

## TEST REPORT

**Product** : Smart Wi-Fi Garage Door Opener  
**Trade mark** : meross, Refoss  
**Model/Type reference** : MSG100, MSG100Black, MSG200, RSG100, MSS710.  
**Serial Number** : N/A  
**Report Number** : EED32L00064301  
**FCC ID** : 2AMUU-MSG100V3  
**Date of Issue** : Jul. 04, 2019  
**Test Standards** : 47 CFR Part 15Subpart C  
**Test result** : PASS

Prepared for:

**Chengdu Meross Technology Co.,Ltd.**  
**No.1935, Floor 19, Unit 1, Building 7,**  
**No.1700 of Tianfu Avenue North, Gaoxin, Chengdu, China.**

Prepared by:

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Date:

Jul. 04, 2019

Check No.:3757574297



## 2 Version

| Version No. | Date          | Description |
|-------------|---------------|-------------|
| 00          | Jul. 04, 2019 | Original    |
|             |               |             |
|             |               |             |

### 3 Test Summary

| Test Item                                                                | Test Requirement                                   | Test method      | Result |
|--------------------------------------------------------------------------|----------------------------------------------------|------------------|--------|
| <b>Antenna Requirement</b>                                               | 47 CFR Part 15 Subpart C Section 15.203/15.247 (c) | ANSI C63.10-2013 | PASS   |
| <b>AC Power Line Conducted Emission</b>                                  | 47 CFR Part 15 Subpart C Section 15.207            | ANSI C63.10-2013 | PASS   |
| <b>Conducted Peak Output Power</b>                                       | 47 CFR Part 15 Subpart C Section 15.247 (b)(3)     | ANSI C63.10-2013 | PASS   |
| <b>6dB Occupied Bandwidth</b>                                            | 47 CFR Part 15 Subpart C Section 15.247 (a)(2)     | ANSI C63.10-2013 | PASS   |
| <b>Power Spectral Density</b>                                            | 47 CFR Part 15 Subpart C Section 15.247 (e)        | ANSI C63.10-2013 | PASS   |
| <b>Band-edge for RF Conducted Emissions</b>                              | 47 CFR Part 15 Subpart C Section 15.247(d)         | ANSI C63.10-2013 | PASS   |
| <b>RF Conducted Spurious Emissions</b>                                   | 47 CFR Part 15 Subpart C Section 15.247(d)         | ANSI C63.10-2013 | PASS   |
| <b>Radiated Spurious Emissions</b>                                       | 47 CFR Part 15 Subpart C Section 15.205/15.209     | ANSI C63.10-2013 | PASS   |
| <b>Restricted bands around fundamental frequency (Radiated Emission)</b> | 47 CFR Part 15 Subpart C Section 15.205/15.209     | ANSI C63.10-2013 | PASS   |

Remark:

Test according to ANSI C63.4-2014 & ANSI C63.10-2013.

The tested sample(s) and the sample information are provided by the client.

Model No.: MSG100, MSG100Black,MSG200, RSG100, MSS710.

Only the model MSG100 was tested, Their electrical circuit design,layout,components used and internal wiring are identical,Only the outer decoration is different.

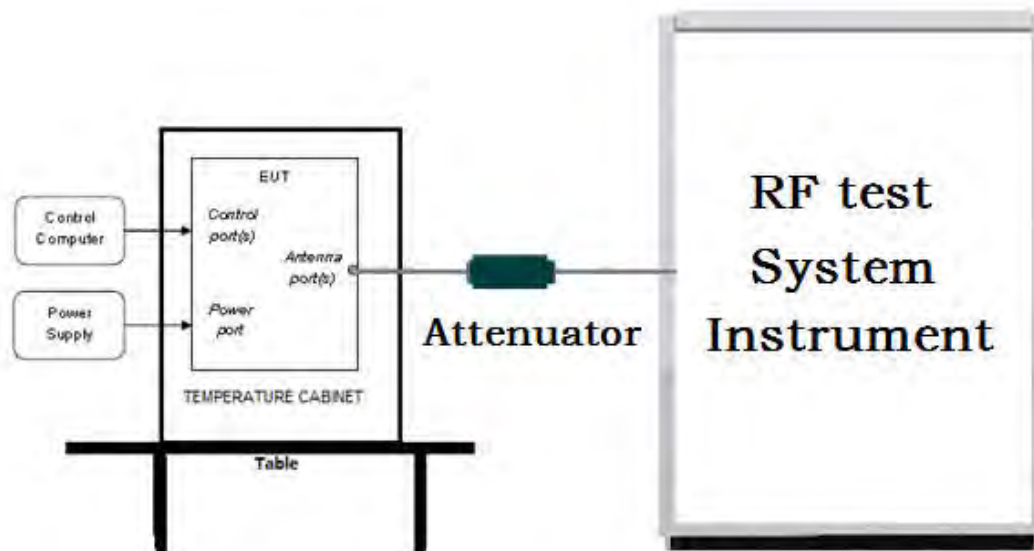
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## 5 Test Requirement

### 5.1 Test setup

#### 5.1.1 For Conducted test setup



#### 5.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

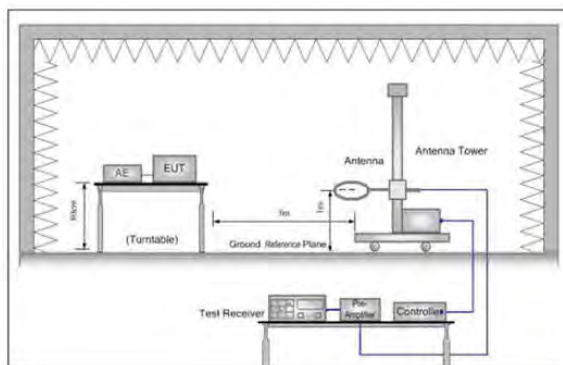


Figure 1. Below 30MHz

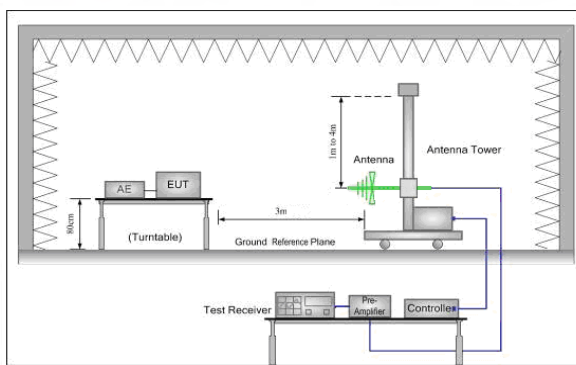


Figure 2. 30MHz to 1GHz

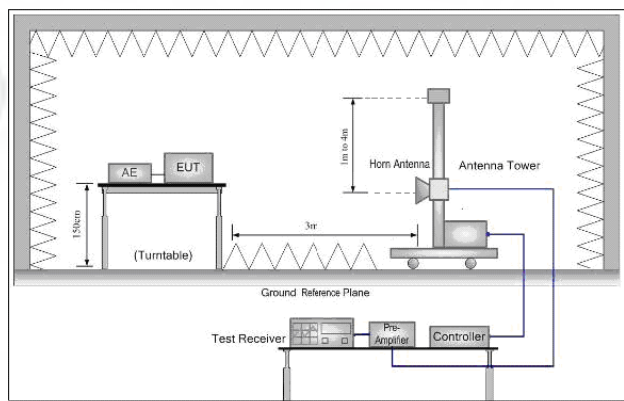
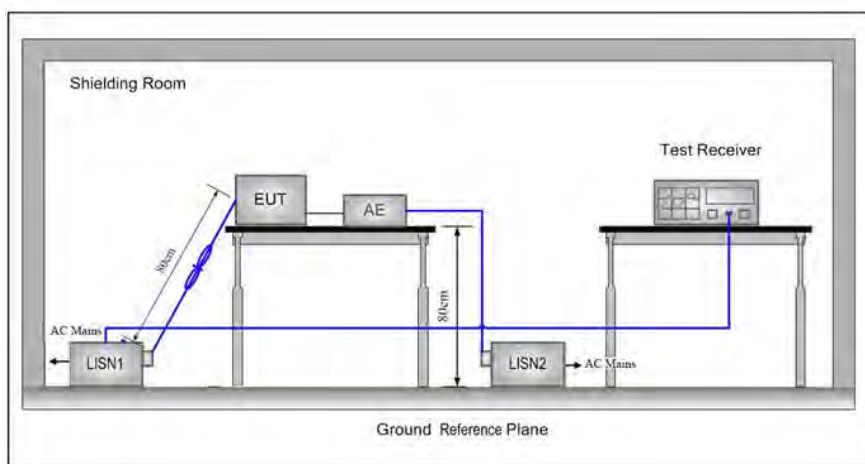


Figure 3. Above 1GHz

### 5.1.3 For Conducted Emissions test setup

#### Conducted Emissions setup



## 5.2 Test Environment

| Operating Environment: |         |
|------------------------|---------|
| Temperature:           | 25.0 °C |
| Humidity:              | 53 % RH |
| Atmospheric Pressure:  | 995mbar |

## 5.3 Test Condition

### Test channel:

| Test Mode          | Tx/Rx                                                                                    | RF Channel |           |           |
|--------------------|------------------------------------------------------------------------------------------|------------|-----------|-----------|
|                    |                                                                                          | Low(L)     | Middle(M) | High(H)   |
| 802.11b/g/n(HT20)  | 2412MHz ~2462 MHz                                                                        | Channel 1  | Channel 6 | Channel11 |
|                    |                                                                                          | 2412MHz    | 2437MHz   | 2462MHz   |
| 802.11n(HT40)      | 2422MHz ~2452 MHz                                                                        | Channel 1  | Channel 4 | Channel7  |
|                    |                                                                                          | 2422MHz    | 2437MHz   | 2452MHz   |
| Transmitting mode: | Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate. |            |           |           |

Test mode:

Pre-scan under all rate at lowest channel 1

|                                        |                |        |          |        |        |         |           |         |
|----------------------------------------|----------------|--------|----------|--------|--------|---------|-----------|---------|
| Scan under all rate at 1000000 channel |                |        |          |        |        |         |           |         |
| Mode                                   | 802.11b        |        |          |        |        |         |           |         |
| Data Rate                              | 1Mbps          | 2Mbps  | 5.5Mbps  | 11Mbps |        |         |           |         |
| Power(dBm)                             | 5.60           | 5.68   | 5.70     | 5.72   |        |         |           |         |
| Mode                                   | 802.11g        |        |          |        |        |         |           |         |
| Data Rate                              | 6Mbps          | 9Mbps  | 12Mbps   | 18Mbps | 24Mbps | 36Mbps  | 48Mbps    | 54Mbps  |
| Power(dBm)                             | 15.61          | 15.58  | 15.55    | 15.50  | 15.48  | 15.45   | 15.40     | 15.39   |
| Mode                                   | 802.11n (HT20) |        |          |        |        |         |           |         |
| Data Rate                              | 6.5Mbps        | 13Mbps | 19.5Mbps | 26Mbps | 39Mbps | 52Mbps  | 58.5Mbps  | 65Mbps  |
| Power(dBm)                             | 14.32          | 14.29  | 14.27    | 14.23  | 14.18  | 14.16   | 14.12     | 14.05   |
| Mode                                   | 802.11n (HT40) |        |          |        |        |         |           |         |
| Data Rate                              | 13.5Mbps       | 27Mbps | 40.5Mbps | 54Mbps | 81Mbps | 108Mbps | 121.5Mbps | 135Mbps |
| Power(dBm)                             | 13.26          | 13.20  | 13.18    | 13.15  | 13.12  | 13.07   | 13.02     | 12.94   |

Through Pre-scan, 11Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g; 6.5Mbps of rate is the worst case of 802.11n(HT20); 13.5Mbps of rate is the worst case of 802.11n(HT40).

## 6 General Information

### 6.1 Client Information

|                          |                                                                                                   |
|--------------------------|---------------------------------------------------------------------------------------------------|
| Applicant:               | Chengdu Meross Technology Co.,Ltd.                                                                |
| Address of Applicant:    | No.1935, Floor 19, Unit 1, Building 7, No.1700 of Tianfu Avenue North, Gaoxin, Chengdu, China     |
| Manufacturer:            | Chengdu Meross Technology Co., Ltd.                                                               |
| Address of Manufacturer: | No.1935, Floor 19, Unit 1, Building 7, No.1700 of Tianfu Avenue North, Gaoxin, Chengdu, China     |
| Factory 1:               | Chengdu Youchuangda Technology Co.,Ltd.                                                           |
| Address of Factory 1:    | B8 Building, IoT Industrial Park, 777 HuaFu Avenue, Shuangliu District, Chengdu, Sichuan Province |
| Factory 2:               | CHENGDU XUGUANG TECHNOLOGY CO.,LTD.                                                               |
| Address of Factory 2:    | 2 Section of Park Road, Longquanyi, Chengdu, China                                                |

### 6.2 General Description of EUT

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| Product Name:                    | Smart Wi-Fi Garage Door Opener              |
| Model No.(EUT):                  | MSG100, MSG100Black, MSG200, RSG100, MSS710 |
| Test Model No.:                  | MSG100                                      |
| Trade Mark:                      | meross, Refoss                              |
| EUT Supports Radios application: | 2.4G WiFi: IEEE802.11b/g/n(20MHz)/n(40MHz)  |
| Power Supply:                    | AC 120V, 60Hz                               |
| Firmware version of the sample:  | msg100_v3_rc0101(manufacturer declare)      |
| Hardware version of the sample:  | V3.0(manufacturer declare)                  |
| Sample Received Date:            | Mar. 27, 2019                               |
| Sample tested Date:              | May 30, 2019 to Jul. 02, 2019               |

### 6.3 Product Specification subjective to this standard

|                        |                                                                                                                                                                  |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operation Frequency:   | IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz<br>IEEE 802.11n(HT40): 2422MHz to 2452MHz                                                                             |
| Channel Numbers:       | IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels<br>IEEE 802.11n HT40: 7 Channels                                                                                  |
| Channel Separation:    | 5MHz                                                                                                                                                             |
| Type of Modulation:    | IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK)<br>IEEE for 802.11g :OFDM(64QAM, 16QAM, QPSK, BPSK)<br>IEEE for 802.11n(HT20 and HT40) : OFDM (64QAM, 16QAM, QPSK, BPSK) |
| Test Software of EUT:  | MT7682 QA 0.3.0.8(manufacturer declare )                                                                                                                         |
| Antenna Type and Gain: | Type: Internal Antenna<br>Gain: 1.5dBi                                                                                                                           |
| Test Voltage:          | AC 120V, 60Hz                                                                                                                                                    |

| Operation Frequency each of channel(802.11b/g/n HT20) |           |           |           |         |           |           |           |
|-------------------------------------------------------|-----------|-----------|-----------|---------|-----------|-----------|-----------|
| Channel                                               | Frequency | Channel   | Frequency | Channel | Frequency | Channel   | Frequency |
| 1                                                     | 2412MHz   | 4         | 2427MHz   | 7       | 2442MHz   | 10        | 2457MHz   |
| 2                                                     | 2417MHz   | 5         | 2432MHz   | 8       | 2447MHz   | 11        | 2462MHz   |
| 3                                                     | 2422MHz   | 6         | 2437MHz   | 9       | 2452MHz   |           |           |
| Operation Frequency each of channel(802.11n HT40)     |           |           |           |         |           |           |           |
| Channel                                               |           | Frequency |           | Channel |           | Frequency |           |
| 1                                                     |           | 2422MHz   |           | 4       |           | 2437MHz   |           |
| 2                                                     |           | 2427MHz   |           | 5       |           | 2442MHz   |           |
| 3                                                     |           | 2432MHz   |           | 6       |           | 2447MHz   |           |

## 6.4 Description of Support Units

The EUT has been tested independently

## 6.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

## 6.6 Deviation from Standards

None.

## 6.7 Abnormalities from Standard Conditions

None.

## 6.8 Other Information Requested by the Customer

None.

## 6.9 Measurement Uncertainty (95% confidence levels, k=2)

| No. | Item                            | Measurement Uncertainty |
|-----|---------------------------------|-------------------------|
| 1   | Radio Frequency                 | $7.9 \times 10^{-8}$    |
| 2   | RF power, conducted             | 0.46dB (30MHz-1GHz)     |
|     |                                 | 0.55dB (1GHz-18GHz)     |
| 3   | Radiated Spurious emission test | 4.3dB (30MHz-1GHz)      |
|     |                                 | 4.5dB (1GHz-12.75GHz)   |
| 4   | Conduction emission             | 3.5dB (9kHz to 150kHz)  |
|     |                                 | 3.1dB (150kHz to 30MHz) |
| 5   | Temperature test                | 0.64°C                  |
| 6   | Humidity test                   | 3.8%                    |
| 7   | DC power voltages               | 0.026%                  |

## 7 Equipment List

| RF test system                     |                   |                                  |               |                        |                            |
|------------------------------------|-------------------|----------------------------------|---------------|------------------------|----------------------------|
| Equipment                          | Manufacturer      | Model No.                        | Serial Number | Cal. Date (mm-dd-yyyy) | Cal. Due date (mm-dd-yyyy) |
| Signal Generator                   | Keysight          | E8257D                           | MY53401106    | 03-01-2019             | 02-28-2020                 |
| Spectrum Analyzer                  | Keysight          | N9010A                           | MY54510339    | 03-01-2019             | 02-28-2020                 |
| Signal Generator                   | Keysight          | N5182B                           | MY53051549    | 03-01-2019             | 02-28-2020                 |
| High-pass filter                   | Sinoscite         | FL3CX03WG1<br>8NM12-0398-0<br>02 | ---           | 01-09-2019             | 01-08-2020                 |
| High-pass filter                   | MICRO-TRO<br>NICS | SPA-F-63029-4                    | ---           | 01-09-2019             | 01-08-2020                 |
| DC Power                           | Keysight          | E3642A                           | MY54426035    | 03-01-2019             | 02-28-2020                 |
| PC-1                               | Lenovo            | R4960d                           | ---           | 03-01-2019             | 02-28-2020                 |
| BT&WI-FI Automatic control         | R&S               | OSP120                           | 101374        | 03-01-2019             | 02-28-2020                 |
| RF control unit                    | JS Tonscend       | JS0806-2                         | 15860006      | 03-01-2019             | 02-28-2020                 |
| RF control unit                    | JS Tonscend       | JS0806-1                         | 15860004      | 03-01-2019             | 02-28-2020                 |
| RF control unit                    | JS Tonscend       | JS0806-4                         | 158060007     | 03-01-2019             | 02-28-2020                 |
| BT&WI-FI Automatic test software   | JS Tonscend       | JS1120-2                         | ---           | 03-01-2019             | 02-28-2020                 |
| Temperature/<br>Humidity Indicator | biaozhi           | HM10                             | 1804186       | 10-12-2018             | 10-11-2019                 |

| Conducted disturbance Test            |              |                             |                |                        |                            |
|---------------------------------------|--------------|-----------------------------|----------------|------------------------|----------------------------|
| Equipment                             | Manufacturer | Model No.                   | Serial Number  | Cal. date (mm-dd-yyyy) | Cal. Due date (mm-dd-yyyy) |
| Receiver                              | R&S          | ESCI                        | 100435         | 05-20-2019             | 05-18-2020                 |
| Temperature/<br>Humidity<br>Indicator | Defu         | TH128                       | /              | 06-14-2019             | 06-12-2020                 |
| Communication<br>test set             | Agilent      | E5515C                      | GB47050<br>534 | 03-01-2019             | 02-28-2020                 |
| Communication<br>test set             | R&S          | CMW500                      | 152394         | 01-18-2019             | 01-17-2020                 |
| LISN                                  | R&S          | ENV216                      | 100098         | 05-08-2019             | 05-06-2020                 |
| LISN                                  | schwarzbeck  | NNLK8121                    | 8121-529       | 05-08-2019             | 05-06-2020                 |
| Voltage Probe                         | R&S          | ESH2-Z3<br>0299.7810.5<br>6 | 100042         | 06-13-2017             | 06-11-2020                 |
| Current Probe                         | R&S          | EZ-17<br>816.2063.03        | 100106         | 05-20-2019             | 05-18-2020                 |
| ISN                                   | TESEQ        | ISN T800                    | 30297          | 01-06-2019             | 01-15-2020                 |
| Barometer                             | changchun    | DYM3                        | 1188           | 06-20-2019             | 06-18-2020                 |

| 3M Semi/full-anechoic Chamber    |                  |                          |               |                        |                            |
|----------------------------------|------------------|--------------------------|---------------|------------------------|----------------------------|
| Equipment                        | Manufacturer     | Model No.                | Serial Number | Cal. date (mm-dd-yyyy) | Cal. Due date (mm-dd-yyyy) |
| 3M Chamber & Accessory Equipment | TDK              | SAC-3                    | ---           | 05-24-2019             | 05-22-2022                 |
| TRILOG Broadband Antenna         | Schwarzbeck      | VULB9163                 | 9163-401      | 12-21-2018             | 12-20-2019                 |
| TRILOG Broadband Antenna         | Schwarzbeck      | VULB9163                 | 9163-618      | 07-30-2018             | 07-29-2019                 |
| Microwave Preamplifier           | Agilent          | 8449B                    | 3008A02425    | 08-21-2018             | 08-20-2019                 |
| Microwave Preamplifier           | Tonscend         | EMC051845S E             | 980380        | 01-16-2019             | 01-15-2020                 |
| Horn Antenna                     | Schwarzbeck      | BBHA 9120D               | 9120D-1869    | 04-25-2018             | 04-23-2021                 |
| Horn Antenna                     | ETS-LINDGREN     | 3117                     | 00057410      | 06-05-2018             | 06-03-2021                 |
| Double ridge horn antenna        | A.H.SYSTEMS      | SAS-574                  | 374           | 06-05-2018             | 06-04-2021                 |
| Pre-amplifier                    | A.H.SYSTEMS      | PAP-1840-60              | 6041.6041     | 08-08-2018             | 08-07-2019                 |
| Loop Antenna                     | Schwarzbeck      | FMZB 1519B               | 1519B-076     | 04-25-2018             | 04-23-2021                 |
| Spectrum Analyzer                | R&S              | FSP40                    | 100416        | 04-28-2019             | 04-26-2020                 |
| Receiver                         | R&S              | ESCI                     | 100435        | 05-20-2019             | 05-18-2020                 |
| Receiver                         | R&S              | ESCI7                    | 100938-003    | 11-23-2018             | 11-22-2019                 |
| Multi device Controller          | maturio          | NCD/070/10711112         | ---           | 01-09-2019             | 01-08-2020                 |
| LISN                             | schwarzbeck      | NNBM8125                 | 81251547      | 05-08-2019             | 05-06-2020                 |
| LISN                             | schwarzbeck      | NNBM8125                 | 81251548      | 05-08-2019             | 05-06-2020                 |
| Signal Generator                 | Agilent          | E4438C                   | MY45095744    | 03-01-2019             | 02-28-2020                 |
| Signal Generator                 | Keysight         | E8257D                   | MY53401106    | 03-01-2019             | 02-28-2020                 |
| Temperature/Humidity Indicator   | Shanghai qixiang | HM10                     | 1804298       | 10-12-2018             | 10-11-2019                 |
| Communication test set           | Agilent          | E5515C                   | GB47050534    | 03-01-2019             | 02-28-2020                 |
| Cable line                       | Fulai(7M)        | SF106                    | 5219/6A       | 01-09-2019             | 01-08-2020                 |
| Cable line                       | Fulai(6M)        | SF106                    | 5220/6A       | 01-09-2019             | 01-08-2020                 |
| Cable line                       | Fulai(3M)        | SF106                    | 5216/6A       | 01-09-2019             | 01-08-2020                 |
| Cable line                       | Fulai(3M)        | SF106                    | 5217/6A       | 01-09-2019             | 01-08-2020                 |
| Communication test set           | R&S              | CMW500                   | 104466        | 01-18-2019             | 01-17-2020                 |
| High-pass filter                 | Sinoscite        | FL3CX03WG18NM12-0398-002 | ---           | 01-09-2019             | 01-08-2020                 |
| High-pass filter                 | MICRO-TRONICS    | SPA-F-63029-4            | ---           | 01-09-2019             | 01-08-2020                 |
| band rejection filter            | Sinoscite        | FL5CX01CA09CL12-0395-001 | ---           | 01-09-2019             | 01-08-2020                 |
| band rejection filter            | Sinoscite        | FL5CX01CA08CL12-0393-001 | ---           | 01-09-2019             | 01-08-2020                 |
| band rejection filter            | Sinoscite        | FL5CX02CA04CL12-0396-002 | ---           | 01-09-2019             | 01-08-2020                 |
| band rejection filter            | Sinoscite        | FL5CX02CA03CL12-0394-001 | ---           | 01-09-2019             | 01-08-2020                 |

| 3M full-anechoic Chamber        |              |                   |               |                          |                            |
|---------------------------------|--------------|-------------------|---------------|--------------------------|----------------------------|
| Equipment                       | Manufacturer | Model No.         | Serial Number | Cal. date (mm-dd-yyyy)   | Cal. Due date (mm-dd-yyyy) |
| RSE Automatic test software     | JS Tonscend  | JS36-RSE          | 10166         | 06-20-2018<br>06-19-2019 | 06-19-2019<br>06-17-2020   |
| Receiver                        | Keysight     | N9038A            | MY57290136    | 03-27-2019               | 03-25-2020                 |
| Spectrum Analyzer               | Keysight     | N9020B            | MY57111112    | 03-27-2019               | 03-25-2020                 |
| Spectrum Analyzer               | Keysight     | N9030B            | MY57140871    | 03-27-2019               | 03-25-2020                 |
| Loop Antenna                    | Schwarzbeck  | FMZB 1519B        | 1519B-075     | 04-25-2018               | 04-23-2021                 |
| Loop Antenna                    | Schwarzbeck  | FMZB 1519B        | 1519B-076     | 04-25-2018               | 04-23-2021                 |
| TRILOG Broadband Antenna        | Schwarzbeck  | VULB 9163         | 9163-1148     | 04-25-2018               | 04-23-2021                 |
| Horn Antenna                    | Schwarzbeck  | BBHA 9170         | 9170-832      | 04-25-2018               | 04-23-2021                 |
| Horn Antenna                    | Schwarzbeck  | BBHA 9170         | 9170-829      | 04-25-2018               | 04-23-2021                 |
| Communication Antenna           | Schwarzbeck  | CLSA 0110L        | 1014          | 02-14-2019               | 02-13-2020                 |
| Biconical antenna               | Schwarzbeck  | VUBA 9117         | 9117-381      | 04-25-2018               | 04-23-2021                 |
| Horn Antenna                    | ETS-LINDGREN | 3117              | 00057407      | 07-10-2018               | 07-08-2021                 |
| Preamplifier                    | EMCI         | EMC184055S E      | 980596        | 05-22-2019               | 05-20-2020                 |
| Communication test set          | R&S          | CMW500            | 102898        | 01-18-2019               | 01-17-2020                 |
| Preamplifier                    | EMCI         | EMC001330         | 980563        | 05-08-2019               | 05-06-2020                 |
| Preamplifier                    | Agilent      | 8449B             | 3008A02425    | 08-21-2018               | 08-20-2019                 |
| Temperature/ Humidity Indicator | biaozhi      | GM1360            | EE1186631     | 05-01-2019               | 04-30-2020                 |
| Signal Generator                | KEYSIGHT     | E8257D            | MY53401106    | 03-01-2019               | 02-28-2020                 |
| Fully Anechoic Chamber          | TDK          | FAC-3             | ---           | 01-17-2018               | 01-15-2021                 |
| Filter bank                     | JS Tonscend  | JS0806-F          | 188060094     | 04-10-2018               | 04-08-2021                 |
| Cable line                      | Times        | SFT205-NMSM-2.50M | 394812-0001   | 01-09-2019               | 01-08-2020                 |
| Cable line                      | Times        | SFT205-NMSM-2.50M | 394812-0002   | 01-09-2019               | 01-08-2020                 |
| Cable line                      | Times        | SFT205-NMSM-2.50M | 394812-0003   | 01-09-2019               | 01-08-2020                 |
| Cable line                      | Times        | SFT205-NMSM-2.50M | 393495-0001   | 01-09-2019               | 01-08-2020                 |
| Cable line                      | Times        | EMC104-NMNM-1000  | SN160710      | 01-09-2019               | 01-08-2020                 |
| Cable line                      | Times        | SFT205-NMSM-3.00M | 394813-0001   | 01-09-2019               | 01-08-2020                 |
| Cable line                      | Times        | SFT205-NMNM-1.50M | 381964-0001   | 01-09-2019               | 01-08-2020                 |
| Cable line                      | Times        | SFT205-NMSM-7.00M | 394815-0001   | 01-09-2019               | 01-08-2020                 |
| Cable line                      | Times        | HF160-KMKM-3.00M  | 393493-0001   | 01-09-2019               | 01-08-2020                 |

## 8 Radio Technical Requirements Specification

### Reference documents for testing:

| No. | Identity         | Document Title                                                     |
|-----|------------------|--------------------------------------------------------------------|
| 1   | FCC Part15C      | Subpart C-Intentional Radiators                                    |
| 2   | ANSI C63.10-2013 | American National Standard for Testing Unlicensed Wireless Devices |

### Test Results List:

| Test Requirement                  | Test method | Test item                                                         | Verdict | Note        |
|-----------------------------------|-------------|-------------------------------------------------------------------|---------|-------------|
| Part15C Section 15.247 (b)(3)     | ANSI C63.10 | Conducted Peak Output Power                                       | PASS    | Appendix A) |
| Part15C Section 15.247 (a)(2)     | ANSI C63.10 | 6dB Occupied Bandwidth                                            | PASS    | Appendix B) |
| Part15C Section 15.247(d)         | ANSI C63.10 | Band-edge for RF Conducted Emissions                              | PASS    | Appendix C) |
| Part15C Section 15.247(d)         | ANSI C63.10 | RF Conducted Spurious Emissions                                   | PASS    | Appendix D) |
| Part15C Section 15.247 (e)        | ANSI C63.10 | Power Spectral Density                                            | PASS    | Appendix E) |
| Part15C Section 15.203/15.247 (c) | ANSI C63.10 | Antenna Requirement                                               | PASS    | Appendix F) |
| Part15C Section 15.207            | ANSI C63.10 | AC Power Line Conducted Emission                                  | PASS    | Appendix G) |
| Part15C Section 15.205/15.209     | ANSI C63.10 | Restricted bands around fundamental frequency (Radiated Emission) | PASS    | Appendix H) |
| Part15C Section 15.205/15.209     | ANSI C63.10 | Radiated Spurious Emissions                                       | PASS    | Appendix I) |

