

## TEST REPORT

**Product** : Memoo  
**Trade mark** : N/A  
**Model/Type reference** : CWMEMOOV01  
**Serial Number** : N/A  
**Report Number** : EED32J00168903  
**FCC ID** : 2ANIH-CWAYMEMOOV01  
**Date of Issue** : Oct. 31, 2017  
**Test Standards** : 47 CFR Part 15Subpart C  
**Test result** : PASS

Prepared for:

**C-way**

**55 Rue la boetie, Paris, France, 75008**

Prepared by:

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Sheek Luo (Lab supervisor)

Date:

Oct. 31, 2017

Check No.: 3043824796



## 2 Version

| Version No. | Date          | Description |
|-------------|---------------|-------------|
| 00          | Oct. 31, 2017 | Original    |
|             |               |             |
|             |               |             |

### 3 Test Summary

| Test Item                                                         | Test Requirement                                   | Test method                           | Result |
|-------------------------------------------------------------------|----------------------------------------------------|---------------------------------------|--------|
| Antenna Requirement                                               | 47 CFR Part 15 Subpart C Section 15.203/15.247 (c) | ANSI C63.10-2013                      | PASS   |
| AC Power Line Conducted Emission                                  | 47 CFR Part 15 Subpart C Section 15.207            | ANSI C63.10-2013                      | PASS   |
| Conducted Peak Output Power                                       | 47 CFR Part 15 Subpart C Section 15.247 (b)(3)     | ANSI C63.10-2013<br>KDB 558074 D01v04 | PASS   |
| 6dB Occupied Bandwidth                                            | 47 CFR Part 15 Subpart C Section 15.247 (a)(2)     | ANSI C63.10-2013<br>KDB 558074 D01v04 | PASS   |
| Power Spectral Density                                            | 47 CFR Part 15 Subpart C Section 15.247 (e)        | ANSI C63.10-2013<br>KDB 558074 D01v04 | PASS   |
| Band-edge for RF Conducted Emissions                              | 47 CFR Part 15 Subpart C Section 15.247(d)         | ANSI C63.10-2013<br>KDB 558074 D01v04 | PASS   |
| RF Conducted Spurious Emissions                                   | 47 CFR Part 15 Subpart C Section 15.247(d)         | ANSI C63.10-2013<br>KDB 558074 D01v04 | PASS   |
| Radiated Spurious Emissions                                       | 47 CFR Part 15 Subpart C Section 15.205/15.209     | ANSI C63.10-2013                      | PASS   |
| Restricted bands around fundamental frequency (Radiated Emission) | 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.

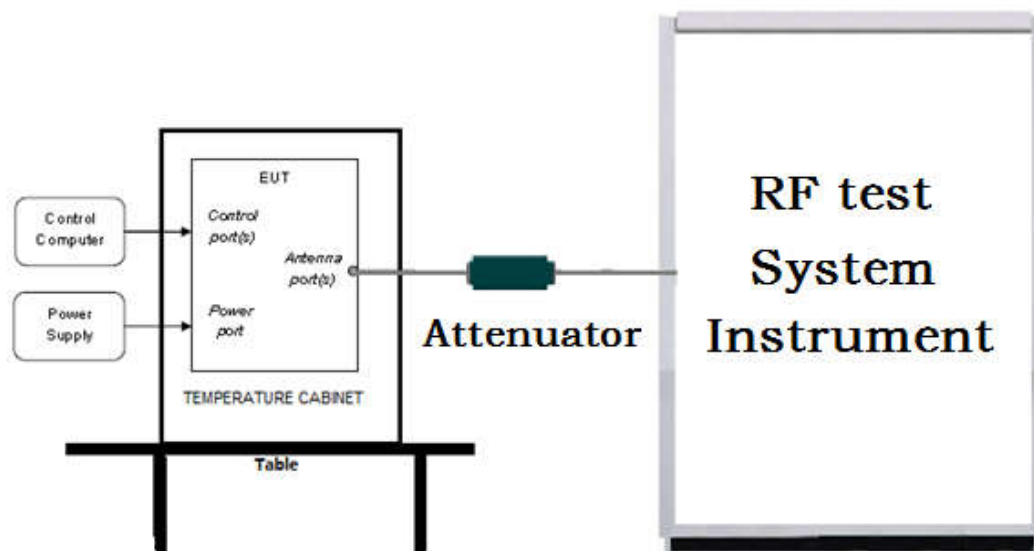
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## 5 Test Requirement

### 5.1 Test setup

#### 5.1.1 For Conducted test setup



#### 5.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

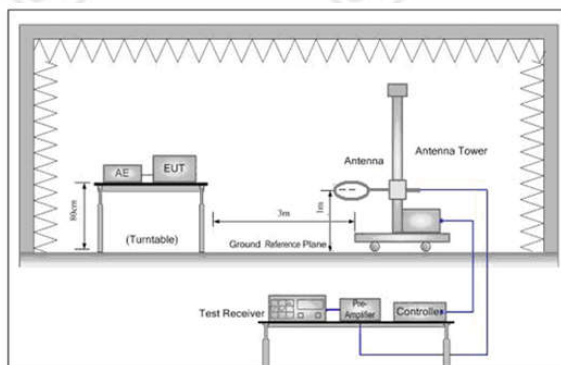


Figure 1. Below 30MHz

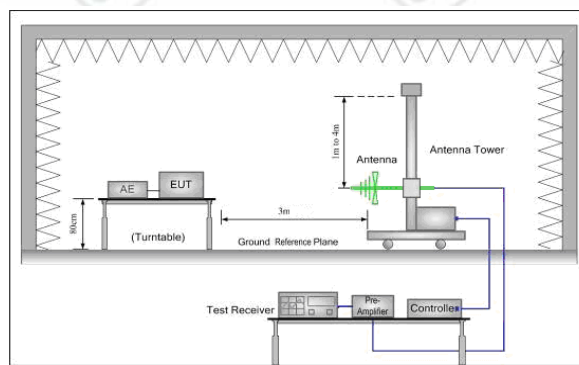


Figure 2. 30MHz to 1GHz

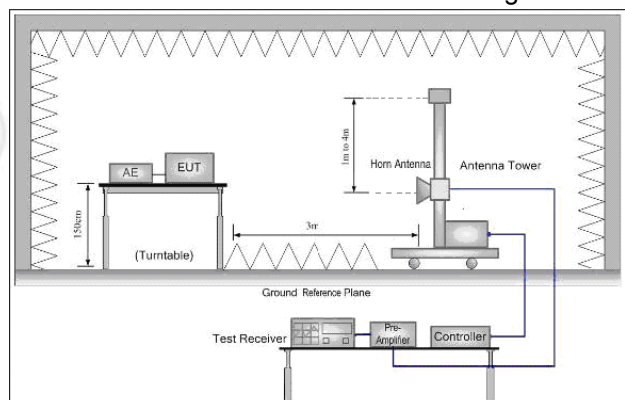
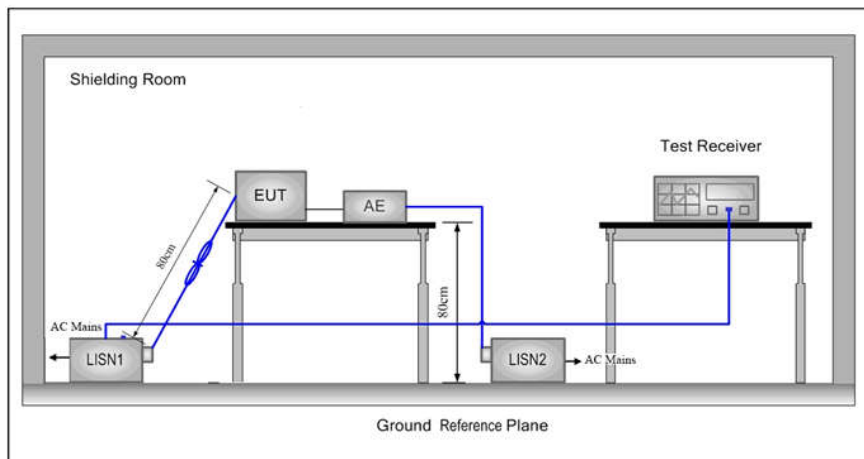


Figure 3. Above 1GHz

### 5.1.3 For Conducted Emissions test setup

#### Conducted Emissions setup



## 5.2 Test Environment

| Operating Environment: |           |
|------------------------|-----------|
| Temperature:           | 24.7 °C   |
| Humidity:              | 61 % RH   |
| Atmospheric Pressure:  | 1010 mbar |

## 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: | The EUT transmitted the continuous signal at the specific channel(s). |            |           |           |

Test mode:

Pre-scan under all rate at middle channel 1

|            |                |        |          |        |        |         |           |         |
|------------|----------------|--------|----------|--------|--------|---------|-----------|---------|
| Mode       | 802.11b        |        |          |        |        |         |           |         |
| Data Rate  | 1Mbps          | 2Mbps  | 5.5Mbps  | 11Mbps |        |         |           |         |
| Power(dBm) | 8.51           | 8.66   | 8.72     | 8.77   |        |         |           |         |
| Mode       | 802.11g        |        |          |        |        |         |           |         |
| Data Rate  | 6Mbps          | 9Mbps  | 12Mbps   | 18Mbps | 24Mbps | 36Mbps  | 48Mbps    | 54Mbps  |
| Power(dBm) | 13.43          | 13.31  | 13.25    | 13.18  | 13.07  | 12.94   | 12.88     | 12.71   |
| Mode       | 802.11n (HT20) |        |          |        |        |         |           |         |
| Data Rate  | 6.5Mbps        | 13Mbps | 19.5Mbps | 26Mbps | 39Mbps | 52Mbps  | 58.5Mbps  | 65Mbps  |
| Power(dBm) | 12.74          | 12.70  | 12.62    | 12.51  | 12.43  | 12.29   | 12.13     | 12.02   |
| Mode       | 802.11n (HT40) |        |          |        |        |         |           |         |
| Data Rate  | 13.5Mbps       | 27Mbps | 40.5Mbps | 54Mbps | 81Mbps | 108Mbps | 121.5Mbps | 135Mbps |
| Power(dBm) | 13.08          | 12.95  | 12.85    | 12.80  | 12.73  | 12.69   | 12.60     | 12.51   |

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:               | C-way                                                                                                                                |
| Address of Applicant:    | 55 Rue la boetie, Paris, France, 75008                                                                                               |
| Manufacturer:            | Kaertech Limited                                                                                                                     |
| Address of Manufacturer: | Suite 1601-02, Seaview Commercial Building, 21-24 Connaught Road West, Sheung Wan, Hong Kong                                         |
| Factory:                 | Kaertech Electronics Philippines, Inc.                                                                                               |
| Address of Factory:      | Innovev Building 2A, 141 East Main Avenue, Loop, Phase 6A, Lot 3281-1, Laguna Technopark Inc., SEPZ, Binan, Laguna, Philippines 4024 |

### 6.2 General Description of EUT

|                                  |                                                                                            |
|----------------------------------|--------------------------------------------------------------------------------------------|
| Product Name:                    | Memoo                                                                                      |
| Model No.(EUT):                  | CWMEMOOV01                                                                                 |
| Trade Mark:                      | N/A                                                                                        |
| EUT Supports Radios application: | Bluetooth: 4.0 BT Dual mode<br>Wi-Fi: IEEE 802.11b/g/n(HT20), IEEE 802.11n(HT40)           |
| Power Supply:                    | Adapter<br>MODEL:KSA29B0500200D5<br>Input: 100V-240V,50Hz/60Hz,0.5A<br>Output: 5.0V---2.0A |
| Software version:                | V1.07 (manufacturer declare)                                                               |
| Hardware version:                | V4.1 (manufacturer declare)                                                                |
| Sample Received Date:            | Aug. 04, 2017                                                                              |
| Sample tested Date:              | Aug. 04, 2017 to Oct. 27, 2017                                                             |

### 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 Power Grade:      | N/A                                                                                                                                                            |
| Test Software of EUT:  | REALTEK 2.0.0.4 (manufacturer declare)                                                                                                                         |
| Antenna Type and Gain: | Antenna Type: Chip Antenna<br>Gain: 2dBi                                                                                                                       |
| 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 | Channel | Frequency |
| 1                                                 | 2422MHz   | 4       | 2437MHz   | 7       | 2452MHz   |
| 2                                                 | 2427MHz   | 5       | 2442MHz   |         |           |
| 3                                                 | 2432MHz   | 6       | 2447MHz   |         |           |

## 6.4 Description of Support Units

None.

