                                     |                                                                            | 108.3     | 39.21      | -4.29  | 43.5       | 53.76  | 16.69    | 1.33   | 32.57  | 100    | 0       | P     | V     |
|                                     |                                                                            | 155.01    | 27.39      | -16.11 | 43.5       | 41.48  | 16.82    | 1.64   | 32.55  | -      | -       | P     | V     |
|                                     |                                                                            | 251.4     | 27.19      | -18.81 | 46         | 38.73  | 18.94    | 2.05   | 32.53  | -      | -       | P     | V     |
|                                     |                                                                            | 735.4     | 30.61      | -15.39 | 46         | 31.79  | 27.93    | 3.29   | 32.4   | -      | -       | P     | V     |
|                                     |                                                                            | 832       | 37.52      | -8.48  | 46         | 37.03  | 28.95    | 3.59   | 32.05  | -      | -       | P     | V     |
|                                     |                                                                            | 968.5     | 33.9       | -20.1  | 54         | 30.16  | 30.91    | 3.95   | 31.12  | -      | -       | P     | V     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         |       | V     |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         | V     |       |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         | V     |       |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         | V     |       |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         | V     |       |
|                                     |                                                                            |           |            |        |            |        |          |        |        |        |         | 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. |
| !   | Test result is <b>over limit</b> line.                                                                                                                   |
| P/A | <b>Peak</b> or <b>Average</b>                                                                                                                            |
| H/V | <b>Horizontal</b> or <b>Vertical</b>                                                                                                                     |

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

| WIFI    | Note | Frequency | Level      | Over   | Limit      | Read     | Antenna  | Path   | 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 |      | 2390      | 55.45      | -18.55 | 74         | 54.51    | 32.22    | 4.58   | 35.86  | 103    | 308     | P       | H       |
| CH 01   |      |           |            |        |            |          |          |        |        |        |         |         |         |
| 2412MHz |      | 2390      | 43.54      | -10.46 | 54         | 42.6     | 32.22    | 4.58   | 35.86  | 103    | 308     | A       | H       |

$$1. \text{ Path Loss(dB)} = \text{Cable loss(dB)} + \text{Filter loss(dB)} + \text{Attenuator loss(dB)}$$

$$2. \text{ Level(dB}\mu\text{V/m)} =$$

$$\text{Antenna Factor(dB/m)} + \text{Path Loss(dB)} + \text{Read Level(dB}\mu\text{V)} - \text{Preamp Factor(dB)}$$

$$3. \text{ Over Limit(dB)} = \text{Level(dB}\mu\text{V/m)} - \text{Limit Line(dB}\mu\text{V/m)}$$

**For Peak Limit @ 2390MHz:**

$$1. \text{ Level(dB}\mu\text{V/m)}$$

$$= \text{Antenna Factor(dB/m)} + \text{Path Loss(dB)} + \text{Read Level(dB}\mu\text{V)} - \text{Preamp Factor(dB)}$$

$$= 32.22(\text{dB/m}) + 4.58(\text{dB}) + 54.51(\text{dB}\mu\text{V}) - 35.86(\text{dB})$$

$$= 55.45(\text{dB}\mu\text{V/m})$$

$$2. \text{ Over Limit(dB)}$$

$$= \text{Level(dB}\mu\text{V/m)} - \text{Limit Line(dB}\mu\text{V/m)}$$

$$= 55.45(\text{dB}\mu\text{V/m}) - 74(\text{dB}\mu\text{V/m})$$

$$= -18.55(\text{dB})$$

**For Average Limit @ 2390MHz:**

$$1. \text{ Level(dB}\mu\text{V/m)}$$

$$= \text{Antenna Factor(dB/m)} + \text{Path Loss(dB)} + \text{Read Level(dB}\mu\text{V)} - \text{Preamp Factor(dB)}$$

$$= 32.22(\text{dB/m}) + 4.58(\text{dB}) + 42.6(\text{dB}\mu\text{V}) - 35.86(\text{dB})$$

$$= 43.54(\text{dB}\mu\text{V/m})$$

$$2. \text{ Over Limit(dB)}$$

$$= \text{Level(dB}\mu\text{V/m)} - \text{Limit Line(dB}\mu\text{V/m)}$$

$$= 43.54(\text{dB}\mu\text{V/m}) - 54(\text{dB}\mu\text{V/m})$$

$$= -10.46(\text{dB})$$

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



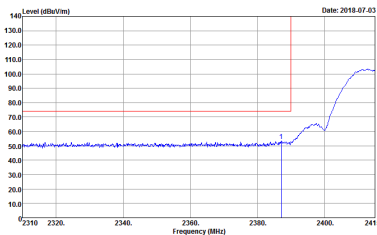
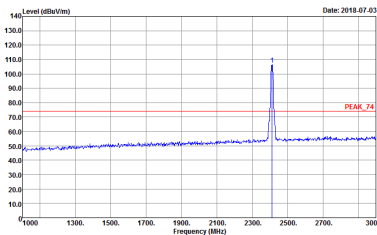
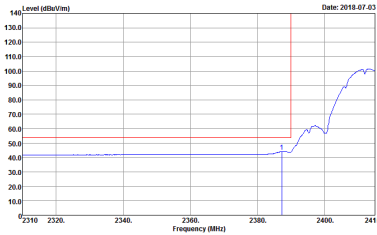
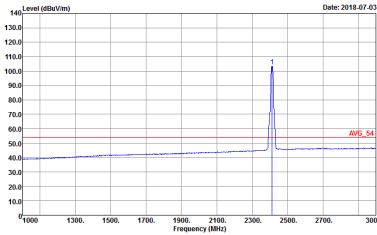
## Appendix D. Radiated Spurious Emission Plots

|                        |                                           |                            |         |
|------------------------|-------------------------------------------|----------------------------|---------|
| <b>Test Engineer :</b> | Bill Chang, Karl Jhuang, and Lance Chiang | <b>Temperature :</b>       | 22~26°C |
|                        |                                           | <b>Relative Humidity :</b> | 52~56%  |