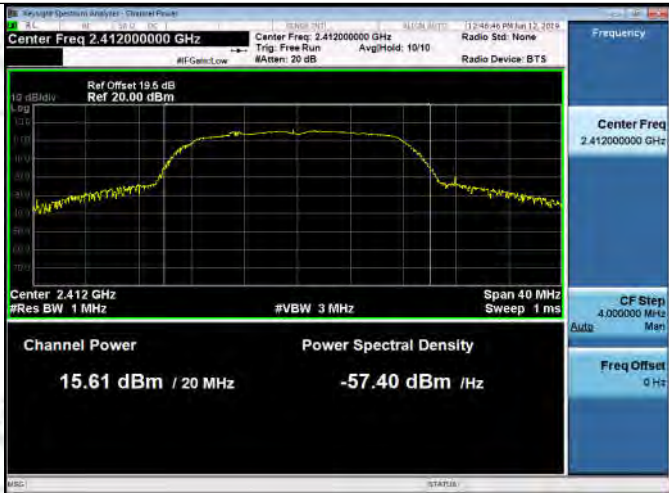
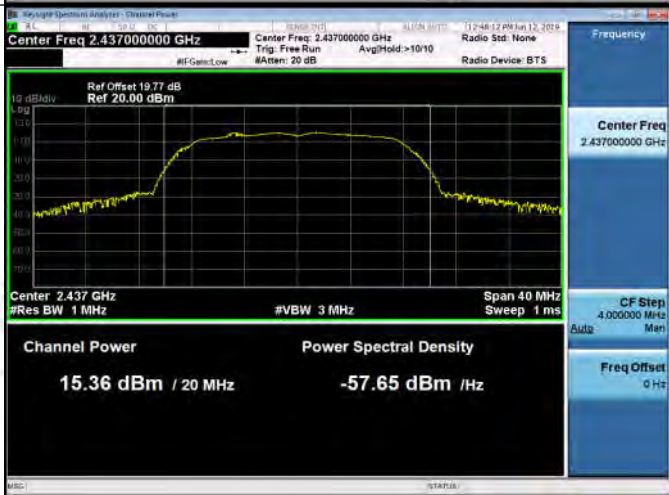
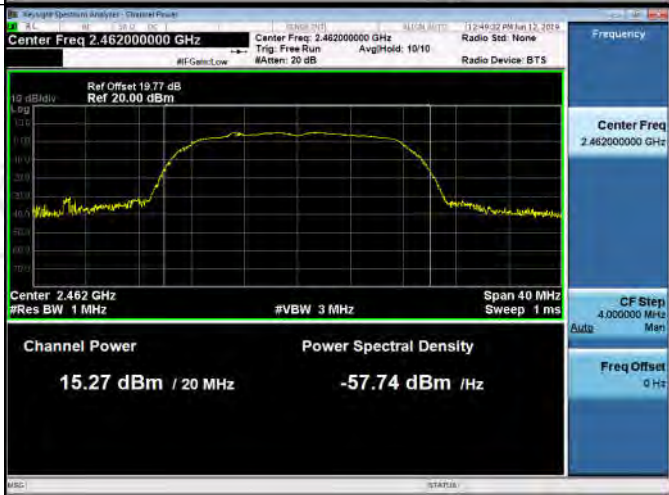
## Appendix A): Conducted Peak Output Power

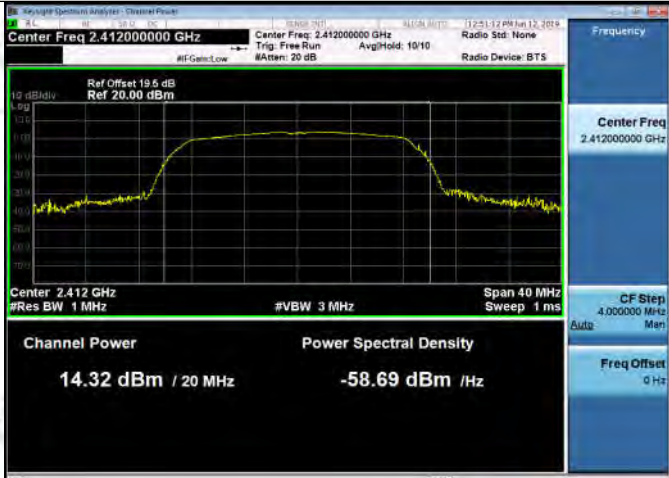
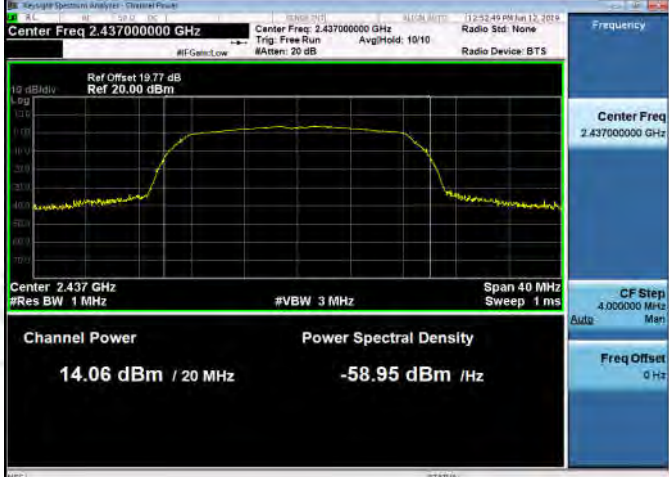
**Result Table**

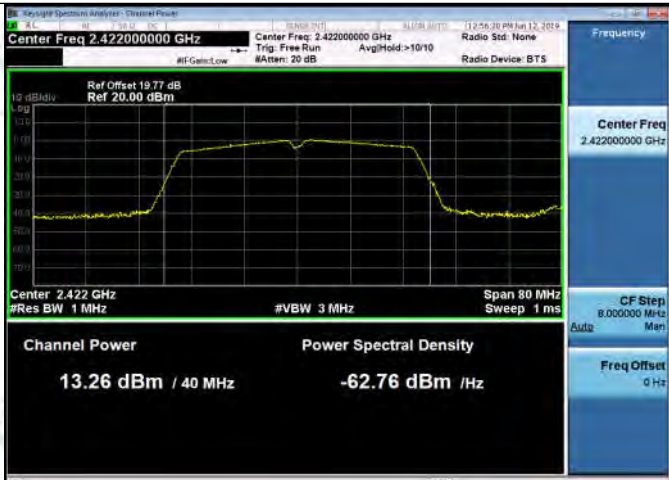
| Mode      | Channel | Conducted Peak Output Power [dBm] | Verdict |
|-----------|---------|-----------------------------------|---------|
| 11B       | LCH     | 5.72                              | PASS    |
| 11B       | MCH     | 6.88                              | PASS    |
| 11B       | HCH     | 7.85                              | PASS    |
| 11G       | LCH     | 15.61                             | PASS    |
| 11G       | MCH     | 15.36                             | PASS    |
| 11G       | HCH     | 15.27                             | PASS    |
| 11N20SISO | LCH     | 14.32                             | PASS    |
| 11N20SISO | MCH     | 14.06                             | PASS    |
| 11N20SISO | HCH     | 14.03                             | PASS    |
| 11N40SISO | LCH     | 13.26                             | PASS    |
| 11N40SISO | MCH     | 13.24                             | PASS    |
| 11N40SISO | HCH     | 13.31                             | PASS    |

## Test Graph



|         |                                                                                                                                                                                                                                                                                                                                                                  |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11G/LCH |  <p>Center Freq 2.412000000 GHz</p> <p>Ref Offset 19.5 dB<br/>Ref 20.00 dBm</p> <p>Center 2.412 GHz<br/>#Res BW 1 MHz</p> <p>#VBW 3 MHz</p> <p>Span 40 MHz<br/>Sweep 1 ms</p> <p>Channel Power<br/>15.61 dBm / 20 MHz</p> <p>Power Spectral Density<br/>-57.40 dBm / Hz</p>    |
| 11G/MCH |  <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 20.00 dBm</p> <p>Center 2.437 GHz<br/>#Res BW 1 MHz</p> <p>#VBW 3 MHz</p> <p>Span 40 MHz<br/>Sweep 1 ms</p> <p>Channel Power<br/>15.36 dBm / 20 MHz</p> <p>Power Spectral Density<br/>-57.65 dBm / Hz</p>  |
| 11G/HCH |  <p>Center Freq 2.462000000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 20.00 dBm</p> <p>Center 2.462 GHz<br/>#Res BW 1 MHz</p> <p>#VBW 3 MHz</p> <p>Span 40 MHz<br/>Sweep 1 ms</p> <p>Channel Power<br/>15.27 dBm / 20 MHz</p> <p>Power Spectral Density<br/>-57.74 dBm / Hz</p> |

|               |                                                                                                                                                                                                                                                                                                                                                                  |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11N20SISO/LCH |  <p>Center Freq 2.412000000 GHz</p> <p>Ref Offset 19.5 dB<br/>Ref 20.00 dBm</p> <p>Center 2.412 GHz<br/>#Res BW 1 MHz</p> <p>#VBW 3 MHz</p> <p>Span 40 MHz<br/>Sweep 1 ms</p> <p>Channel Power<br/>14.32 dBm / 20 MHz</p> <p>Power Spectral Density<br/>-58.69 dBm / Hz</p>    |
| 11N20SISO/MCH |  <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 20.00 dBm</p> <p>Center 2.437 GHz<br/>#Res BW 1 MHz</p> <p>#VBW 3 MHz</p> <p>Span 40 MHz<br/>Sweep 1 ms</p> <p>Channel Power<br/>14.06 dBm / 20 MHz</p> <p>Power Spectral Density<br/>-58.95 dBm / Hz</p>  |
| 11N20SISO/HCH |  <p>Center Freq 2.462000000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 20.00 dBm</p> <p>Center 2.462 GHz<br/>#Res BW 1 MHz</p> <p>#VBW 3 MHz</p> <p>Span 40 MHz<br/>Sweep 1 ms</p> <p>Channel Power<br/>14.03 dBm / 20 MHz</p> <p>Power Spectral Density<br/>-58.98 dBm / Hz</p> |

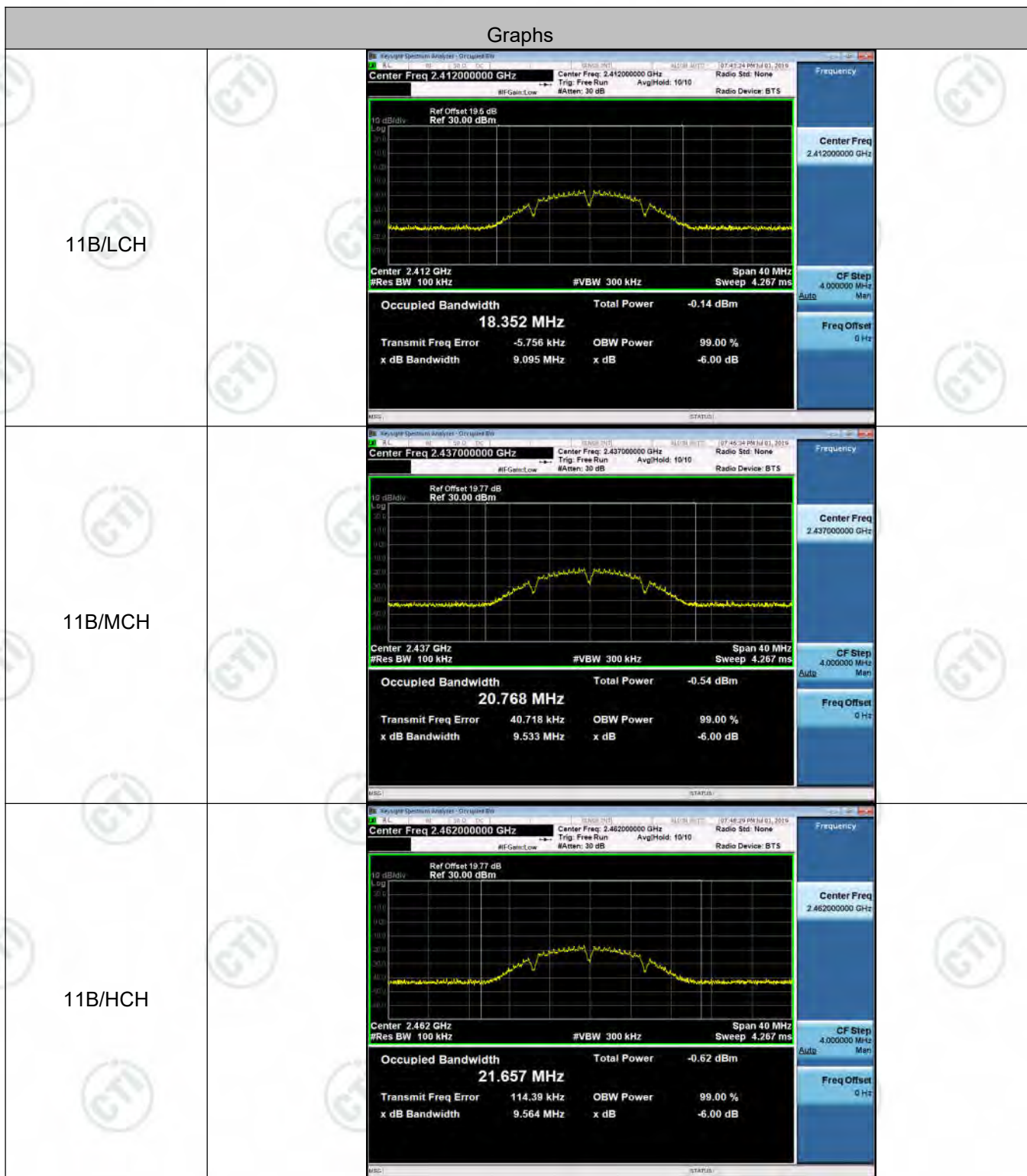
|               |                                                                                                                                                                                                                                                                                                                                                            |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11N40SISO/LCH |  <p>Center Freq 2.422000000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 20.00 dBm</p> <p>Center 2.422 GHz<br/>#Res BW 1 MHz<br/>#VBW 3 MHz<br/>Span 80 MHz<br/>Sweep 1 ms</p> <p>Channel Power<br/>13.26 dBm / 40 MHz</p> <p>Power Spectral Density<br/>-62.76 dBm / Hz</p>   |
| 11N40SISO/MCH |  <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 20.00 dBm</p> <p>Center 2.437 GHz<br/>#Res BW 1 MHz<br/>#VBW 3 MHz<br/>Span 80 MHz<br/>Sweep 1 ms</p> <p>Channel Power<br/>13.24 dBm / 40 MHz</p> <p>Power Spectral Density<br/>-62.79 dBm / Hz</p>  |
| 11N40SISO/HCH |  <p>Center Freq 2.452000000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 20.00 dBm</p> <p>Center 2.452 GHz<br/>#Res BW 1 MHz<br/>#VBW 3 MHz<br/>Span 80 MHz<br/>Sweep 1 ms</p> <p>Channel Power<br/>13.31 dBm / 40 MHz</p> <p>Power Spectral Density<br/>-62.71 dBm / Hz</p> |

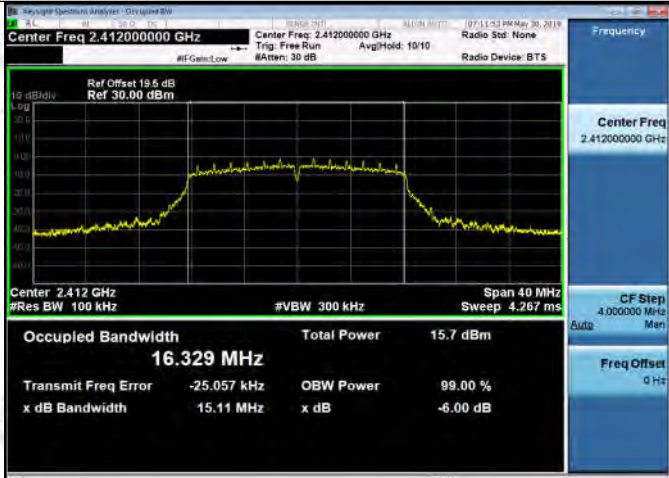
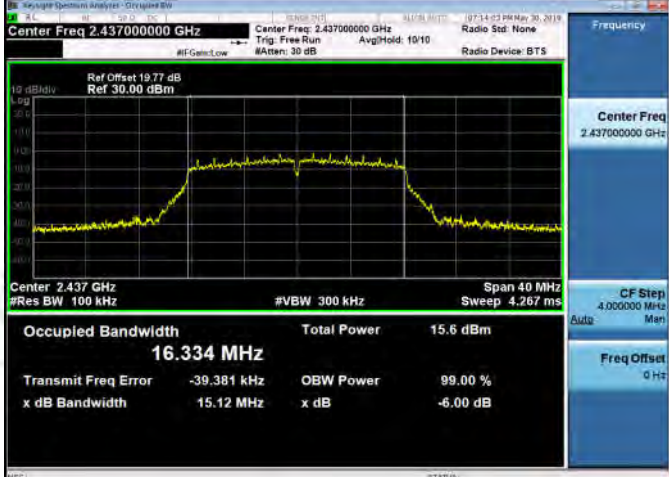
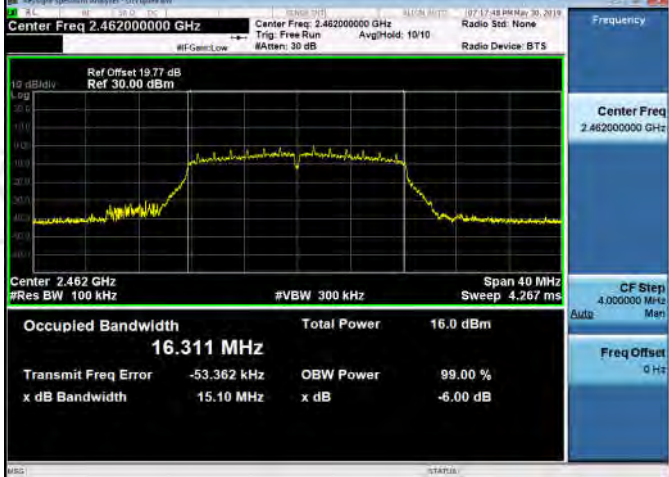
## Appendix B): 6dB Occupied Bandwidth

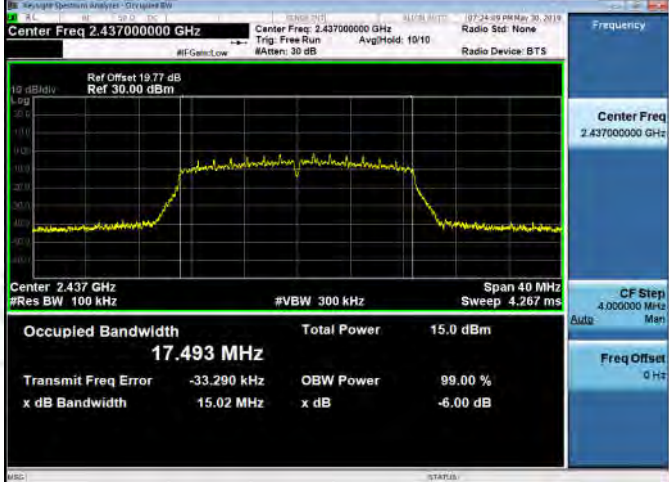
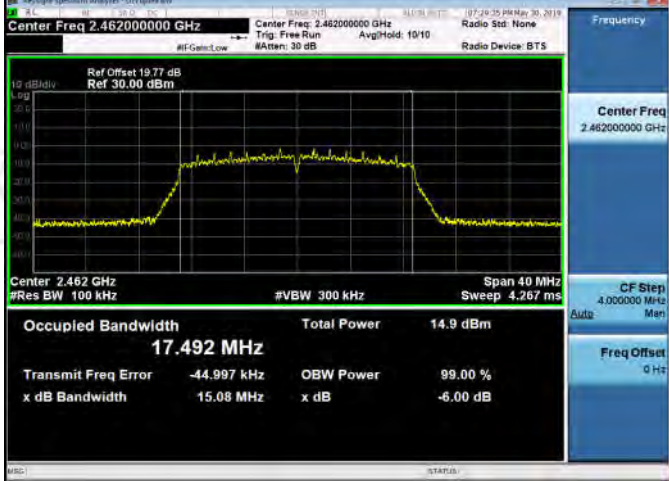
Result Table

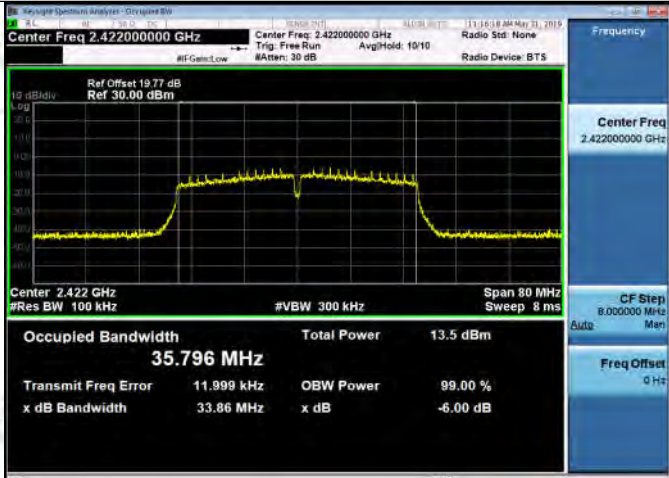
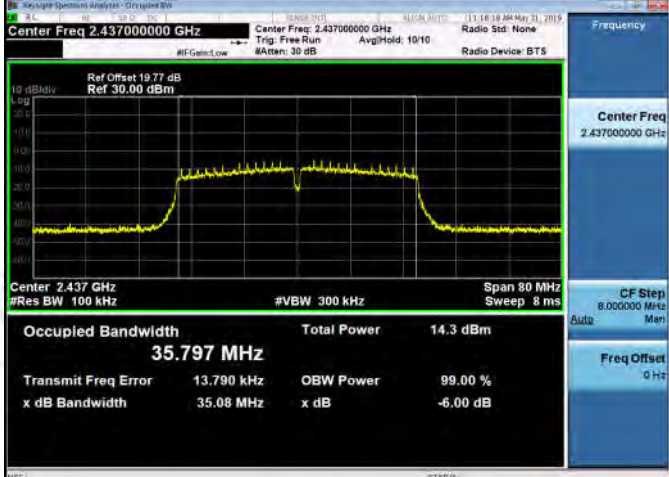
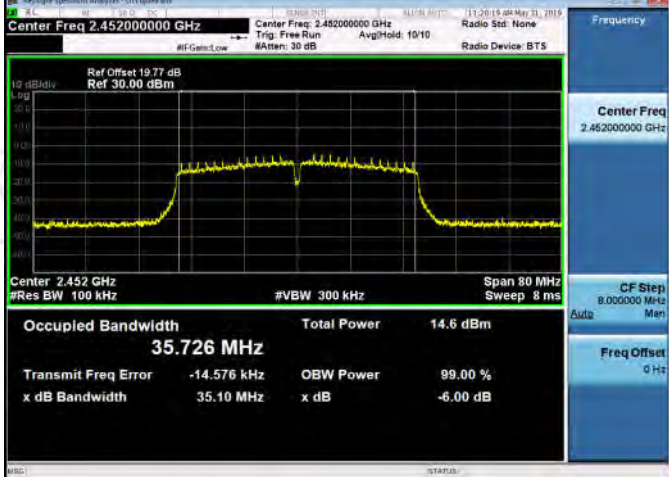
| Mode      | Channel | 6dB Bandwidth [MHz] | 99% OBW [MHz] | Verdict |
|-----------|---------|---------------------|---------------|---------|
| 11B       | LCH     | 9.095               | 18.352        | PASS    |
| 11B       | MCH     | 9.533               | 20.768        | PASS    |
| 11B       | HCH     | 9.564               | 21.657        | PASS    |
| 11G       | LCH     | 15.11               | 16.329        | PASS    |
| 11G       | MCH     | 15.12               | 16.334        | PASS    |
| 11G       | HCH     | 15.10               | 16.311        | PASS    |
| 11N20SISO | LCH     | 15.10               | 17.499        | PASS    |
| 11N20SISO | MCH     | 15.02               | 17.493        | PASS    |
| 11N20SISO | HCH     | 15.08               | 17.492        | PASS    |
| 11N40SISO | LCH     | 33.86               | 35.796        | PASS    |
| 11N40SISO | MCH     | 35.08               | 35.797        | PASS    |
| 11N40SISO | HCH     | 35.10               | 35.726        | PASS    |

## Test Graph



|         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11G/LCH |  <p>Center Freq 2.412000000 GHz</p> <p>Ref Offset 19.5 dB<br/>Ref 30.00 dBm</p> <p>Center 2.412 GHz<br/>#Res BW 100 kHz<br/>#VBW 300 kHz<br/>Span 40 MHz<br/>Sweep 4.267 ms</p> <p>Occupied Bandwidth <b>16.329 MHz</b></p> <p>Total Power 15.7 dBm</p> <p>Transmit Freq Error -25.057 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 15.11 MHz</p> <p>x dB -6.00 dB</p>    |
| 11G/MCH |  <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 30.00 dBm</p> <p>Center 2.437 GHz<br/>#Res BW 100 kHz<br/>#VBW 300 kHz<br/>Span 40 MHz<br/>Sweep 4.267 ms</p> <p>Occupied Bandwidth <b>16.334 MHz</b></p> <p>Total Power 15.6 dBm</p> <p>Transmit Freq Error -39.381 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 15.12 MHz</p> <p>x dB -6.00 dB</p>  |
| 11G/HCH |  <p>Center Freq 2.462000000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 30.00 dBm</p> <p>Center 2.462 GHz<br/>#Res BW 100 kHz<br/>#VBW 300 kHz<br/>Span 40 MHz<br/>Sweep 4.267 ms</p> <p>Occupied Bandwidth <b>16.311 MHz</b></p> <p>Total Power 16.0 dBm</p> <p>Transmit Freq Error -53.362 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 15.10 MHz</p> <p>x dB -6.00 dB</p> |

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11N20SISO/LCH |  <p>Center Freq 2.41200000 GHz</p> <p>Ref Offset 19.5 dB<br/>Ref 30.00 dBm</p> <p>Center Freq 2.41200000 GHz<br/>Trig: Free Run<br/>Avg/Hold: &gt;10/10<br/>Radio Std: None<br/>Radio Device: BTS</p> <p>Center 2.412 GHz<br/>#Res BW 100 kHz<br/>#VBW 300 kHz<br/>Span 40 MHz<br/>Sweep 4.267 ms</p> <p>Occupied Bandwidth 17.499 MHz<br/>Total Power 16.0 dBm<br/>Transmit Freq Error -33.246 kHz<br/>OBW Power 99.00 %<br/>x dB Bandwidth 15.10 MHz<br/>x dB -6.00 dB</p> |
| 11N20SISO/MCH |  <p>Center Freq 2.43700000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 30.00 dBm</p> <p>Center Freq 2.43700000 GHz<br/>Trig: Free Run<br/>Avg/Hold: 10/10<br/>Radio Std: None<br/>Radio Device: BTS</p> <p>Center 2.437 GHz<br/>#Res BW 100 kHz<br/>#VBW 300 kHz<br/>Span 40 MHz<br/>Sweep 4.267 ms</p> <p>Occupied Bandwidth 17.493 MHz<br/>Total Power 15.0 dBm<br/>Transmit Freq Error -33.290 kHz<br/>OBW Power 99.00 %<br/>x dB Bandwidth 15.02 MHz<br/>x dB -6.00 dB</p>   |
| 11N20SISO/HCH |  <p>Center Freq 2.46200000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 30.00 dBm</p> <p>Center Freq 2.46200000 GHz<br/>Trig: Free Run<br/>Avg/Hold: 10/10<br/>Radio Std: None<br/>Radio Device: BTS</p> <p>Center 2.462 GHz<br/>#Res BW 100 kHz<br/>#VBW 300 kHz<br/>Span 40 MHz<br/>Sweep 4.267 ms</p> <p>Occupied Bandwidth 17.492 MHz<br/>Total Power 14.9 dBm<br/>Transmit Freq Error -44.997 kHz<br/>OBW Power 99.00 %<br/>x dB Bandwidth 15.08 MHz<br/>x dB -6.00 dB</p>  |