## 6.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.

Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China 518101

Telephone: +86 (0) 755 3368 3668 Fax: +86 (0) 755 3368 3385

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             | 0.31dB (30MHz-1GHz)     |
|     |                                 | 0.57dB (1GHz-18GHz)     |
| 3   | Radiated Spurious emission test | 4.5dB (30MHz-1GHz)      |
|     |                                 | 4.8dB (1GHz-12.75GHz)   |
| 4   | Conduction emission             | 3.6dB (9kHz to 150kHz)  |
|     |                                 | 3.2dB (150kHz to 30MHz) |
| 5   | Temperature test                | 0.64°C                  |
| 6   | Humidity test                   | 2.8%                    |
| 7   | DC power voltages               | 0.025%                  |

## 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    | 03-14-2017             | 03-13-2018                 |
| Communication test set test set  | Agilent       | N4010A                    | MY51400230    | 03-14-2017             | 03-13-2018                 |
| Spectrum Analyzer                | Keysight      | N9010A                    | MY54510339    | 03-14-2017             | 03-13-2018                 |
| Signal Generator                 | Keysight      | N5182B                    | MY53051549    | 03-14-2017             | 03-13-2018                 |
| High-pass filter                 | Sinoscite     | FL3CX03WG18 NM12-0398-002 | ---           | 01-11-2017             | 01-10-2018                 |
| High-pass filter                 | MICRO-TRONICS | SPA-F-63029-4             | ---           | 01-11-2017             | 01-10-2018                 |
| band rejection filter            | Sinoscite     | FL5CX01CA09C L12-0395-001 | ---           | 01-11-2017             | 01-10-2018                 |
| band rejection filter            | Sinoscite     | FL5CX01CA08C L12-0393-001 | ---           | 01-11-2017             | 01-10-2018                 |
| band rejection filter            | Sinoscite     | FL5CX02CA04C L12-0396-002 | ---           | 01-11-2017             | 01-10-2018                 |
| band rejection filter            | Sinoscite     | FL5CX02CA03C L12-0394-001 | ---           | 01-11-2017             | 01-10-2018                 |
| DC Power                         | Keysight      | E3642A                    | MY54436035    | 03-14-2017             | 03-13-2018                 |
| PC-1                             | Lenovo        | R4960d                    | ---           | 04-01-2017             | 03-31-2018                 |
| BT&WI-FI Automatic control       | R&S           | OSP120                    | 101374        | 03-14-2017             | 03-13-2018                 |
| RF control unit                  | JS Tonscend   | JS0806-2                  | 158060006     | 03-14-2017             | 03-13-2018                 |
| BT&WI-FI Automatic test software | JS Tonscend   | JS1120-2                  | ---           | 03-14-2017             | 03-13-2018                 |

| Conducted disturbance Test      |              |           |               |                        |                            |
|---------------------------------|--------------|-----------|---------------|------------------------|----------------------------|
| Equipment                       | Manufacturer | Model No. | Serial Number | Cal. date (mm-dd-yyyy) | Cal. Due date (mm-dd-yyyy) |
| Receiver                        | R&S          | ESCI      | 100009        | 06-14-2017             | 06-13-2018                 |
| Temperature/ Humidity Indicator | TAYLOR       | 1451      | 1905          | 05-08-2017             | 05-07-2018                 |
| Communication test set          | Agilent      | E5515C    | GB47050534    | 03-14-2017             | 03-13-2018                 |
| Communication test set          | R&S          | CMW500    | 152394        | 03-14-2017             | 03-13-2018                 |
| LISN                            | R&S          | ENV216    | 100098        | 06-13-2017             | 06-12-2018                 |
| LISN                            | schwarzbeck  | NNLK8121  | 8121-529      | 06-13-2017             | 06-12-2018                 |
| Voltage Probe                   | R&S          | ESH2-Z3   | --            | 06-13-2017             | 06-11-2020                 |
| Current Probe                   | R&S          | EZ17      | 100106        | 06-13-2017             | 06-12-2018                 |
| ISN                             | TESEQ GmbH   | ISN T800  | 30297         | 02-23-2017             | 02-22-2018                 |

| 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                     | ---           | 06-05-2016             | 06-05-2019                 |
| TRILOG Broadband Antenna         | SCHWARZBEC K  | VULB9163                  | 9163-484      | 05-23-2017             | 05-22-2018                 |
| Microwave Preamplifier           | Agilent       | 8449B                     | 3008A02425    | 02-16-2017             | 02-15-2018                 |
| Horn Antenna                     | ETS-LINDGREN  | 3117                      | 00057407      | 07-20-2015             | 07-18-2018                 |
| Loop Antenna                     | ETS           | 6502                      | 00071730      | 06-22-2017             | 06-21-2019                 |
| Microwave Preamplifier           | A.H.SYSTEMS   | PAP-1840-60               | 6041.6042     | 06-30-2015             | 06-28-2018                 |
| Horn Antenna                     | A.H.SYSTEMS   | SAS-574 374               | ---           | 06-30-2015             | 06-28-2018                 |
| Spectrum Analyzer                | R&S           | FSP40                     | 100416        | 06-13-2017             | 06-12-2018                 |
| Receiver                         | R&S           | ESCI                      | 100435        | 06-14-2017             | 06-13-2018                 |
| Multi device Controller          | maturo        | NCD/070/10711 112         | ---           | 01-11-2017             | 01-10-2018                 |
| LISN                             | schwarzbeck   | NNBM8125                  | 81251547      | 06-13-2017             | 06-12-2018                 |
| LISN                             | schwarzbeck   | NNBM8125                  | 81251548      | 06-13-2017             | 06-12-2018                 |
| Signal Generator                 | Agilent       | E4438C                    | MY45095744    | 03-14-2017             | 03-13-2018                 |
| Signal Generator                 | Keysight      | E8257D                    | MY53401106    | 03-14-2017             | 03-13-2018                 |
| Temperature/ Humidity Indicator  | TAYLOR        | 1451                      | 1905          | 05-08-2017             | 05-07-2018                 |
| Communication test set           | Agilent       | E5515C                    | GB47050534    | 03-14-2017             | 03-13-2018                 |
| Cable line                       | Fulai(7M)     | SF106                     | 5219/6A       | 01-11-2017             | 01-10-2018                 |
| Cable line                       | Fulai(6M)     | SF106                     | 5220/6A       | 01-11-2017             | 01-10-2018                 |
| Cable line                       | Fulai(3M)     | SF106                     | 5216/6A       | 01-11-2017             | 01-10-2018                 |
| Cable line                       | Fulai(3M)     | SF106                     | 5217/6A       | 01-11-2017             | 01-10-2018                 |
| Communication test set           | R&S           | CMW500                    | 152394        | 03-14-2017             | 03-13-2018                 |
| High-pass filter                 | Sinoscite     | FL3CX03WG18 NM12-0398-002 | ---           | 01-11-2017             | 01-10-2018                 |
| High-pass filter                 | MICRO-TRONICS | SPA-F-63029-4             | ---           | 01-11-2017             | 01-10-2018                 |
| band rejection filter            | Sinoscite     | FL5CX01CA09 CL12-0395-001 | ---           | 01-11-2017             | 01-10-2018                 |
| band rejection filter            | Sinoscite     | FL5CX01CA08 CL12-0393-001 | ---           | 01-11-2017             | 01-10-2018                 |
| band rejection filter            | Sinoscite     | FL5CX02CA04 CL12-0396-002 | ---           | 01-11-2017             | 01-10-2018                 |
| band rejection filter            | Sinoscite     | FL5CX02CA03 CL12-0394-001 | ---           | 01-11-2017             | 01-10-2018                 |

## 8 Radio Technical Requirements Specification

### Reference documents for testing:

| No. | Identity           | Document Title                                                     |
|-----|--------------------|--------------------------------------------------------------------|
| 1   | FCC Part15C (2015) | Subpart C-Intentional Radiators                                    |
| 2   | ANSI C63.10-2013   | American National Standard for Testing Unlicensed Wireless Devices |

### Test Results List:

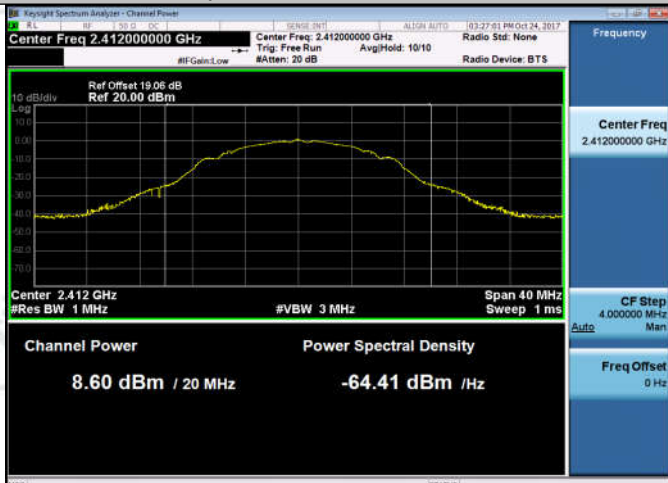
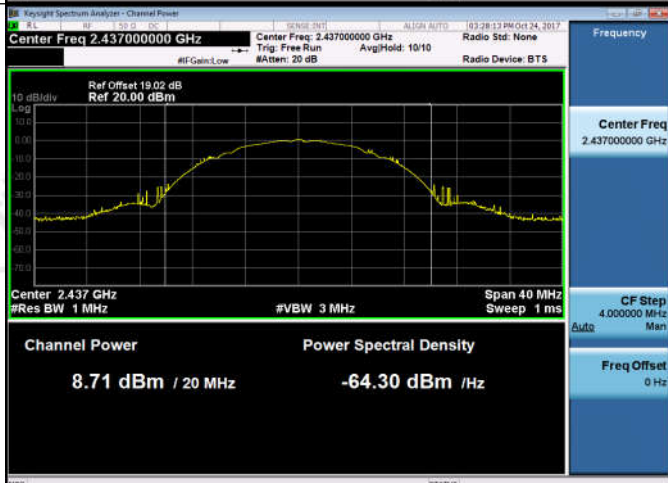
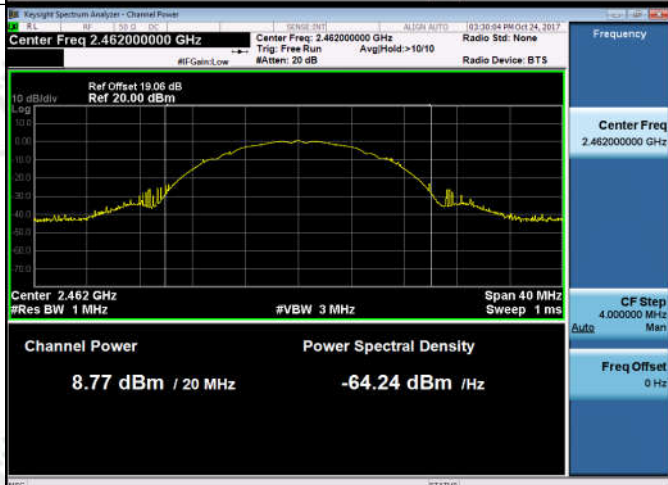
| Test Requirement                  | Test method | Test item                                                         | Verdict | Note        |
|-----------------------------------|-------------|-------------------------------------------------------------------|---------|-------------|
| Part15C Section 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) |

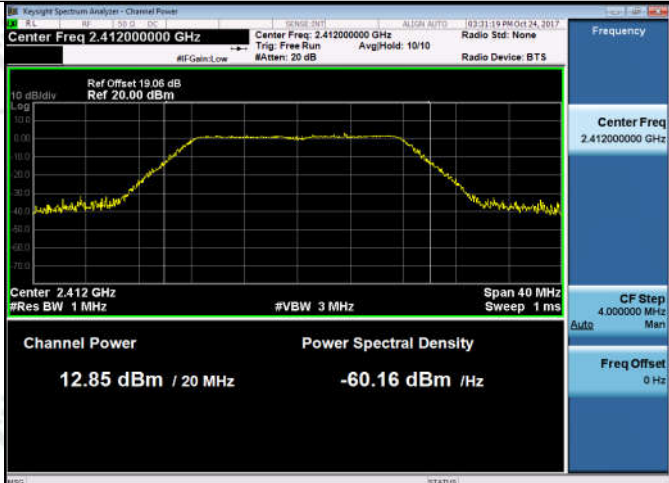
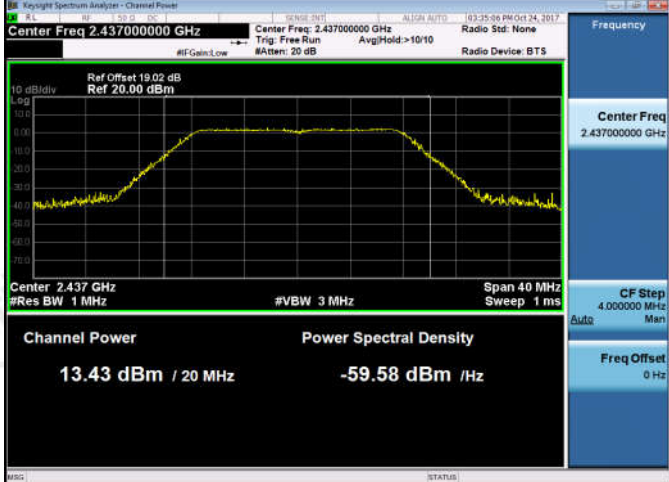
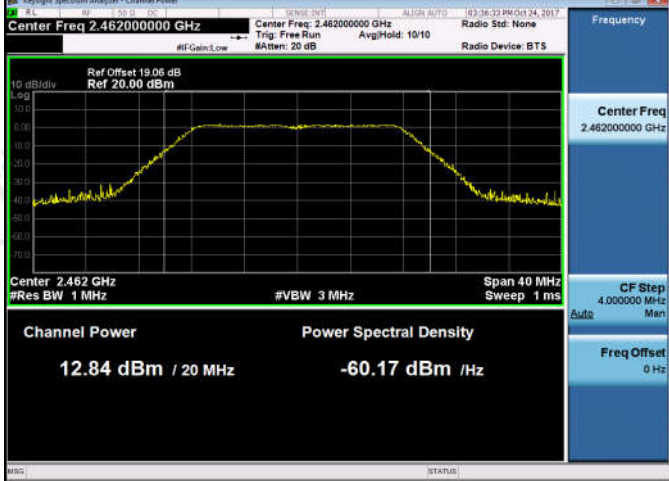
## Appendix A): Conducted Peak Output Power

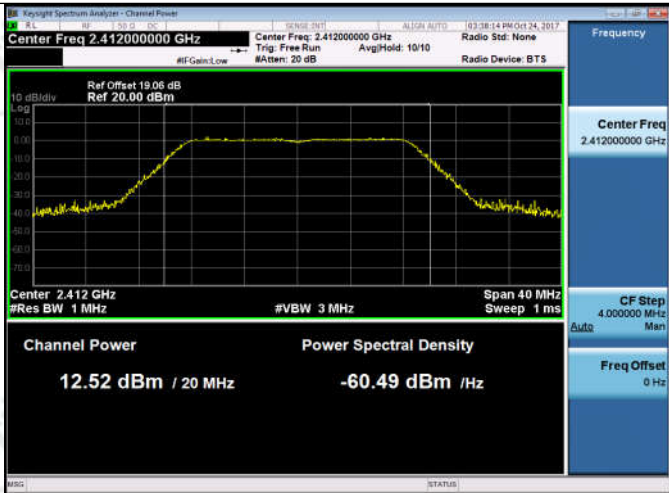
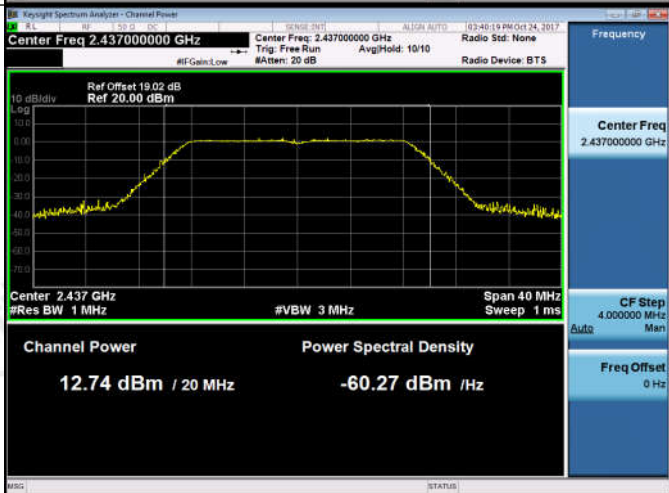
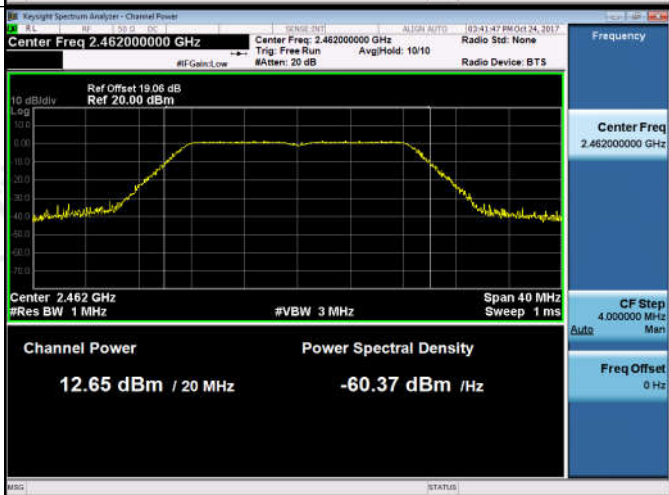
**Result Table**