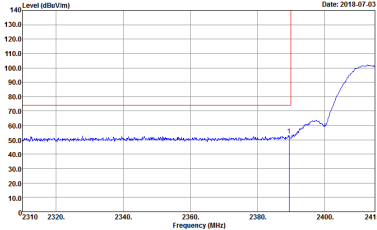
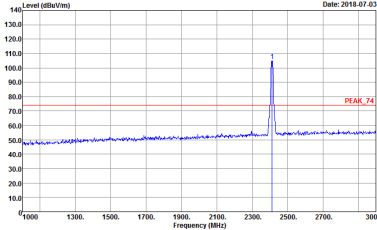
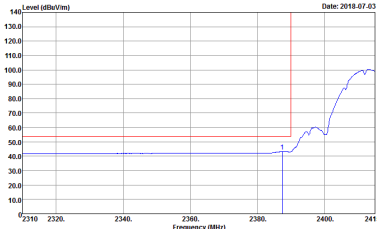
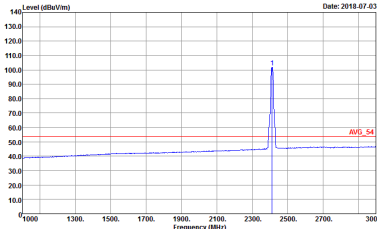
### Note symbol

|    |                       |
|----|-----------------------|
| -L | Low channel location  |
| -R | High channel location |

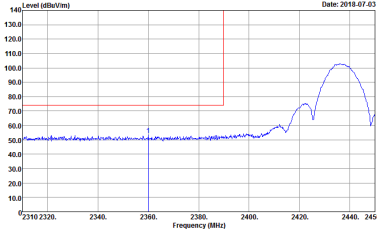
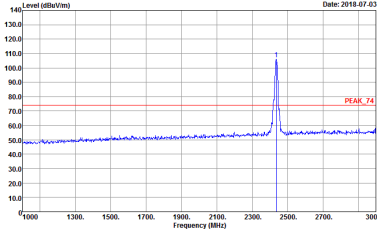
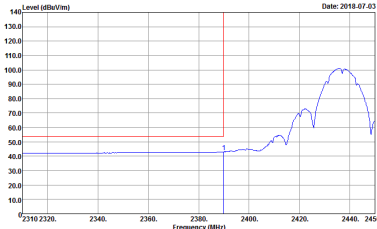
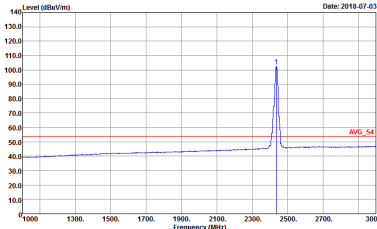
**2.4GHz 2400~2483.5MHz**
**WIFI 802.11b (Band Edge @ 3m)**

| WIFI        | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                     |                                                                                                                                                                                                                        |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT         | 802.11b CH01 2412MHz                                                                                                                                                                                                     |                                                                                                                                                                                                                        |
| 1           | Horizontal                                                                                                                                                                                                               | Fundamental                                                                                                                                                                                                            |
| <b>Peak</b> |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 12</p>  |  <p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 12</p>  |
|             |  <p>Site : 03CH15-HY<br/>Condition : AV6_BE_54 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 12</p> |  <p>Site : 03CH15-HY<br/>Condition : AV6_54 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 12</p> |

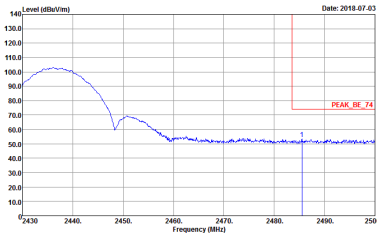
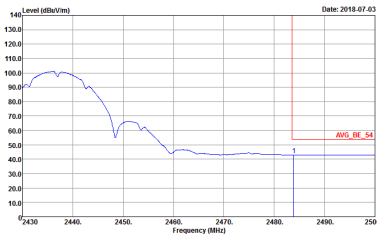


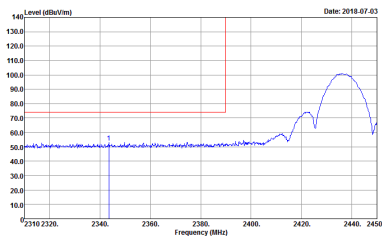
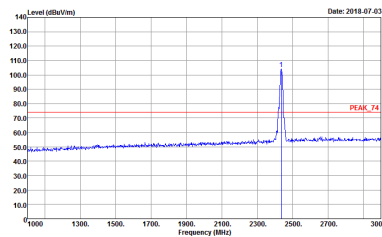
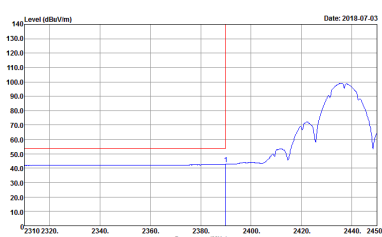
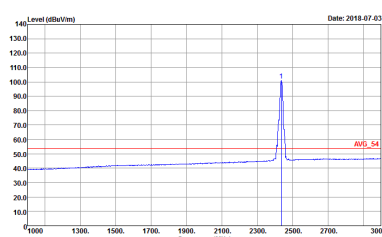
| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                             |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11b CH01 2412MHz                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                             |
| 1    | Vertical                                                                                                                                                                                                                                                                      | Fundamental                                                                                                                                                                                                                                                                 |
| Peak | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 12</p></div>  | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 12</p></div>  |
| Avg. | <div><p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 12</p></div> | <div><p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 12</p></div> |

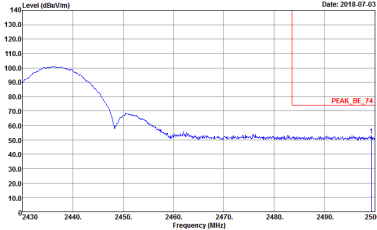
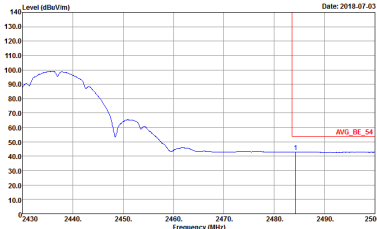


| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                               |                                                                                                                                                                                                                                  |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11b CH06 2437MHz - L                                                                                                                                                                                                           |                                                                                                                                                                                                                                  |
| 1    | Horizontal                                                                                                                                                                                                                         | Fundamental                                                                                                                                                                                                                      |
| Peak | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 13</p></div>  | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 13</p></div>  |
| Avg. | <div><p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 13</p></div> | <div><p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 13</p></div> |