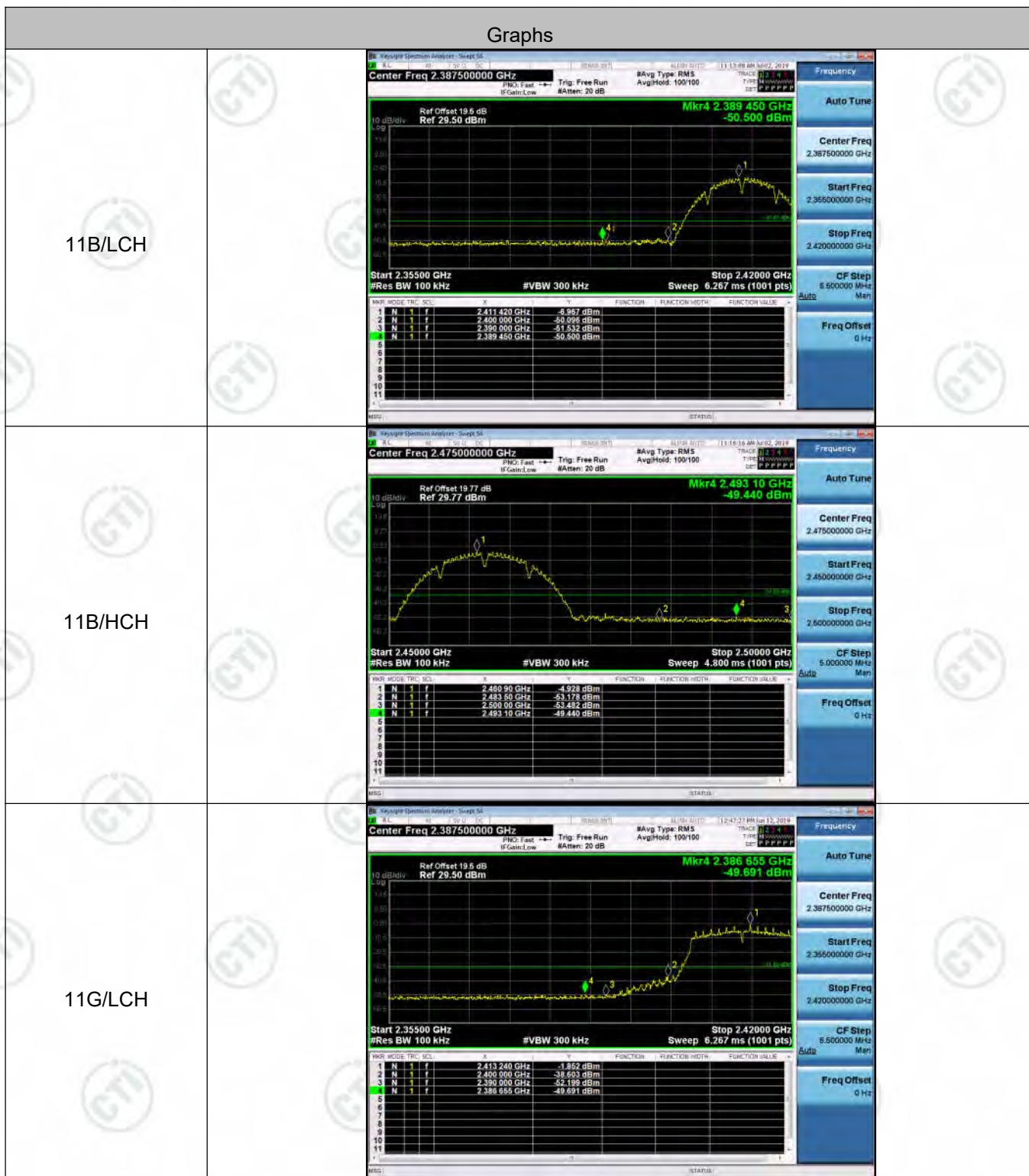
|               |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11N40SISO/LCH |  <p>Center Freq 2.422000000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 30.00 dBm</p> <p>Center 2.422 GHz<br/>#Res BW 100 kHz<br/>#VBW 300 kHz<br/>Span 80 MHz<br/>Sweep 8 ms</p> <p>Occupied Bandwidth 35.796 MHz<br/>Total Power 13.5 dBm</p> <p>Transmit Freq Error 11.999 kHz<br/>OBW Power 99.00 %</p> <p>x dB Bandwidth 33.86 MHz<br/>x dB -6.00 dB</p>    |
| 11N40SISO/MCH |  <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 30.00 dBm</p> <p>Center 2.437 GHz<br/>#Res BW 100 kHz<br/>#VBW 300 kHz<br/>Span 80 MHz<br/>Sweep 8 ms</p> <p>Occupied Bandwidth 35.797 MHz<br/>Total Power 14.3 dBm</p> <p>Transmit Freq Error 13.790 kHz<br/>OBW Power 99.00 %</p> <p>x dB Bandwidth 35.08 MHz<br/>x dB -6.00 dB</p>   |
| 11N40SISO/HCH |  <p>Center Freq 2.452000000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 30.00 dBm</p> <p>Center 2.452 GHz<br/>#Res BW 100 kHz<br/>#VBW 300 kHz<br/>Span 80 MHz<br/>Sweep 8 ms</p> <p>Occupied Bandwidth 35.726 MHz<br/>Total Power 14.6 dBm</p> <p>Transmit Freq Error -14.576 kHz<br/>OBW Power 99.00 %</p> <p>x dB Bandwidth 35.10 MHz<br/>x dB -6.00 dB</p> |

## Appendix C): Band-edge for RF Conducted Emissions

**Result Table**

| Mode      | Channel | Carrier Power[dBm] | Max.Spurious Level [dBm] | Limit [dBm] | Verdict |
|-----------|---------|--------------------|--------------------------|-------------|---------|
| 11B       | LCH     | -6.967             | -50.500                  | -36.97      | PASS    |
| 11B       | HCH     | -4.928             | -49.440                  | -34.93      | PASS    |
| 11G       | LCH     | -1.852             | -49.691                  | -31.85      | PASS    |
| 11G       | HCH     | -2.663             | -49.210                  | -32.66      | PASS    |
| 11N20SISO | LCH     | -3.680             | -49.601                  | -33.68      | PASS    |
| 11N20SISO | HCH     | -3.512             | -49.235                  | -33.51      | PASS    |
| 11N40SISO | LCH     | -7.332             | -50.107                  | -37.33      | PASS    |
| 11N40SISO | HCH     | -7.049             | -49.637                  | -37.05      | PASS    |

## Test Graph



| 11G/HCH       |  <p>Center Freq 2.47500000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 29.77 dBm</p> <p>Mkr4 2.483 70 GHz<br/>-49.210 dBm</p> <p>Start 2.45000 GHz<br/>#Res BW 100 kHz</p> <p>#VBW 300 kHz<br/>Sweep 4.800 ms (1001 pts)</p> <table><tr><th>MARK</th><th>MODE</th><th>TRIG</th><th>SCN</th><th>F</th><th>F</th><th>FUNCTION</th><th>FUNCTION HOLD</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>2.463 20 GHz</td><td>-3.683 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>2.483 50 GHz</td><td>-52.318 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>2.500 00 GHz</td><td>-52.854 dBm</td><td></td><td></td><td></td></tr><tr><td>4</td><td>N</td><td>1</td><td>f</td><td>2.483 70 GHz</td><td>-49.210 dBm</td><td></td><td></td><td></td></tr></table>       | MARK | MODE | TRIG          | SCN         | F        | F             | FUNCTION       | FUNCTION HOLD | FUNCTION VALUE | 1 | N | 1 | f | 2.463 20 GHz  | -3.683 dBm |  |  |  | 2 | N | 1 | f | 2.483 50 GHz  | -52.318 dBm |  |  |  | 3 | N | 1 | f | 2.500 00 GHz  | -52.854 dBm |  |  |  | 4 | N | 1 | f | 2.483 70 GHz  | -49.210 dBm |  |  |  |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|---------------|-------------|----------|---------------|----------------|---------------|----------------|---|---|---|---|---------------|------------|--|--|--|---|---|---|---|---------------|-------------|--|--|--|---|---|---|---|---------------|-------------|--|--|--|---|---|---|---|---------------|-------------|--|--|--|
| MARK          | MODE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | TRIG | SCN  | F             | F           | FUNCTION | FUNCTION HOLD | FUNCTION VALUE |               |                |   |   |   |   |               |            |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |
| 1             | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1    | f    | 2.463 20 GHz  | -3.683 dBm  |          |               |                |               |                |   |   |   |   |               |            |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |
| 2             | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1    | f    | 2.483 50 GHz  | -52.318 dBm |          |               |                |               |                |   |   |   |   |               |            |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |
| 3             | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1    | f    | 2.500 00 GHz  | -52.854 dBm |          |               |                |               |                |   |   |   |   |               |            |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |
| 4             | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1    | f    | 2.483 70 GHz  | -49.210 dBm |          |               |                |               |                |   |   |   |   |               |            |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |
| 11N20SISO/LCH |  <p>Center Freq 2.387500000 GHz</p> <p>Ref Offset 19.6 dB<br/>Ref 29.50 dBm</p> <p>Mkr4 2.363 320 GHz<br/>-49.601 dBm</p> <p>Start 2.35500 GHz<br/>#Res BW 100 kHz</p> <p>#VBW 300 kHz<br/>Sweep 6.267 ms (1001 pts)</p> <table><tr><th>MARK</th><th>MODE</th><th>TRIG</th><th>SCN</th><th>F</th><th>F</th><th>FUNCTION</th><th>FUNCTION HOLD</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>2.413 240 GHz</td><td>-3.680 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>2.400 000 GHz</td><td>-45.702 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>2.390 000 GHz</td><td>-51.203 dBm</td><td></td><td></td><td></td></tr><tr><td>4</td><td>N</td><td>1</td><td>f</td><td>2.363 320 GHz</td><td>-49.601 dBm</td><td></td><td></td><td></td></tr></table> | MARK | MODE | TRIG          | SCN         | F        | F             | FUNCTION       | FUNCTION HOLD | FUNCTION VALUE | 1 | N | 1 | f | 2.413 240 GHz | -3.680 dBm |  |  |  | 2 | N | 1 | f | 2.400 000 GHz | -45.702 dBm |  |  |  | 3 | N | 1 | f | 2.390 000 GHz | -51.203 dBm |  |  |  | 4 | N | 1 | f | 2.363 320 GHz | -49.601 dBm |  |  |  |
| MARK          | MODE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | TRIG | SCN  | F             | F           | FUNCTION | FUNCTION HOLD | FUNCTION VALUE |               |                |   |   |   |   |               |            |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |
| 1             | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1    | f    | 2.413 240 GHz | -3.680 dBm  |          |               |                |               |                |   |   |   |   |               |            |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |
| 2             | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1    | f    | 2.400 000 GHz | -45.702 dBm |          |               |                |               |                |   |   |   |   |               |            |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |
| 3             | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1    | f    | 2.390 000 GHz | -51.203 dBm |          |               |                |               |                |   |   |   |   |               |            |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |
| 4             | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1    | f    | 2.363 320 GHz | -49.601 dBm |          |               |                |               |                |   |   |   |   |               |            |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |
| 11N20SISO/HCH |  <p>Center Freq 2.475000000 GHz</p> <p>Ref Offset 19.77 dB<br/>Ref 29.77 dBm</p> <p>Mkr4 2.499 65 GHz<br/>-49.235 dBm</p> <p>Start 2.45000 GHz<br/>#Res BW 100 kHz</p> <p>#VBW 300 kHz<br/>Sweep 4.800 ms (1001 pts)</p> <table><tr><th>MARK</th><th>MODE</th><th>TRIG</th><th>SCN</th><th>F</th><th>F</th><th>FUNCTION</th><th>FUNCTION HOLD</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>2.463 25 GHz</td><td>-3.512 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>2.483 50 GHz</td><td>-52.243 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>2.500 00 GHz</td><td>-50.460 dBm</td><td></td><td></td><td></td></tr><tr><td>4</td><td>N</td><td>1</td><td>f</td><td>2.499 65 GHz</td><td>-49.235 dBm</td><td></td><td></td><td></td></tr></table>    | MARK | MODE | TRIG          | SCN         | F        | F             | FUNCTION       | FUNCTION HOLD | FUNCTION VALUE | 1 | N | 1 | f | 2.463 25 GHz  | -3.512 dBm |  |  |  | 2 | N | 1 | f | 2.483 50 GHz  | -52.243 dBm |  |  |  | 3 | N | 1 | f | 2.500 00 GHz  | -50.460 dBm |  |  |  | 4 | N | 1 | f | 2.499 65 GHz  | -49.235 dBm |  |  |  |
| MARK          | MODE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | TRIG | SCN  | F             | F           | FUNCTION | FUNCTION HOLD | FUNCTION VALUE |               |                |   |   |   |   |               |            |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |
| 1             | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1    | f    | 2.463 25 GHz  | -3.512 dBm  |          |               |                |               |                |   |   |   |   |               |            |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |
| 2             | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1    | f    | 2.483 50 GHz  | -52.243 dBm |          |               |                |               |                |   |   |   |   |               |            |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |
| 3             | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1    | f    | 2.500 00 GHz  | -50.460 dBm |          |               |                |               |                |   |   |   |   |               |            |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |
| 4             | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1    | f    | 2.499 65 GHz  | -49.235 dBm |          |               |                |               |                |   |   |   |   |               |            |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |   |   |   |   |               |             |  |  |  |

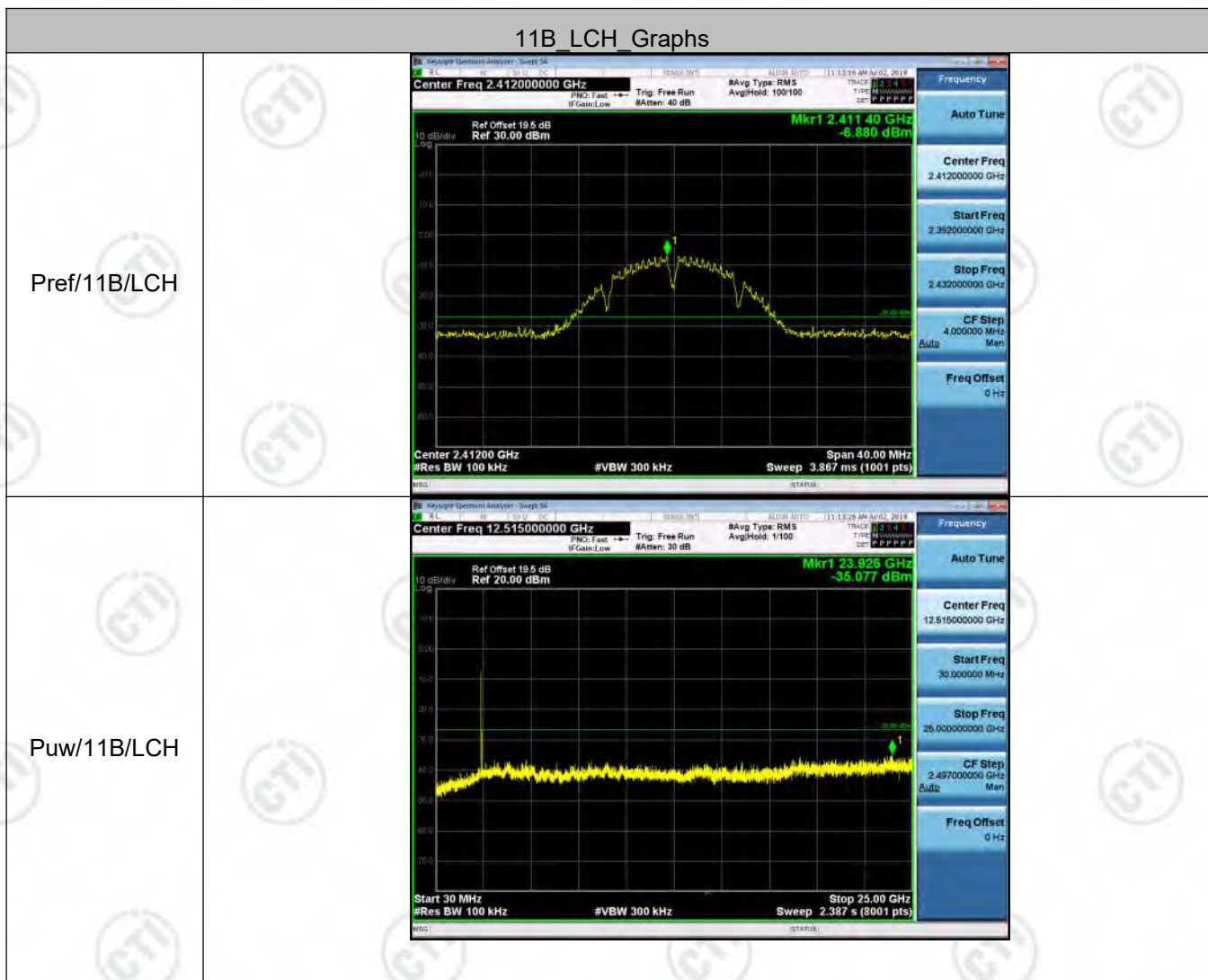


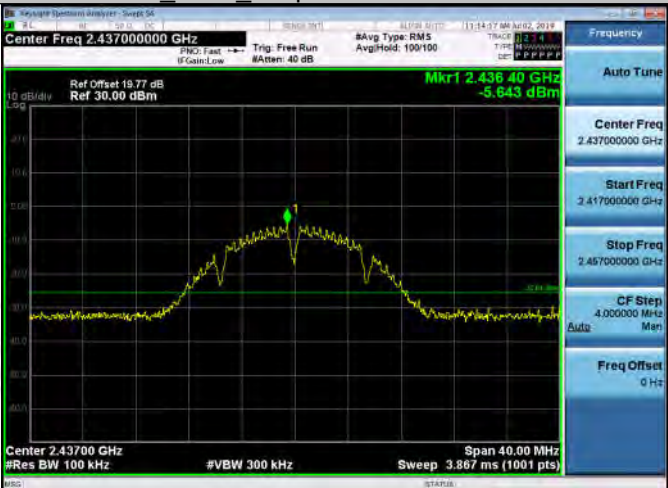
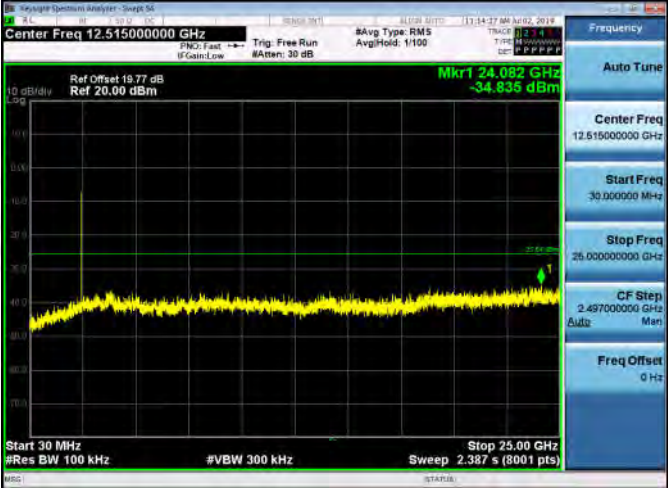
## Appendix D): RF Conducted Spurious Emissions

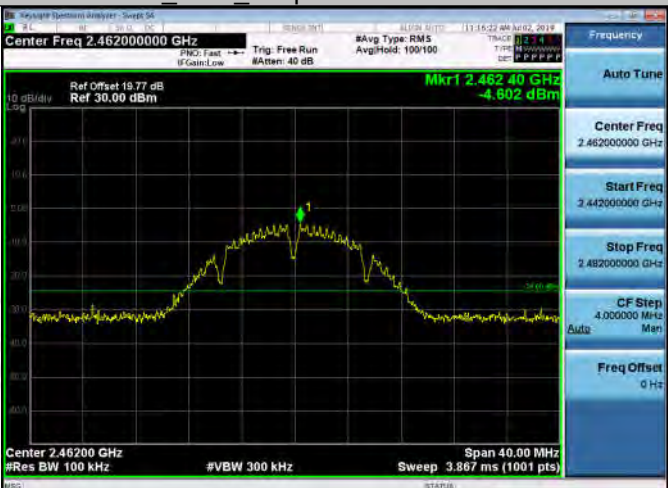
**Result Table**

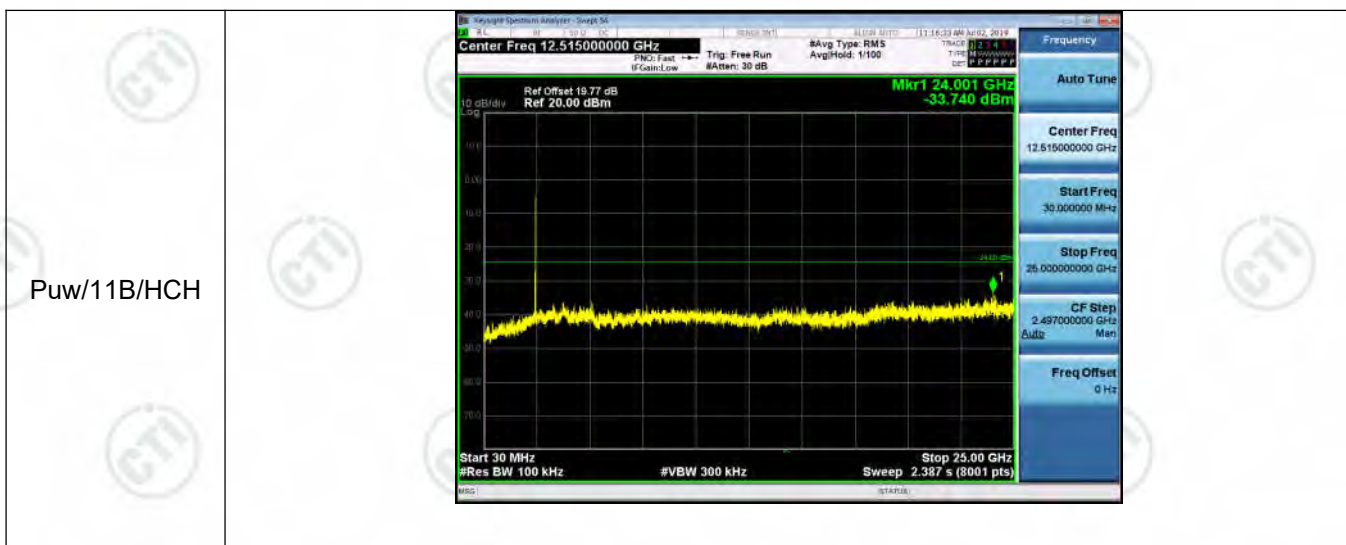
| Mode      | Channel | Pref [dBm] | Puw[dBm] | Verdict |
|-----------|---------|------------|----------|---------|
| 11B       | LCH     | -6.88      | <Limit   | PASS    |
| 11B       | MCH     | -5.643     | <Limit   | PASS    |
| 11B       | HCH     | -4.602     | <Limit   | PASS    |
| 11G       | LCH     | -1.966     | <Limit   | PASS    |
| 11G       | MCH     | -2.679     | <Limit   | PASS    |
| 11G       | HCH     | -2.879     | <Limit   | PASS    |
| 11N20SISO | LCH     | -3.198     | <Limit   | PASS    |
| 11N20SISO | MCH     | -3.297     | <Limit   | PASS    |
| 11N20SISO | HCH     | -3.371     | <Limit   | PASS    |
| 11N40SISO | LCH     | -6.809     | <Limit   | PASS    |
| 11N40SISO | MCH     | -6.996     | <Limit   | PASS    |
| 11N40SISO | HCH     | -7.125     | <Limit   | PASS    |

## Test Graph



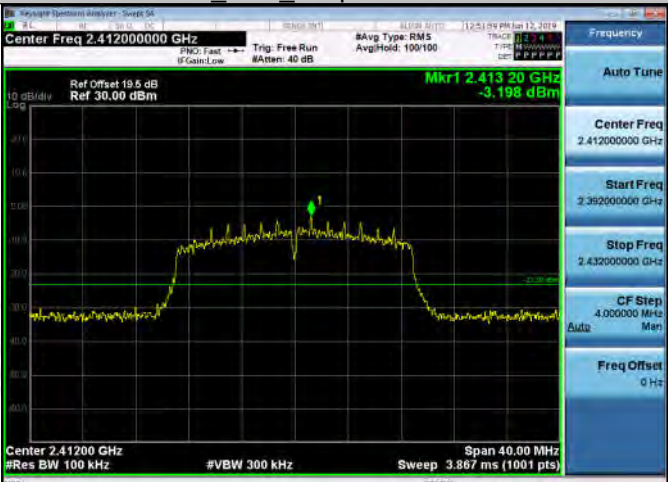
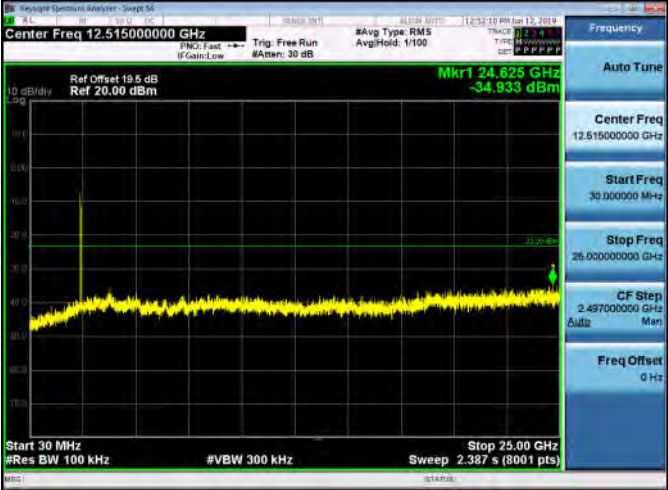
| 11B_MCH_Graphs |                                                                                     |
|----------------|-------------------------------------------------------------------------------------|
| Pref/11B/MCH   |   |
| Puw/11B/MCH    |  |

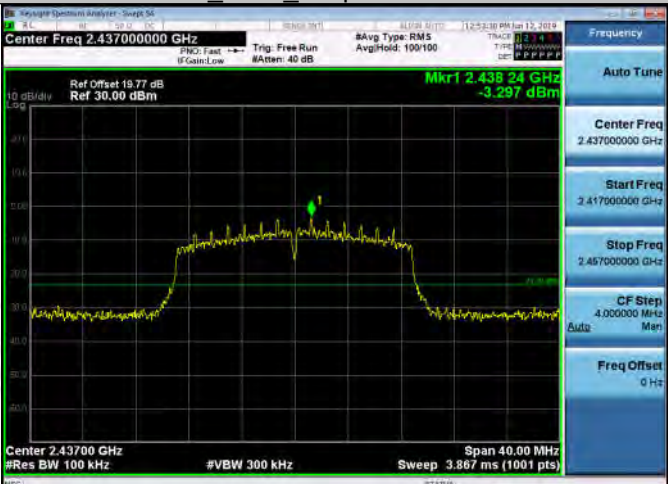
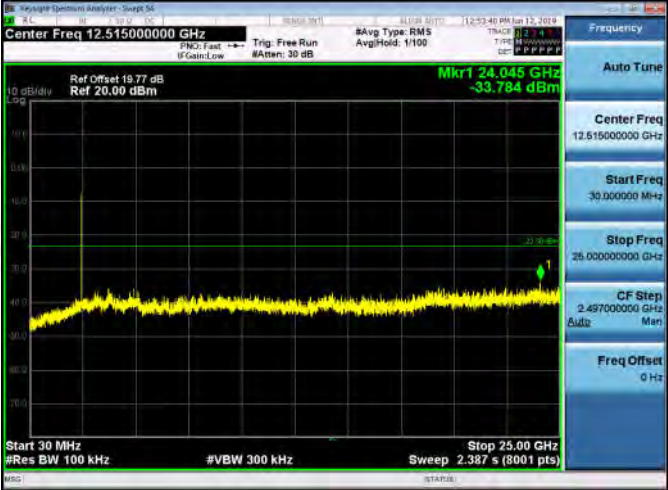
| 11B_HCH_Graphs |                                                                                      |
|----------------|--------------------------------------------------------------------------------------|
| Pref/11B/HCH   |  |







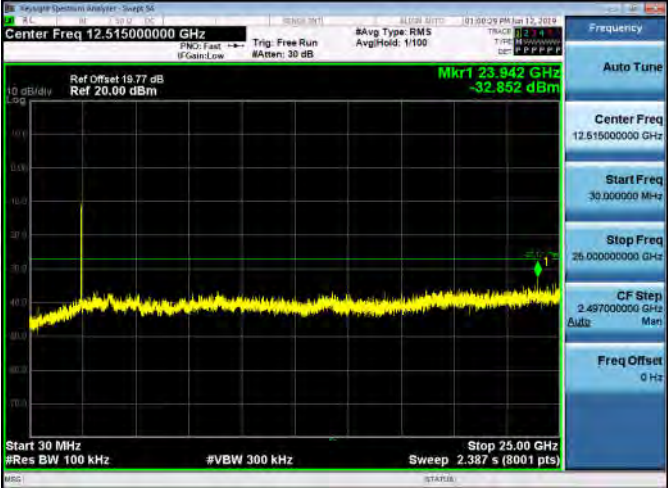
| 11N20SISO LCH Graphs |                                                                                     |
|----------------------|-------------------------------------------------------------------------------------|
| Pref/11N20SISO/LCH   |   |
| /11N20SISO/LCH       |  |

| 11N20SISO MCH Graphs   |                                                                                     |  |
|------------------------|-------------------------------------------------------------------------------------|--|
| Pref/11N20SIS<br>O/MCH |   |  |
| Puw/11N20SIS<br>O/MCH  |  |  |

| 11N20SISO_HCH_Graphs   |  |  |
|------------------------|--|--|
| Pref/11N20SIS<br>O/HCH |  |  |
| Puw/11N20SIS<br>O/HCH  |  |  |

| 11N40SISO LCH Graphs   |  |                                                                                                                                                                                                                               |
|------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pref/11N40SIS<br>O/LCH |  | <p>Center Freq 2.422000000 GHz<br/>Ref Offset 15.77 dB<br/>Ref 30.00 dBm<br/>Mkr1 2.42448 GHz<br/>-6.809 dBm<br/>Center 2.42200 GHz<br/>#Res BW 100 kHz<br/>#VBW 300 kHz<br/>Span 80.00 MHz<br/>Sweep 7.667 ms (1001 pts)</p> |
| Puw/11N40SIS<br>O/LCH  |  | <p>Center Freq 12.515000000 GHz<br/>Ref Offset 15.77 dB<br/>Ref 20.00 dBm<br/>Mkr1 12.51500 GHz<br/>-34.877 dBm<br/>Start 30 MHz<br/>#Res BW 100 kHz<br/>#VBW 300 kHz<br/>Stop 25.00 GHz<br/>Sweep 2.387 s (8001 pts)</p>     |

| 11N40SISO MCH_Graphs   |                                                                                     |  |
|------------------------|-------------------------------------------------------------------------------------|--|
| Pref/11N40SIS<br>O/MCH |   |  |
| Puw/11N40SIS<br>O/MCH  |  |  |

| 11N40SISO_HCH_Graphs   |                                                                                     |
|------------------------|-------------------------------------------------------------------------------------|
| Pref/11N40SIS<br>O/HCH |   |
| Puw/11N40SIS<br>O/HCH  |  |