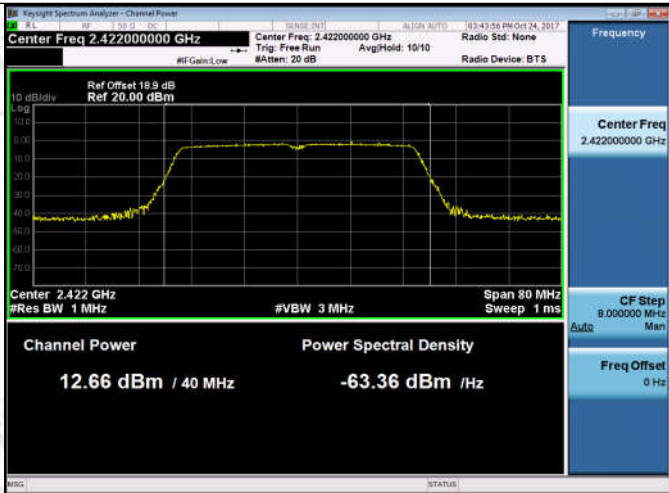
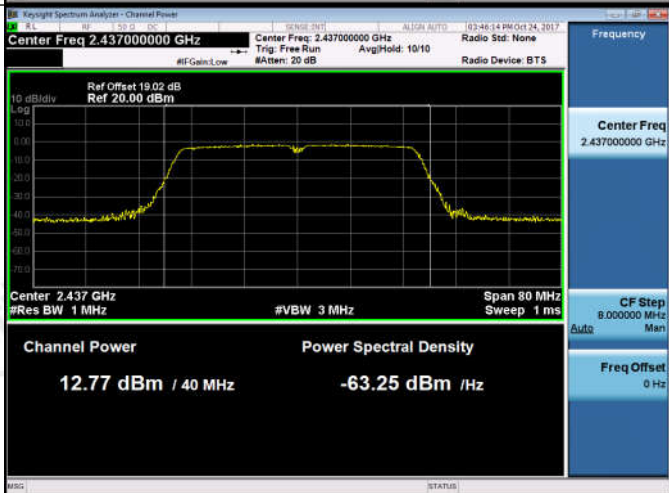
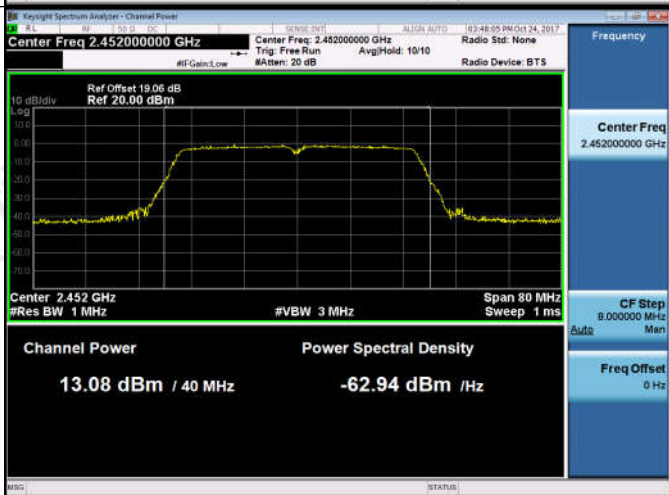
| Mode      | Channel | Conducted Peak Output Power [dBm] | Verdict |
|-----------|---------|-----------------------------------|---------|
| 11B       | LCH     | 8.6                               | PASS    |
| 11B       | MCH     | 8.71                              | PASS    |
| 11B       | HCH     | 8.77                              | PASS    |
| 11G       | LCH     | 12.85                             | PASS    |
| 11G       | MCH     | 13.43                             | PASS    |
| 11G       | HCH     | 12.84                             | PASS    |
| 11N20SISO | LCH     | 12.52                             | PASS    |
| 11N20SISO | MCH     | 12.74                             | PASS    |
| 11N20SISO | HCH     | 12.65                             | PASS    |
| 11N40SISO | LCH     | 12.66                             | PASS    |
| 11N40SISO | MCH     | 12.77                             | PASS    |
| 11N40SISO | HCH     | 13.08                             | PASS    |

## Test Graph

| Graphs  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11B/LCH |  <p>Keygraph Spectrum Analyzer - Channel Power</p> <p>Center Freq 2.412000000 GHz Center Freq: 2.412000000 GHz Radio Std: None</p> <p>Trig: Free Run Avg/Hold: 10/10</p> <p>#IF Gain: Low #Atten: 20 dB Radio Device: BTS</p> <p>Ref Offset 19.06 dB Ref 20.00 dBm</p> <p>10 dB/div</p> <p>Center 2.412 GHz Span 40 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 1 ms</p> <p>Channel Power Power Spectral Density</p> <p>8.60 dBm / 20 MHz -64.41 dBm / Hz</p> <p>Frequency</p> <p>Center Freq 2.412000000 GHz</p> <p>CF Step 4.000000 MHz</p> <p>Freq Offset 0 Hz</p>       |
| 11B/MCH |  <p>Keygraph Spectrum Analyzer - Channel Power</p> <p>Center Freq 2.437000000 GHz Center Freq: 2.437000000 GHz Radio Std: None</p> <p>Trig: Free Run Avg/Hold: 10/10</p> <p>#IF Gain: Low #Atten: 20 dB Radio Device: BTS</p> <p>Ref Offset 19.02 dB Ref 20.00 dBm</p> <p>10 dB/div</p> <p>Center 2.437 GHz Span 40 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 1 ms</p> <p>Channel Power Power Spectral Density</p> <p>8.71 dBm / 20 MHz -64.30 dBm / Hz</p> <p>Frequency</p> <p>Center Freq 2.437000000 GHz</p> <p>CF Step 4.000000 MHz</p> <p>Freq Offset 0 Hz</p>      |
| 11B/HCH |  <p>Keygraph Spectrum Analyzer - Channel Power</p> <p>Center Freq 2.462000000 GHz Center Freq: 2.462000000 GHz Radio Std: None</p> <p>Trig: Free Run Avg/Hold: &gt;10/10</p> <p>#IF Gain: Low #Atten: 20 dB Radio Device: BTS</p> <p>Ref Offset 19.06 dB Ref 20.00 dBm</p> <p>10 dB/div</p> <p>Center 2.462 GHz Span 40 MHz</p> <p>#Res BW 1 MHz #VBW 3 MHz Sweep 1 ms</p> <p>Channel Power Power Spectral Density</p> <p>8.77 dBm / 20 MHz -64.24 dBm / Hz</p> <p>Frequency</p> <p>Center Freq 2.462000000 GHz</p> <p>CF Step 4.000000 MHz</p> <p>Freq Offset 0 Hz</p> |

|         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11G/LCH |  <p>Keynote Spectrum Analyzer - Channel Power</p> <p>Center Freq 2.412000000 GHz</p> <p>Ref Offset 19.06 dB<br/>Ref 20.00 dBm</p> <p>Center Freq 2.412000000 GHz<br/>Trig: Free Run<br/>Avg/Hold: 10/10<br/>Radio Std: None<br/>Radio Device: BTS</p> <p>10 dB/div<br/>Log</p> <p>Center 2.412 GHz<br/>#Res BW 1 MHz<br/>#VBW 3 MHz<br/>Span 40 MHz<br/>Sweep 1 ms</p> <p>Channel Power<br/>12.85 dBm / 20 MHz</p> <p>Power Spectral Density<br/>-60.16 dBm / Hz</p> <p>Frequency<br/>Center Freq<br/>2.412000000 GHz</p> <p>CF Step<br/>4.000000 MHz<br/>Auto Man</p> <p>Freq Offset<br/>0 Hz</p>   |
| 11G/MCH |  <p>Keynote Spectrum Analyzer - Channel Power</p> <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 19.02 dB<br/>Ref 20.00 dBm</p> <p>Center Freq 2.437000000 GHz<br/>Trig: Free Run<br/>Avg/Hold: 10/10<br/>Radio Std: None<br/>Radio Device: BTS</p> <p>10 dB/div<br/>Log</p> <p>Center 2.437 GHz<br/>#Res BW 1 MHz<br/>#VBW 3 MHz<br/>Span 40 MHz<br/>Sweep 1 ms</p> <p>Channel Power<br/>13.43 dBm / 20 MHz</p> <p>Power Spectral Density<br/>-59.58 dBm / Hz</p> <p>Frequency<br/>Center Freq<br/>2.437000000 GHz</p> <p>CF Step<br/>4.000000 MHz<br/>Auto Man</p> <p>Freq Offset<br/>0 Hz</p>  |
| 11G/HCH |  <p>Keynote Spectrum Analyzer - Channel Power</p> <p>Center Freq 2.462000000 GHz</p> <p>Ref Offset 19.06 dB<br/>Ref 20.00 dBm</p> <p>Center Freq 2.462000000 GHz<br/>Trig: Free Run<br/>Avg/Hold: 10/10<br/>Radio Std: None<br/>Radio Device: BTS</p> <p>10 dB/div<br/>Log</p> <p>Center 2.462 GHz<br/>#Res BW 1 MHz<br/>#VBW 3 MHz<br/>Span 40 MHz<br/>Sweep 1 ms</p> <p>Channel Power<br/>12.84 dBm / 20 MHz</p> <p>Power Spectral Density<br/>-60.17 dBm / Hz</p> <p>Frequency<br/>Center Freq<br/>2.462000000 GHz</p> <p>CF Step<br/>4.000000 MHz<br/>Auto Man</p> <p>Freq Offset<br/>0 Hz</p> |

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11N20SISO/LCH |  <p>Center Freq 2.412000000 GHz</p> <p>Ref Offset 19.06 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/>12.52 dBm / 20 MHz</p> <p>Power Spectral Density<br/>-60.49 dBm / Hz</p> <p>Center Freq 2.412000000 GHz</p> <p>CF Step 4.000000 MHz</p> <p>Freq Offset 0 Hz</p>   |
| 11N20SISO/MCH |  <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 19.02 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/>12.74 dBm / 20 MHz</p> <p>Power Spectral Density<br/>-60.27 dBm / Hz</p> <p>Center Freq 2.437000000 GHz</p> <p>CF Step 4.000000 MHz</p> <p>Freq Offset 0 Hz</p>  |
| 11N20SISO/HCH |  <p>Center Freq 2.462000000 GHz</p> <p>Ref Offset 19.06 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/>12.65 dBm / 20 MHz</p> <p>Power Spectral Density<br/>-60.37 dBm / Hz</p> <p>Center Freq 2.462000000 GHz</p> <p>CF Step 4.000000 MHz</p> <p>Freq Offset 0 Hz</p> |

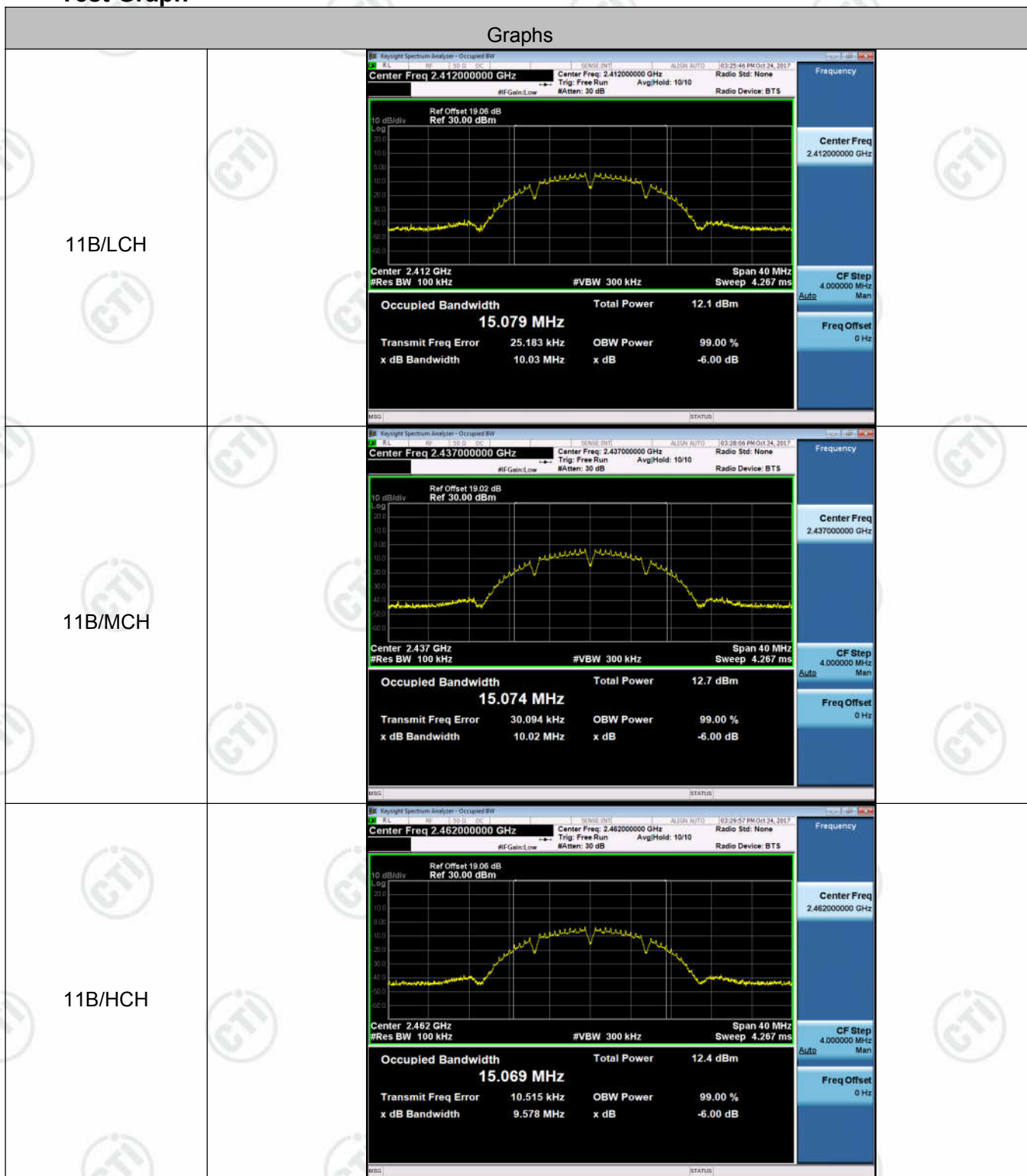
|               |                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11N40SISO/LCH |  <p>KeySight Spectrum Analyzer - Channel Power</p> <p>Center Freq 2.422000000 GHz</p> <p>Ref Offset 19.9 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/>12.66 dBm / 40 MHz</p> <p>Power Spectral Density<br/>-63.36 dBm / Hz</p>    |
| 11N40SISO/MCH |  <p>KeySight Spectrum Analyzer - Channel Power</p> <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 19.02 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/>12.77 dBm / 40 MHz</p> <p>Power Spectral Density<br/>-63.25 dBm / Hz</p>  |
| 11N40SISO/HCH |  <p>KeySight Spectrum Analyzer - Channel Power</p> <p>Center Freq 2.452000000 GHz</p> <p>Ref Offset 19.06 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/>13.08 dBm / 40 MHz</p> <p>Power Spectral Density<br/>-62.94 dBm / Hz</p> |