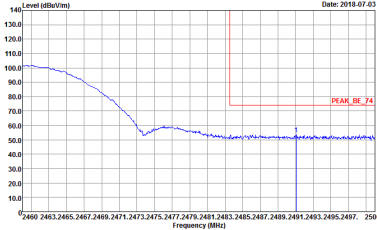
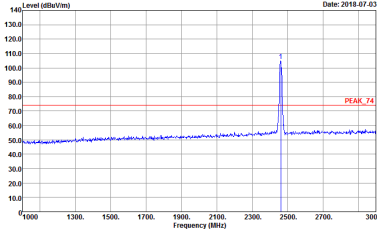
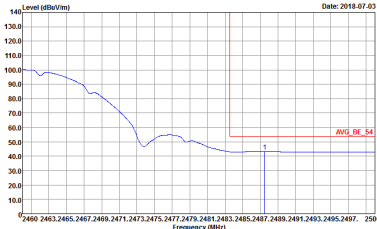
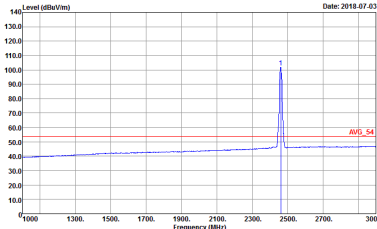


| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                               |             |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| ANT  | 802.11b CH06 2437MHz - R                                                                                                                                                                                                           |             |
| 1    | Horizontal                                                                                                                                                                                                                         | Fundamental |
| Peak | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 13</p></div>  | Left blank  |
| Avg. | <div><p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 13</p></div> | Left blank  |

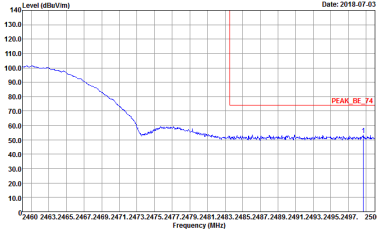
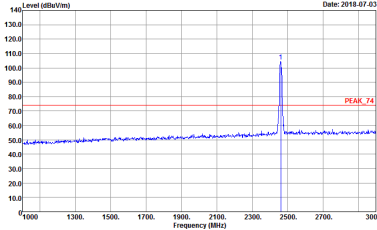
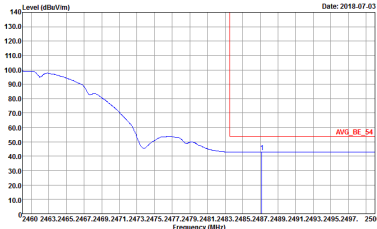
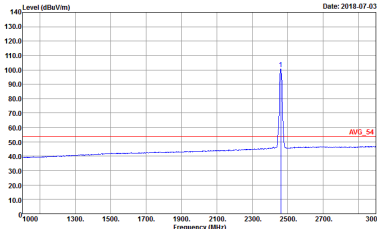
| WIFI        | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                   |                                                                                                                                                                                                                      |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT         | 802.11b CH06 2437MHz - L                                                                                                                                                                                               |                                                                                                                                                                                                                      |
| 1           | Vertical                                                                                                                                                                                                               | Fundamental                                                                                                                                                                                                          |
| <b>Peak</b> |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 13</p>  |  <p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 13</p>  |
|             |  <p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 13</p> |  <p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 13</p> |
| <b>Avg.</b> |                                                                                                                                                                                                                        |                                                                                                                                                                                                                      |

| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                         |             |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| ANT  | 802.11b CH06 2437MHz - R                                                                                                                                                                                                     |             |
| 1    | Vertical                                                                                                                                                                                                                     | Fundamental |
| Peak |  <p> Site : 03CH15-HY<br/> Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL<br/> Detector : Peak<br/> Project : 852405<br/> Mode : 13 </p>  | Left blank  |
| Avg. |  <p> Site : 03CH15-HY<br/> Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL<br/> Detector : Peak<br/> Project : 852405<br/> Mode : 13 </p> | Left blank  |

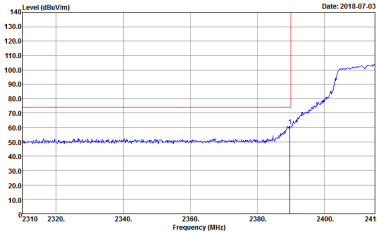
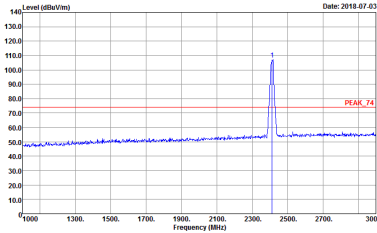
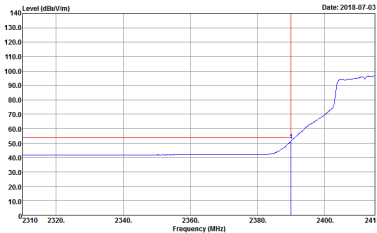
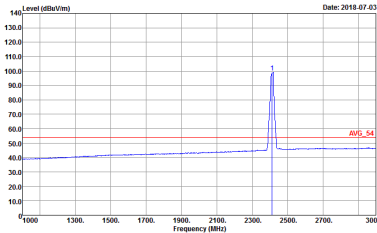


| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                     |                                                                                                                                                                                                                        |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11b CH11 2462MHz                                                                                                                                                                                                     |                                                                                                                                                                                                                        |
| 1    | Horizontal                                                                                                                                                                                                               | Fundamental                                                                                                                                                                                                            |
| Peak |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 14</p>  |  <p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 14</p>  |
|      |  <p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 14</p> |  <p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 14</p> |
| Avg. |                                                                                                                                                                                                                          |                                                                                                                                                                                                                        |

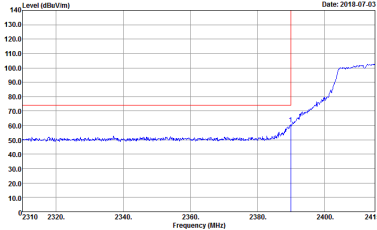
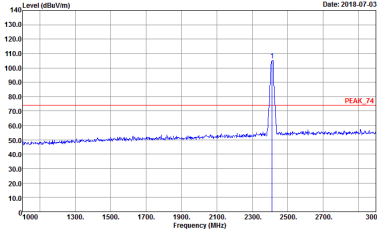
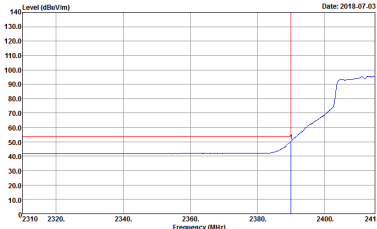
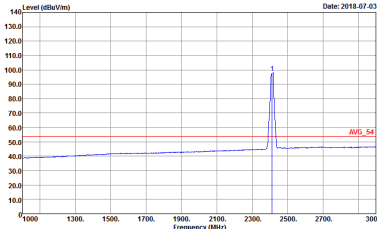


| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                   |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11b CH11 2462MHz                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                   |
| 1    | Vertical                                                                                                                                                                                                                                                            | Fundamental                                                                                                                                                                                                                                                       |
| Peak |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 14</p>  |  <p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 14</p>  |
| Avg. |  <p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 14</p> |  <p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 14</p> |