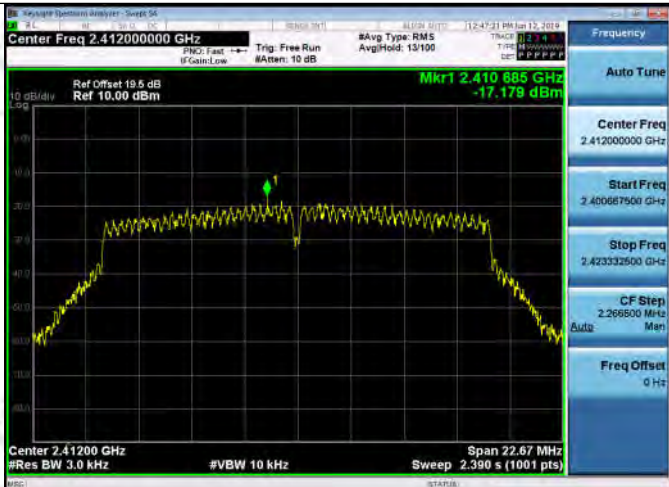
## Appendix E): Power Spectral Density

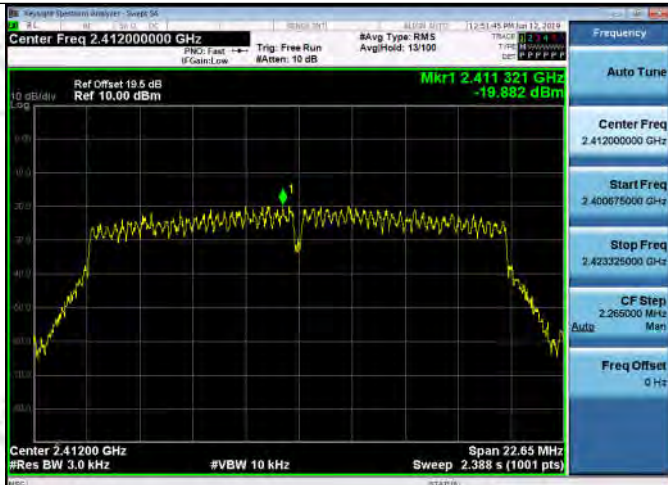
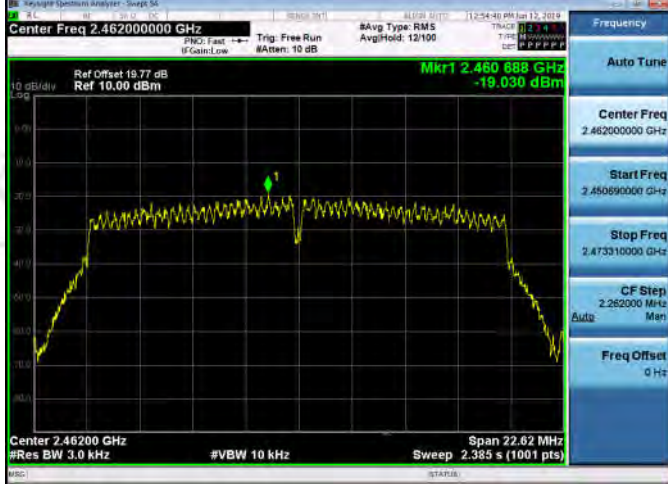
**Result Table**

| Mode      | Channel | Power Spectral Density [dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|-----------|---------|-----------------------------------|-----------------|---------|
| 11B       | LCH     | -23.110                           | 8               | PASS    |
| 11B       | MCH     | -22.548                           | 8               | PASS    |
| 11B       | HCH     | -20.103                           | 8               | PASS    |
| 11G       | LCH     | -17.179                           | 8               | PASS    |
| 11G       | MCH     | -17.320                           | 8               | PASS    |
| 11G       | HCH     | -19.316                           | 8               | PASS    |
| 11N20SISO | LCH     | -19.882                           | 8               | PASS    |
| 11N20SISO | MCH     | -19.798                           | 8               | PASS    |
| 11N20SISO | HCH     | -19.030                           | 8               | PASS    |
| 11N40SISO | LCH     | -23.042                           | 8               | PASS    |
| 11N40SISO | MCH     | -23.529                           | 8               | PASS    |
| 11N40SISO | HCH     | -23.460                           | 8               | PASS    |

## Test Graph



|         |                                                                                      |
|---------|--------------------------------------------------------------------------------------|
| 11G/LCH |    |
| 11G/MCH |   |
| 11G/HCH |  |

|               |                                                                                      |
|---------------|--------------------------------------------------------------------------------------|
| 11N20SISO/LCH |    |
| 11N20SISO/MCH |   |
| 11N20SISO/HCH |  |

|               |                                                                                                                                                                                                                                                                                                                                              |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11N40SISO/LCH |  <p>Center Freq 2.42200000 GHz</p> <p>Ref Offset 19.77 dB</p> <p>Ref 10.00 dBm</p> <p>Mkr1 2.425 71 GHz</p> <p>-23.042 dBm</p> <p>Center 2.42200 GHz</p> <p>#Res BW 3.0 kHz</p> <p>#VBW 10 kHz</p> <p>Span 50.79 MHz</p> <p>Sweep 5.355 s (1001 pts)</p>   |
| 11N40SISO/MCH |  <p>Center Freq 2.43700000 GHz</p> <p>Ref Offset 19.77 dB</p> <p>Ref 10.00 dBm</p> <p>Mkr1 2.434 47 GHz</p> <p>-23.528 dBm</p> <p>Center 2.43700 GHz</p> <p>#Res BW 3.0 kHz</p> <p>#VBW 10 kHz</p> <p>Span 52.62 MHz</p> <p>Sweep 5.548 s (1001 pts)</p>  |
| 11N40SISO/HCH |  <p>Center Freq 2.45200000 GHz</p> <p>Ref Offset 19.77 dB</p> <p>Ref 10.00 dBm</p> <p>Mkr1 2.454 47 GHz</p> <p>-23.460 dBm</p> <p>Center 2.45200 GHz</p> <p>#Res BW 3.0 kHz</p> <p>#VBW 10 kHz</p> <p>Span 52.65 MHz</p> <p>Sweep 5.551 s (1001 pts)</p> |

## Appendix F): Antenna Requirement

### 15.203 requirement:

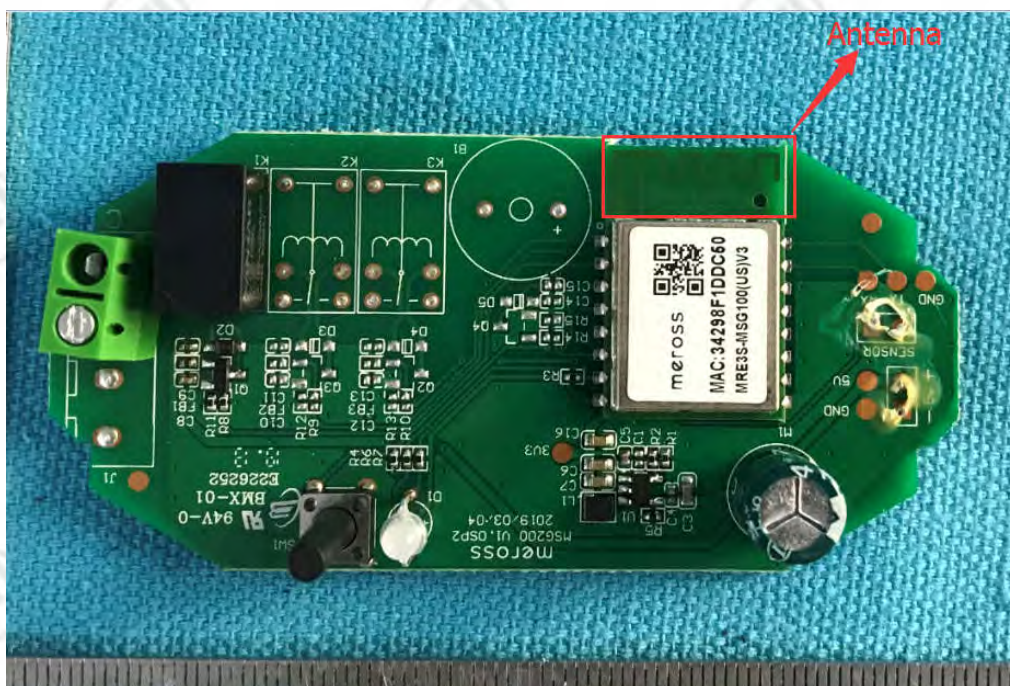
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

### 15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### EUT Antenna:

The antenna is Internal Antenna and no consideration of replacement. The best case gain of the antenna is 1.5dBi.



## Appendix G): AC Power Line Conducted Emission

| Test Procedure:       | <p>Test frequency range :150KHz-30MHz</p> <ol style="list-style-type: none"> <li>1)The mains terminal disturbance voltage test was conducted in a shielded room.</li> <li>2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a <math>50\Omega/50\mu\text{H} + 5\Omega</math> linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.</li> <li>3)The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,</li> <li>4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.</li> <li>5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.</li> </ol> |           |                       |                    |  |            |         |          |           |           |       |    |    |      |    |    |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------|--------------------|--|------------|---------|----------|-----------|-----------|-------|----|----|------|----|----|
| Limit:                | <table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dB<math>\mu</math>V)</th></tr> <tr> <th>Quasi-peak</th><th>Average</th></tr> </thead> <tbody> <tr> <td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr> <tr> <td>0.5-5</td><td>56</td><td>46</td></tr> <tr> <td>5-30</td><td>60</td><td>50</td></tr> </tbody> </table> <p>* The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.<br/>NOTE : The lower limit is applicable at the transition frequency</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           | Frequency range (MHz) | 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 |
| Frequency range (MHz) | 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        |                       |                    |  |            |         |          |           |           |       |    |    |      |    |    |

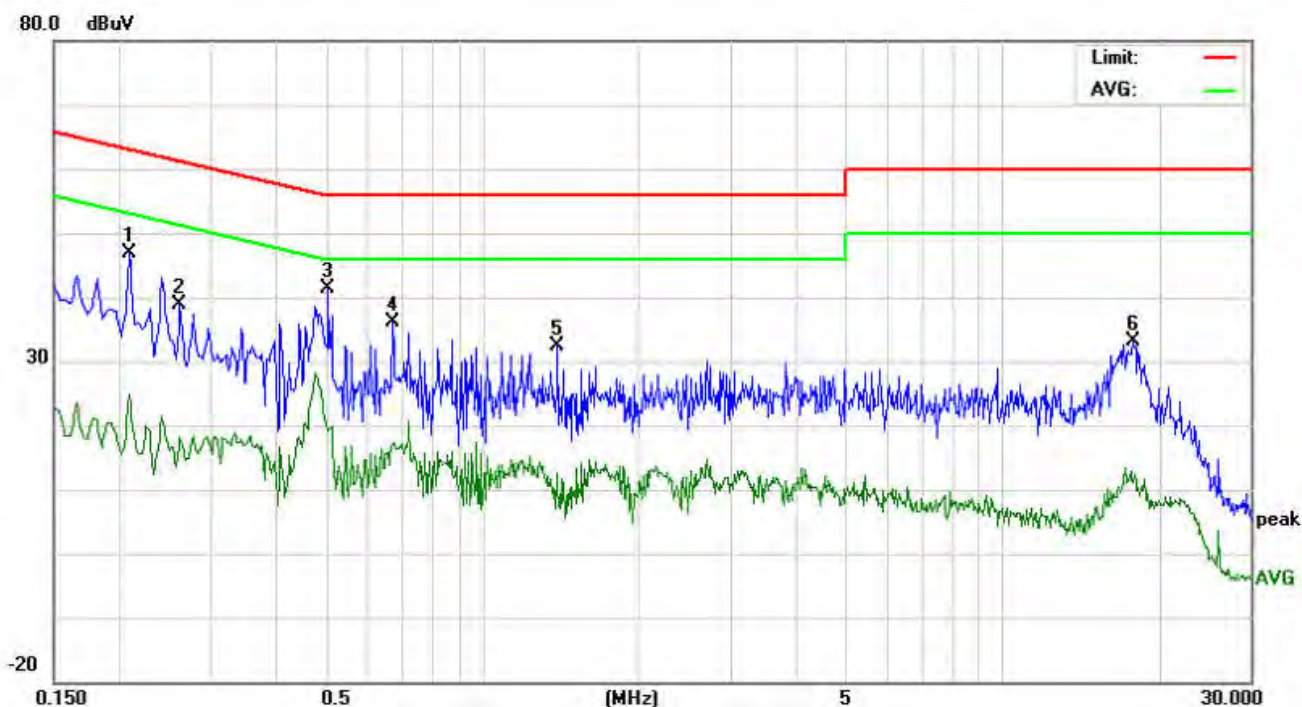
### Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

**Product** : Smart Garage Door Opener **Model/Type reference** : MSG100  
**Temperature** : 22℃ **Humidity** : 53%

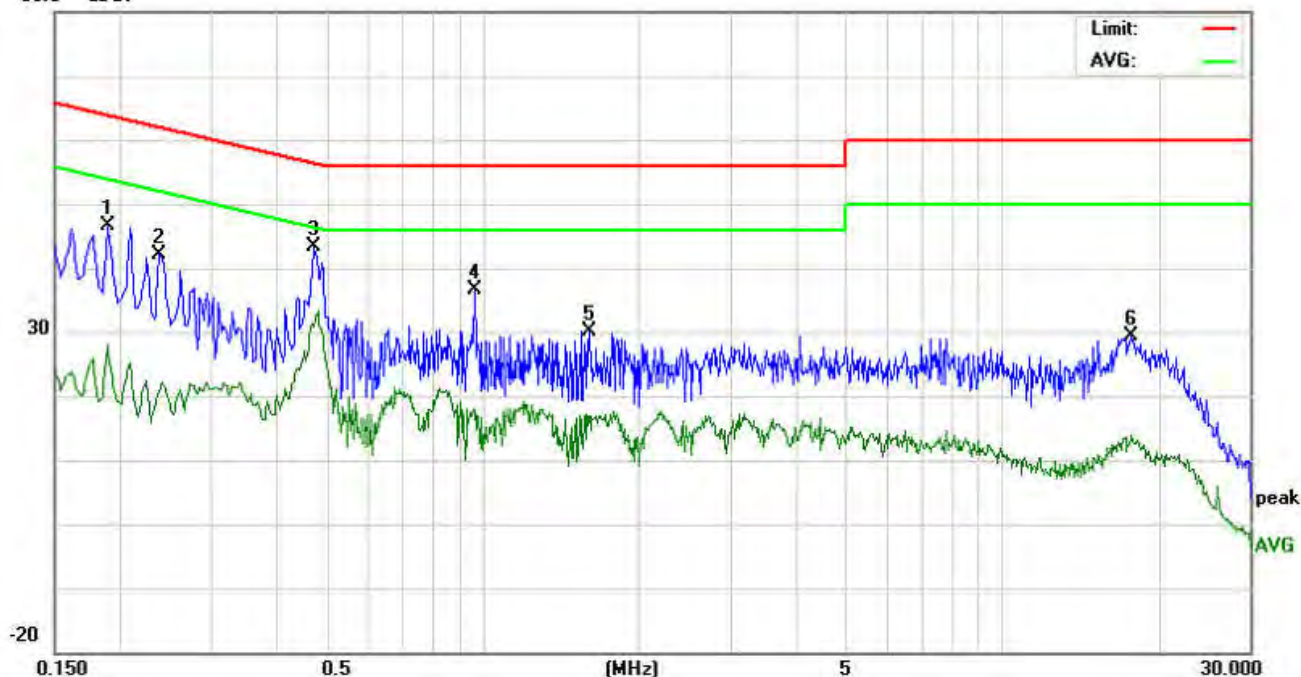
Live line:



| No. | Freq.<br>MHz | Reading_Level<br>(dBuV) |       |       | Correct<br>Factor<br>dB | Measurement<br>(dBuV) |       |       | Limit<br>(dBuV) |       | Margin<br>(dB) |        | P/F | Comment |
|-----|--------------|-------------------------|-------|-------|-------------------------|-----------------------|-------|-------|-----------------|-------|----------------|--------|-----|---------|
|     |              | Peak                    | QP    | AVG   |                         | peak                  | QP    | AVG   | QP              | AVG   | QP             | AVG    |     |         |
| 1   | 0.2100       | 36.90                   | 33.45 | 14.97 | 9.92                    | 46.82                 | 43.37 | 24.89 | 63.20           | 53.20 | -19.83         | -28.31 | P   |         |
| 2   | 0.2620       | 28.97                   | 25.36 | 8.28  | 9.97                    | 38.94                 | 35.33 | 18.25 | 61.36           | 51.36 | -26.03         | -33.11 | P   |         |
| 3   | 0.5060       | 31.49                   | 27.31 | 9.31  | 9.90                    | 41.39                 | 37.21 | 19.21 | 56.00           | 46.00 | -18.79         | -26.79 | P   |         |
| 4   | 0.6740       | 32.11                   | 29.25 | 12.75 | 9.88                    | 41.99                 | 39.13 | 22.63 | 56.00           | 46.00 | -16.87         | -23.37 | P   |         |
| 5   | 1.4020       | 22.65                   | 19.23 | 0.85  | 9.77                    | 32.42                 | 29.00 | 10.62 | 56.00           | 46.00 | -27.00         | -35.38 | P   |         |
| 6   | 17.8500      | 23.29                   | 20.29 | 1.30  | 9.94                    | 33.23                 | 30.23 | 11.24 | 60.00           | 50.00 | -29.77         | -38.76 | P   |         |

Neutral line:

80.0 dBuV



| No. | Freq.<br>MHz | Reading_Level<br>(dBuV) |       |       | Correct<br>Factor<br>dB | Measurement<br>(dBuV) |       |       | Limit<br>(dBuV) |       | Margin<br>(dB) |        | P/F | Comment |
|-----|--------------|-------------------------|-------|-------|-------------------------|-----------------------|-------|-------|-----------------|-------|----------------|--------|-----|---------|
|     |              | Peak                    | QP    | AVG   |                         | peak                  | QP    | AVG   | QP              | AVG   | QP             | AVG    |     |         |
| 1   | 0.1900       | 36.78                   | 33.26 | 18.14 | 9.91                    | 46.69                 | 43.17 | 28.05 | 64.03           | 54.03 | -20.86         | -25.98 | P   |         |
| 2   | 0.2380       | 32.27                   | 29.53 | 10.72 | 9.94                    | 42.21                 | 39.47 | 20.66 | 62.16           | 52.16 | -22.69         | -31.50 | P   |         |
| 3   | 0.4740       | 33.43                   | 30.47 | 21.05 | 9.89                    | 43.32                 | 40.36 | 30.94 | 56.44           | 46.44 | -16.08         | -15.50 | P   |         |
| 4   | 0.9660       | 26.69                   | 23.50 | 8.06  | 9.81                    | 36.50                 | 33.31 | 17.87 | 56.00           | 46.00 | -22.69         | -28.13 | P   |         |
| 5   | 1.6100       | 20.45                   | 17.03 | 7.16  | 9.76                    | 30.21                 | 26.79 | 16.92 | 56.00           | 46.00 | -29.21         | -29.08 | P   |         |
| 6   | 17.7939      | 19.53                   | 16.94 | 3.89  | 9.94                    | 29.47                 | 26.88 | 13.83 | 60.00           | 50.00 | -33.12         | -36.17 | P   |         |

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.

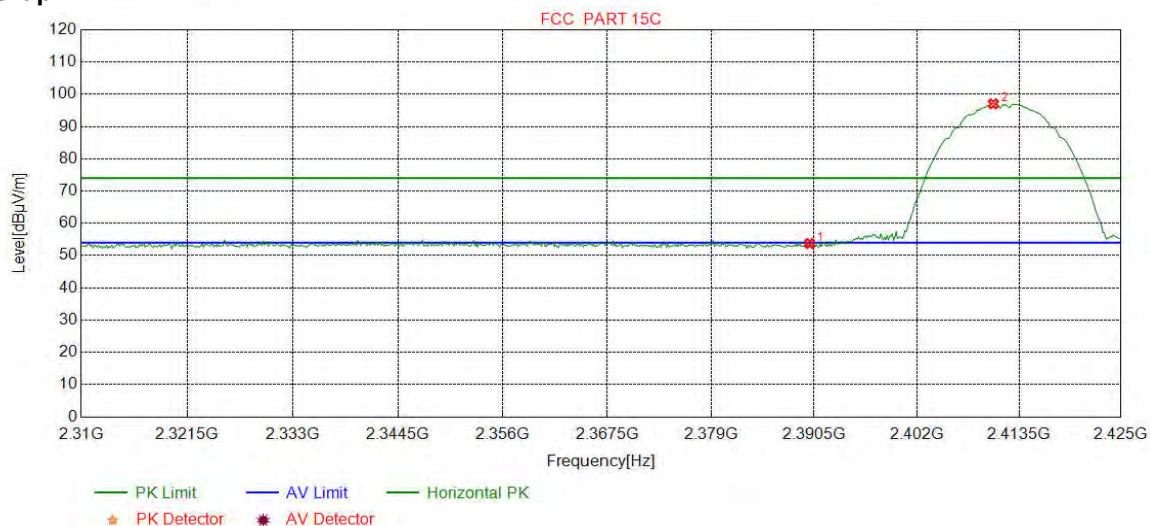
## Appendix H): Restricted bands around fundamental frequency (Radiated)

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |        |                  |            |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------|------------------|------------|
| Receiver Setup: | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Detector           | RBW    | VBW              | Remark     |
|                 | 30MHz-1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Quasi-peak         | 120kHz | 300kHz           | Quasi-peak |
|                 | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Peak               | 1MHz   | 3MHz             | Peak       |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Peak               | 1MHz   | 10Hz             | Average    |
| Test Procedure: | <p><b>Below 1GHz test procedure as below:</b></p> <ol style="list-style-type: none"> <li>The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</li> <li>For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel</li> </ol> <p><b>Above 1GHz test procedure as below:</b></p> <ol style="list-style-type: none"> <li>Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber change form table 0.8 meter to 1.5 meter( Above 18GHz the distance is 1 meter and table is 1.5 meter).</li> <li>Test the EUT in the lowest channel , the Highest channel</li> <li>The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.</li> <li>Repeat above procedures until all frequencies measured was complete.</li> </ol> |                    |        |                  |            |
| Limit:          | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Limit (dBμV/m @3m) |        | Remark           |            |
|                 | 30MHz-88MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 40.0               |        | Quasi-peak Value |            |
|                 | 88MHz-216MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 43.5               |        | Quasi-peak Value |            |
|                 | 216MHz-960MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 46.0               |        | Quasi-peak Value |            |
|                 | 960MHz-1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 54.0               |        | Quasi-peak Value |            |
|                 | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 54.0               |        | Average Value    |            |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 74.0               |        | Peak Value       |            |

**Test plot as follows:**

|         |                               |          |      |
|---------|-------------------------------|----------|------|
| Mode:   | 802.11 b(11Mbps) Transmitting | Channel: | 2412 |
| Remark: | Peak                          |          |      |

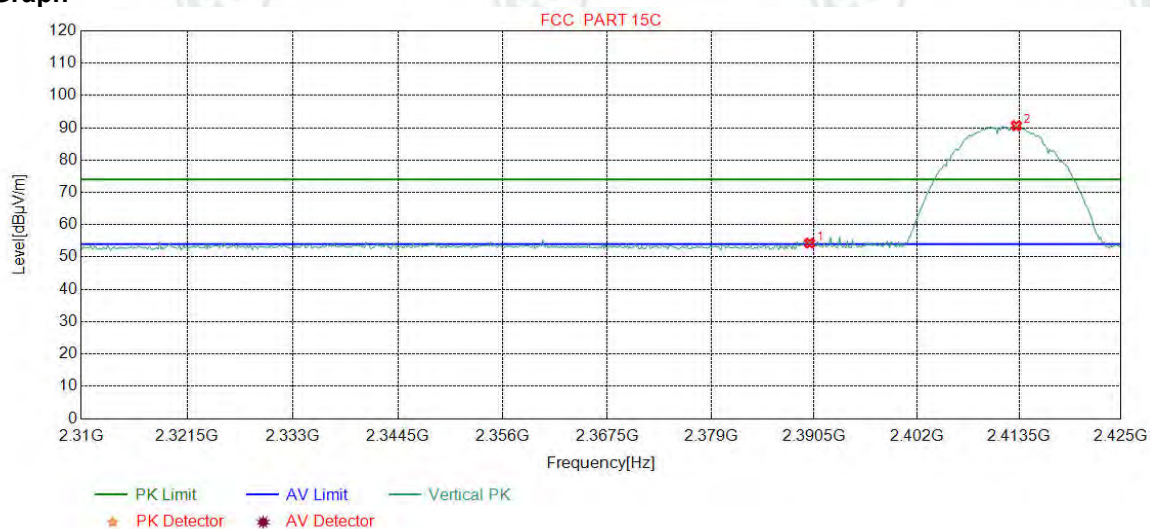
**Test Graph**



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 50.55          | 53.73          | 74.00          | 20.27       | Pass   | Horizontal |
| 2  | 2410.6070   | 32.27           | 13.35           | -42.43          | 93.85          | 97.04          | 74.00          | -23.04      | Pass   | Horizontal |

|         |                               |          |      |
|---------|-------------------------------|----------|------|
| Mode:   | 802.11 b(11Mbps) Transmitting | Channel: | 2412 |
| Remark: | Peak                          |          |      |

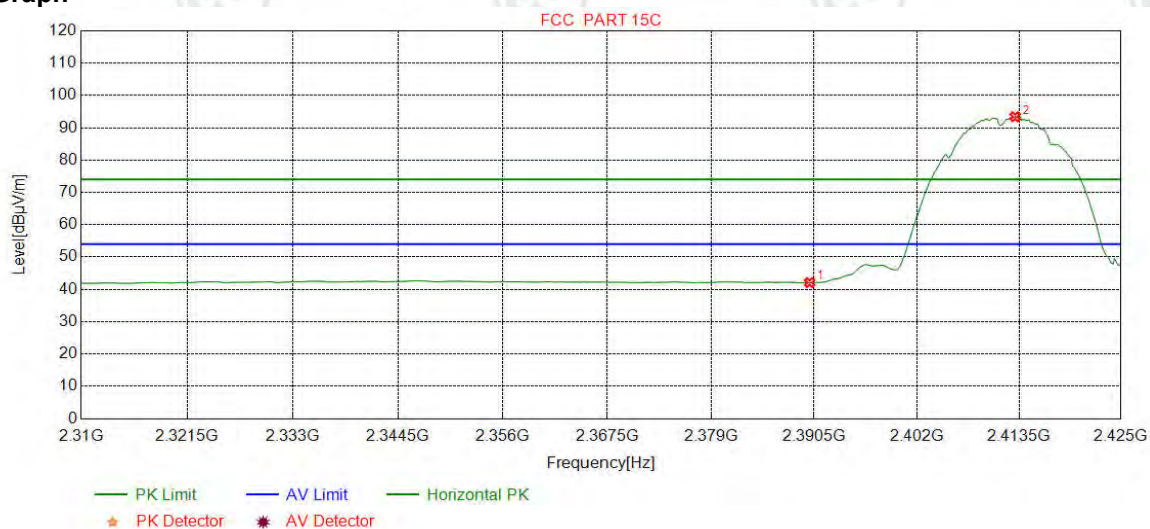
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 51.11          | 54.29          | 74.00          | 19.71       | Pass   | Vertical |
| 2  | 2413.1977   | 32.28           | 13.36           | -42.43          | 87.44          | 90.65          | 74.00          | -16.65      | Pass   | Vertical |

|         |                               |          |      |
|---------|-------------------------------|----------|------|
| Mode:   | 802.11 b(11Mbps) Transmitting | Channel: | 2412 |
| Remark: | Average                       |          |      |

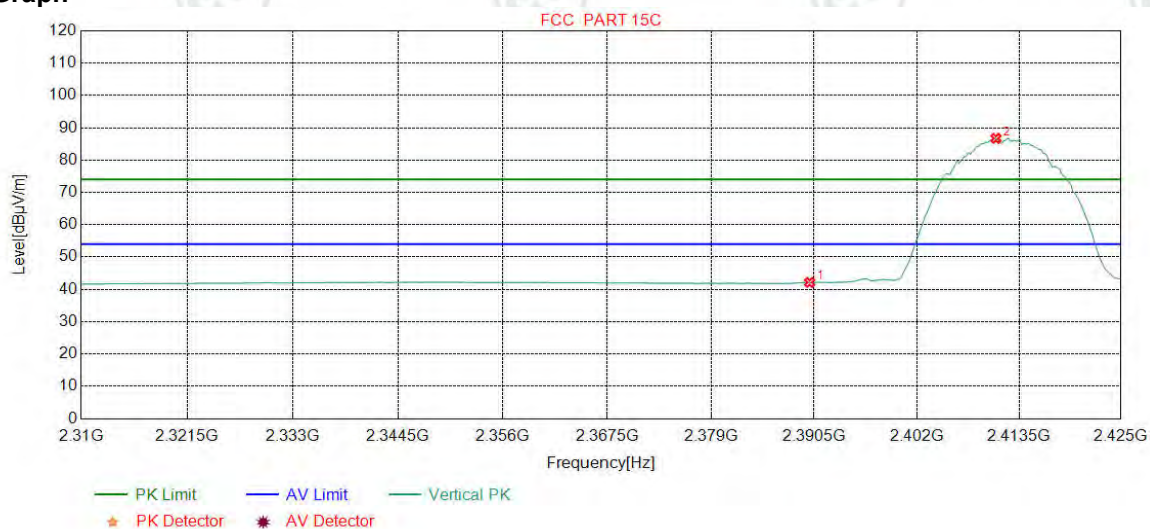
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 38.92          | 42.10          | 54.00          | 11.90       | Pass   | Horizontal |
| 2  | 2413.0538   | 32.28           | 13.36           | -42.43          | 90.21          | 93.42          | 54.00          | -39.42      | Pass   | Horizontal |

|         |                               |          |      |
|---------|-------------------------------|----------|------|
| Mode:   | 802.11 b(11Mbps) Transmitting | Channel: | 2437 |
| Remark: | Average                       |          |      |

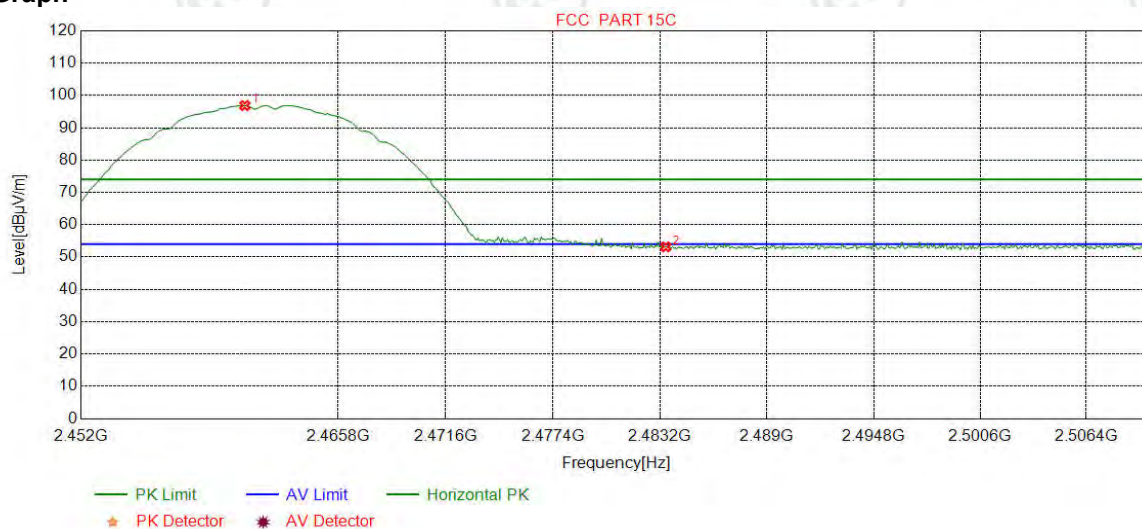
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 38.96          | 42.14          | 54.00          | 11.86       | Pass   | Vertical |
| 2  | 2410.8949   | 32.28           | 13.35           | -42.43          | 83.53          | 86.73          | 54.00          | -32.73      | Pass   | Vertical |

|         |                               |          |      |
|---------|-------------------------------|----------|------|
| Mode:   | 802.11 b(11Mbps) Transmitting | Channel: | 2462 |
| Remark: | Peak                          |          |      |