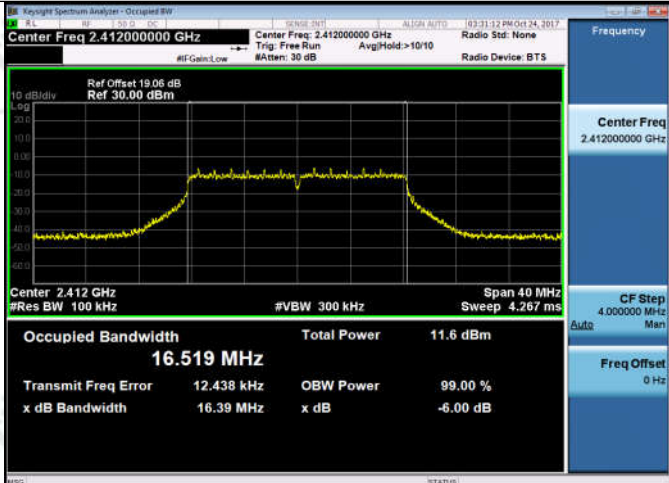
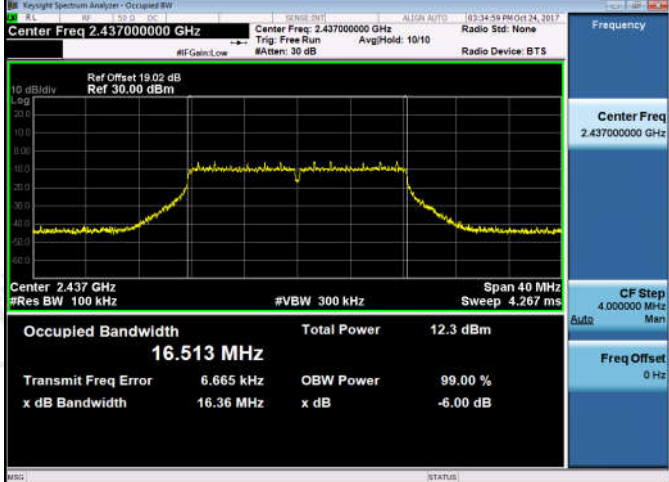
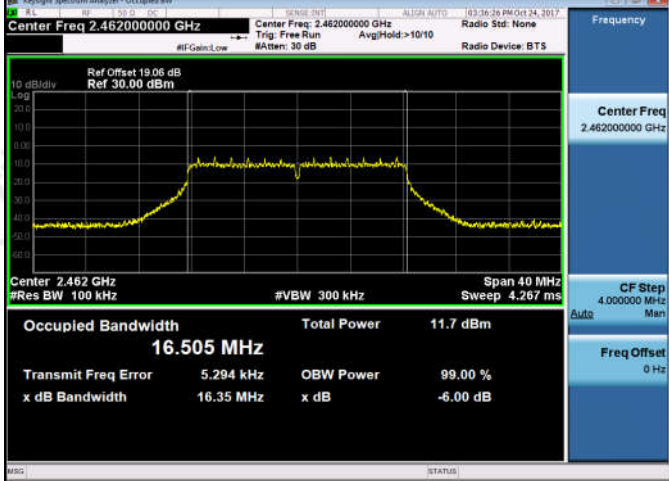
## Appendix B): 6dB Occupied Bandwidth

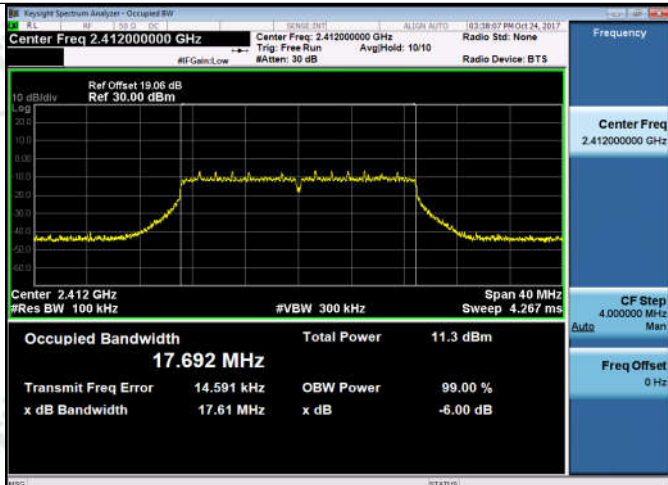
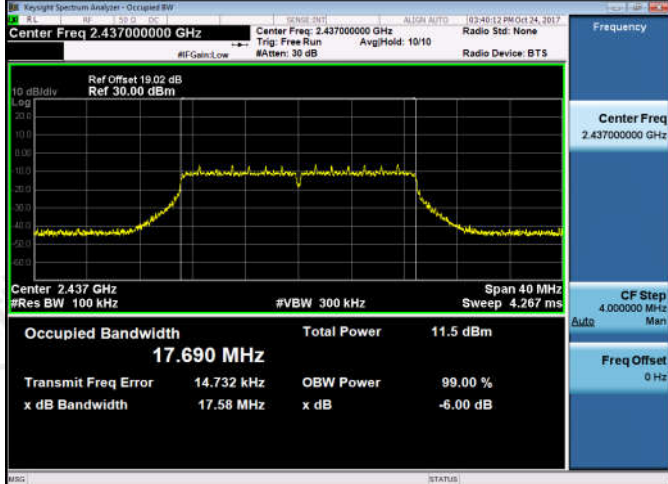
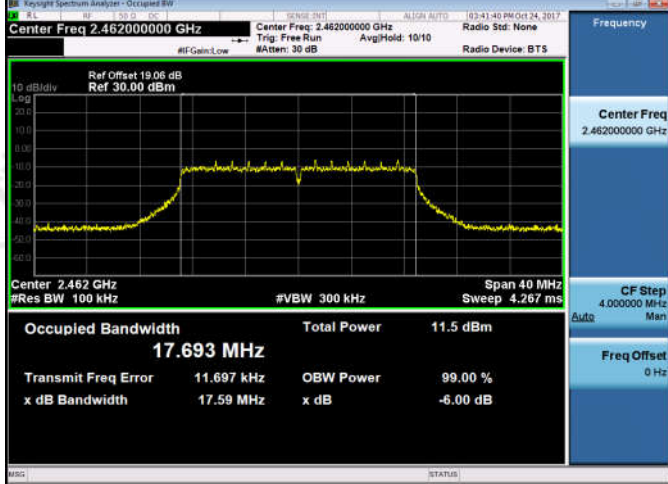
**Result Table**

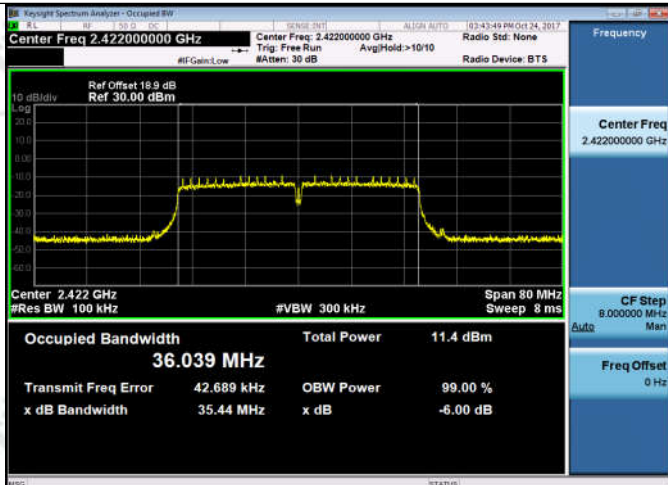
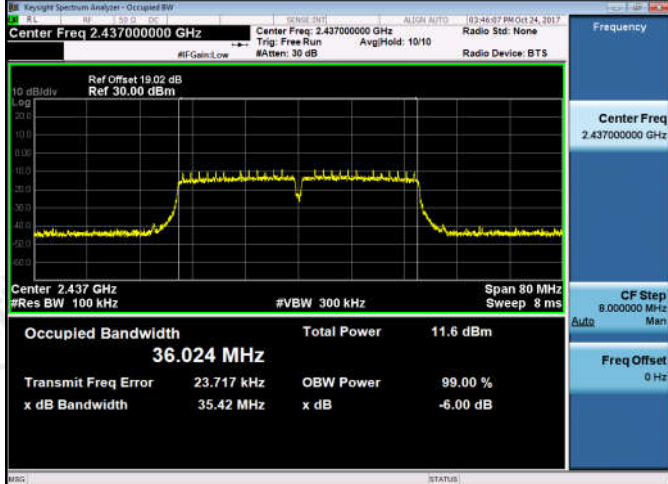
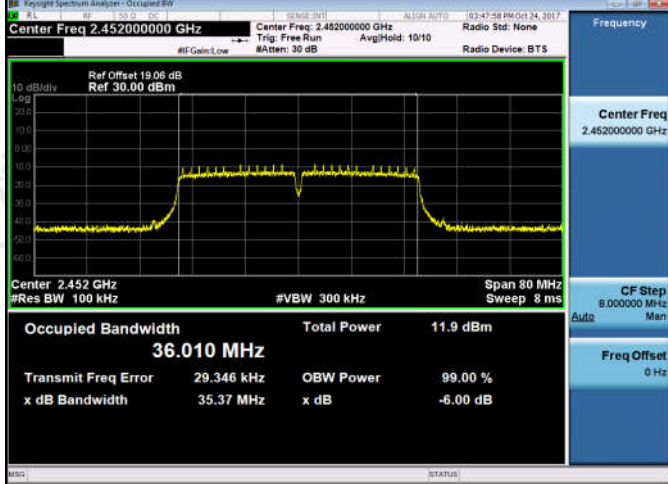
| Mode      | Channel | 6dB Bandwidth [MHz] | 99% OBW [MHz] | Verdict | Remark        |
|-----------|---------|---------------------|---------------|---------|---------------|
| 11B       | LCH     | 10.03               | 15.079        | PASS    | Peak detector |
| 11B       | MCH     | 10.02               | 15.074        | PASS    |               |
| 11B       | HCH     | 9.578               | 15.069        | PASS    |               |
| 11G       | LCH     | 16.39               | 16.519        | PASS    |               |
| 11G       | MCH     | 16.36               | 16.513        | PASS    |               |
| 11G       | HCH     | 16.35               | 16.505        | PASS    |               |
| 11N20SISO | LCH     | 17.61               | 17.692        | PASS    |               |
| 11N20SISO | MCH     | 17.58               | 17.690        | PASS    |               |
| 11N20SISO | HCH     | 17.59               | 17.693        | PASS    |               |
| 11N40SISO | LCH     | 35.44               | 36.039        | PASS    |               |
| 11N40SISO | MCH     | 35.42               | 36.024        | PASS    |               |
| 11N40SISO | HCH     | 35.37               | 36.010        | PASS    |               |

## Test Graph



|         |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11G/LCH |  <p>Keyight Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.412000000 GHz</p> <p>Ref Offset 19.06 dB<br/>Ref 30.00 dBm</p> <p>Center 2.412 GHz<br/>#Res BW 100 kHz</p> <p>Occupied Bandwidth <b>16.519 MHz</b></p> <p>Total Power 11.6 dBm</p> <p>Transmit Freq Error 12.438 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 16.39 MHz</p> <p>x dB -6.00 dB</p>  |
| 11G/MCH |  <p>Keyight Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 19.02 dB<br/>Ref 30.00 dBm</p> <p>Center 2.437 GHz<br/>#Res BW 100 kHz</p> <p>Occupied Bandwidth <b>16.513 MHz</b></p> <p>Total Power 12.3 dBm</p> <p>Transmit Freq Error 6.665 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 16.36 MHz</p> <p>x dB -6.00 dB</p>  |
| 11G/HCH |  <p>Keyight Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.462000000 GHz</p> <p>Ref Offset 19.06 dB<br/>Ref 30.00 dBm</p> <p>Center 2.462 GHz<br/>#Res BW 100 kHz</p> <p>Occupied Bandwidth <b>16.505 MHz</b></p> <p>Total Power 11.7 dBm</p> <p>Transmit Freq Error 5.294 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 16.35 MHz</p> <p>x dB -6.00 dB</p> |