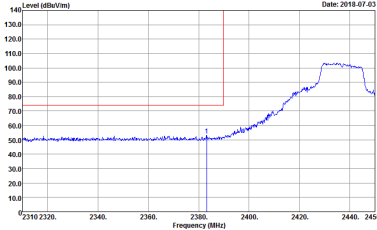
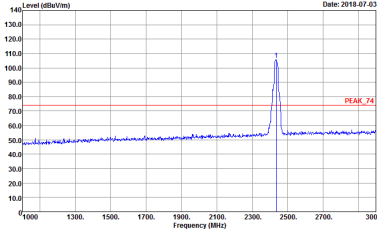
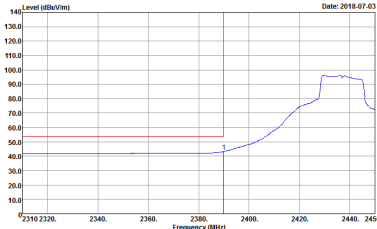
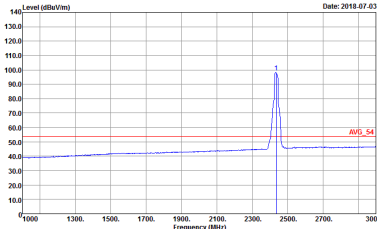
**2.4GHz 2400~2483.5MHz**
**WIFI 802.11g (Band Edge @ 3m)**

| WIFI        | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                           |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT         | 802.11g CH01 2412MHz                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                           |
| 1           | Horizontal                                                                                                                                                                                                                                                                                                                                                                  | Fundamental                                                                                                                                                                                                                                                                                                                                                               |
| <b>Peak</b> |  <p>           Site : 03CH15-HY<br/>           Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL<br/>           RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>           Detector : Peak<br/>           Project : 852405<br/>           Mode : 15<br/>           Setting : 17         </p> |  <p>           Site : 03CH15-HY<br/>           Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>           RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>           Detector : Peak<br/>           Project : 852405<br/>           Mode : 15<br/>           Setting : 17         </p> |
| <b>Avg.</b> |  <p>           Site : 03CH15-HY<br/>           Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL<br/>           RBW:1000.000KHz VBW:0.010KHz SWT:Auto<br/>           Detector : Peak<br/>           Project : 852405<br/>           Mode : 15<br/>           Setting : 17         </p>   |  <p>           Site : 03CH15-HY<br/>           Condition : AVG_54 3m 91200_15_1620 HORIZONTAL<br/>           RBW:1000.000KHz VBW:0.010KHz SWT:Auto<br/>           Detector : Peak<br/>           Project : 852405<br/>           Mode : 15<br/>           Setting : 17         </p>   |

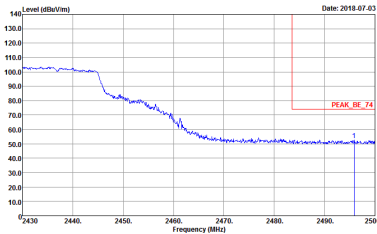
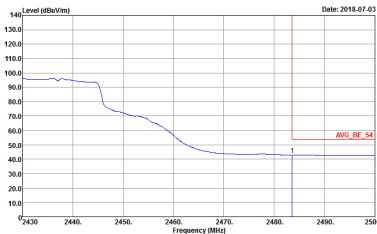


| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                             |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11g CH01 2412MHz                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                             |
| 1    | Vertical                                                                                                                                                                                                                                                                                      | Fundamental                                                                                                                                                                                                                                                                                 |
| Peak | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 15<br/>Setting : 17</p></div> | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 15<br/>Setting : 17</p></div> |
| Avg. | <div><p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:0.010KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 15<br/>Setting : 17</p></div>   | <div><p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:0.010KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 15<br/>Setting : 17</p></div>   |

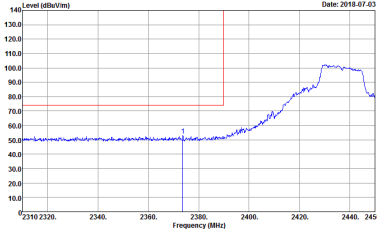
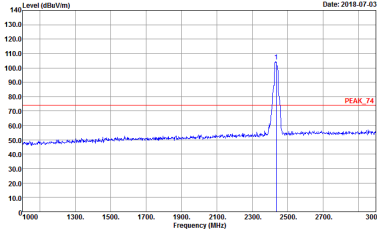
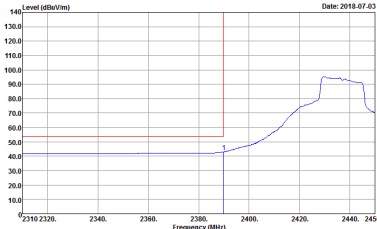
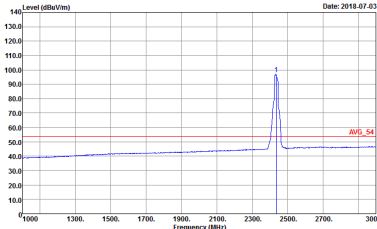


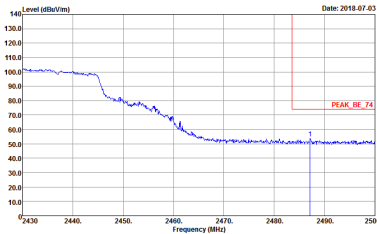
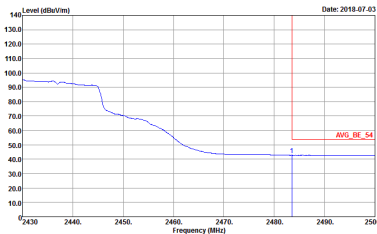
| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                               |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11g CH06 2437MHz - L                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                               |
| 1    | Horizontal                                                                                                                                                                                                                                                                      | Fundamental                                                                                                                                                                                                                                                                   |
| Peak | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 16</p></div>  | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 16</p></div>  |
| Avg. | <div><p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 16</p></div> | <div><p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 16</p></div> |