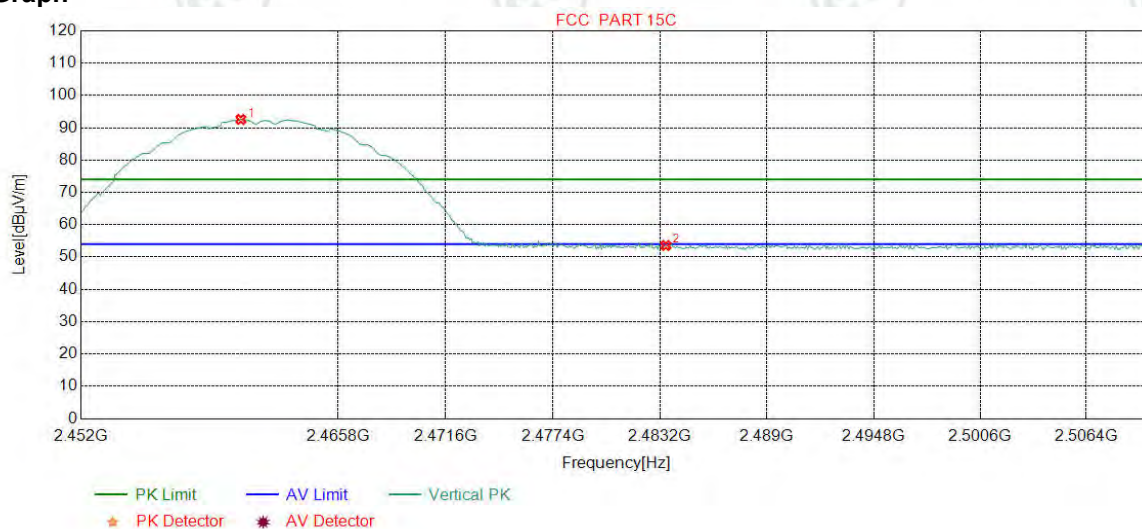
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2460.7835   | 32.35           | 13.48           | -42.41          | 93.46          | 96.88          | 74.00          | -22.88      | Pass   | Horizontal |
| 2  | 2483.5000   | 32.38           | 13.38           | -42.40          | 49.79          | 53.15          | 74.00          | 20.85       | Pass   | Horizontal |

|         |                               |          |      |
|---------|-------------------------------|----------|------|
| Mode:   | 802.11 b(11Mbps) Transmitting | Channel: | 2462 |
| Remark: | Peak                          |          |      |

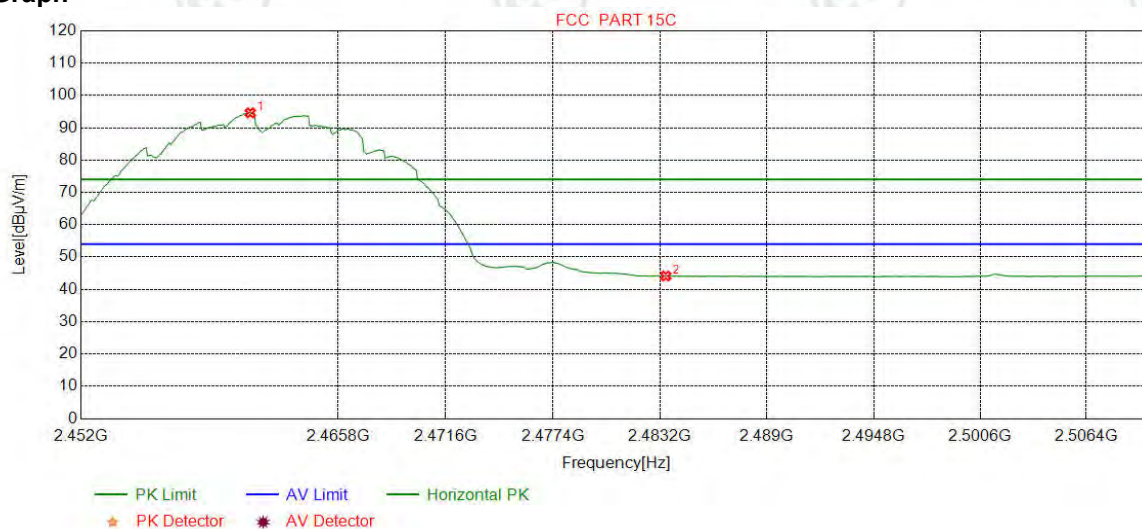
Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2460.5657   | 32.34           | 13.48           | -42.40          | 89.17          | 92.59          | 74.00          | -18.59      | Pass   | Vertical |
| 2  | 2483.5000   | 32.38           | 13.38           | -42.40          | 50.21          | 53.57          | 74.00          | 20.43       | Pass   | Vertical |

|         |                               |          |      |
|---------|-------------------------------|----------|------|
| Mode:   | 802.11 b(11Mbps) Transmitting | Channel: | 2462 |
| Remark: | Average                       |          |      |

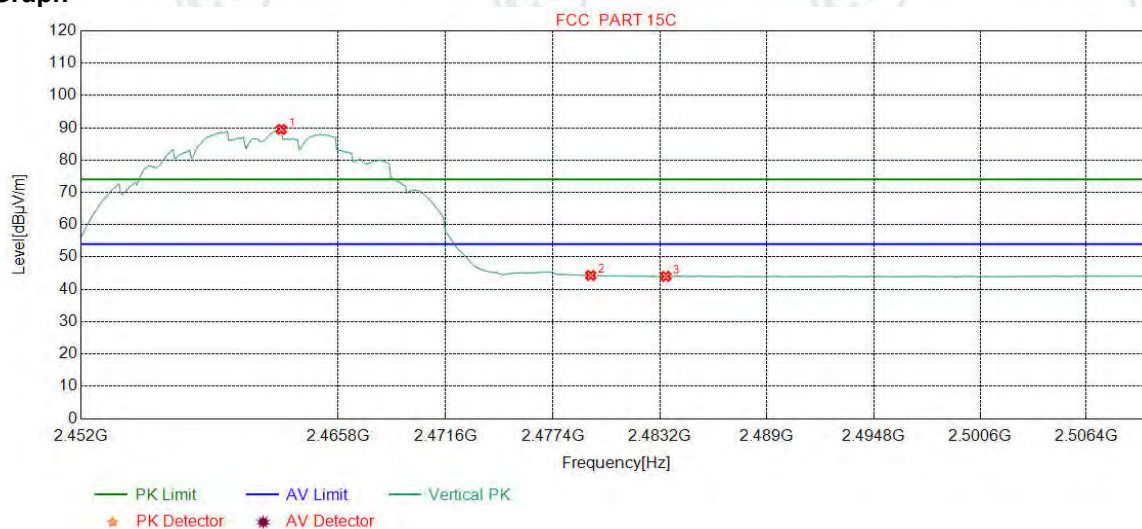
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2461.0738   | 32.35           | 13.48           | -42.41          | 91.21          | 94.63          | 54.00          | -40.63      | Pass   | Horizontal |
| 2  | 2483.5000   | 32.38           | 13.38           | -42.40          | 40.77          | 44.13          | 54.00          | 9.87        | Pass   | Horizontal |

|         |                               |          |      |
|---------|-------------------------------|----------|------|
| Mode:   | 802.11 b(11Mbps) Transmitting | Channel: | 2462 |
| Remark: | Average                       |          |      |

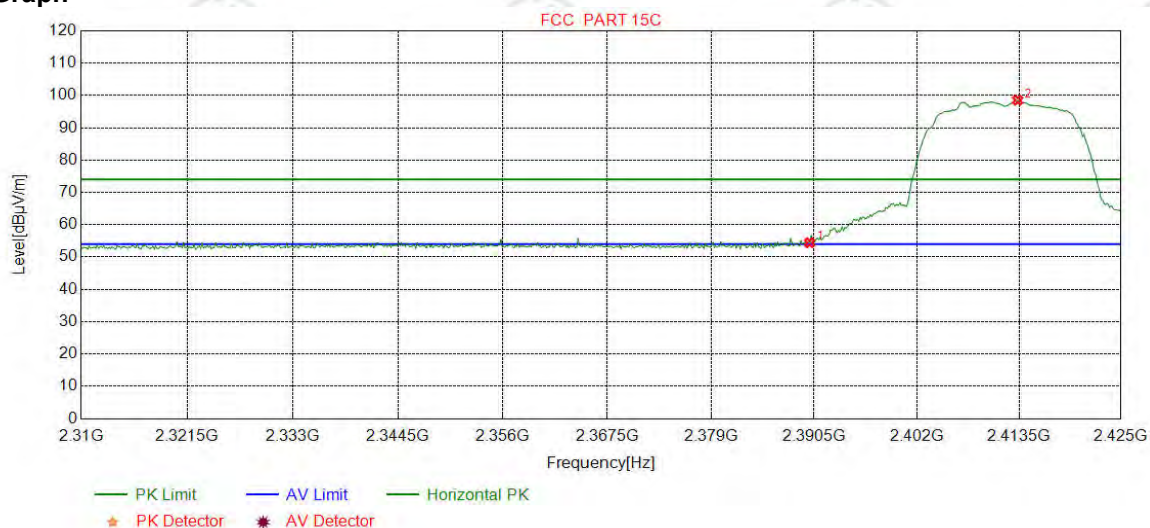
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2462.7434   | 32.35           | 13.47           | -42.41          | 86.09          | 89.50          | 54.00          | -35.50      | Pass   | Vertical |
| 2  | 2479.4393   | 32.37           | 13.39           | -42.39          | 40.94          | 44.31          | 54.00          | 9.69        | Pass   | Vertical |
| 3  | 2483.5000   | 32.38           | 13.38           | -42.40          | 40.66          | 44.02          | 54.00          | 9.98        | Pass   | Vertical |

|         |                              |          |      |
|---------|------------------------------|----------|------|
| Mode:   | 802.11 g(6Mbps) Transmitting | Channel: | 2412 |
| Remark: | Peak                         |          |      |

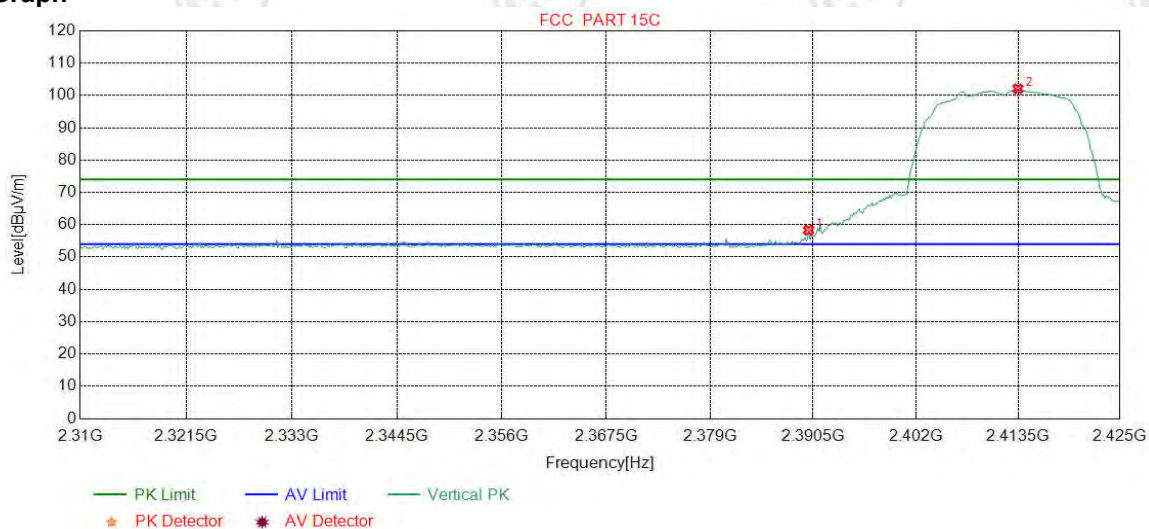
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 51.26          | 54.44          | 74.00          | 19.56       | Pass   | Horizontal |
| 2  | 2413.3417   | 32.28           | 13.36           | -42.43          | 95.32          | 98.53          | 74.00          | -24.53      | Pass   | Horizontal |

|         |                              |          |      |
|---------|------------------------------|----------|------|
| Mode:   | 802.11 g(6Mbps) Transmitting | Channel: | 2412 |
| Remark: | Peak                         |          |      |

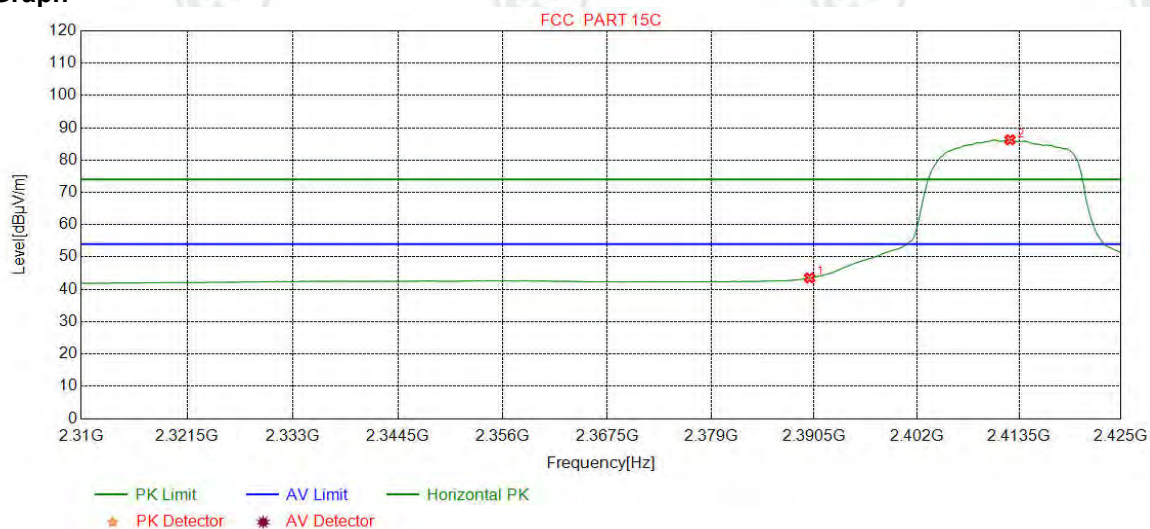
Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 55.15          | 58.33          | 74.00          | 15.67       | Pass   | Vertical |
| 2  | 2413.4856   | 32.28           | 13.36           | -42.43          | 98.85          | 102.06         | 74.00          | -28.06      | Pass   | Vertical |

|         |                              |          |      |
|---------|------------------------------|----------|------|
| Mode:   | 802.11 g(6Mbps) Transmitting | Channel: | 2412 |
| Remark: | Average                      |          |      |

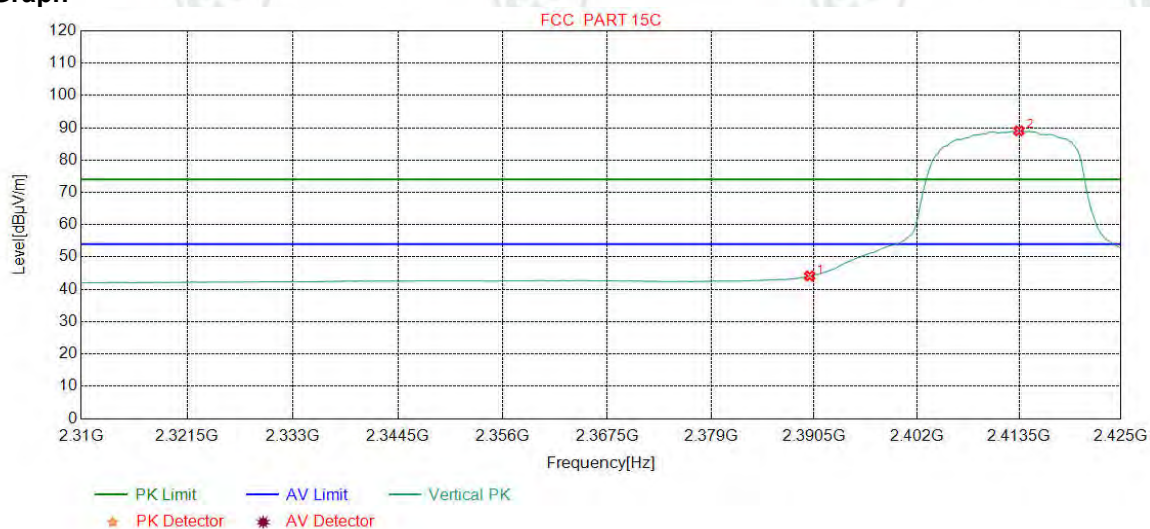
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 40.37          | 43.55          | 54.00          | 10.45       | Pass   | Horizontal |
| 2  | 2412.4781   | 32.28           | 13.36           | -42.43          | 83.07          | 86.28          | 54.00          | -32.28      | Pass   | Horizontal |

|         |                              |          |      |
|---------|------------------------------|----------|------|
| Mode:   | 802.11 g(6Mbps) Transmitting | Channel: | 2412 |
| Remark: | Average                      |          |      |

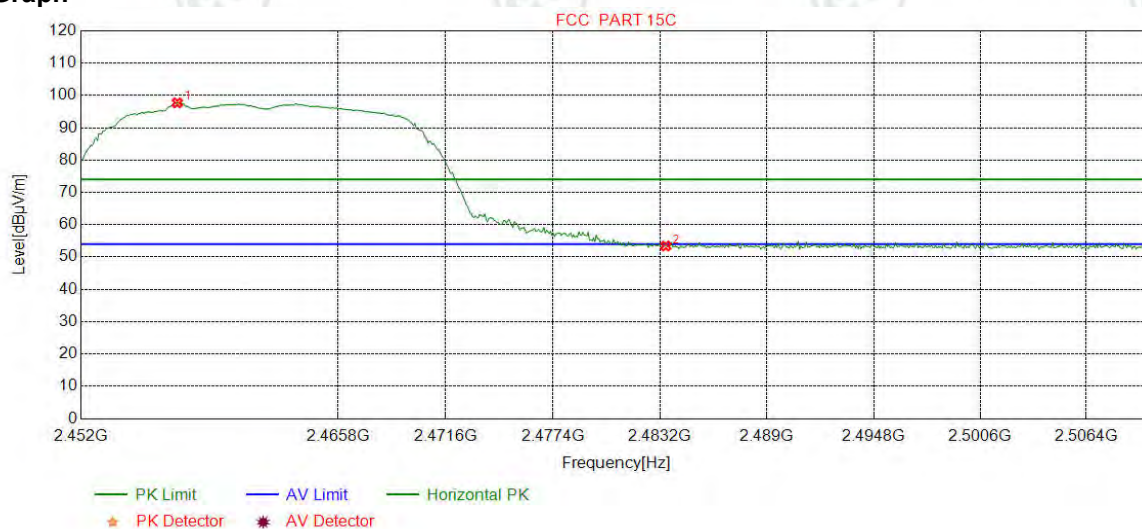
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 40.95          | 44.13          | 54.00          | 9.87        | Pass   | Vertical |
| 2  | 2413.4856   | 32.28           | 13.36           | -42.43          | 85.82          | 89.03          | 54.00          | -35.03      | Pass   | Vertical |

|         |                              |          |      |
|---------|------------------------------|----------|------|
| Mode:   | 802.11 g(6Mbps) Transmitting | Channel: | 2462 |
| Remark: | Peak                         |          |      |

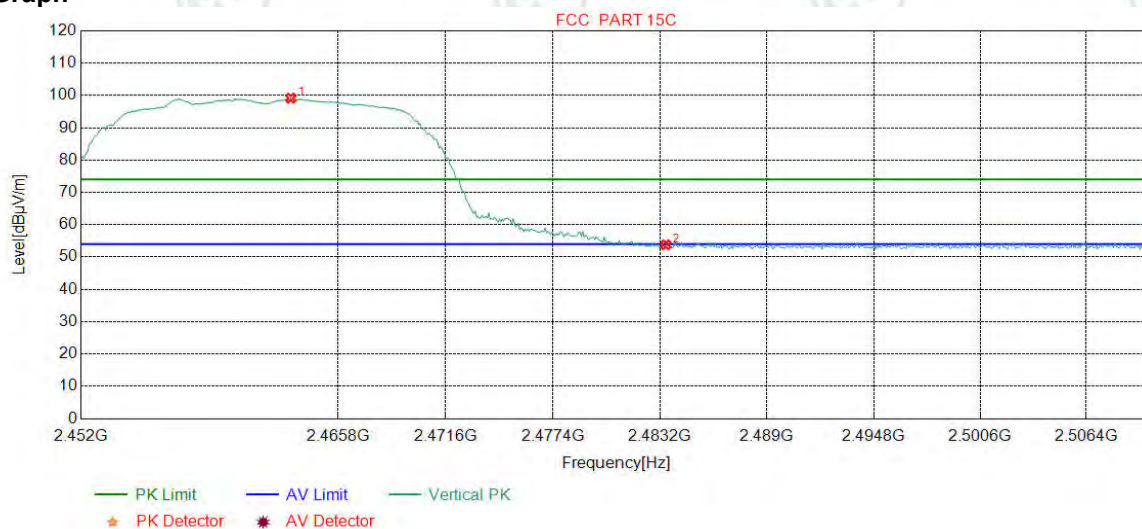
Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2457.1539   | 32.34           | 13.50           | -42.41          | 94.30          | 97.73          | 74.00          | -23.73      | Pass   | Horizontal |
| 2  | 2483.5000   | 32.38           | 13.38           | -42.40          | 50.05          | 53.41          | 74.00          | 20.59       | Pass   | Horizontal |

|         |                              |          |      |
|---------|------------------------------|----------|------|
| Mode:   | 802.11 g(6Mbps) Transmitting | Channel: | 2462 |
| Remark: | Peak                         |          |      |

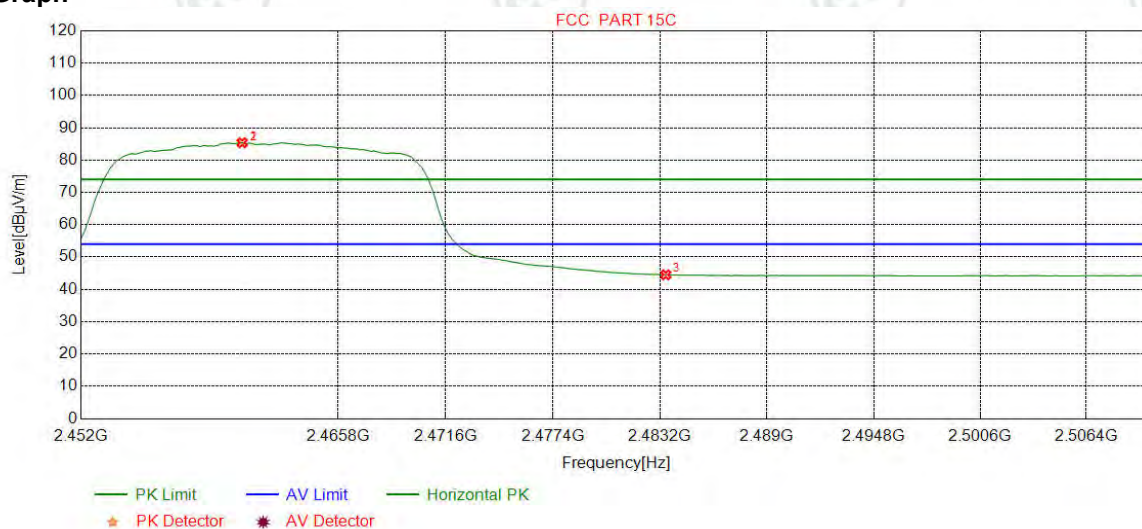
Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2463.2516   | 32.35           | 13.47           | -42.41          | 95.76          | 99.17          | 74.00          | -25.17      | Pass   | Vertical |
| 2  | 2483.5000   | 32.38           | 13.38           | -42.40          | 50.42          | 53.78          | 74.00          | 20.22       | Pass   | Vertical |

|         |                              |          |      |
|---------|------------------------------|----------|------|
| Mode:   | 802.11 g(6Mbps) Transmitting | Channel: | 2462 |
| Remark: | Average                      |          |      |

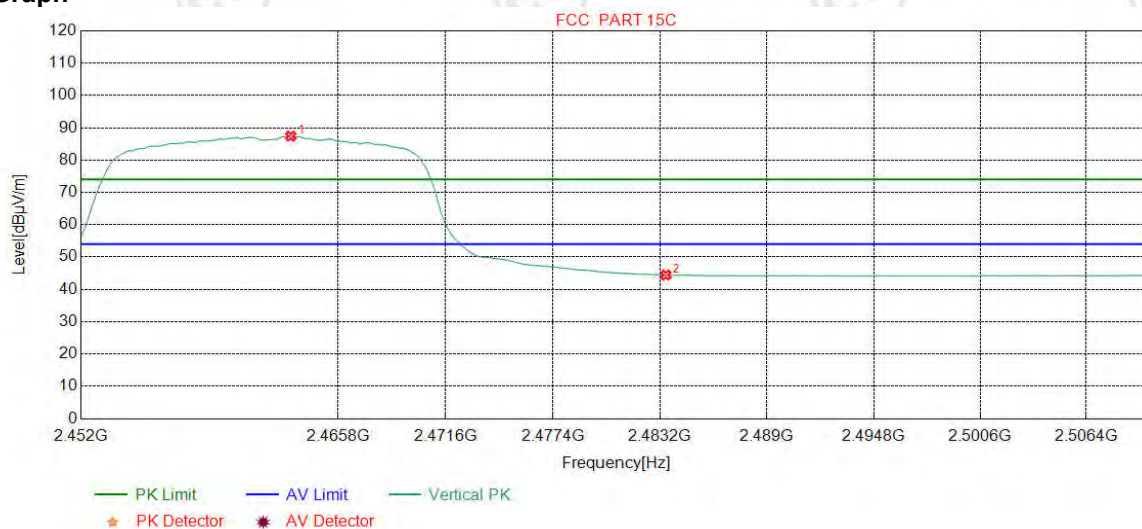
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2460.6383   | 32.34           | 13.48           | -42.40          | 81.95          | 85.37          | 54.00          | -31.37      | Pass   | Horizontal |
| 2  | 2460.6383   | 32.34           | 13.48           | -42.40          | 81.95          | 85.37          | 54.00          | -31.37      | Pass   | Horizontal |
| 3  | 2483.5000   | 32.38           | 13.38           | -42.40          | 41.15          | 44.51          | 54.00          | 9.49        | Pass   | Horizontal |

|         |                              |          |      |
|---------|------------------------------|----------|------|
| Mode:   | 802.11 g(6Mbps) Transmitting | Channel: | 2462 |
| Remark: | Average                      |          |      |

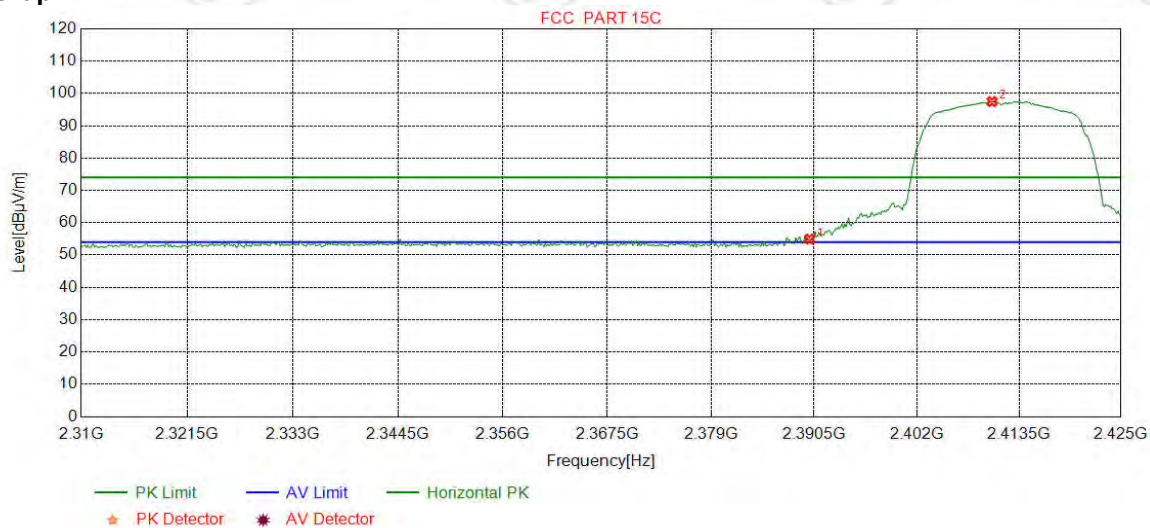
**Test Graph**



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2463.2516   | 32.35           | 13.47           | -42.41          | 84.00          | 87.41          | 54.00          | -33.41      | Pass   | Vertical |
| 2  | 2483.5000   | 32.38           | 13.38           | -42.40          | 41.08          | 44.44          | 54.00          | 9.56        | Pass   | Vertical |

|         |                                       |          |      |
|---------|---------------------------------------|----------|------|
| Mode:   | 802.11 n(HT20) (6.5Mbps) Transmitting | Channel: | 2412 |
| Remark: | Peak                                  |          |      |