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11N20SISO/LCH |  <p>Keyight Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.412000000 GHz</p> <p>Ref Offset 19.06 dB<br/>Ref 30.00 dBm</p> <p>Center Freq 2.412000000 GHz<br/>Trig: Free Run<br/>Avg/Hold: 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 17.692 MHz<br/>Total Power 11.3 dBm</p> <p>Transmit Freq Error 14.591 kHz<br/>OBW Power 99.00 %<br/>x dB Bandwidth 17.61 MHz<br/>x dB -6.00 dB</p> <p>Frequency<br/>Center Freq 2.412000000 GHz<br/>CF Step 4.000000 MHz<br/>Auto Man<br/>Freq Offset 0 Hz</p>   |
| 11N20SISO/MCH |  <p>Keyight Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 19.02 dB<br/>Ref 30.00 dBm</p> <p>Center Freq 2.437000000 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 17.690 MHz<br/>Total Power 11.5 dBm</p> <p>Transmit Freq Error 14.732 kHz<br/>OBW Power 99.00 %<br/>x dB Bandwidth 17.58 MHz<br/>x dB -6.00 dB</p> <p>Frequency<br/>Center Freq 2.437000000 GHz<br/>CF Step 4.000000 MHz<br/>Auto Man<br/>Freq Offset 0 Hz</p>  |
| 11N20SISO/HCH |  <p>Keyight Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.462000000 GHz</p> <p>Ref Offset 19.06 dB<br/>Ref 30.00 dBm</p> <p>Center Freq 2.462000000 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 17.693 MHz<br/>Total Power 11.5 dBm</p> <p>Transmit Freq Error 11.697 kHz<br/>OBW Power 99.00 %<br/>x dB Bandwidth 17.59 MHz<br/>x dB -6.00 dB</p> <p>Frequency<br/>Center Freq 2.462000000 GHz<br/>CF Step 4.000000 MHz<br/>Auto Man<br/>Freq Offset 0 Hz</p> |

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11N40SISO/LCH |  <p>Keyight Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.422000000 GHz</p> <p>Ref Offset 19.9 dB<br/>Ref 30.00 dBm</p> <p>Center 2.422 GHz<br/>#Res BW 100 kHz</p> <p>Occupied Bandwidth 36.039 MHz</p> <p>Total Power 11.4 dBm</p> <p>Transmit Freq Error 42.689 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 35.44 MHz</p> <p>x dB -6.00 dB</p>    |
| 11N40SISO/MCH |  <p>Keyight Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 19.02 dB<br/>Ref 30.00 dBm</p> <p>Center 2.437 GHz<br/>#Res BW 100 kHz</p> <p>Occupied Bandwidth 36.024 MHz</p> <p>Total Power 11.6 dBm</p> <p>Transmit Freq Error 23.717 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 35.42 MHz</p> <p>x dB -6.00 dB</p>  |
| 11N40SISO/HCH |  <p>Keyight Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.452000000 GHz</p> <p>Ref Offset 19.06 dB<br/>Ref 30.00 dBm</p> <p>Center 2.452 GHz<br/>#Res BW 100 kHz</p> <p>Occupied Bandwidth 36.010 MHz</p> <p>Total Power 11.9 dBm</p> <p>Transmit Freq Error 29.346 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 35.37 MHz</p> <p>x dB -6.00 dB</p> |

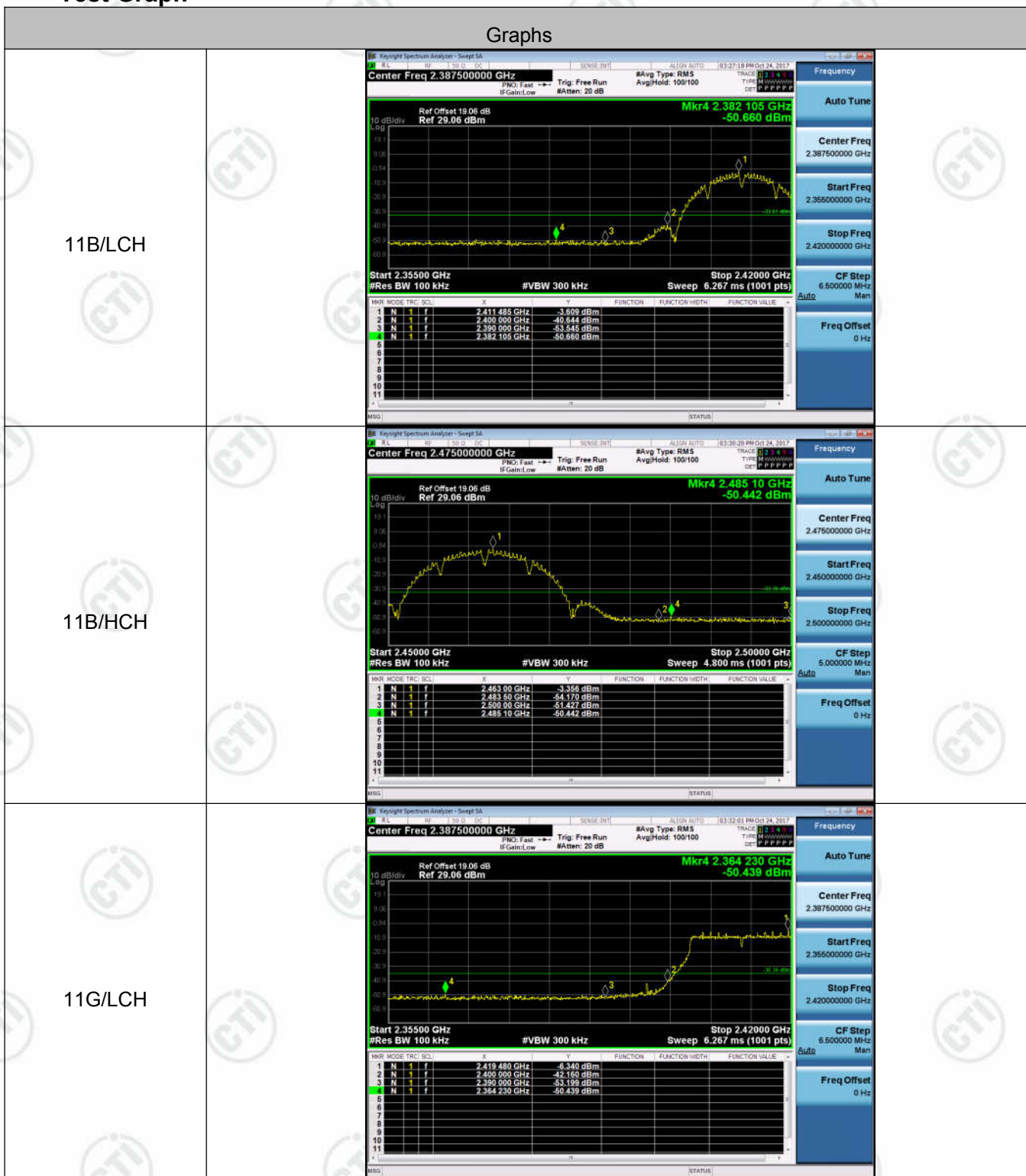
## Appendix C): Band-edge for RF Conducted Emissions

**Result Table**

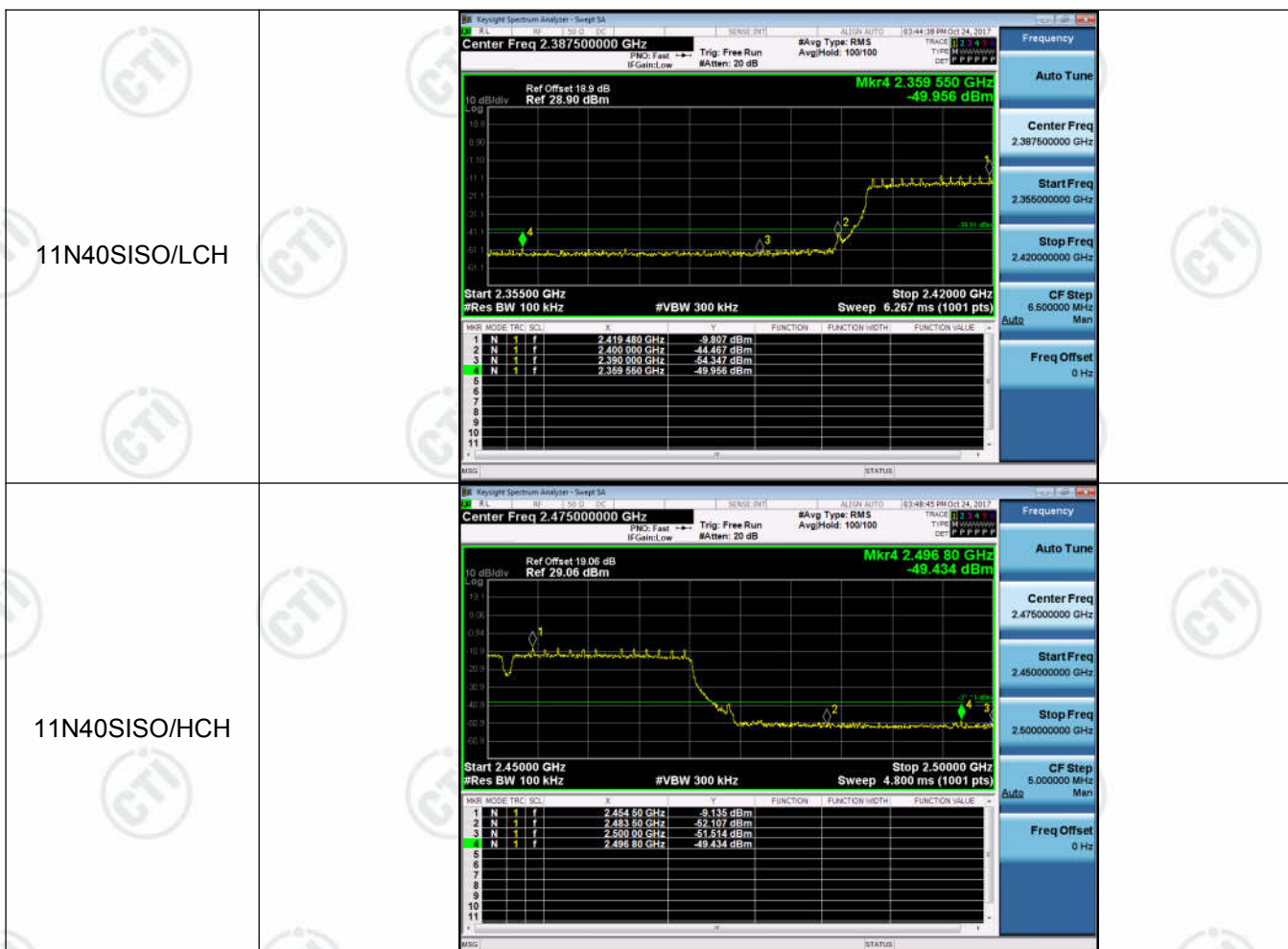
| Mode      | Channel | Carrier Power[dBm] | Max.Spurious Level [dBm] | Limit [dBm] | Verdict |
|-----------|---------|--------------------|--------------------------|-------------|---------|
| 11B       | LCH     | -3.609             | -50.660                  | -33.61      | PASS    |
| 11B       | HCH     | -3.356             | -50.442                  | -33.36      | PASS    |
| 11G       | LCH     | -6.340             | -50.439                  | -36.34      | PASS    |
| 11G       | HCH     | -6.512             | -50.383                  | -36.51      | PASS    |
| 11N20SISO | LCH     | -6.628             | -50.600                  | -36.63      | PASS    |
| 11N20SISO | HCH     | -6.661             | -50.759                  | -36.66      | PASS    |
| 11N40SISO | LCH     | -9.807             | -49.956                  | -39.81      | PASS    |
| 11N40SISO | HCH     | -9.135             | -49.434                  | -39.14      | PASS    |