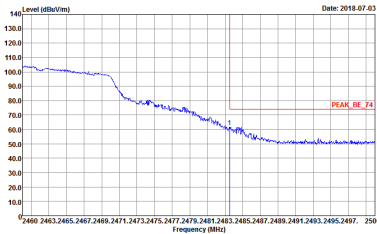
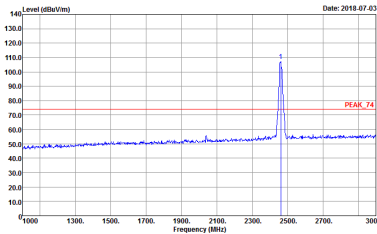
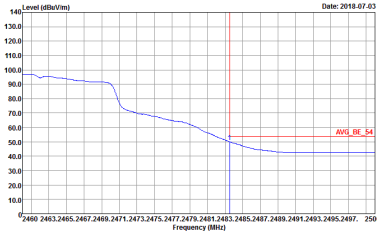
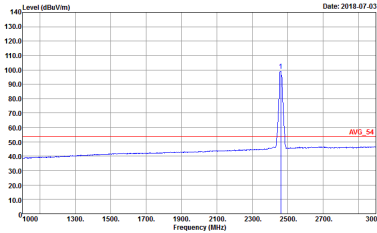
| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                                                                            |             |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| ANT  | 802.11g CH06 2437MHz - R                                                                                                                                                                                                                                                        |             |
| 1    | Horizontal                                                                                                                                                                                                                                                                      | Fundamental |
| Peak | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 16</p></div>  | Left blank  |
| Avg. | <div><p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 16</p></div> | Left blank  |



| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                             |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11g CH06 2437MHz - L                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                             |
| 1    | Vertical                                                                                                                                                                                                                                                                      | Fundamental                                                                                                                                                                                                                                                                 |
| Peak | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 16</p></div>  | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 16</p></div>  |
| Avg. | <div><p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 16</p></div> | <div><p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 16</p></div> |

| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                                                                                   |             |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| ANT  | 802.11g CH06 2437MHz - R                                                                                                                                                                                                                                                               |             |
| 1    | Vertical                                                                                                                                                                                                                                                                               | Fundamental |
| Peak |  <p>           Site : 03CH15-HY<br/>           Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL<br/>           Detector : Peak<br/>           Project : 852405<br/>           Mode : 16         </p>  | Left Blank  |
| Avg. |  <p>           Site : 03CH15-HY<br/>           Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL<br/>           Detector : Peak<br/>           Project : 852405<br/>           Mode : 16         </p> | Left Blank  |



| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                     |                                                                                                                                                                                                                        |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11g CH11 2462MHz                                                                                                                                                                                                     |                                                                                                                                                                                                                        |
| 1    | Horizontal                                                                                                                                                                                                               | Fundamental                                                                                                                                                                                                            |
| Peak |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 17</p>  |  <p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 17</p>  |
| Avg. |  <p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 17</p> |  <p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 17</p> |

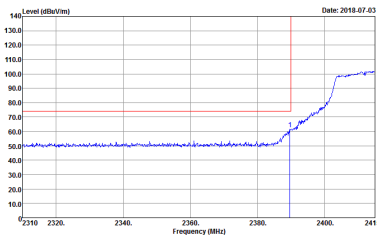
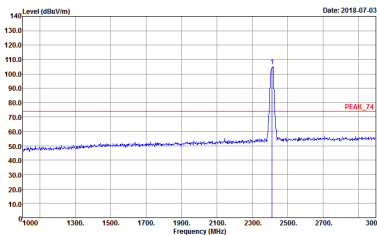
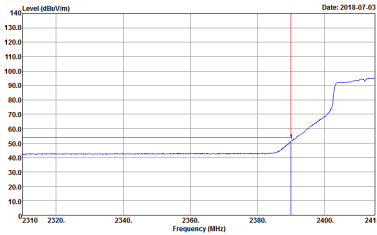
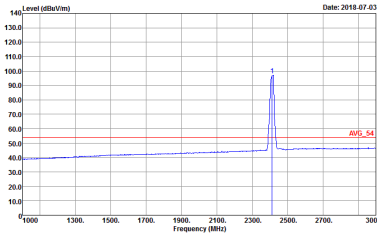


| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                |                                                                                                                                  |
|------|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11g CH11 2462MHz                                                                                                                |                                                                                                                                  |
| 1    | Vertical                                                                                                                            | Fundamental                                                                                                                      |
| Peak | <p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 17</p> | <p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 17</p> |
| Avg. | <p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 17</p>  | <p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 17</p>  |



## 2.4GHz 2400~2483.5MHz

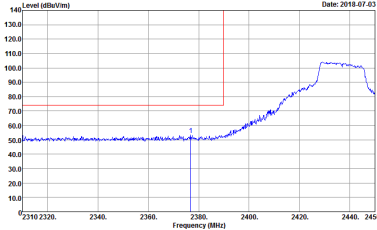
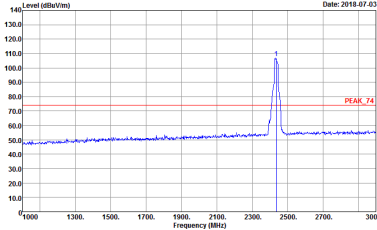
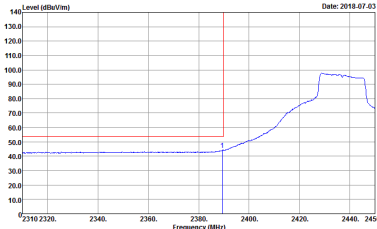
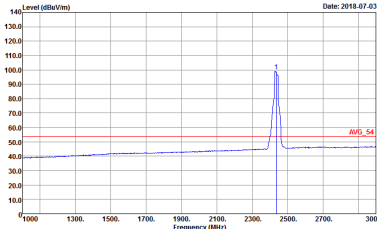
## WIFI 802.11n HT20 (Band Edge @ 3m)

| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                     |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH01 2412MHz                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                     |
| 1    | Horizontal                                                                                                                                                                                                                                                                            | Fundamental                                                                                                                                                                                                                                                                         |
| Peak |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 18<br/>Setting : 15</p> |  <p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 18<br/>Setting : 15</p> |
| Avg. |  <p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:1000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 18<br/>Setting : 15</p>    |  <p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:1000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 18<br/>Setting : 15</p>    |