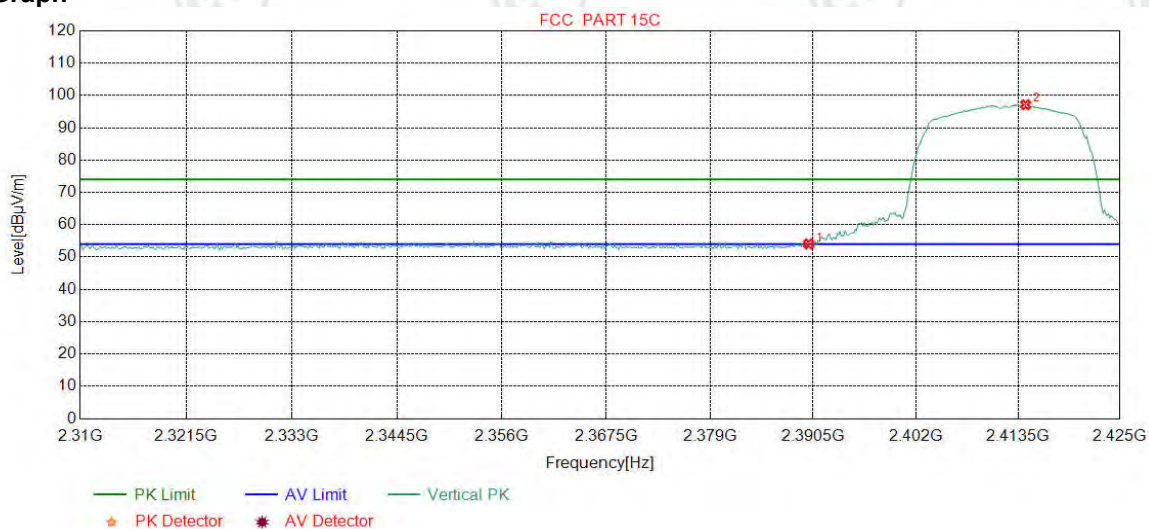
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 51.77          | 54.95          | 74.00          | 19.05       | Pass   | Horizontal |
| 2  | 2410.4631   | 32.27           | 13.35           | -42.43          | 94.31          | 97.50          | 74.00          | -23.50      | Pass   | Horizontal |

|         |                          |          |      |
|---------|--------------------------|----------|------|
| Mode:   | 802.11 n(HT20) (6.5Mbps) | Channel: | 2412 |
| Remark: | Peak                     |          |      |

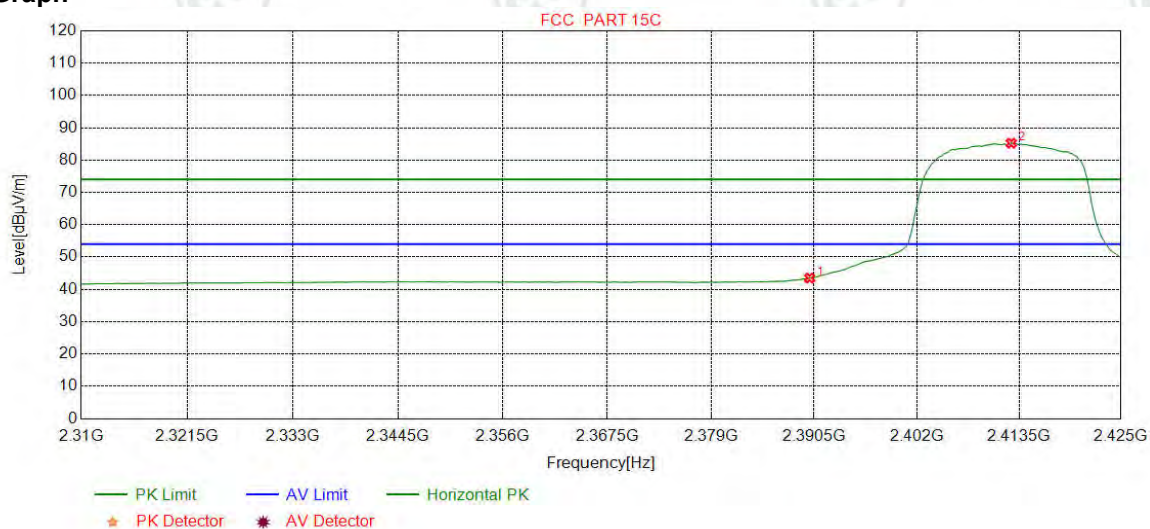
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 50.88          | 54.06          | 74.00          | 19.94       | Pass   | Vertical |
| 2  | 2414.3492   | 32.28           | 13.37           | -42.43          | 93.91          | 97.13          | 74.00          | -23.13      | Pass   | Vertical |

|         |                          |          |      |
|---------|--------------------------|----------|------|
| Mode:   | 802.11 n(HT20) (6.5Mbps) | Channel: | 2412 |
| Remark: | Average                  |          |      |

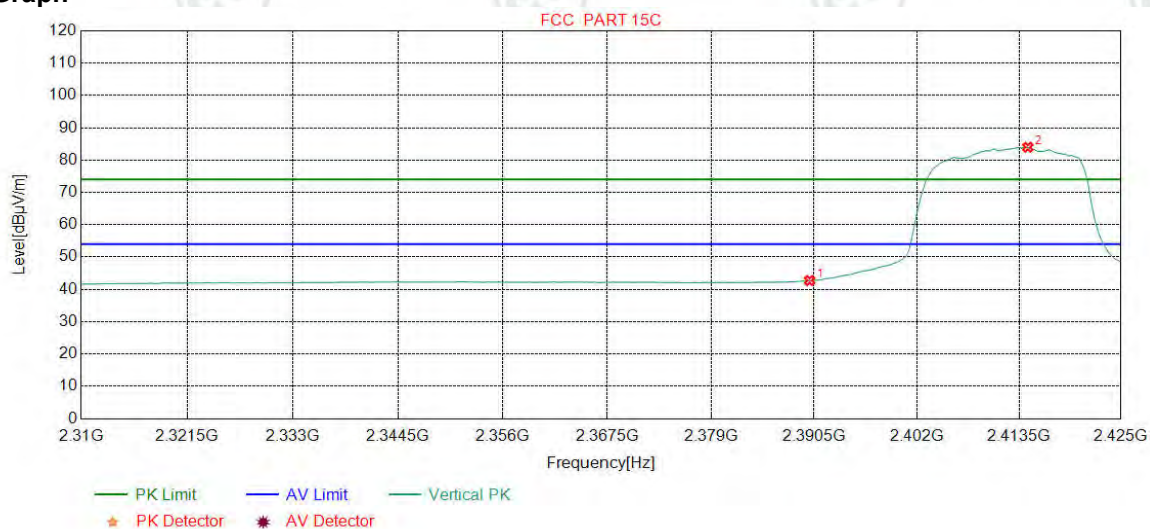
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 40.31          | 43.49          | 54.00          | 10.51       | Pass   | Horizontal |
| 2  | 2412.6220   | 32.28           | 13.36           | -42.43          | 82.03          | 85.24          | 54.00          | -31.24      | Pass   | Horizontal |

|         |                                       |          |      |
|---------|---------------------------------------|----------|------|
| Mode:   | 802.11 n(HT20) (6.5Mbps) Transmitting | Channel: | 2412 |
| Remark: | Average                               |          |      |

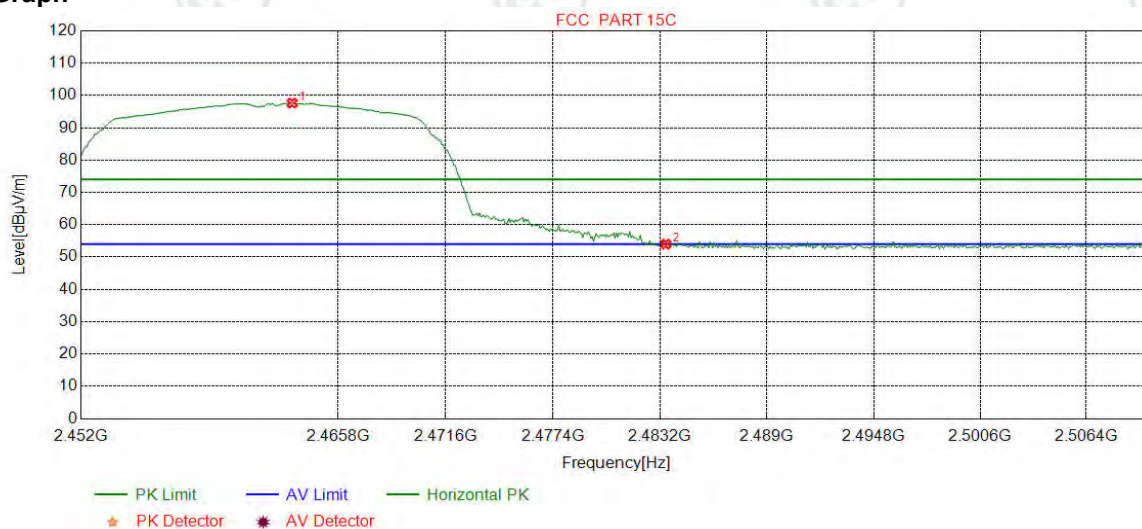
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 39.56          | 42.74          | 54.00          | 11.26       | Pass   | Vertical |
| 2  | 2414.4931   | 32.28           | 13.37           | -42.43          | 80.76          | 83.98          | 54.00          | -29.98      | Pass   | Vertical |

|         |                                       |          |      |
|---------|---------------------------------------|----------|------|
| Mode:   | 802.11 n(HT20) (6.5Mbps) Transmitting | Channel: | 2462 |
| Remark: | Peak                                  |          |      |

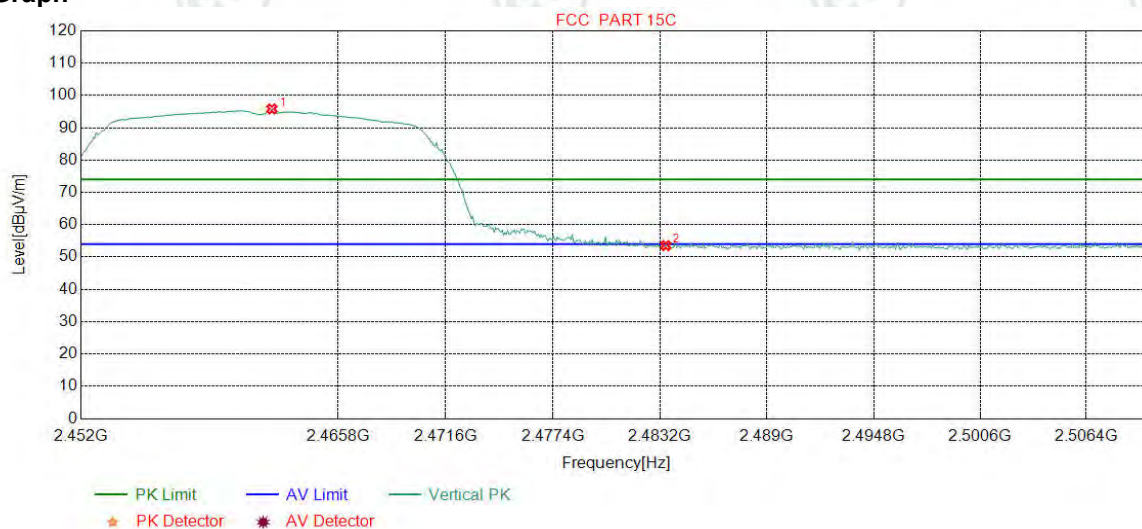
Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2463.3242   | 32.35           | 13.47           | -42.41          | 94.24          | 97.65          | 74.00          | -23.65      | Pass   | Horizontal |
| 2  | 2483.5000   | 32.38           | 13.38           | -42.40          | 50.66          | 54.02          | 74.00          | 19.98       | Pass   | Horizontal |

|         |                                       |          |      |
|---------|---------------------------------------|----------|------|
| Mode:   | 802.11 n(HT20) (6.5Mbps) Transmitting | Channel: | 2462 |
| Remark: | Peak                                  |          |      |

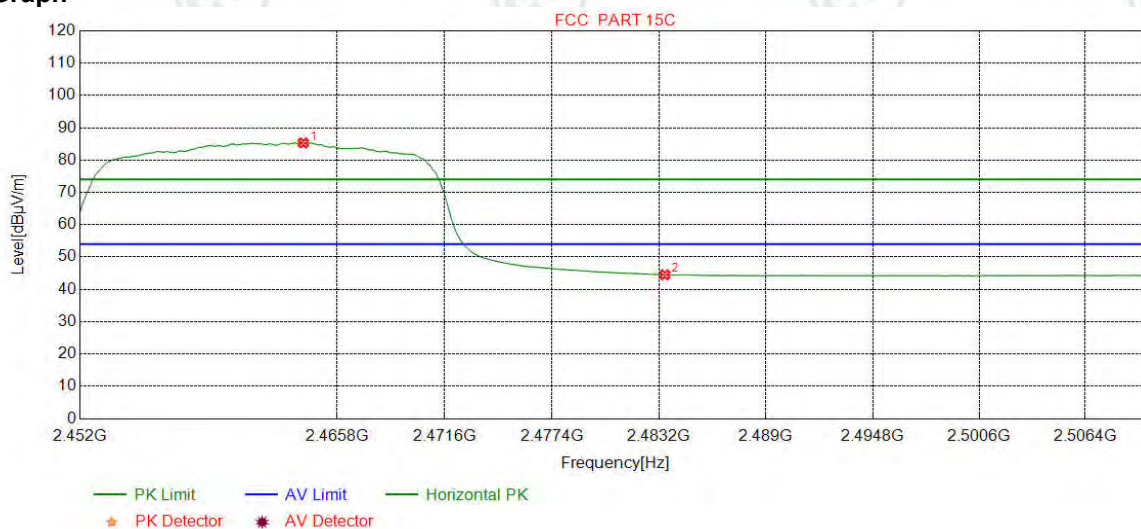
Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2462.2353   | 32.35           | 13.47           | -42.41          | 92.43          | 95.84          | 74.00          | -21.84      | Pass   | Vertical |
| 2  | 2483.5000   | 32.38           | 13.38           | -42.40          | 50.19          | 53.55          | 74.00          | 20.45       | Pass   | Vertical |

|         |                          |          |      |
|---------|--------------------------|----------|------|
| Mode:   | 802.11 n(HT20) (6.5Mbps) | Channel: | 2462 |
| Remark: | Average                  |          |      |

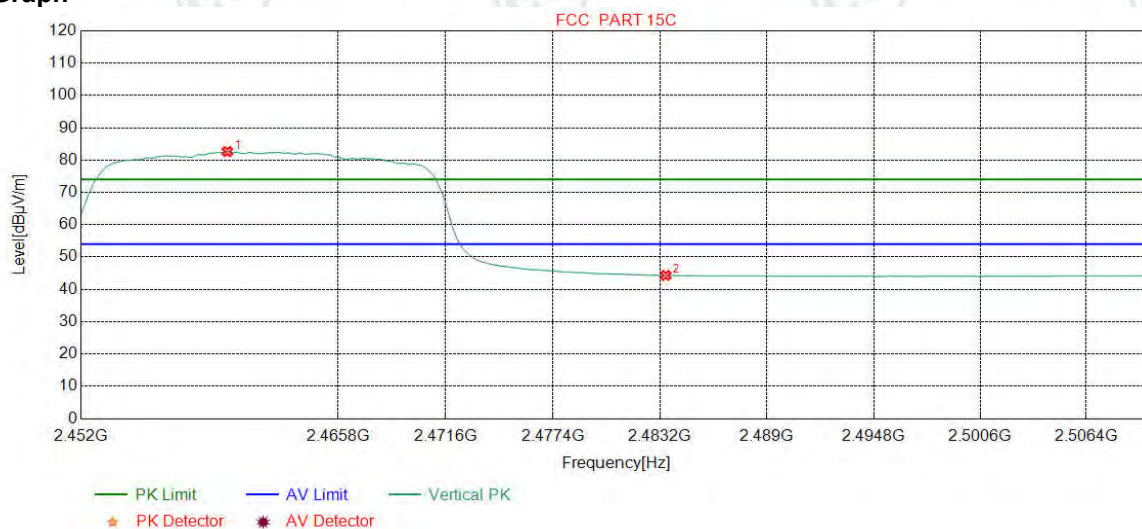
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2463.9775   | 32.35           | 13.47           | -42.41          | 81.91          | 85.32          | 54.00          | -31.32      | Pass   | Horizontal |
| 2  | 2483.5000   | 32.38           | 13.38           | -42.40          | 41.16          | 44.52          | 54.00          | 9.48        | Pass   | Horizontal |

|         |                          |          |      |
|---------|--------------------------|----------|------|
| Mode:   | 802.11 n(HT20) (6.5Mbps) | Channel: | 2462 |
| Remark: | Average                  |          |      |

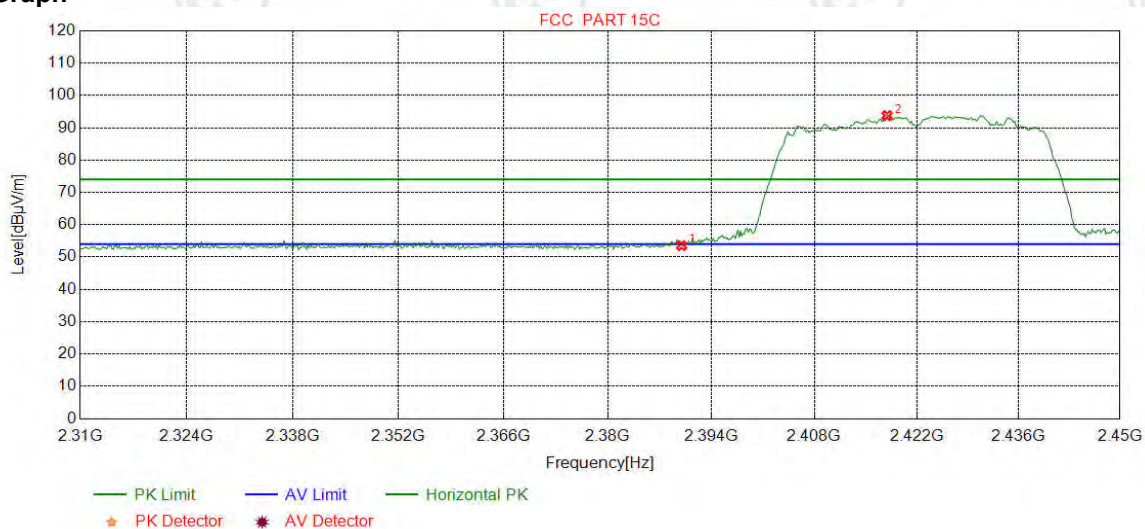
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2459.8398   | 32.34           | 13.48           | -42.40          | 79.22          | 82.64          | 54.00          | -28.64      | Pass   | Vertical |
| 2  | 2483.5000   | 32.38           | 13.38           | -42.40          | 40.97          | 44.33          | 54.00          | 9.67        | Pass   | Vertical |

|         |                                        |          |      |
|---------|----------------------------------------|----------|------|
| Mode:   | 802.11 n(HT40) (13.5Mbps) Transmitting | Channel: | 2422 |
| Remark: | Peak                                   |          |      |

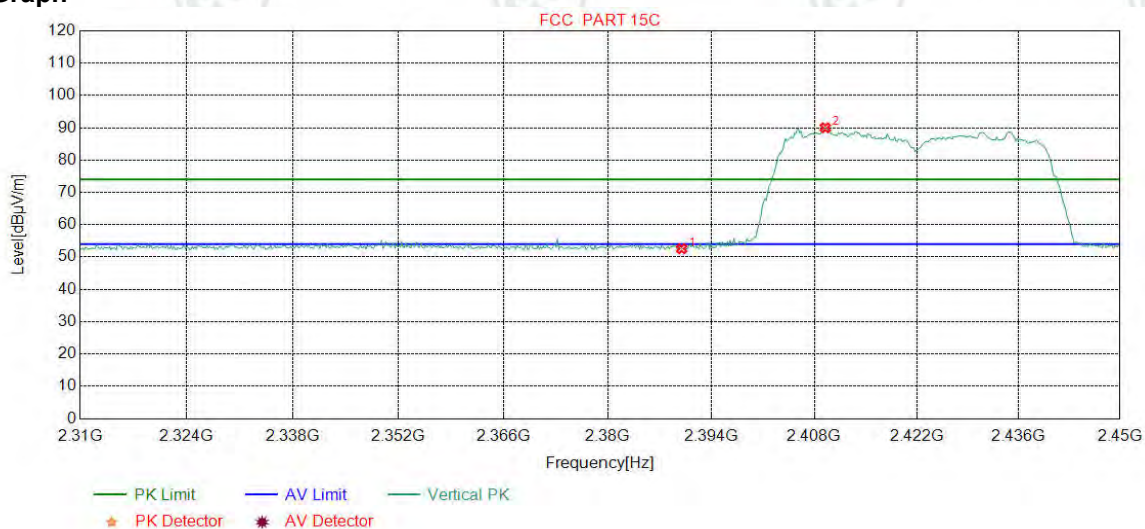
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 50.35          | 53.53          | 74.00          | 20.47       | Pass   | Horizontal |
| 2  | 2417.9349   | 32.29           | 13.38           | -42.43          | 90.52          | 93.76          | 74.00          | -19.76      | Pass   | Horizontal |

|         |                           |          |      |
|---------|---------------------------|----------|------|
| Mode:   | 802.11 n(HT40) (13.5Mbps) | Channel: | 2422 |
| Remark: | Peak                      |          |      |

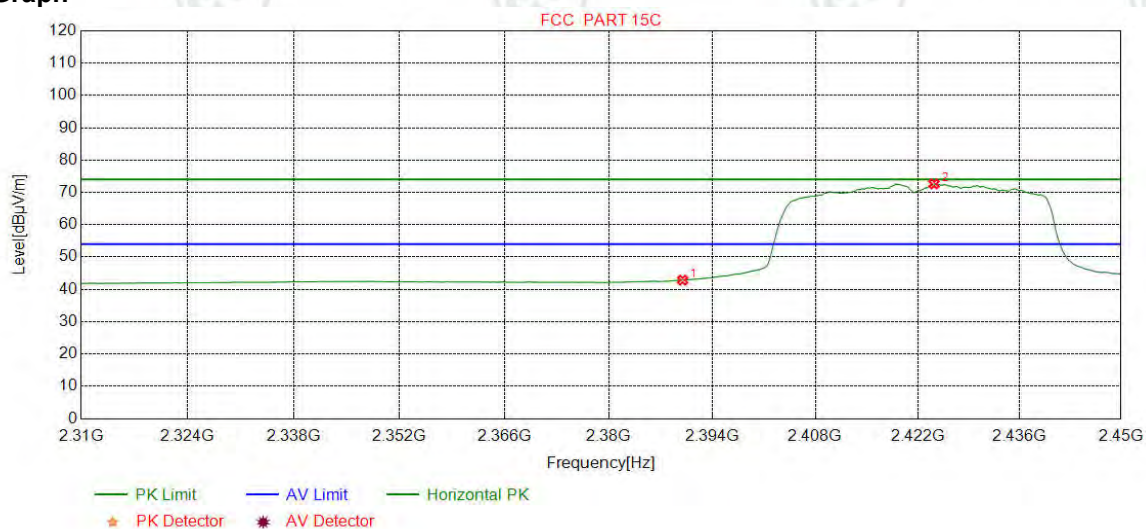
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 49.39          | 52.57          | 74.00          | 21.43       | Pass   | Vertical |
| 2  | 2409.5244   | 32.27           | 13.34           | -42.42          | 86.82          | 90.01          | 74.00          | -16.01      | Pass   | Vertical |

|         |                                        |          |      |
|---------|----------------------------------------|----------|------|
| Mode:   | 802.11 n(HT40) (13.5Mbps) Transmitting | Channel: | 2422 |
| Remark: | Average                                |          |      |

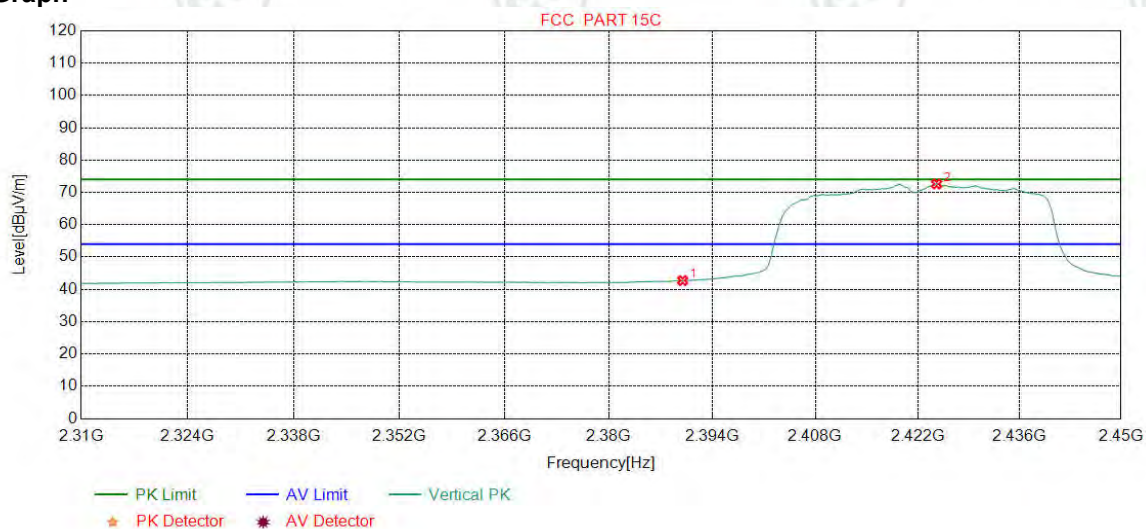
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 39.69          | 42.87          | 54.00          | 11.13       | Pass   | Horizontal |
| 2  | 2424.2428   | 32.29           | 13.41           | -42.42          | 69.36          | 72.64          | 54.00          | -18.64      | Pass   | Horizontal |

|         |                                        |          |      |
|---------|----------------------------------------|----------|------|
| Mode:   | 802.11 n(HT40) (13.5Mbps) Transmitting | Channel: | 2422 |
| Remark: | Average                                |          |      |

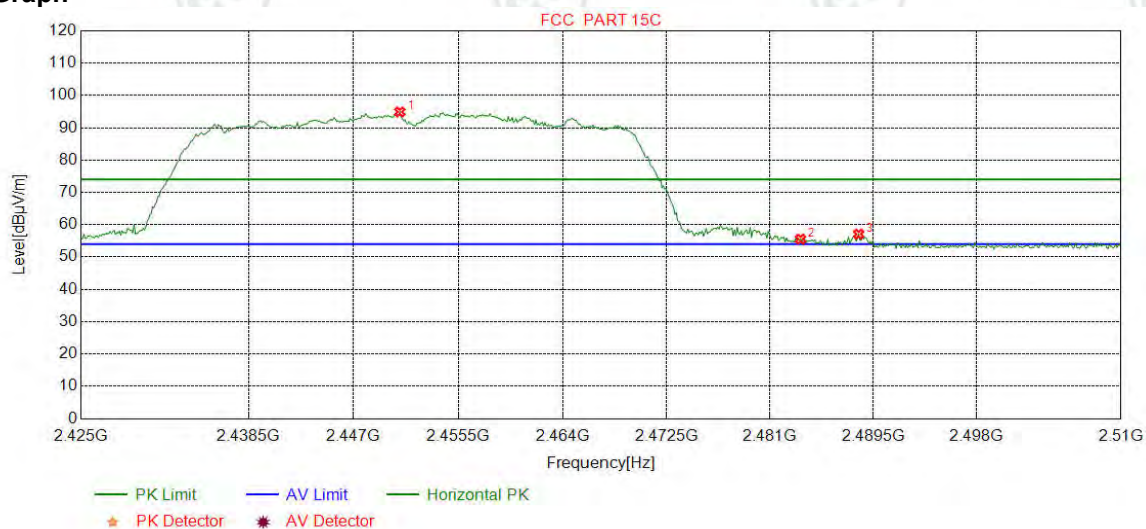
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2390.0000   | 32.25           | 13.37           | -42.44          | 39.55          | 42.73          | 54.00          | 11.27       | Pass   | Vertical |
| 2  | 2424.5932   | 32.29           | 13.41           | -42.42          | 69.33          | 72.61          | 54.00          | -18.61      | Pass   | Vertical |

|         |                                        |          |      |
|---------|----------------------------------------|----------|------|
| Mode:   | 802.11 n(HT40) (13.5Mbps) Transmitting | Channel: | 2452 |
| Remark: | Peak                                   |          |      |

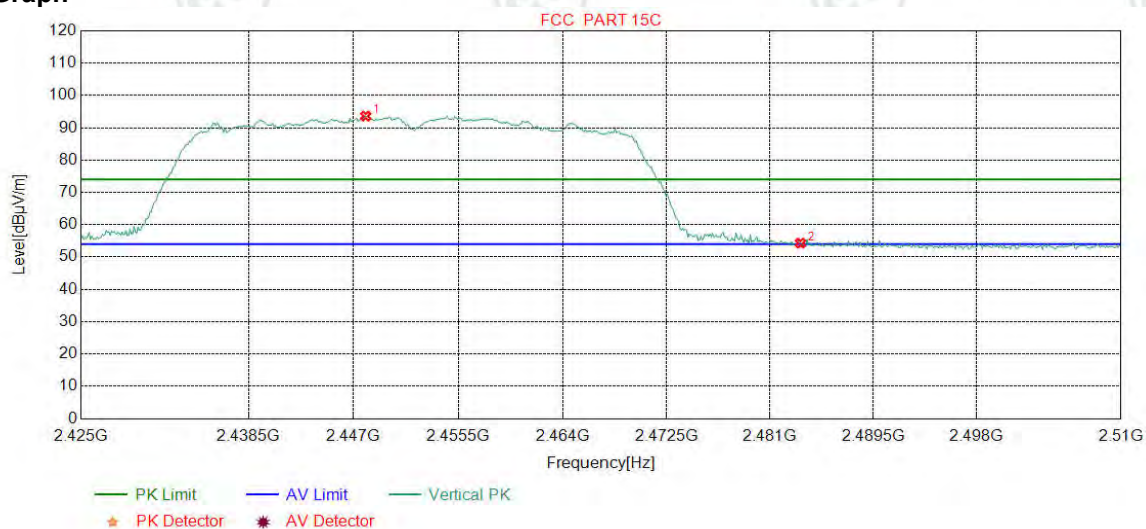
**Test Graph**



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2450.7447   | 32.33           | 13.53           | -42.41          | 91.46          | 94.91          | 74.00          | -20.91      | Pass   | Horizontal |
| 2  | 2483.5000   | 32.38           | 13.38           | -42.40          | 52.19          | 55.55          | 74.00          | 18.45       | Pass   | Horizontal |
| 3  | 2488.2979   | 32.38           | 13.35           | -42.39          | 53.75          | 57.09          | 74.00          | 16.91       | Pass   | Horizontal |

|         |                                        |          |      |
|---------|----------------------------------------|----------|------|
| Mode:   | 802.11 n(HT40) (13.5Mbps) Transmitting | Channel: | 2452 |
| Remark: | Peak                                   |          |      |