## Test Graph

### Graphs







## Appendix D): RF Conducted Spurious Emissions

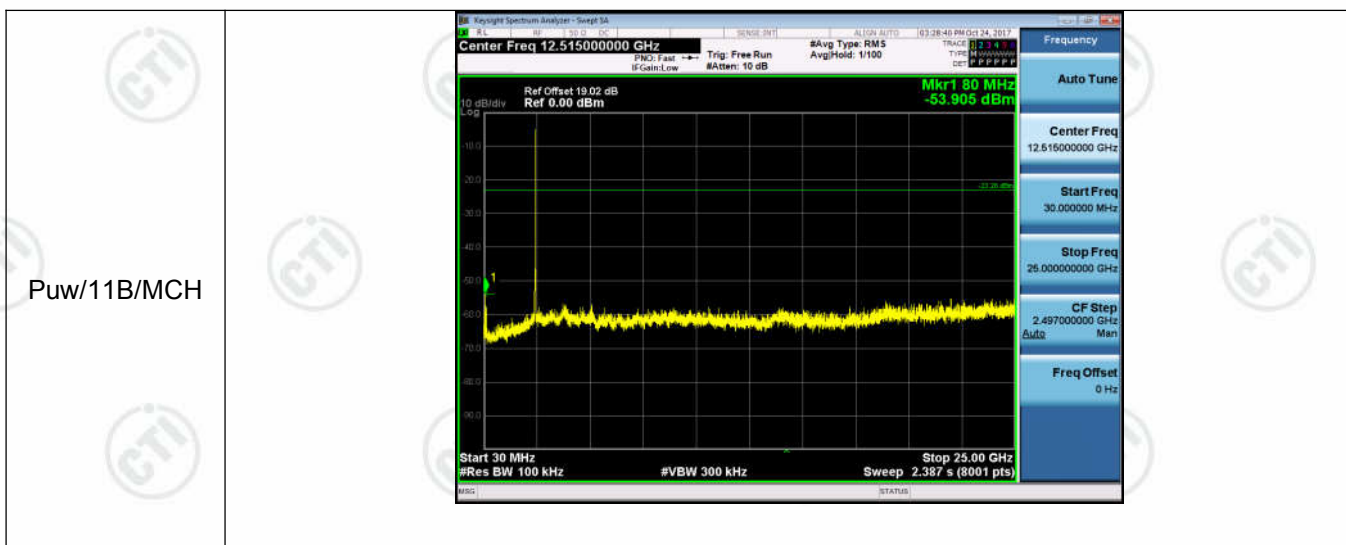
**Result Table**

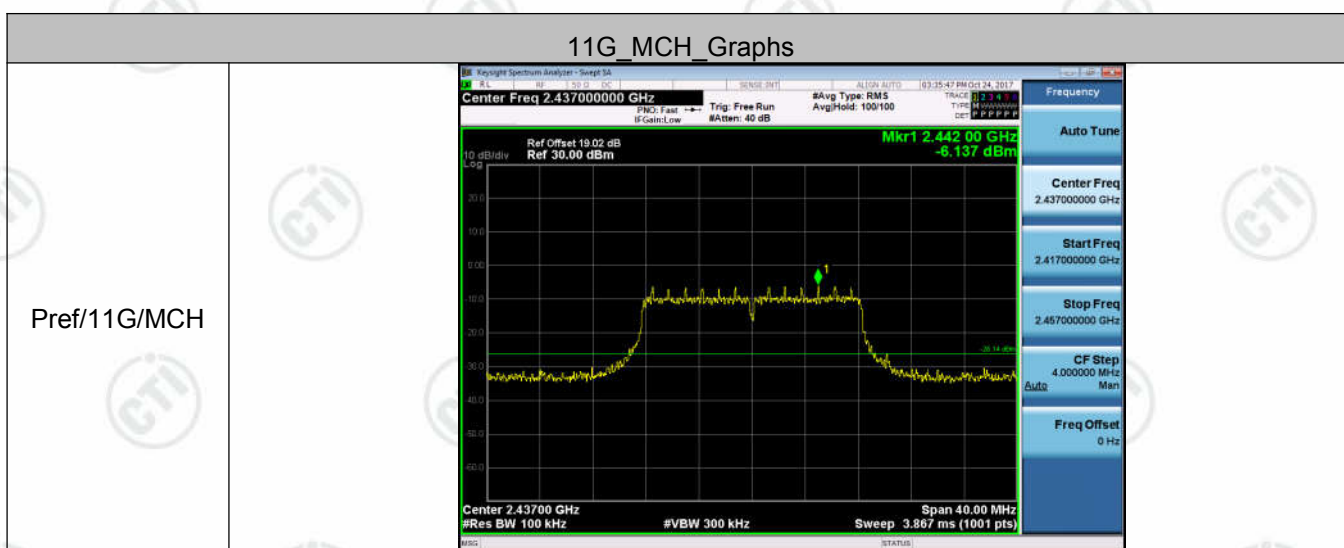
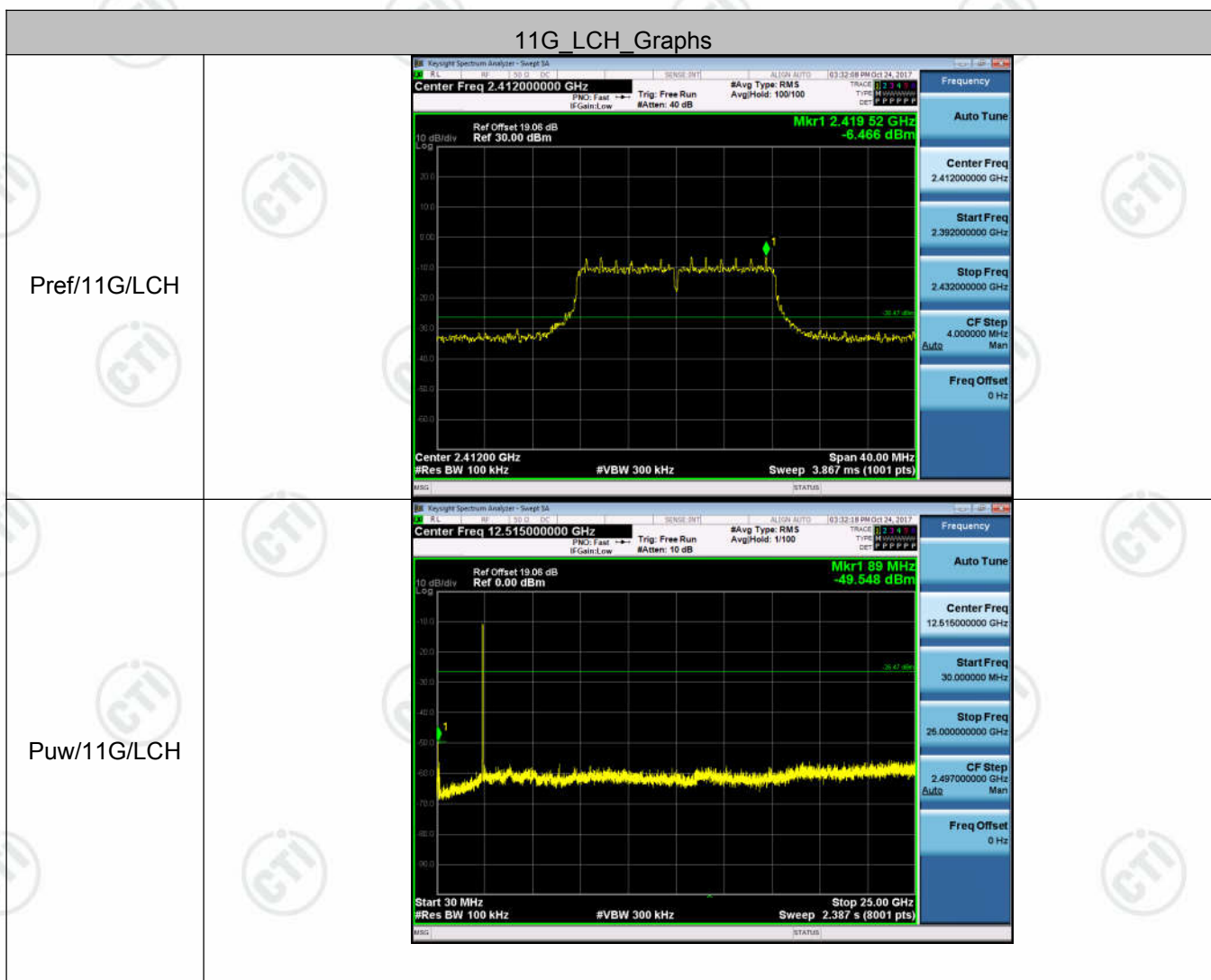
| Mode      | Channel | Pref [dBm] | Puw[dBm] | Verdict |
|-----------|---------|------------|----------|---------|
| 11B       | LCH     | -3.753     | <Limit   | PASS    |
| 11B       | MCH     | -3.276     | <Limit   | PASS    |
| 11B       | HCH     | -3.53      | <Limit   | PASS    |
| 11G       | LCH     | -6.466     | <Limit   | PASS    |
| 11G       | MCH     | -6.137     | <Limit   | PASS    |
| 11G       | HCH     | -6.141     | <Limit   | PASS    |
| 11N20SISO | LCH     | -6.698     | <Limit   | PASS    |
| 11N20SISO | MCH     | -6.264     | <Limit   | PASS    |
| 11N20SISO | HCH     | -6.319     | <Limit   | PASS    |
| 11N40SISO | LCH     | -9.524     | <Limit   | PASS    |
| 11N40SISO | MCH     | -9.108     | <Limit   | PASS    |
| 11N40SISO | HCH     | -9.106     | <Limit   | PASS    |

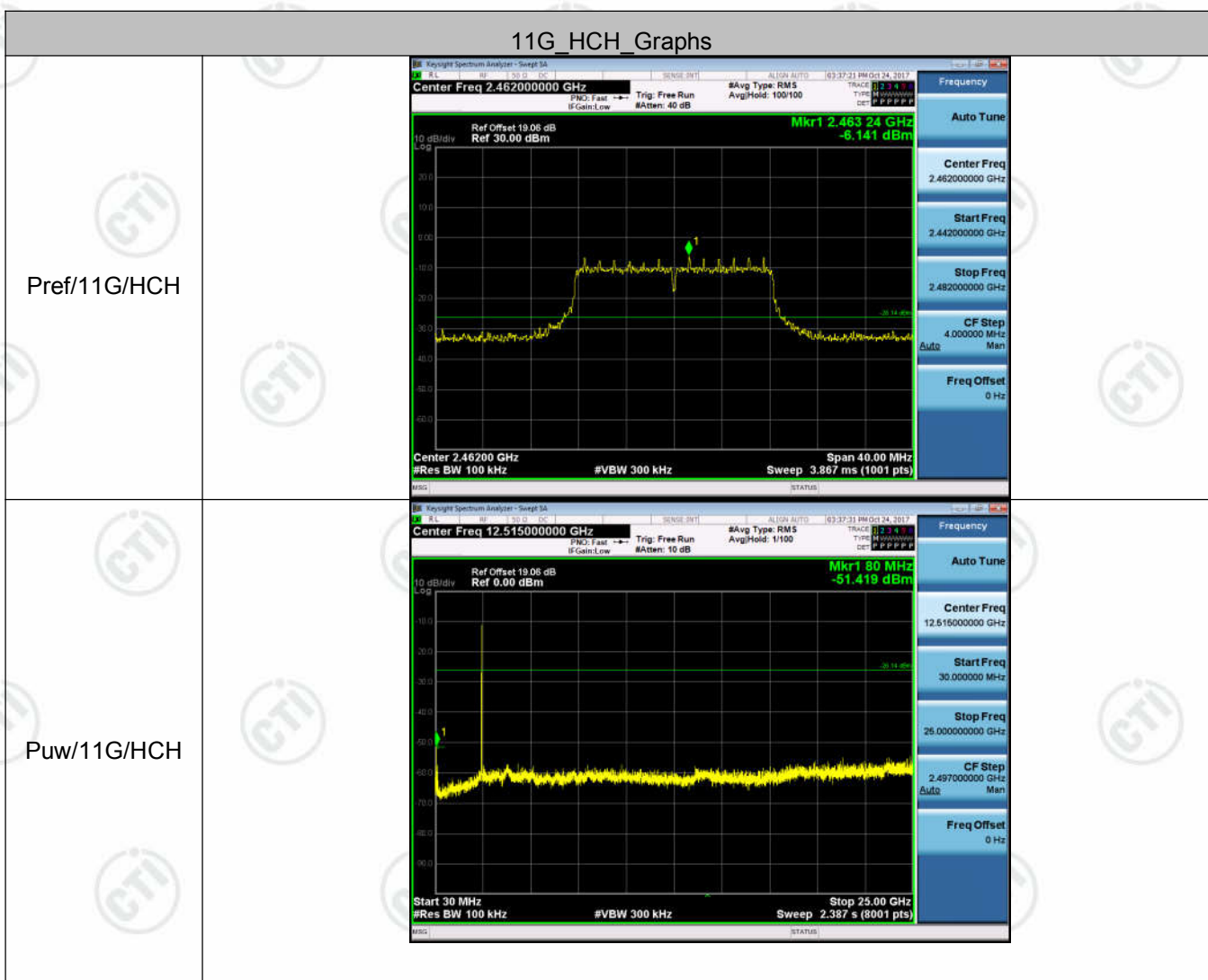
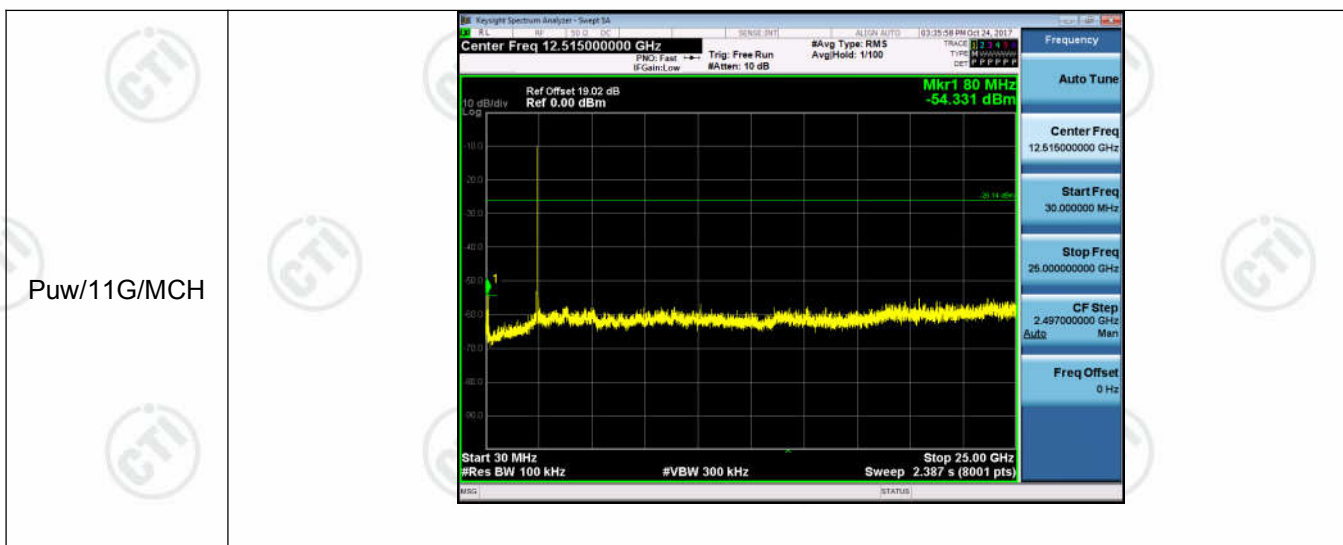
## Test Graph

| 11B_LCH_Graphs |  |
|----------------|--|
| Pref/11B/LCH   |  |
| Puw/11B/LCH    |  |