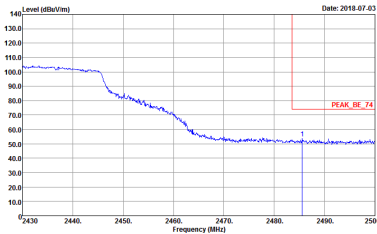
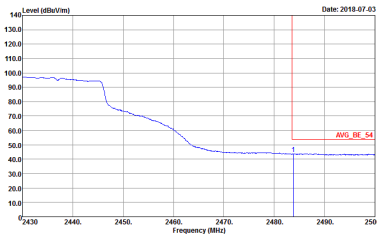


| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                              |                                                                                                                                                                                                |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH01 2412MHz                                                                                                                                                                         |                                                                                                                                                                                                |
| 1    | Vertical                                                                                                                                                                                          | Fundamental                                                                                                                                                                                    |
| Peak | <p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 18<br/>Setting : 15</p> | <p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 18<br/>Setting : 15</p> |
|      | <p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:1000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 18<br/>Setting : 15</p>      | <p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:1000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 18<br/>Setting : 15</p>      |

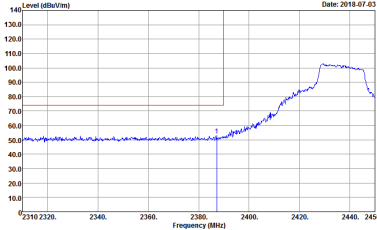
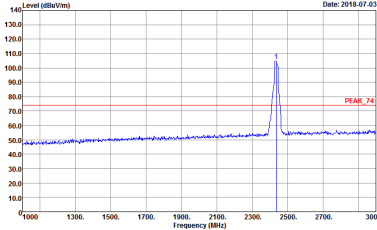
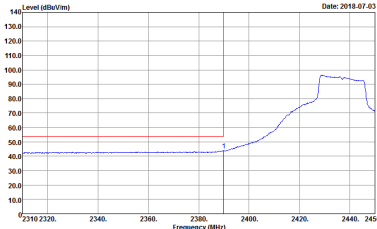
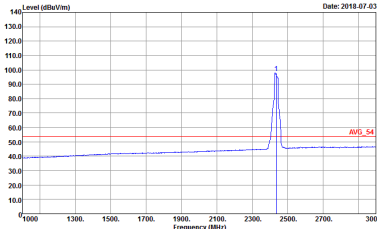


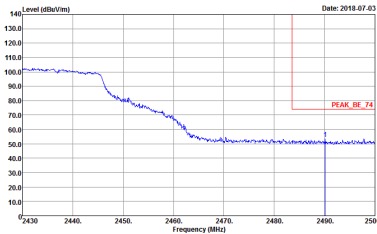
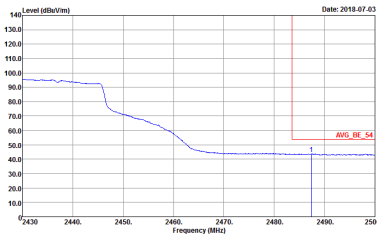
| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                              |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH06 2437MHz - L                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                              |
| 1    | Horizontal                                                                                                                                                                                                                                                                     | Fundamental                                                                                                                                                                                                                                                                  |
| Peak | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 19</p></div> | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 19</p></div> |
| Avg. | <div><p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:1000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 19</p></div>    | <div><p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 HORIZONTAL<br/>RBW:1000.000KHz VBW:1000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 19</p></div>    |



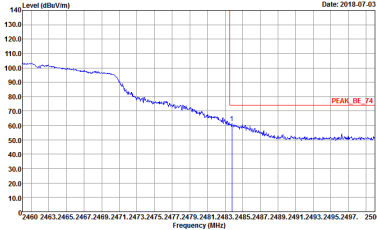
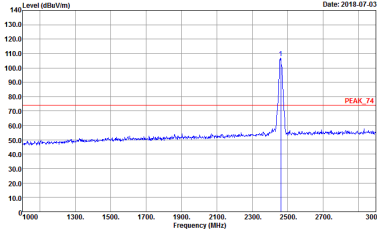
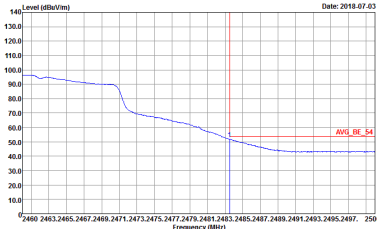
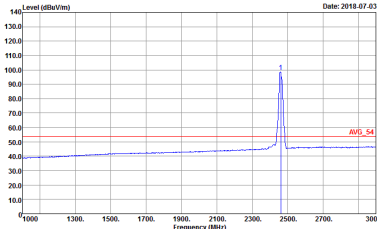
| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                               |             |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| ANT  | 802.11n HT20 CH06 2437MHz - R                                                                                                                                                                                                      |             |
| 1    | Horizontal                                                                                                                                                                                                                         | Fundamental |
| Peak | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 19</p></div>  | Left blank  |
| Avg. | <div><p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 19</p></div> | Left blank  |