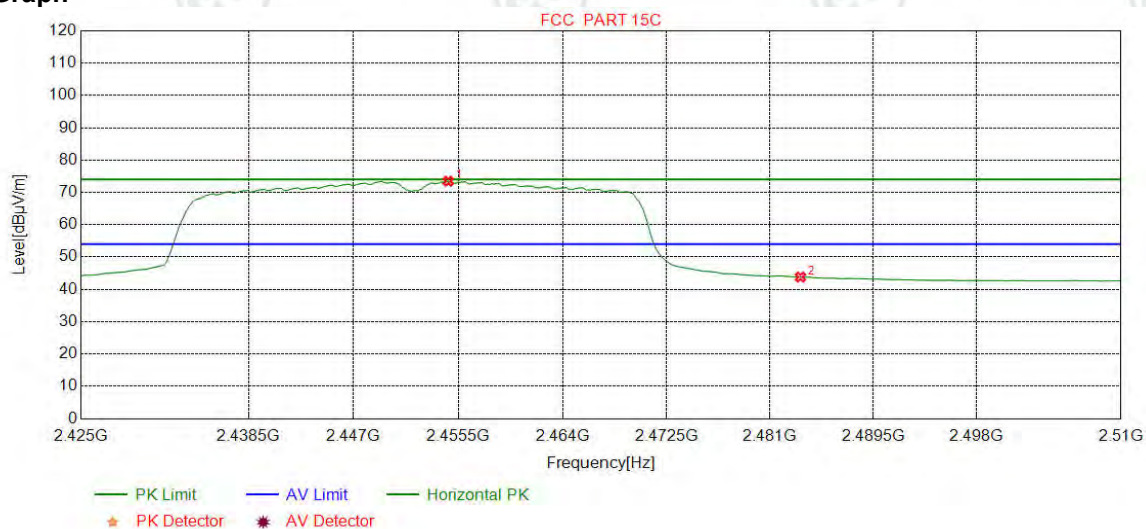
**Test Graph**



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2447.9787   | 32.33           | 13.52           | -42.42          | 90.20          | 93.63          | 74.00          | -19.63      | Pass   | Vertical |
| 2  | 2483.5000   | 32.38           | 13.38           | -42.40          | 50.95          | 54.31          | 74.00          | 19.69       | Pass   | Vertical |

|         |                           |          |      |
|---------|---------------------------|----------|------|
| Mode:   | 802.11 n(HT40) (13.5Mbps) | Channel: | 2452 |
| Remark: | Average                   |          |      |

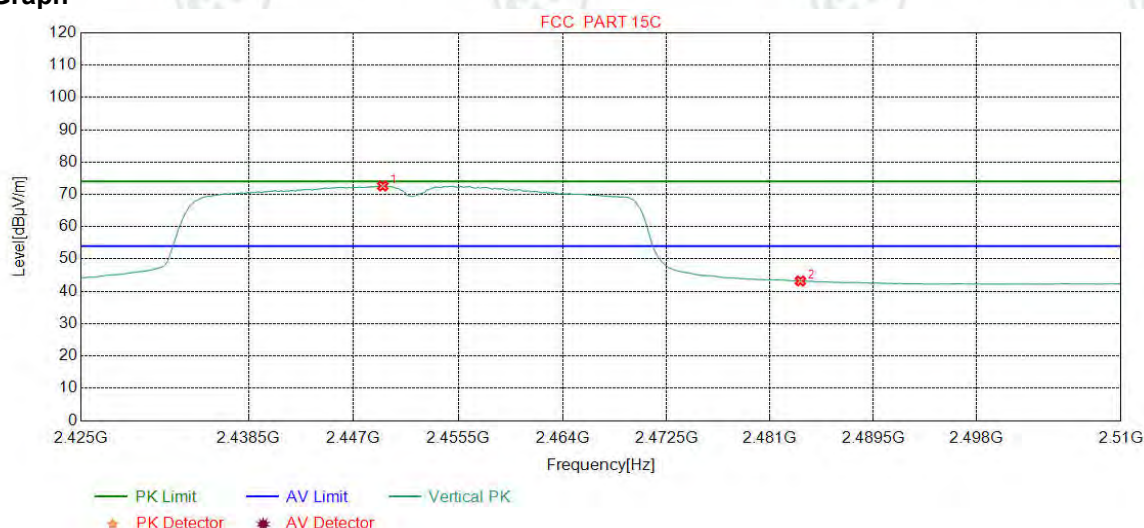
### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| 1  | 2454.6809   | 32.34           | 13.51           | -42.41          | 70.03          | 73.47          | 54.00          | -19.47      | Pass   | Horizontal |
| 2  | 2483.5000   | 32.38           | 13.38           | -42.40          | 40.46          | 43.82          | 54.00          | 10.18       | Pass   | Horizontal |

|         |                           |          |      |
|---------|---------------------------|----------|------|
| Mode:   | 802.11 n(HT40) (13.5Mbps) | Channel: | 2452 |
| Remark: | Average                   |          |      |

### Test Graph



| NO | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
|----|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| 1  | 2449.3617   | 32.33           | 13.53           | -42.42          | 69.17          | 72.61          | 54.00          | -18.61      | Pass   | Vertical |
| 2  | 2483.5000   | 32.38           | 13.38           | -42.40          | 39.85          | 43.21          | 54.00          | 10.79       | Pass   | Vertical |

### Note:

1) Through Pre-scan transmitting mode and charge+transmitter mode with all kind of modulation and data rate, find the 11Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g; 6.5Mbps of rate is the worst case of 802.11n(HT20) ; 13.5Mbps of rate is the worst case of 802.11n(HT40), and then Only the worst case is recorded in the report.

2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor - Antenna Factor - Cable Factor

## Appendix I): Radiated Spurious Emissions

Receiver Setup:

|                   |            |        |        |            |
|-------------------|------------|--------|--------|------------|
| Frequency         | Detector   | RBW    | VBW    | Remark     |
| 0.009MHz-0.090MHz | Peak       | 10kHz  | 30kHz  | Peak       |
| 0.009MHz-0.090MHz | Average    | 10kHz  | 30kHz  | Average    |
| 0.090MHz-0.110MHz | Quasi-peak | 10kHz  | 30kHz  | Quasi-peak |
| 0.110MHz-0.490MHz | Peak       | 10kHz  | 30kHz  | Peak       |
| 0.110MHz-0.490MHz | Average    | 10kHz  | 30kHz  | Average    |
| 0.490MHz -30MHz   | Quasi-peak | 10kHz  | 30kHz  | Quasi-peak |
| 30MHz-1GHz        | Quasi-peak | 120kHz | 300kHz | Quasi-peak |
| Above 1GHz        | Peak       | 1MHz   | 3MHz   | Peak       |
|                   | Peak       | 1MHz   | 10Hz   | Average    |

Test Procedure:

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 meter to 1.5 meter( Above 18GHz the distance is 1 meter and table is 1.5 meter)..

h. Test the EUT in the lowest channel ,the middle channel ,the Highest channel

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.

j. Repeat above procedures until all frequencies measured was complete.

Limit:

|                   |                                  |                |            |                          |
|-------------------|----------------------------------|----------------|------------|--------------------------|
| Frequency         | Field strength (microvolt/meter) | Limit (dBμV/m) | Remark     | Measurement distance (m) |
| 0.009MHz-0.490MHz | 2400/F(kHz)                      | -              | -          | 300                      |
| 0.490MHz-1.705MHz | 24000/F(kHz)                     | -              | -          | 30                       |
| 1.705MHz-30MHz    | 30                               | -              | -          | 30                       |
| 30MHz-88MHz       | 100                              | 40.0           | Quasi-peak | 3                        |
| 88MHz-216MHz      | 150                              | 43.5           | Quasi-peak | 3                        |
| 216MHz-960MHz     | 200                              | 46.0           | Quasi-peak | 3                        |
| 960MHz-1GHz       | 500                              | 54.0           | Quasi-peak | 3                        |
| Above 1GHz        | 500                              | 54.0           | Average    | 3                        |

Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

## Radiated Spurious Emissions test Data:

### Radiated Emission below 1GHz

|         |                               |          |      |
|---------|-------------------------------|----------|------|
| Mode:   | 802.11 b(11Mbps) Transmitting | Channel: | 2412 |
| Remark: |                               |          |      |

| Suspected List |             |                 |                 |                 |                |                |                |            |        |            |
|----------------|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|------------|--------|------------|
| NO             | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Magin [dB] | Result | Polarity   |
| 1              | 95.9666     | 10.35           | 1.13            | -32.07          | 52.97          | 32.38          | 43.50          | 11.12      | Pass   | Horizontal |
| 2              | 132.0542    | 7.60            | 1.34            | -32.01          | 56.10          | 33.03          | 43.50          | 10.47      | Pass   | Horizontal |
| 3              | 219.5570    | 11.41           | 1.77            | -31.95          | 59.03          | 40.26          | 46.00          | 5.74       | Pass   | Horizontal |
| 4              | 408.0468    | 15.53           | 2.41            | -31.82          | 54.97          | 41.09          | 46.00          | 4.91       | Pass   | Horizontal |
| 5              | 516.0186    | 17.32           | 2.71            | -31.93          | 52.01          | 40.11          | 46.00          | 5.89       | Pass   | Horizontal |
| 6              | 708.0978    | 19.89           | 3.18            | -32.13          | 50.16          | 41.10          | 46.00          | 4.90       | Pass   | Horizontal |

|         |                               |          |      |
|---------|-------------------------------|----------|------|
| Mode:   | 802.11 b(11Mbps) Transmitting | Channel: | 2412 |
| Remark: |                               |          |      |

| Suspected List |             |                 |                 |                 |                |                |                |            |        |          |
|----------------|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|------------|--------|----------|
| NO             | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Magin [dB] | Result | Polarity |
| 1              | 227.9968    | 11.63           | 1.79            | -31.92          | 58.98          | 40.48          | 46.00          | 5.52       | Pass   | Vertical |
| 2              | 252.0552    | 12.24           | 1.89            | -31.89          | 57.88          | 40.12          | 46.00          | 5.88       | Pass   | Vertical |
| 3              | 263.9874    | 12.48           | 1.94            | -31.88          | 58.49          | 41.03          | 46.00          | 4.97       | Pass   | Vertical |
| 4              | 396.0176    | 15.31           | 2.37            | -31.78          | 51.47          | 37.37          | 46.00          | 8.63       | Pass   | Vertical |
| 5              | 467.9988    | 16.49           | 2.58            | -31.87          | 48.99          | 36.19          | 46.00          | 9.81       | Pass   | Vertical |
| 6              | 708.0008    | 19.89           | 3.18            | -32.13          | 49.65          | 40.59          | 46.00          | 5.41       | Pass   | Vertical |

|         |                              |          |      |
|---------|------------------------------|----------|------|
| Mode:   | 802.11 g(6Mbps) Transmitting | Channel: | 2462 |
| Remark: |                              |          |      |

| Suspected List |             |                 |                 |                 |                |                |                |             |        |            |
|----------------|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|------------|
| NO             | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity   |
| 1              | 132.0542    | 7.60            | 1.34            | -32.01          | 62.73          | 39.66          | 43.50          | 3.84        | Pass   | Horizontal |
| 2              | 408.0468    | 15.53           | 2.41            | -31.82          | 54.81          | 40.93          | 46.00          | 5.07        | Pass   | Horizontal |
| 3              | 480.0280    | 16.68           | 2.61            | -31.90          | 50.88          | 38.27          | 46.00          | 7.73        | Pass   | Horizontal |
| 4              | 528.0478    | 17.56           | 2.75            | -31.91          | 50.28          | 38.68          | 46.00          | 7.32        | Pass   | Horizontal |
| 5              | 756.1176    | 20.42           | 3.30            | -32.05          | 47.48          | 39.15          | 46.00          | 6.85        | Pass   | Horizontal |
| 6              | 780.0790    | 20.68           | 3.34            | -32.01          | 47.01          | 39.02          | 46.00          | 6.98        | Pass   | Horizontal |

|         |                              |          |      |
|---------|------------------------------|----------|------|
| Mode:   | 802.11 g(6Mbps) Transmitting | Channel: | 2462 |
| Remark: |                              |          |      |

| Suspected List |             |                 |                 |                 |                |                |                |             |        |          |
|----------------|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|
| NO             | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity |
| 1              | 70.6471     | 8.88            | 0.96            | -32.06          | 56.94          | 34.72          | 40.00          | 5.28        | Pass   | Vertical |
| 2              | 276.0166    | 12.72           | 1.98            | -31.91          | 55.70          | 38.49          | 46.00          | 7.51        | Pass   | Vertical |
| 3              | 420.0760    | 15.72           | 2.45            | -31.84          | 51.81          | 38.14          | 46.00          | 7.86        | Pass   | Vertical |
| 4              | 492.0572    | 16.87           | 2.65            | -31.89          | 49.34          | 36.97          | 46.00          | 9.03        | Pass   | Vertical |
| 5              | 564.0384    | 18.28           | 2.81            | -32.00          | 47.03          | 36.12          | 46.00          | 9.88        | Pass   | Vertical |
| 6              | 708.0978    | 19.89           | 3.18            | -32.13          | 45.70          | 36.64          | 46.00          | 9.36        | Pass   | Vertical |

|         |                                       |          |      |
|---------|---------------------------------------|----------|------|
| Mode:   | 802.11 n(HT20) (6.5Mbps) Transmitting | Channel: | 2437 |
| Remark: |                                       |          |      |

| Suspected List |             |                 |                 |                 |                |                |                |            |        |            |
|----------------|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|------------|--------|------------|
| NO             | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Magin [dB] | Result | Polarity   |
| 1              | 78.8929     | 7.31            | 1.03            | -32.06          | 59.95          | 36.23          | 40.00          | 3.77       | Pass   | Horizontal |
| 2              | 84.1314     | 8.05            | 1.06            | -32.08          | 57.99          | 35.02          | 40.00          | 4.98       | Pass   | Horizontal |
| 3              | 254.5775    | 12.29           | 1.90            | -31.89          | 56.95          | 39.25          | 46.00          | 6.75       | Pass   | Horizontal |
| 4              | 280.0910    | 12.80           | 1.99            | -31.93          | 57.57          | 40.43          | 46.00          | 5.57       | Pass   | Horizontal |
| 5              | 312.0072    | 13.46           | 2.10            | -31.89          | 56.98          | 40.65          | 46.00          | 5.35       | Pass   | Horizontal |
| 6              | 756.0206    | 20.42           | 3.30            | -32.05          | 47.36          | 39.03          | 46.00          | 6.97       | Pass   | Horizontal |

|         |                                       |          |      |
|---------|---------------------------------------|----------|------|
| Mode:   | 802.11 n(HT20) (6.5Mbps) Transmitting | Channel: | 2437 |
| Remark: |                                       |          |      |

| Suspected List |             |                 |                 |                 |                |                |                |            |        |          |
|----------------|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|------------|--------|----------|
| NO             | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Magin [dB] | Result | Polarity |
| 1              | 79.7660     | 7.14            | 1.04            | -32.07          | 58.48          | 34.59          | 40.00          | 5.41       | Pass   | Vertical |
| 2              | 96.0636     | 10.37           | 1.13            | -32.07          | 59.13          | 38.56          | 43.50          | 4.94       | Pass   | Vertical |
| 3              | 180.0740    | 9.01            | 1.58            | -31.99          | 58.43          | 37.03          | 43.50          | 6.47       | Pass   | Vertical |
| 4              | 252.0552    | 12.24           | 1.89            | -31.89          | 56.75          | 38.99          | 46.00          | 7.01       | Pass   | Vertical |
| 5              | 467.9988    | 16.49           | 2.58            | -31.87          | 52.56          | 39.76          | 46.00          | 6.24       | Pass   | Vertical |
| 6              | 516.0186    | 17.32           | 2.71            | -31.93          | 52.08          | 40.18          | 46.00          | 5.82       | Pass   | Vertical |

|         |                                        |          |      |
|---------|----------------------------------------|----------|------|
| Mode:   | 802.11 n(HT40) (13.5Mbps) Transmitting | Channel: | 2437 |
| Remark: |                                        |          |      |

| Suspected List |             |                 |                 |                 |                |                |                |            |        |            |
|----------------|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|------------|--------|------------|
| NO             | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Magin [dB] | Result | Polarity   |
| 1              | 72.0052     | 8.62            | 0.97            | -32.05          | 54.59          | 32.13          | 40.00          | 7.87       | Pass   | Horizontal |
| 2              | 84.0344     | 8.03            | 1.06            | -32.08          | 56.41          | 33.42          | 40.00          | 6.58       | Pass   | Horizontal |
| 3              | 204.0354    | 11.00           | 1.69            | -31.94          | 57.92          | 38.67          | 43.50          | 4.83       | Pass   | Horizontal |
| 4              | 312.0072    | 13.46           | 2.10            | -31.89          | 56.98          | 40.65          | 46.00          | 5.35       | Pass   | Horizontal |
| 5              | 408.0468    | 15.53           | 2.41            | -31.82          | 54.59          | 40.71          | 46.00          | 5.29       | Pass   | Horizontal |
| 6              | 492.0572    | 16.87           | 2.65            | -31.89          | 53.05          | 40.68          | 46.00          | 5.32       | Pass   | Horizontal |

|         |                                        |          |      |
|---------|----------------------------------------|----------|------|
| Mode:   | 802.11 n(HT40) (13.5Mbps) Transmitting | Channel: | 2437 |
| Remark: |                                        |          |      |

| Suspected List |             |                 |                 |                 |                |                |                |            |        |          |
|----------------|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|------------|--------|----------|
| NO             | Freq. [MHz] | Ant Factor [dB] | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Magin [dB] | Result | Polarity |
| 1              | 96.0636     | 10.37           | 1.13            | -32.07          | 57.95          | 37.38          | 43.50          | 6.12       | Pass   | Vertical |
| 2              | 156.0156    | 7.76            | 1.46            | -31.99          | 62.20          | 39.43          | 43.50          | 4.07       | Pass   | Vertical |
| 3              | 204.0354    | 11.00           | 1.69            | -31.94          | 55.54          | 36.29          | 43.50          | 7.21       | Pass   | Vertical |
| 4              | 263.9874    | 12.48           | 1.94            | -31.88          | 56.40          | 38.94          | 46.00          | 7.06       | Pass   | Vertical |
| 5              | 420.0760    | 15.72           | 2.45            | -31.84          | 51.58          | 37.91          | 46.00          | 8.09       | Pass   | Vertical |
| 6              | 467.9988    | 16.49           | 2.58            | -31.87          | 52.91          | 40.11          | 46.00          | 5.89       | Pass   | Vertical |

Remark : All the channels are tested, only the worst data were reported.

**Radiated Emission above 1GHz**

| Mode: |             | 802.11 b(11Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2412   |          |        |
|-------|-------------|-------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]               | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 2850.5851   | 32.96                         | 4.23            | -42.20          | 53.69          | 48.68          | 74.00          | 25.32       | Pass   | H        | PK     |
| 2     | 4824.1216   | 34.50                         | 4.61            | -40.65          | 56.12          | 54.58          | 74.00          | 19.42       | Pass   | H        | PK     |
| 3     | 6431.2287   | 35.89                         | 5.44            | -41.18          | 47.27          | 47.42          | 74.00          | 26.58       | Pass   | H        | PK     |
| 4     | 8151.3434   | 36.46                         | 6.42            | -40.87          | 46.88          | 48.89          | 74.00          | 25.11       | Pass   | H        | PK     |
| 5     | 10336.489   | 38.27                         | 6.90            | -40.92          | 46.61          | 50.86          | 74.00          | 23.14       | Pass   | H        | PK     |
| 6     | 12088.605   | 39.35                         | 7.63            | -41.18          | 46.13          | 51.93          | 74.00          | 22.07       | Pass   | H        | PK     |
| 7     | 4823.3225   | 34.50                         | 4.61            | -40.64          | 51.49          | 49.96          | 54.00          | 4.04        | Pass   | H        | AV     |

| Mode: |             | 802.11 b(11Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2412   |          |        |
|-------|-------------|-------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]               | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1870.8871   | 30.85                         | 3.40            | -42.68          | 56.07          | 47.64          | 74.00          | 26.36       | Pass   | V        | PK     |
| 2     | 2996.3996   | 33.19                         | 4.54            | -42.12          | 51.10          | 46.71          | 74.00          | 27.29       | Pass   | V        | PK     |
| 3     | 4824.1216   | 34.50                         | 4.61            | -40.65          | 54.46          | 52.92          | 74.00          | 21.08       | Pass   | V        | PK     |
| 4     | 7201.2801   | 36.30                         | 5.82            | -41.02          | 47.82          | 48.92          | 74.00          | 25.08       | Pass   | V        | PK     |
| 5     | 10664.511   | 38.53                         | 7.01            | -41.15          | 46.79          | 51.18          | 74.00          | 22.82       | Pass   | V        | PK     |
| 6     | 12206.613   | 39.42                         | 7.68            | -41.17          | 45.88          | 51.81          | 74.00          | 22.19       | Pass   | V        | PK     |
| 7     | 4823.2865   | 34.50                         | 4.61            | -40.64          | 47.04          | 45.51          | 54.00          | 8.49        | Pass   | V        | AV     |

| Mode: |             | 802.11 b(11Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2437   |          |        |
|-------|-------------|-------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]               | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1794.0794   | 30.34                         | 3.31            | -42.71          | 56.05          | 46.99          | 74.00          | 27.01       | Pass   | H        | PK     |
| 2     | 3201.0134   | 33.28                         | 4.65            | -42.00          | 50.53          | 46.46          | 74.00          | 27.54       | Pass   | H        | PK     |
| 3     | 4874.1249   | 34.50                         | 4.78            | -40.61          | 56.33          | 55.00          | 74.00          | 19.00       | Pass   | H        | PK     |
| 4     | 6498.2332   | 35.90                         | 5.47            | -41.19          | 47.43          | 47.61          | 74.00          | 26.39       | Pass   | H        | PK     |
| 5     | 8125.3417   | 36.45                         | 6.29            | -40.89          | 47.60          | 49.45          | 74.00          | 24.55       | Pass   | H        | PK     |
| 6     | 11249.550   | 38.75                         | 7.24            | -41.25          | 46.53          | 51.27          | 74.00          | 22.73       | Pass   | H        | PK     |
| 7     | 4873.3412   | 34.50                         | 4.77            | -40.60          | 51.89          | 50.56          | 54.00          | 3.44        | Pass   | H        | AV     |

| Mode: |             | 802.11 b(11Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2437   |          |        |
|-------|-------------|-------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]               | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1839.2839   | 30.64                         | 3.37            | -42.69          | 55.19          | 46.51          | 74.00          | 27.49       | Pass   | V        | PK     |
| 2     | 3276.0184   | 33.31                         | 4.52            | -41.96          | 52.18          | 48.05          | 74.00          | 25.95       | Pass   | V        | PK     |
| 3     | 4874.1249   | 34.50                         | 4.78            | -40.61          | 52.81          | 51.48          | 74.00          | 22.52       | Pass   | V        | PK     |
| 4     | 6255.2170   | 35.85                         | 5.36            | -41.14          | 46.18          | 46.25          | 74.00          | 27.75       | Pass   | V        | PK     |
| 5     | 7658.3106   | 36.54                         | 6.17            | -40.85          | 46.90          | 48.76          | 74.00          | 25.24       | Pass   | V        | PK     |
| 6     | 10757.517   | 38.55                         | 7.07            | -41.14          | 46.60          | 51.08          | 74.00          | 22.92       | Pass   | V        | PK     |
| 7     | 4873.2232   | 34.50                         | 4.77            | -40.60          | 45.66          | 44.33          | 54.00          | 9.67        | Pass   | V        | AV     |

| Mode: |             | 802.11 b(11Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2462   |          |        |
|-------|-------------|-------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]               | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1594.6595   | 29.02                         | 3.07            | -42.89          | 55.80          | 45.00          | 74.00          | 29.00       | Pass   | H        | PK     |
| 2     | 3216.0144   | 33.29                         | 4.59            | -42.00          | 51.17          | 47.05          | 74.00          | 26.95       | Pass   | H        | PK     |
| 3     | 4924.1283   | 34.50                         | 4.85            | -40.56          | 55.62          | 54.41          | 74.00          | 19.59       | Pass   | H        | PK     |
| 4     | 5931.1954   | 35.69                         | 5.22            | -41.03          | 46.64          | 46.52          | 74.00          | 27.48       | Pass   | H        | PK     |
| 5     | 8326.3551   | 36.53                         | 6.14            | -40.71          | 47.48          | 49.44          | 74.00          | 24.56       | Pass   | H        | PK     |
| 6     | 9492.4328   | 37.60                         | 6.52            | -40.86          | 46.52          | 49.78          | 74.00          | 24.22       | Pass   | H        | PK     |
| 7     | 4923.2106   | 34.50                         | 4.85            | -40.56          | 49.35          | 48.14          | 54.00          | 5.86        | Pass   | H        | AV     |

| Mode: |             | 802.11 b(11Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2462   |          |        |
|-------|-------------|-------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]               | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1394.2394   | 28.29                         | 2.89            | -42.68          | 57.36          | 45.86          | 74.00          | 28.14       | Pass   | V        | PK     |
| 2     | 3181.0121   | 33.27                         | 4.62            | -42.01          | 50.34          | 46.22          | 74.00          | 27.78       | Pass   | V        | PK     |
| 3     | 4924.1283   | 34.50                         | 4.85            | -40.56          | 51.64          | 50.43          | 74.00          | 23.57       | Pass   | V        | PK     |
| 4     | 6248.2165   | 35.85                         | 5.35            | -41.14          | 46.56          | 46.62          | 74.00          | 27.38       | Pass   | V        | PK     |
| 5     | 8349.3566   | 36.54                         | 6.17            | -40.69          | 46.94          | 48.96          | 74.00          | 25.04       | Pass   | V        | PK     |
| 6     | 10807.520   | 38.56                         | 7.19            | -41.13          | 46.36          | 50.98          | 74.00          | 23.02       | Pass   | V        | PK     |

| Mode: |             | 802.11 g(6Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2412   |          |        |
|-------|-------------|------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]              | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1197.8198   | 28.10                        | 2.66            | -42.89          | 56.58          | 44.45          | 74.00          | 29.55       | Pass   | H        | PK     |
| 2     | 1446.4446   | 28.35                        | 2.95            | -42.68          | 54.73          | 43.35          | 74.00          | 30.65       | Pass   | H        | PK     |
| 3     | 1919.4919   | 31.17                        | 3.42            | -42.65          | 53.06          | 45.00          | 74.00          | 29.00       | Pass   | H        | PK     |
| 4     | 4830.1220   | 34.50                        | 4.62            | -40.63          | 65.14          | 63.63          | 74.00          | 10.37       | Pass   | H        | PK     |
| 5     | 7228.2819   | 36.33                        | 5.80            | -41.00          | 52.10          | 53.23          | 74.00          | 20.77       | Pass   | H        | PK     |
| 6     | 9586.4391   | 37.63                        | 6.66            | -40.78          | 45.57          | 49.08          | 74.00          | 24.92       | Pass   | H        | PK     |
| 7     | 4825.3140   | 34.50                        | 4.61            | -40.64          | 49.07          | 47.54          | 54.00          | 6.46        | Pass   | H        | AV     |
| 8     | 7233.2499   | 36.33                        | 5.79            | -40.99          | 39.44          | 40.57          | 54.00          | 13.43       | Pass   | H        | AV     |
| 9     | 4825.8107   | 34.50                        | 4.61            | -40.64          | 51.43          | 49.90          | 54.00          | 4.10        | Pass   | H        | AV     |
| 10    | 7232.5719   | 36.33                        | 5.79            | -40.99          | 40.51          | 41.64          | 54.00          | 12.36       | Pass   | H        | AV     |

| Mode: |             | 802.11 g(6Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2412   |          |        |
|-------|-------------|------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]              | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1197.6198   | 28.10                        | 2.66            | -42.89          | 54.85          | 42.72          | 74.00          | 31.28       | Pass   | V        | PK     |
| 2     | 1394.0394   | 28.29                        | 2.89            | -42.68          | 58.47          | 46.97          | 74.00          | 27.03       | Pass   | V        | PK     |
| 3     | 1967.2967   | 31.48                        | 3.44            | -42.62          | 56.74          | 49.04          | 74.00          | 24.96       | Pass   | V        | PK     |
| 4     | 4823.1215   | 34.50                        | 4.60            | -40.64          | 66.36          | 64.82          | 74.00          | 9.18        | Pass   | V        | PK     |
| 5     | 7237.2825   | 36.34                        | 5.79            | -40.99          | 54.72          | 55.86          | 74.00          | 18.14       | Pass   | V        | PK     |
| 6     | 9080.4054   | 37.68                        | 6.46            | -40.71          | 44.93          | 48.36          | 74.00          | 25.64       | Pass   | V        | PK     |
| 7     | 4824.7379   | 34.50                        | 4.61            | -40.64          | 48.96          | 47.43          | 54.00          | 6.57        | Pass   | V        | AV     |
| 8     | 7234.9833   | 36.33                        | 5.79            | -40.99          | 41.68          | 42.81          | 54.00          | 11.19       | Pass   | V        | AV     |
| 9     | 4821.9938   | 34.50                        | 4.60            | -40.65          | 50.90          | 49.35          | 54.00          | 4.65        | Pass   | V        | AV     |
| 10    | 7235.7561   | 36.34                        | 5.79            | -40.99          | 32.46          | 33.60          | 54.00          | 20.40       | Pass   | V        | AV     |