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

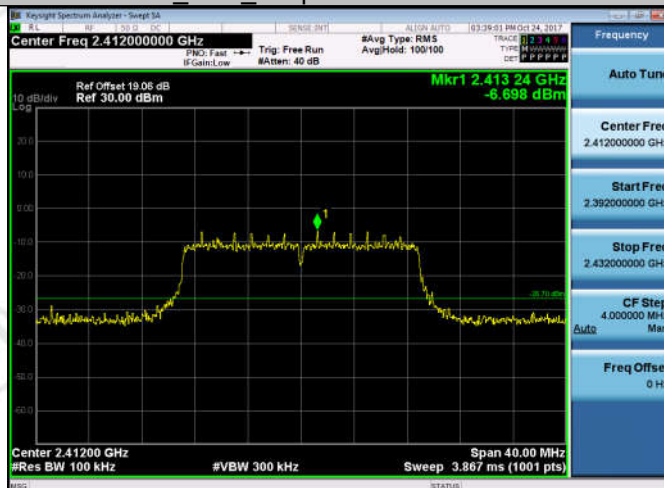




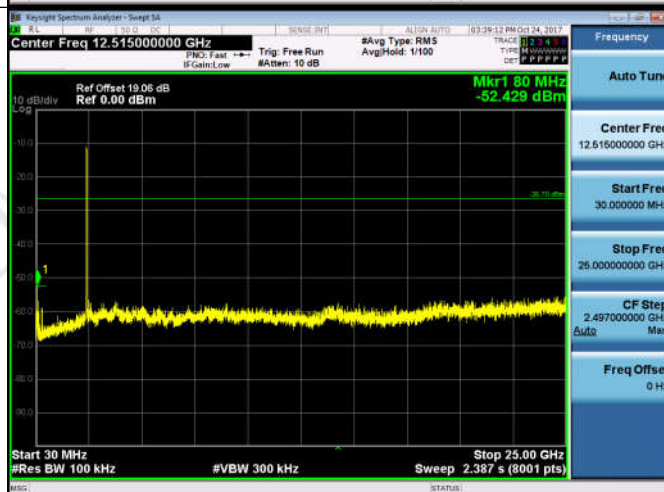


### 11N20SISO\_LCH\_Graphs

Pref/11N20SISO/LCH

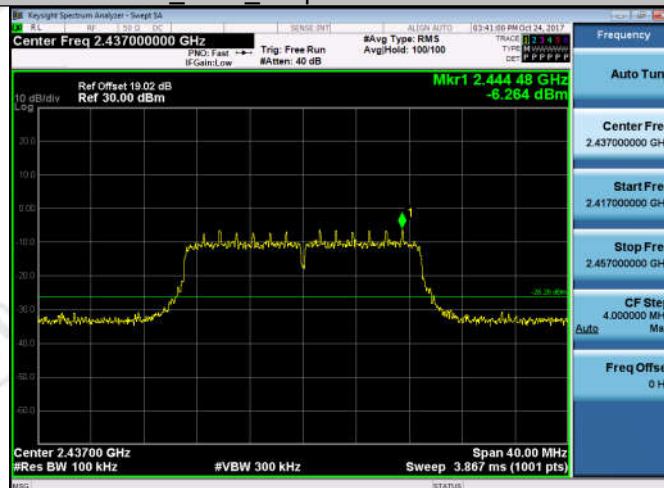


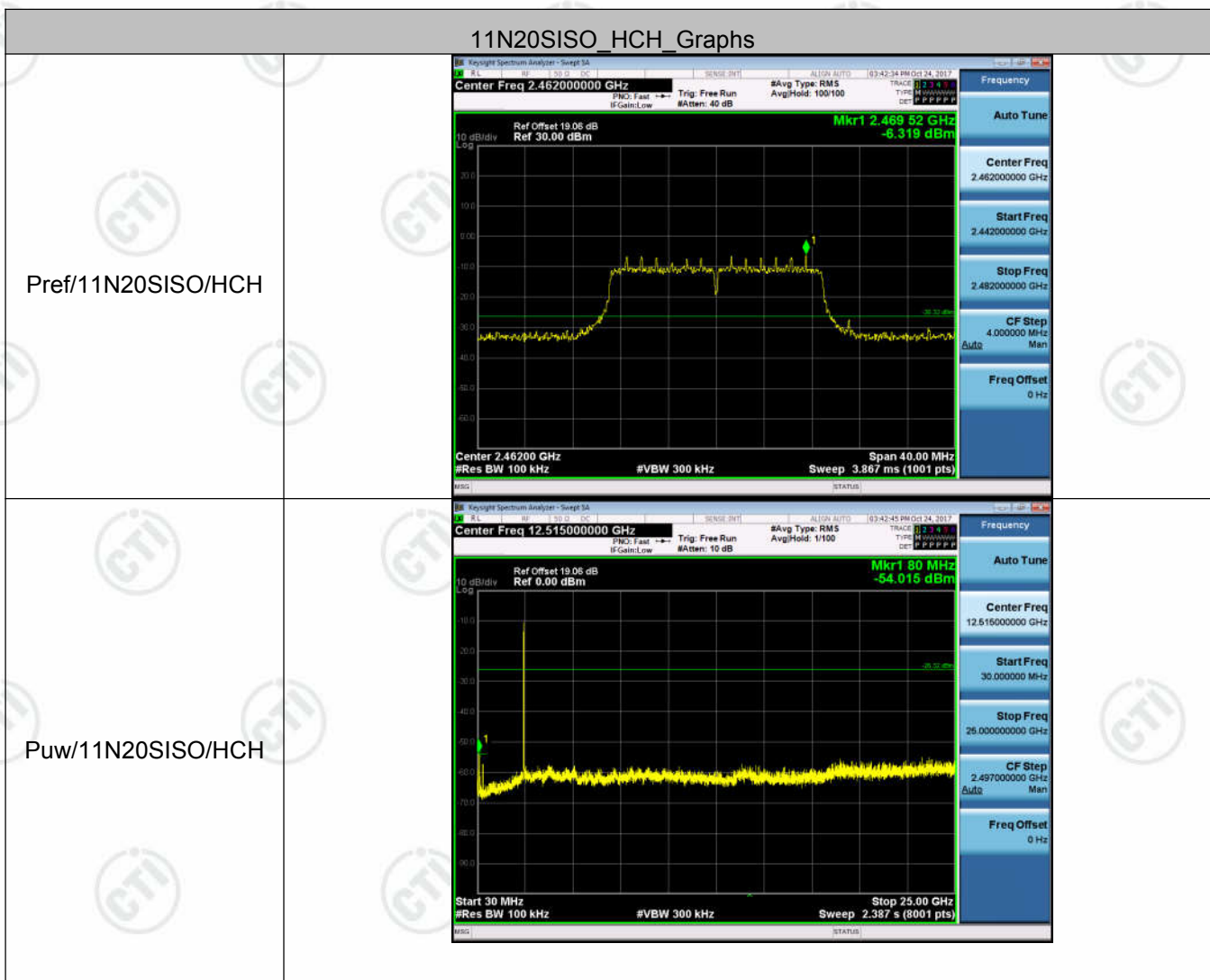
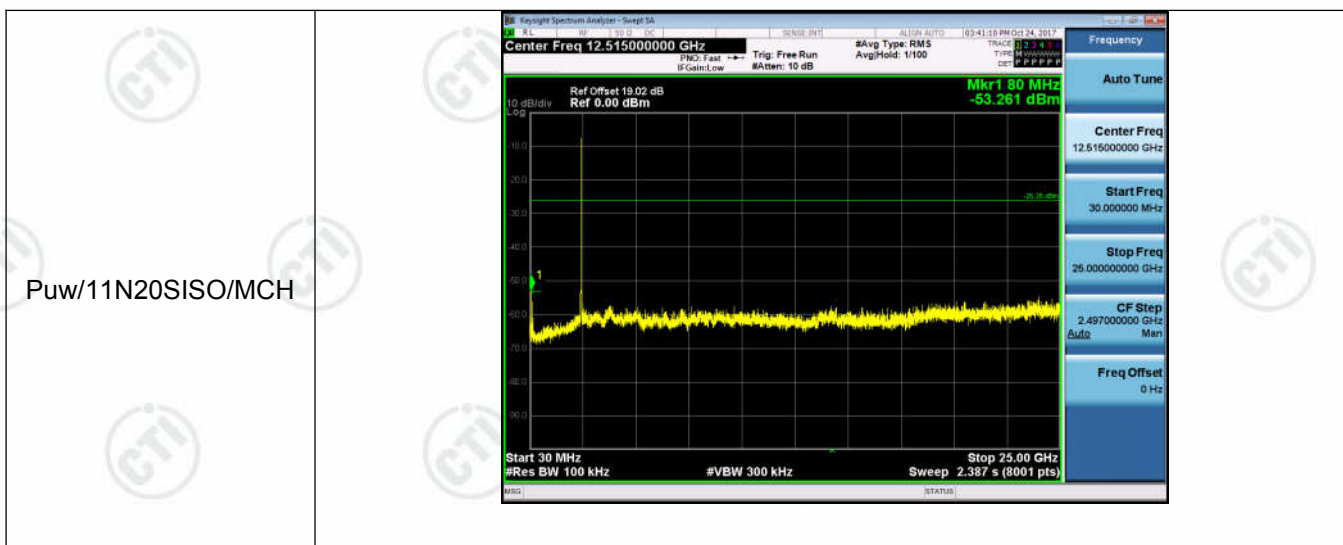
/11N20SISO/LCH