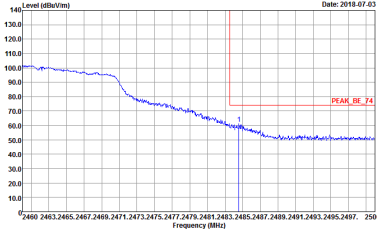
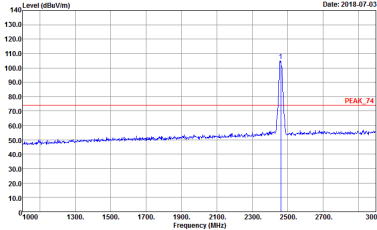
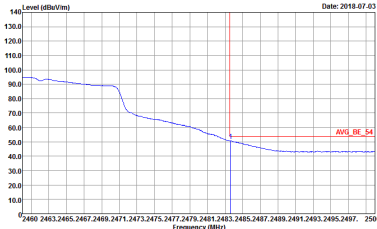
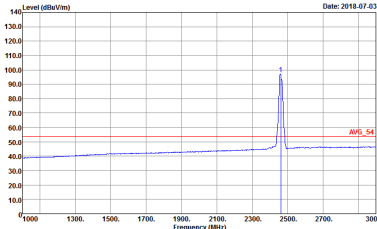
| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                            |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH06 2437MHz - L                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                            |
| 1    | Vertical                                                                                                                                                                                                                                                                     | Fundamental                                                                                                                                                                                                                                                                |
| Peak | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 19</p></div> | <div><p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:3000.000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 19</p></div> |
| Avg. | <div><p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:1000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 19</p></div>    | <div><p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 VERTICAL<br/>RBW:1000.000KHz VBW:1000KHz SWT:Auto<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 19</p></div>    |

| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                                                                                   |             |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| ANT  | 802.11n HT20 CH06 2437MHz - R                                                                                                                                                                                                                                                          |             |
| 1    | Vertical                                                                                                                                                                                                                                                                               | Fundamental |
| Peak |  <p>           Site : 03CH15-HY<br/>           Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL<br/>           Detector : Peak<br/>           Project : 852405<br/>           Mode : 19         </p>  | Left Blank  |
| Avg. |  <p>           Site : 03CH15-HY<br/>           Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL<br/>           Detector : Peak<br/>           Project : 852405<br/>           Mode : 19         </p> | Left Blank  |



| WIFI | 2.4GHz 2400~2483.5MHz Band Edge @ 3m                                                                                                                                                                                     |                                                                                                                                                                                                                        |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH11 2462MHz                                                                                                                                                                                                |                                                                                                                                                                                                                        |
| 1    | Horizontal                                                                                                                                                                                                               | Fundamental                                                                                                                                                                                                            |
| Peak |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 20</p>  |  <p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 20</p>  |
|      |  <p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 20</p> |  <p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 20</p> |
| Avg. |                                                                                                                                                                                                                          |                                                                                                                                                                                                                        |



| WIFI | 2.4GHz 2400~2483.5MHz Fundamental @ 3m                                                                                                                                                                                 |                                                                                                                                                                                                                      |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT  | 802.11n HT20 CH11 2462MHz                                                                                                                                                                                              |                                                                                                                                                                                                                      |
| 1    | Vertical                                                                                                                                                                                                               | Fundamental                                                                                                                                                                                                          |
| Peak |  <p>Site : 03CH15-HY<br/>Condition : PEAK_BE_74 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 20</p>  |  <p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 20</p>  |
|      |  <p>Site : 03CH15-HY<br/>Condition : AVG_BE_54 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 20</p> |  <p>Site : 03CH15-HY<br/>Condition : AVG_54 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 20</p> |
| Avg. |                                                                                                                                                                                                                        |                                                                                                                                                                                                                      |

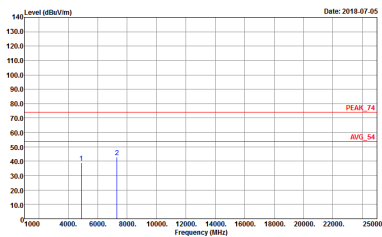
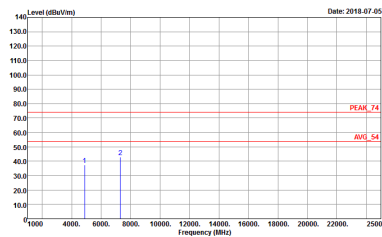


2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

| WIFI         | 2.4GHz 2400~2483.5MHz Harmonic @ 3m                                                                                                                                                                             |                                                                                                                                                                                                               |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11b CH01 2412MHz                                                                                                                                                                                            |                                                                                                                                                                                                               |
| 1            | Horizontal                                                                                                                                                                                                      | Vertical                                                                                                                                                                                                      |
| Peak<br>Avg. | <div><p>Level (dBuV/m)</p><p>Date: 2018-07-05</p><p>Frequency (MHz)</p><p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 12</p></div> | <div><p>Level (dBuV/m)</p><p>Date: 2018-07-05</p><p>Frequency (MHz)</p><p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 12</p></div> |



| WIFI         | 2.4GHz 2400~2483.5MHz Harmonic @ 3m                                                                                                                                                                                   |                                                                                                                                                                                                                      |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11b CH06 2437MHz                                                                                                                                                                                                  |                                                                                                                                                                                                                      |
| 1            | Horizontal                                                                                                                                                                                                            | Vertical                                                                                                                                                                                                             |
| Peak<br>Avg. |  <p>Site : 03CH15-11Y<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 13</p> |  <p>Site : 03CH15-11Y<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 13</p> |
|              |                                                                                                                                                                                                                       |                                                                                                                                                                                                                      |

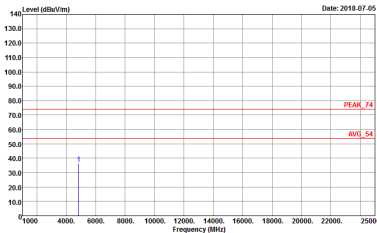
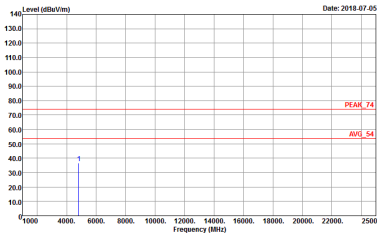


| WIFI                       | 2.4GHz 2400~2483.5MHz Harmonic @ 3m                                                                                                 |                                                                                                                                   |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| ANT                        | 802.11b CH11 2462MHz                                                                                                                |                                                                                                                                   |
| 1                          | Horizontal                                                                                                                          | Vertical                                                                                                                          |
| <b>Peak</b><br><b>Avg.</b> | <p>Site : 03CH15-11Y<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 14</p> | <p>Site : 03CH15-11Y<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 14</p> |
|                            |                                                                                                                                     |                                                                                                                                   |