| Mode: |             | 802.11 g(6Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2437   |          |        |
|-------|-------------|------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]              | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1197.0197   | 28.10                        | 2.66            | -42.89          | 58.04          | 45.91          | 74.00          | 28.09       | Pass   | H        | PK     |
| 2     | 1397.8398   | 28.30                        | 2.90            | -42.69          | 53.75          | 42.26          | 74.00          | 31.74       | Pass   | H        | PK     |
| 3     | 1933.6934   | 31.26                        | 3.42            | -42.64          | 51.03          | 43.07          | 74.00          | 30.93       | Pass   | H        | PK     |
| 4     | 4873.1249   | 34.50                        | 4.77            | -40.60          | 64.51          | 63.18          | 74.00          | 10.82       | Pass   | H        | PK     |
| 5     | 7314.2876   | 36.41                        | 5.85            | -40.92          | 52.83          | 54.17          | 74.00          | 19.83       | Pass   | H        | PK     |
| 6     | 9584.4390   | 37.63                        | 6.67            | -40.78          | 45.57          | 49.09          | 74.00          | 24.91       | Pass   | H        | PK     |
| 7     | 4874.8420   | 34.50                        | 4.78            | -40.60          | 49.67          | 48.35          | 54.00          | 5.65        | Pass   | H        | AV     |
| 8     | 7312.9032   | 36.41                        | 5.85            | -40.93          | 38.57          | 39.90          | 54.00          | 14.10       | Pass   | H        | AV     |

| Mode: |             | 802.11 g(6Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2437   |          |        |
|-------|-------------|------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]              | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1398.0398   | 28.30                        | 2.90            | -42.69          | 56.29          | 44.80          | 74.00          | 29.20       | Pass   | V        | PK     |
| 2     | 1795.6796   | 30.35                        | 3.31            | -42.70          | 53.78          | 44.74          | 74.00          | 29.26       | Pass   | V        | PK     |
| 3     | 1983.2983   | 31.59                        | 3.45            | -42.62          | 57.72          | 50.14          | 74.00          | 23.86       | Pass   | V        | PK     |
| 4     | 4873.1249   | 34.50                        | 4.77            | -40.60          | 61.99          | 60.66          | 74.00          | 13.34       | Pass   | V        | PK     |
| 5     | 7313.2876   | 36.41                        | 5.85            | -40.92          | 54.39          | 55.73          | 74.00          | 18.27       | Pass   | V        | PK     |
| 6     | 9564.4376   | 37.63                        | 6.74            | -40.81          | 45.87          | 49.43          | 74.00          | 24.57       | Pass   | V        | PK     |
| 7     | 4874.7247   | 34.50                        | 4.78            | -40.60          | 48.01          | 46.69          | 54.00          | 7.31        | Pass   | V        | AV     |
| 8     | 7310.7051   | 36.41                        | 5.85            | -40.93          | 41.82          | 43.15          | 54.00          | 10.85       | Pass   | V        | AV     |

| Mode: |             | 802.11 g(6Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2462   |          |        |
|-------|-------------|------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]              | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1198.4198   | 28.10                        | 2.66            | -42.89          | 57.75          | 45.62          | 74.00          | 28.38       | Pass   | H        | PK     |
| 2     | 1395.6396   | 28.30                        | 2.89            | -42.69          | 53.02          | 41.52          | 74.00          | 32.48       | Pass   | H        | PK     |
| 3     | 1703.8704   | 29.75                        | 3.20            | -42.66          | 51.11          | 41.40          | 74.00          | 32.60       | Pass   | H        | PK     |
| 4     | 4922.1281   | 34.50                        | 4.85            | -40.56          | 60.92          | 59.71          | 74.00          | 14.29       | Pass   | H        | PK     |
| 5     | 7388.2926   | 36.49                        | 5.85            | -40.87          | 49.52          | 50.99          | 74.00          | 23.01       | Pass   | H        | PK     |
| 6     | 10242.482   | 38.14                        | 6.83            | -40.78          | 45.87          | 50.06          | 74.00          | 23.94       | Pass   | H        | PK     |
| 7     | 4922.1280   | 34.50                        | 4.85            | -40.56          | 48.96          | 47.75          | 54.00          | 6.25        | Pass   | H        | AV     |
| 8     | 7388.2926   | 36.49                        | 5.85            | -40.87          | 44.82          | 46.29          | 54.00          | 7.71        | Pass   | H        | AV     |

| Mode: |             | 802.11 g(6Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2462   |          |        |
|-------|-------------|------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]              | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1196.0196   | 28.10                        | 2.66            | -42.89          | 53.75          | 41.62          | 74.00          | 32.38       | Pass   | V        | PK     |
| 2     | 1398.0398   | 28.30                        | 2.90            | -42.69          | 56.57          | 45.08          | 74.00          | 28.92       | Pass   | V        | PK     |
| 3     | 1798.4798   | 30.37                        | 3.32            | -42.71          | 52.64          | 43.62          | 74.00          | 30.38       | Pass   | V        | PK     |
| 4     | 4920.1280   | 34.50                        | 4.86            | -40.57          | 58.80          | 57.59          | 74.00          | 16.41       | Pass   | V        | PK     |
| 5     | 7386.2924   | 36.49                        | 5.85            | -40.87          | 50.00          | 51.47          | 74.00          | 22.53       | Pass   | V        | PK     |
| 6     | 10268.484   | 38.18                        | 6.83            | -40.82          | 44.19          | 48.38          | 74.00          | 25.62       | Pass   | V        | PK     |
| 7     | 4920.1280   | 34.50                        | 4.86            | -40.57          | 48.61          | 47.40          | 54.00          | 6.60        | Pass   | V        | AV     |
| 8     | 7386.2924   | 36.49                        | 5.85            | -40.87          | 43.62          | 45.09          | 54.00          | 8.91        | Pass   | V        | AV     |

| Mode: |             | 802.11 n(HT20) (6.5Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2412   |          |        |
|-------|-------------|---------------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]                       | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1198.4198   | 28.10                                 | 2.66            | -42.89          | 57.84          | 45.71          | 74.00          | 28.29       | Pass   | H        | PK     |
| 2     | 1395.4395   | 28.30                                 | 2.89            | -42.69          | 54.01          | 42.51          | 74.00          | 31.49       | Pass   | H        | PK     |
| 3     | 1938.8939   | 31.30                                 | 3.42            | -42.64          | 56.96          | 49.04          | 74.00          | 24.96       | Pass   | H        | PK     |
| 4     | 4824.0000   | 34.50                                 | 4.61            | -40.65          | 43.77          | 42.23          | 74.00          | 31.77       | Pass   | H        | PK     |
| 5     | 7236.0000   | 36.34                                 | 5.79            | -40.99          | 43.76          | 44.90          | 74.00          | 29.10       | Pass   | H        | PK     |
| 6     | 9648.0000   | 37.66                                 | 6.72            | -40.73          | 42.78          | 46.43          | 74.00          | 27.57       | Pass   | H        | PK     |

| Mode: |             | 802.11 n(HT20) (6.5Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2412   |          |        |
|-------|-------------|---------------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]                       | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1396.8397   | 28.30                                 | 2.89            | -42.68          | 56.51          | 45.02          | 74.00          | 28.98       | Pass   | V        | PK     |
| 2     | 2338.7339   | 32.17                                 | 3.84            | -42.45          | 53.59          | 47.15          | 74.00          | 26.85       | Pass   | V        | PK     |
| 3     | 2734.5735   | 32.78                                 | 4.14            | -42.27          | 53.65          | 48.30          | 74.00          | 25.70       | Pass   | V        | PK     |
| 4     | 4824.0000   | 34.50                                 | 4.61            | -40.65          | 44.06          | 42.52          | 74.00          | 31.48       | Pass   | V        | PK     |
| 5     | 7236.0000   | 36.34                                 | 5.79            | -40.99          | 43.61          | 44.75          | 74.00          | 29.25       | Pass   | V        | PK     |
| 6     | 9648.0000   | 37.66                                 | 6.72            | -40.73          | 42.44          | 46.09          | 74.00          | 27.91       | Pass   | V        | PK     |

| Mode: |             | 802.11 n(HT20) (6.5Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2437   |          |        |
|-------|-------------|---------------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]                       | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1198.6199   | 28.10                                 | 2.66            | -42.89          | 57.39          | 45.26          | 74.00          | 28.74       | Pass   | H        | PK     |
| 2     | 1598.0598   | 29.05                                 | 3.07            | -42.90          | 54.31          | 43.53          | 74.00          | 30.47       | Pass   | H        | PK     |
| 3     | 3090.0060   | 33.24                                 | 4.74            | -42.07          | 50.18          | 46.09          | 74.00          | 27.91       | Pass   | H        | PK     |
| 4     | 4869.1246   | 34.50                                 | 4.76            | -40.61          | 60.52          | 59.17          | 74.00          | 14.83       | Pass   | H        | PK     |
| 5     | 4869.1246   | 34.50                                 | 4.76            | -40.61          | 51.24          | 49.89          | 54.00          | 4.11        | Pass   | H        | AV     |
| 6     | 7311.0000   | 36.41                                 | 5.85            | -40.93          | 46.37          | 47.70          | 74.00          | 26.30       | Pass   | H        | PK     |
| 7     | 9748.0000   | 37.70                                 | 6.77            | -40.63          | 42.97          | 46.81          | 74.00          | 27.19       | Pass   | H        | PK     |

| Mode: |             | 802.11 n(HT20) (6.5Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2437   |          |        |
|-------|-------------|---------------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]                       | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1396.6397   | 28.30                                 | 2.89            | -42.68          | 56.56          | 45.07          | 74.00          | 28.93       | Pass   | V        | PK     |
| 2     | 1449.6450   | 28.35                                 | 2.95            | -42.68          | 54.71          | 43.33          | 74.00          | 30.67       | Pass   | V        | PK     |
| 3     | 3200.0133   | 33.28                                 | 4.65            | -42.00          | 50.56          | 46.49          | 74.00          | 27.51       | Pass   | V        | PK     |
| 4     | 4874.0000   | 34.50                                 | 4.78            | -40.61          | 57.84          | 56.51          | 74.00          | 17.49       | Pass   | V        | PK     |
| 5     | 4874.122    | 34.50                                 | 4.78            | -40.61          | 51.4           | 50.07          | 54.00          | 3.93        | Pass   | V        | AV     |
| 6     | 7311.0000   | 36.41                                 | 5.85            | -40.93          | 45.92          | 47.25          | 74.00          | 26.75       | Pass   | V        | PK     |
| 7     | 9748.0000   | 37.70                                 | 6.77            | -40.63          | 43.63          | 47.47          | 74.00          | 26.53       | Pass   | V        | PK     |

| Mode: |             | 802.11 n(HT20) (6.5Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2462   |          |        |
|-------|-------------|---------------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]                       | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1199.2199   | 28.10                                 | 2.66            | -42.89          | 58.34          | 46.21          | 74.00          | 27.79       | Pass   | H        | PK     |
| 2     | 1399.8400   | 28.30                                 | 2.90            | -42.68          | 54.19          | 42.71          | 74.00          | 31.29       | Pass   | H        | PK     |
| 3     | 3066.0044   | 33.23                                 | 4.79            | -42.08          | 50.22          | 46.16          | 74.00          | 27.84       | Pass   | H        | PK     |
| 4     | 4925.1283   | 34.50                                 | 4.85            | -40.56          | 60.13          | 58.92          | 74.00          | 15.08       | Pass   | H        | PK     |
| 5     | 4925.1283   | 34.50                                 | 4.85            | -40.56          | 51.628         | 50.42          | 54.00          | 3.58        | Pass   | H        | AV     |
| 6     | 7386.0000   | 36.49                                 | 5.85            | -40.87          | 46.45          | 47.92          | 74.00          | 26.08       | Pass   | H        | PK     |
| 7     | 9848.0000   | 37.74                                 | 6.83            | -40.54          | 41.49          | 45.52          | 74.00          | 28.48       | Pass   | H        | PK     |

| Mode: |             | 802.11 n(HT20) (6.5Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2462   |          |        |
|-------|-------------|---------------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]                       | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1195.6196   | 28.10                                 | 2.66            | -42.88          | 54.68          | 42.56          | 74.00          | 31.44       | Pass   | V        | PK     |
| 2     | 1398.4398   | 28.30                                 | 2.90            | -42.69          | 59.14          | 47.65          | 74.00          | 26.35       | Pass   | V        | PK     |
| 3     | 3188.0125   | 33.28                                 | 4.63            | -42.01          | 50.64          | 46.54          | 74.00          | 27.46       | Pass   | V        | PK     |
| 4     | 4926.1284   | 34.50                                 | 4.85            | -40.56          | 58.08          | 56.87          | 74.00          | 17.13       | Pass   | V        | PK     |
| 5     | 4926.1284   | 34.50                                 | 4.85            | -40.56          | 51.61          | 50.40          | 54.00          | 3.60        | Pass   | V        | AV     |
| 6     | 7386.0000   | 36.49                                 | 5.85            | -40.87          | 49.30          | 50.77          | 74.00          | 23.23       | Pass   | V        | PK     |
| 7     | 9848.0000   | 37.74                                 | 6.83            | -40.54          | 42.42          | 46.45          | 74.00          | 27.55       | Pass   | V        | PK     |

| Mode: |             | 802.11 n(HT40) (13.5Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2422   |          |        |
|-------|-------------|----------------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]                        | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1197.4197   | 28.10                                  | 2.66            | -42.89          | 57.78          | 45.65          | 74.00          | 28.35       | Pass   | H        | PK     |
| 2     | 1398.2398   | 28.30                                  | 2.90            | -42.69          | 55.28          | 43.79          | 74.00          | 30.21       | Pass   | H        | PK     |
| 3     | 3418.0279   | 33.37                                  | 4.51            | -41.87          | 49.79          | 45.80          | 74.00          | 28.20       | Pass   | H        | PK     |
| 4     | 4816.1211   | 34.50                                  | 4.59            | -40.66          | 47.97          | 46.40          | 74.00          | 27.60       | Pass   | H        | PK     |
| 5     | 7326.0000   | 36.43                                  | 5.85            | -40.92          | 44.33          | 45.69          | 74.00          | 28.31       | Pass   | H        | PK     |
| 6     | 9768.0000   | 37.71                                  | 6.69            | -40.61          | 41.65          | 45.44          | 74.00          | 28.56       | Pass   | H        | PK     |

| Mode: |             | 802.11 n(HT40) (13.5Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2422   |          |        |
|-------|-------------|----------------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]                        | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1198.2198   | 28.10                                  | 2.66            | -42.89          | 57.60          | 45.47          | 74.00          | 28.53       | Pass   | V        | PK     |
| 2     | 1396.2396   | 28.30                                  | 2.89            | -42.68          | 59.17          | 47.68          | 74.00          | 26.32       | Pass   | V        | PK     |
| 3     | 1794.4794   | 30.34                                  | 3.31            | -42.70          | 55.01          | 45.96          | 74.00          | 28.04       | Pass   | V        | PK     |
| 4     | 4844.0000   | 34.50                                  | 4.66            | -40.62          | 44.25          | 42.79          | 74.00          | 31.21       | Pass   | V        | PK     |
| 5     | 7266.0000   | 36.37                                  | 5.80            | -40.97          | 43.54          | 44.74          | 74.00          | 29.26       | Pass   | V        | PK     |
| 6     | 9688.0000   | 37.68                                  | 6.62            | -40.69          | 42.75          | 46.36          | 74.00          | 27.64       | Pass   | V        | PK     |

| Mode: |             | 802.11 n(HT40) (13.5Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2437   |          |        |
|-------|-------------|----------------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]                        | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1198.6199   | 28.10                                  | 2.66            | -42.89          | 59.45          | 47.32          | 74.00          | 26.68       | Pass   | H        | PK     |
| 2     | 1399.4399   | 28.30                                  | 2.90            | -42.68          | 57.54          | 46.06          | 74.00          | 27.94       | Pass   | H        | PK     |
| 3     | 1771.8772   | 30.19                                  | 3.27            | -42.69          | 54.21          | 44.98          | 74.00          | 29.02       | Pass   | H        | PK     |
| 4     | 4888.1259   | 34.50                                  | 4.83            | -40.59          | 47.45          | 46.19          | 74.00          | 27.81       | Pass   | H        | PK     |
| 5     | 7311.0000   | 36.41                                  | 5.85            | -40.93          | 42.98          | 44.31          | 74.00          | 29.69       | Pass   | H        | PK     |
| 6     | 9748.0000   | 37.70                                  | 6.77            | -40.63          | 42.48          | 46.32          | 74.00          | 27.68       | Pass   | H        | PK     |

| Mode: |             | 802.11 n(HT40) (13.5Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2437   |          |        |
|-------|-------------|----------------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]                        | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1199.2199   | 28.10                                  | 2.66            | -42.89          | 55.05          | 42.92          | 74.00          | 31.08       | Pass   | V        | PK     |
| 2     | 1395.2395   | 28.30                                  | 2.89            | -42.69          | 59.04          | 47.54          | 74.00          | 26.46       | Pass   | V        | PK     |
| 3     | 1794.4794   | 30.34                                  | 3.31            | -42.70          | 54.94          | 45.89          | 74.00          | 28.11       | Pass   | V        | PK     |
| 4     | 4874.0000   | 34.50                                  | 4.78            | -40.61          | 47.29          | 45.96          | 74.00          | 28.04       | Pass   | V        | PK     |
| 5     | 7311.0000   | 36.41                                  | 5.85            | -40.93          | 45.40          | 46.73          | 74.00          | 27.27       | Pass   | V        | PK     |
| 6     | 9748.0000   | 37.70                                  | 6.77            | -40.63          | 43.16          | 47.00          | 74.00          | 27.00       | Pass   | V        | PK     |

| Mode: |             | 802.11 n(HT40) (13.5Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2452   |          |        |
|-------|-------------|----------------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]                        | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1199.2199   | 28.10                                  | 2.66            | -42.89          | 59.26          | 47.13          | 74.00          | 26.87       | Pass   | H        | PK     |
| 2     | 1395.0395   | 28.30                                  | 2.89            | -42.69          | 55.32          | 43.82          | 74.00          | 30.18       | Pass   | H        | PK     |
| 3     | 1922.0922   | 31.19                                  | 3.42            | -42.65          | 51.42          | 43.38          | 74.00          | 30.62       | Pass   | H        | PK     |
| 4     | 4904.0000   | 34.50                                  | 4.88            | -40.58          | 47.01          | 45.81          | 74.00          | 28.19       | Pass   | H        | PK     |
| 5     | 7356.0000   | 36.46                                  | 5.85            | -40.89          | 45.55          | 46.97          | 74.00          | 27.03       | Pass   | H        | PK     |
| 6     | 9808.0000   | 37.72                                  | 6.59            | -40.57          | 42.00          | 45.74          | 74.00          | 28.26       | Pass   | H        | PK     |

| Mode: |             | 802.11 n(HT40) (13.5Mbps) Transmitting |                 |                 |                |                | Channel:       |             | 2452   |          |        |
|-------|-------------|----------------------------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------|----------|--------|
| NO    | Freq. [MHz] | Ant Factor [dB]                        | Cable loss [dB] | Pream gain [dB] | Reading [dBμV] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result | Polarity | Remark |
| 1     | 1395.0395   | 28.30                                  | 2.89            | -42.69          | 59.37          | 47.87          | 74.00          | 26.13       | Pass   | V        | PK     |
| 2     | 1794.4794   | 30.34                                  | 3.31            | -42.70          | 53.72          | 44.67          | 74.00          | 29.33       | Pass   | V        | PK     |
| 3     | 1982.2982   | 31.58                                  | 3.45            | -42.61          | 58.68          | 51.10          | 74.00          | 22.90       | Pass   | V        | PK     |
| 4     | 4878.1252   | 34.50                                  | 4.79            | -40.60          | 47.65          | 46.34          | 74.00          | 27.66       | Pass   | V        | PK     |
| 5     | 7356.0000   | 36.46                                  | 5.85            | -40.89          | 44.31          | 45.73          | 74.00          | 28.27       | Pass   | V        | PK     |
| 6     | 9808.0000   | 37.72                                  | 6.59            | -40.57          | 42.46          | 46.20          | 74.00          | 27.80       | Pass   | V        | PK     |

Note:

1) Through Pre-scan transmitting mode and charge+transmitter mode with all kind of modulation and data rate, find the 11Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g; 6.5Mbps of rate is the worst case of 802.11n (HT20); 13.5Mbps of rate is the worst case of 802.11n(HT40),and then Only the worst case is recorded in the report.

2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading -Correct Factor

Correct Factor = Preamplifier Factor–Antenna Factor–Cable Factor

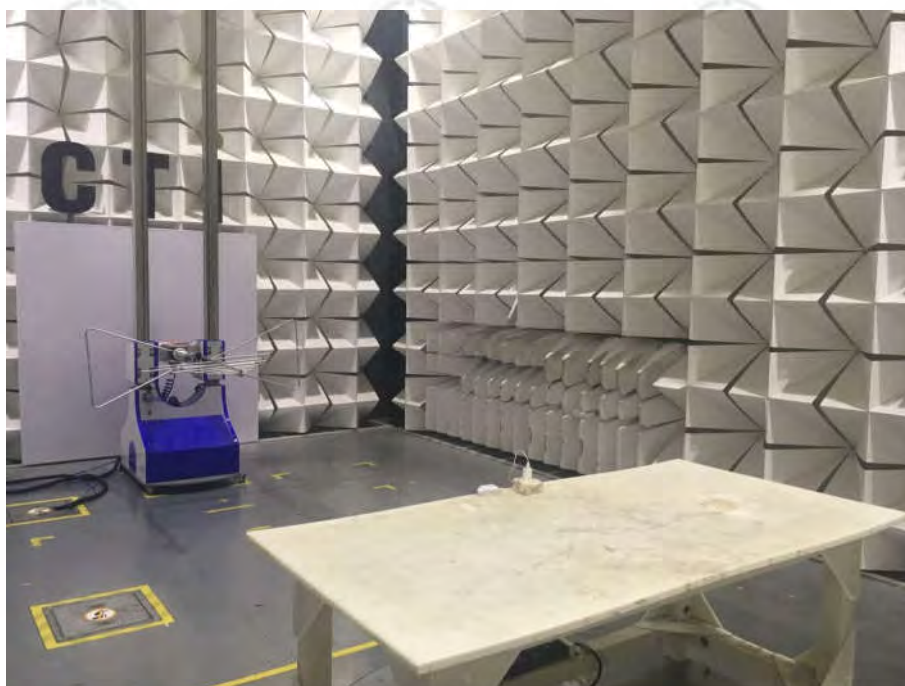
3) Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

## PHOTOGRAPHS OF TEST SETUP

Test Model No.: MSG100



**Radiated spurious emission Test Setup-1(Below 30MHz)**



**Radiated spurious emission Test Setup-2(Below 1GHz)**



**Radiated spurious emission Test Setup-3(Above 1GHz)**



**Conducted Emissions Test Setup**

## PHOTOGRAPHS OF EUT Constructional Details

Test model No.: MSG100



View of Product-1



View of Product-2



View of Product-3



View of Product-4



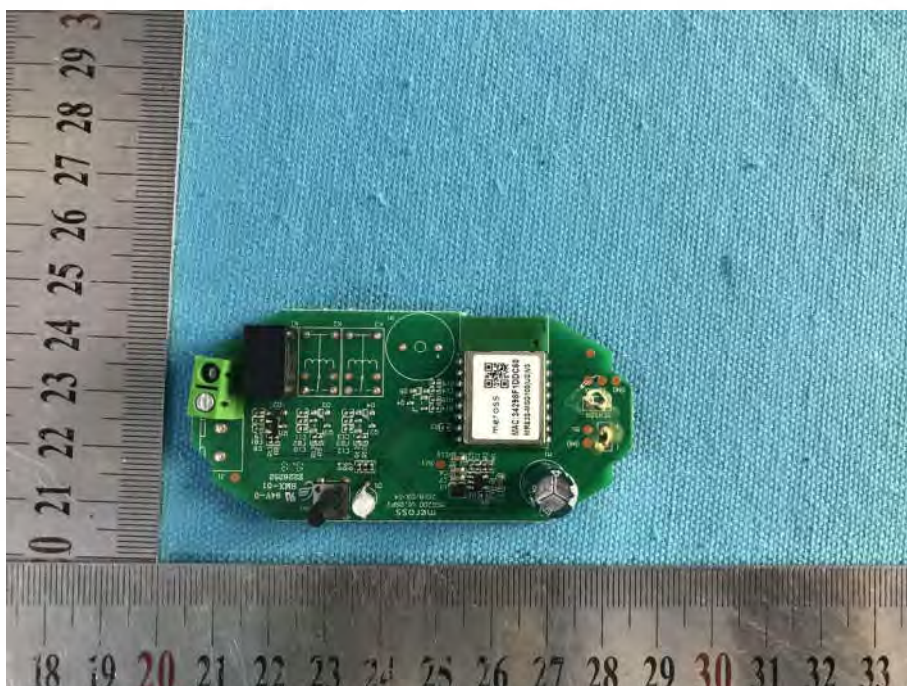
View of Product-5



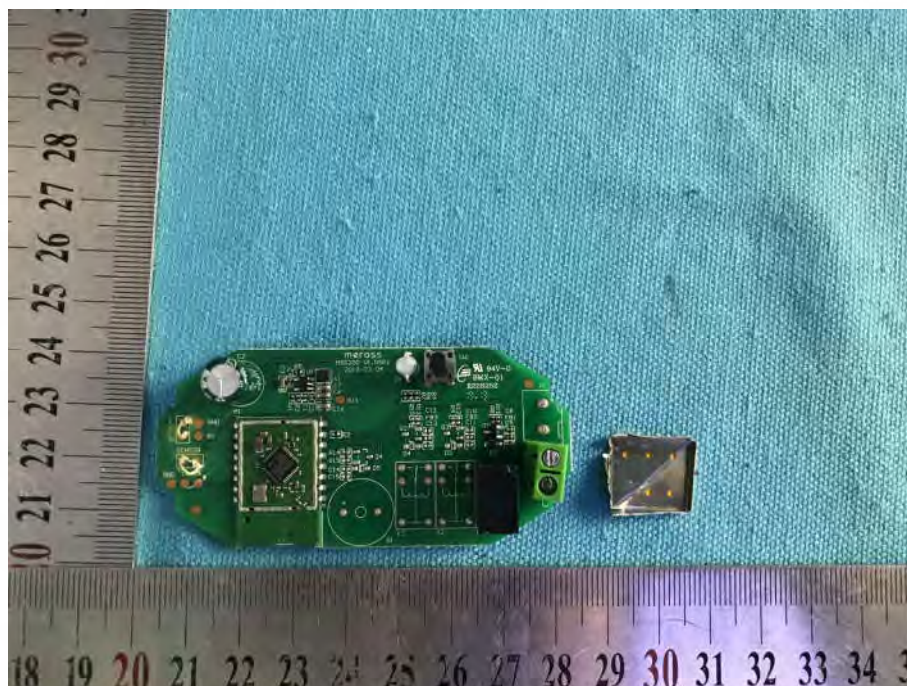
View of Product-6



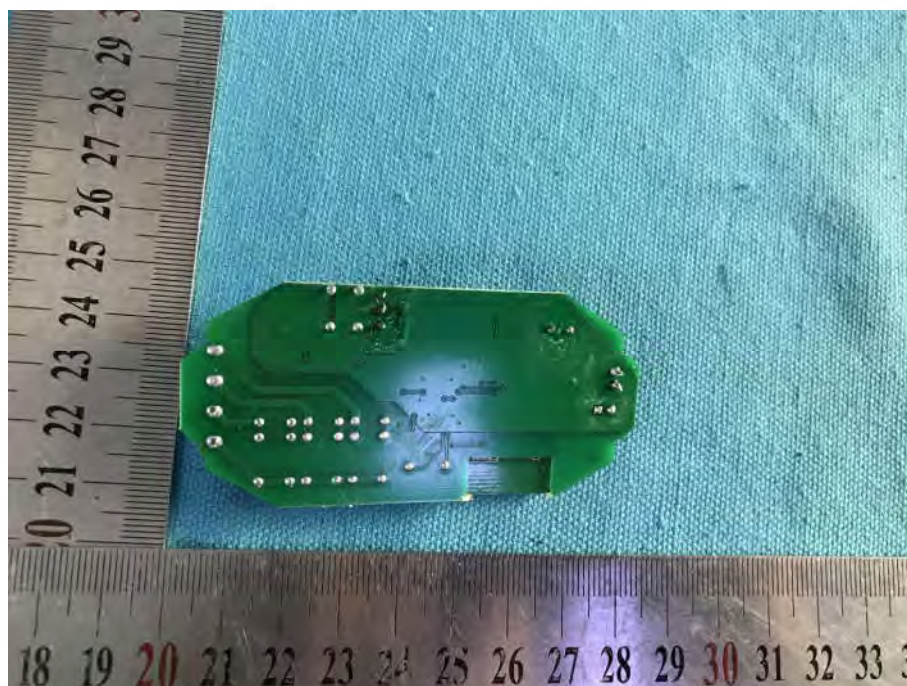
View of Product-7



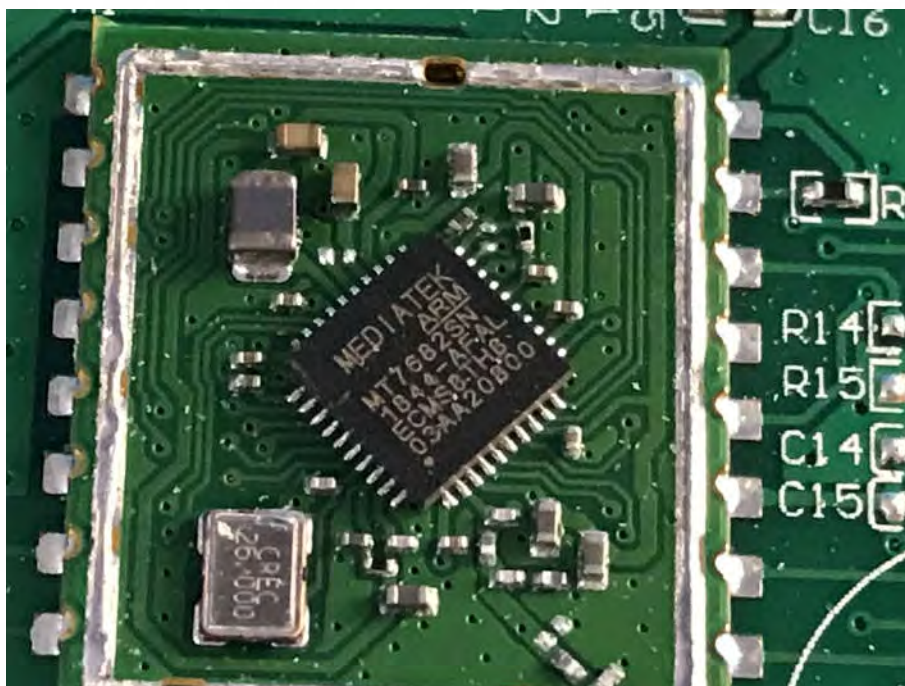
View of Product-8



View of Product-9



View of Product-10



View of Product-11



View of Product-12



View of Product-13

\*\*\* End of Report \*\*\*

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