2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

| WIFI         | 2.4GHz 2400~2483.5MHz Harmonic @ 3m                                                                                                                                                                                                   |                                                                                                                                                                                                                                      |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11g CH01 2412MHz                                                                                                                                                                                                                  |                                                                                                                                                                                                                                      |
| 1            | Horizontal                                                                                                                                                                                                                            | Vertical                                                                                                                                                                                                                             |
| Peak<br>Avg. |  <p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 15<br/>Setting : 17</p> |  <p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 15<br/>Setting : 17</p> |
|              |                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                      |



| WIFI                 | 2.4GHz 2400~2483.5MHz Harmonic @ 3m                                                                                                 |                                                                                                                                   |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| ANT                  | 802.11g CH06 2437MHz                                                                                                                |                                                                                                                                   |
| 1                    | Horizontal                                                                                                                          | Vertical                                                                                                                          |
| <b>Peak<br/>Avg.</b> | <p>Site : 03CH15-11Y<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 16</p> | <p>Site : 03CH15-11Y<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 16</p> |
|                      |                                                                                                                                     |                                                                                                                                   |



| WIFI         | 2.4GHz 2400~2483.5MHz Harmonic @ 3m                                                                                                                                                        |                                                                                                                                                                                          |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11g CH11 2462MHz                                                                                                                                                                       |                                                                                                                                                                                          |
| 1            | Horizontal                                                                                                                                                                                 | Vertical                                                                                                                                                                                 |
| Peak<br>Avg. | <div><p>Level (dBuV/m)</p><p>Date: 2018-07-05</p><p>Site : 03CH15-11Y<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 17</p></div> | <div><p>Level (dBuV/m)</p><p>Date: 2018-07-05</p><p>Site : 03CH15-11Y<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 17</p></div> |

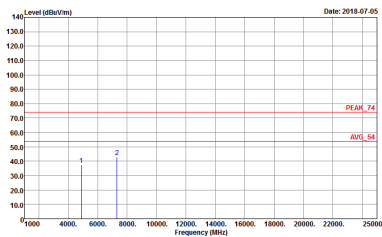
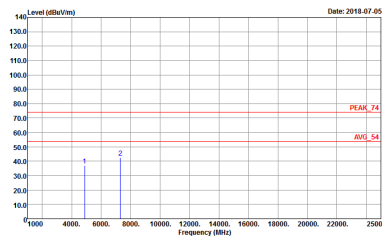


2.4GHz 2400~2483.5MHz

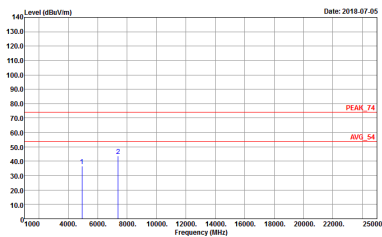
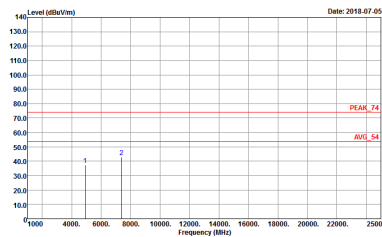
WIFI 802.11n HT20 (Harmonic @ 3m)

| WIFI         | 2.4GHz 2400~2483.5MHz Harmonic @ 3m                                                                                                                                                                                              |                                                                                                                                                                                                                                |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 CH01 2412MHz                                                                                                                                                                                                        |                                                                                                                                                                                                                                |
| 1            | Horizontal                                                                                                                                                                                                                       | Vertical                                                                                                                                                                                                                       |
| Peak<br>Avg. | <div><p>Level (dBuV/m)</p><p>Date: 2018-07-05</p><p>Frequency (MHz)</p><p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 18<br/>Setting : 15</p></div> | <div><p>Level (dBuV/m)</p><p>Date: 2018-07-05</p><p>Frequency (MHz)</p><p>Site : 03CH15-HY<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 18<br/>Setting : 15</p></div> |



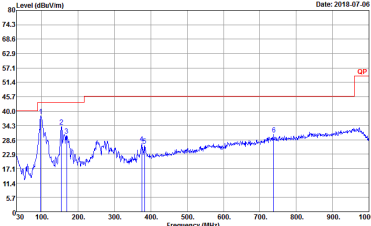
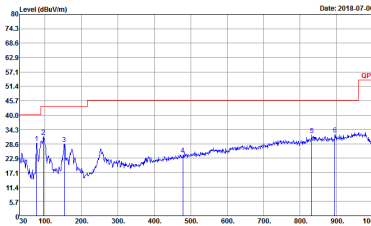
| WIFI                       | 2.4GHz 2400~2483.5MHz Harmonic @ 3m                                                                                                                                                                                   |                                                                                                                                                                                                                      |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT                        | 802.11n HT20 CH06 2437MHz                                                                                                                                                                                             |                                                                                                                                                                                                                      |
| 1                          | Horizontal                                                                                                                                                                                                            | Vertical                                                                                                                                                                                                             |
| <b>Peak</b><br><b>Avg.</b> |  <p>Site : 03CH15-11Y<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 19</p> |  <p>Site : 03CH15-11Y<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 19</p> |
|                            |                                                                                                                                                                                                                       |                                                                                                                                                                                                                      |



| WIFI                       | 2.4GHz 2400~2483.5MHz Harmonic @ 3m                                                                                                                                                                                   |                                                                                                                                                                                                                      |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT                        | 802.11n HT20 CH11 2462MHz                                                                                                                                                                                             |                                                                                                                                                                                                                      |
| 1                          | Horizontal                                                                                                                                                                                                            | Vertical                                                                                                                                                                                                             |
| <b>Peak</b><br><b>Avg.</b> |  <p>Site : 03CH15-11Y<br/>Condition : PEAK_74 3m 91200_15_1620 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 20</p> |  <p>Site : 03CH15-11Y<br/>Condition : PEAK_74 3m 91200_15_1620 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 20</p> |
|                            |                                                                                                                                                                                                                       |                                                                                                                                                                                                                      |



Emission below 1GHz  
2.4GHz WIFI 802.11n HT20 (LF)

| WIFI         | 2.4GHz 2400~2483.5MHz                                                                                                                                                                                            |                                                                                                                                                                                                                 |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANT          | 802.11n HT20 LF                                                                                                                                                                                                  |                                                                                                                                                                                                                 |
| 1            | Horizontal                                                                                                                                                                                                       | Vertical                                                                                                                                                                                                        |
| QP /<br>Peak |  <p>Site : 03CH15-HY<br/>Condition : QP 3m BTLOG_15_41912 HORIZONTAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 21</p> |  <p>Site : 03CH15-HY<br/>Condition : QP 3m BTLOG_15_41912 VERTICAL<br/>Detector : Peak<br/>Project : 852405<br/>Mode : 21</p> |
|              |                                                                                                                                                                                                                  |                                                                                                                                                                                                                 |