### 11N20SISO\_MCH\_Graphs

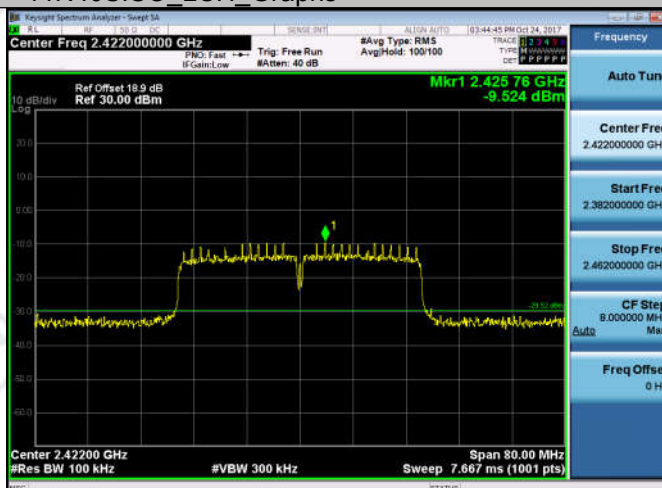
Pref/11N20SISO/MCH



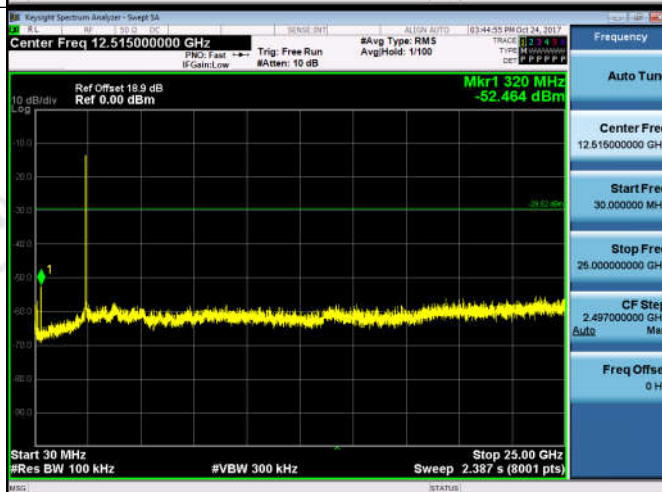


### 11N40SISO\_LCH\_Graphs

Pref/11N40SISO/LCH

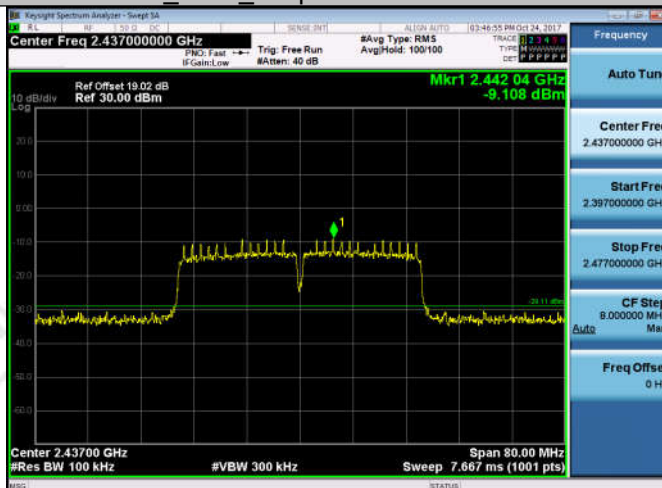


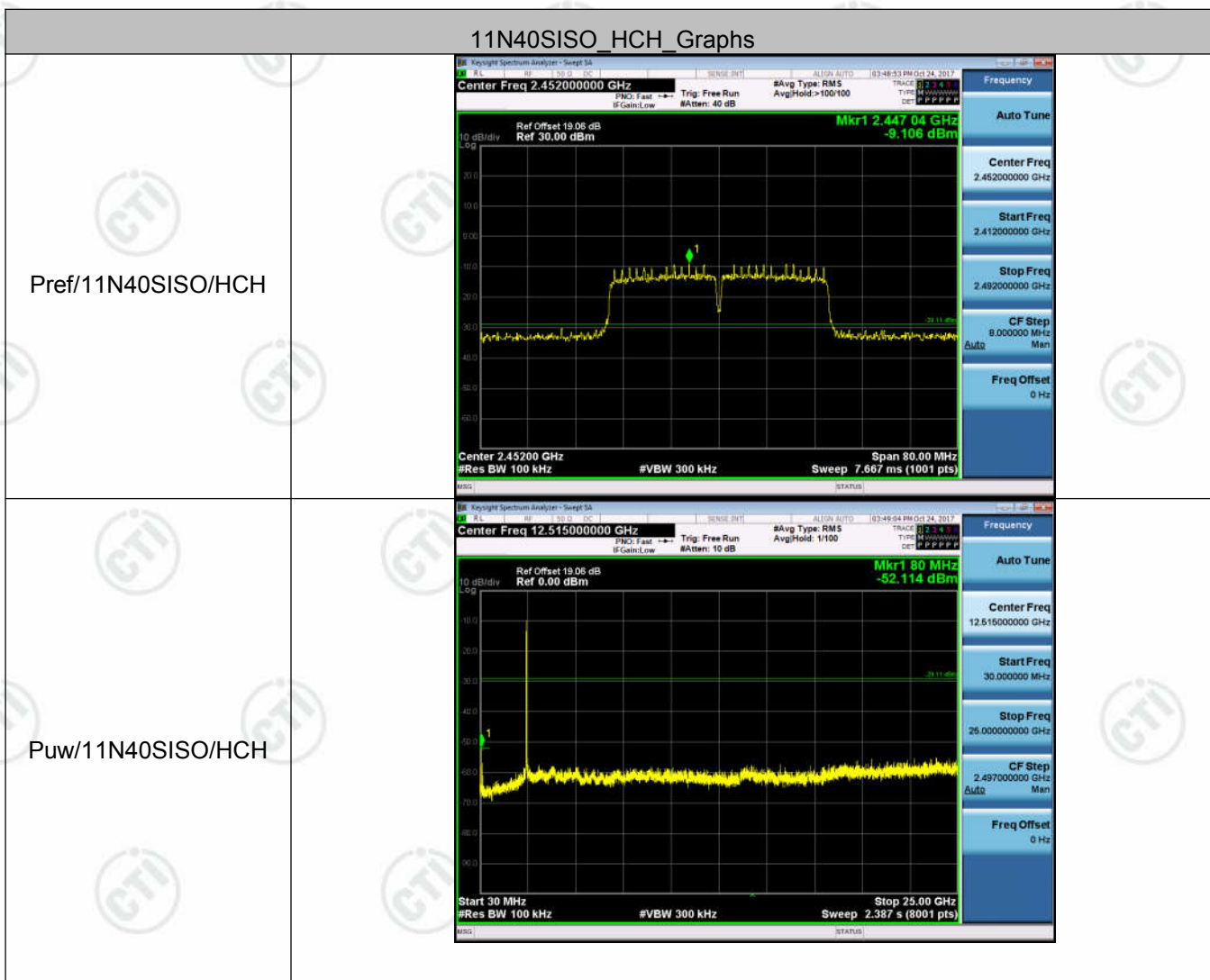
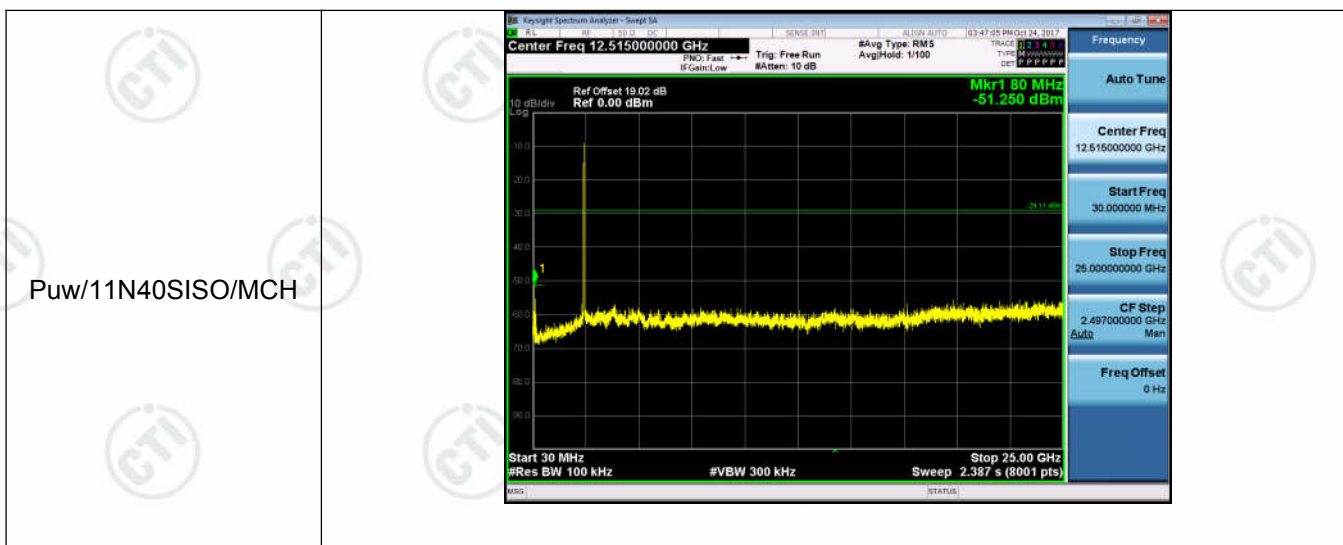
Puw/11N40SISO/LCH



### 11N40SISO\_MCH\_Graphs

Pref/11N40SISO/MCH





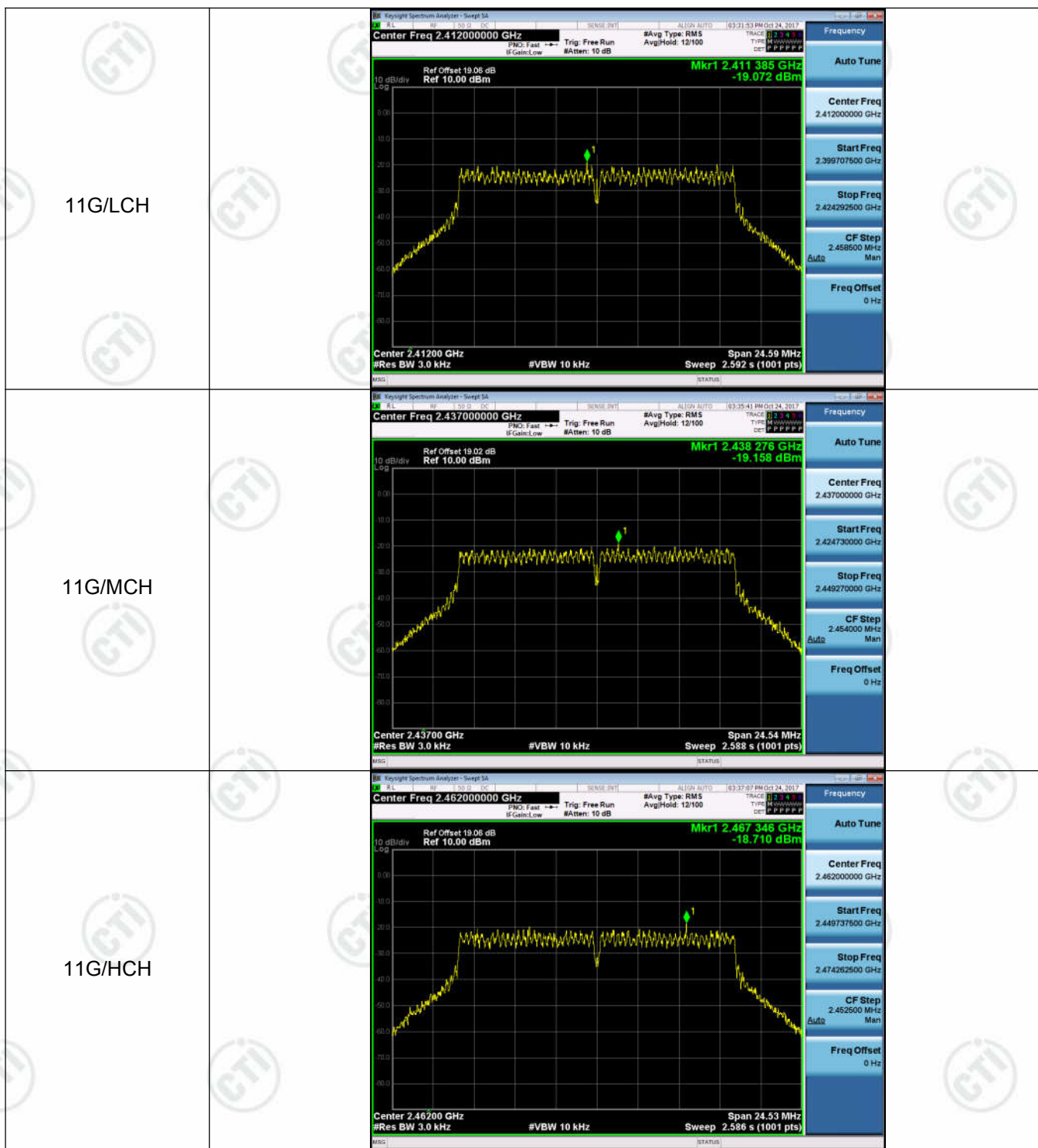
## Appendix E): Power Spectral Density

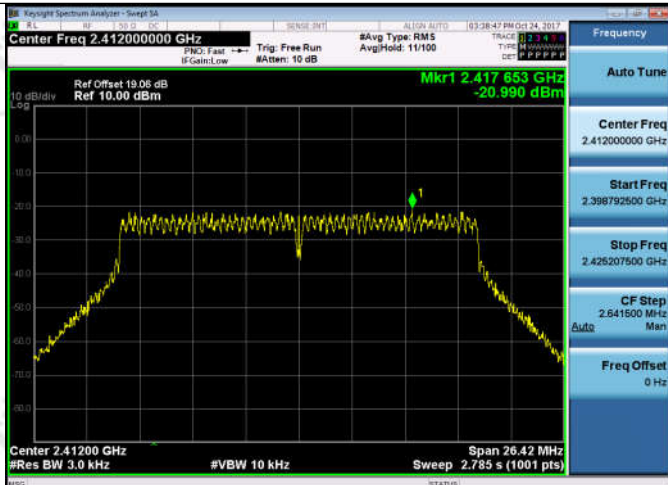
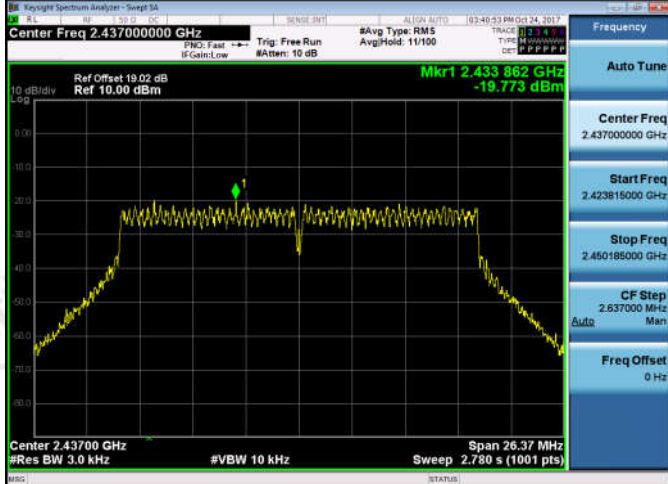
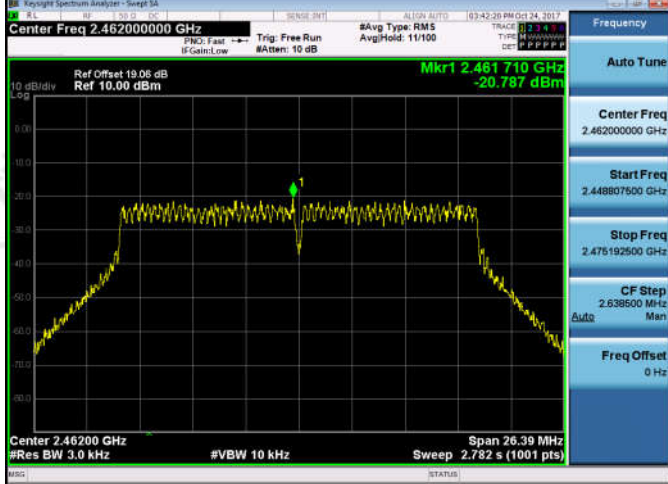
**Result Table**

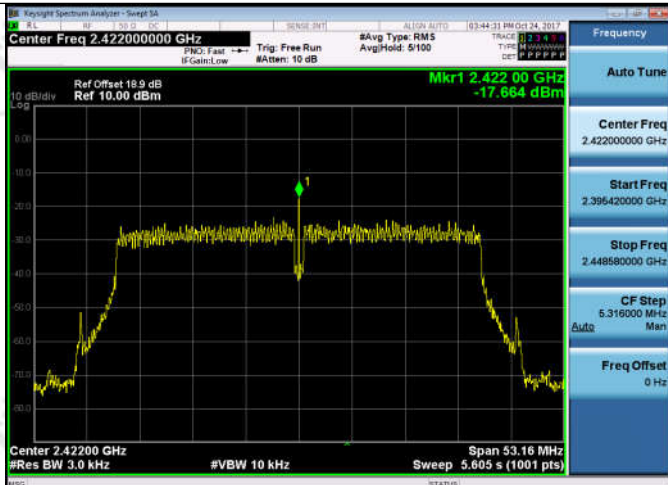
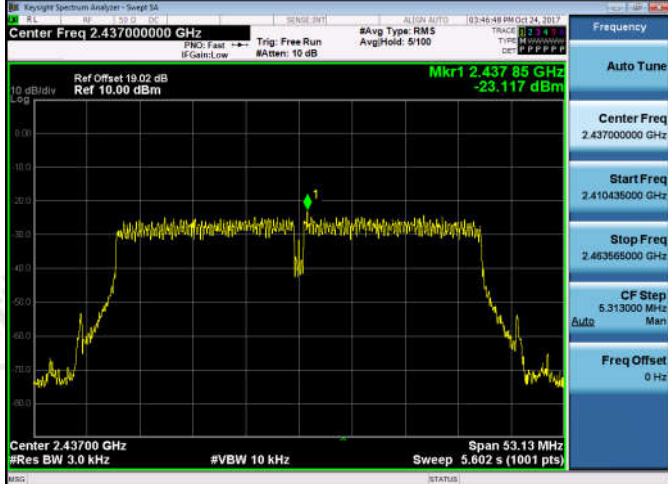
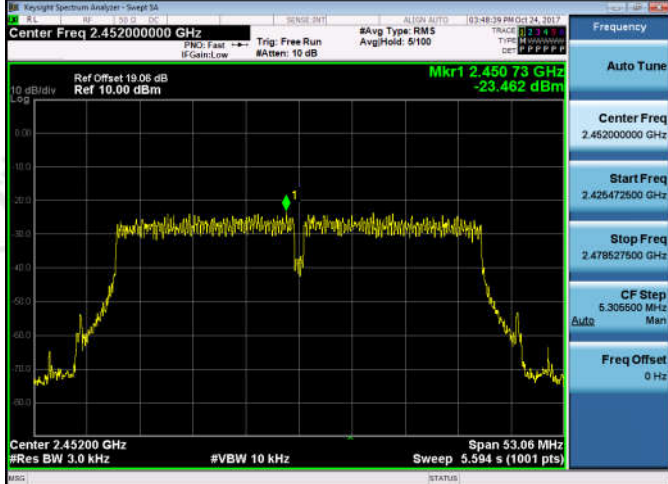
| Mode      | Channel | Power Spectral Density [dBm/3kHz] | Limit [dBm/3kHz] | Verdict |
|-----------|---------|-----------------------------------|------------------|---------|
| 11B       | LCH     | -16.649                           | 8                | PASS    |
| 11B       | MCH     | -17.626                           | 8                | PASS    |
| 11B       | HCH     | -18.191                           | 8                | PASS    |
| 11G       | LCH     | -19.072                           | 8                | PASS    |
| 11G       | MCH     | -19.158                           | 8                | PASS    |
| 11G       | HCH     | -18.710                           | 8                | PASS    |
| 11N20SISO | LCH     | -20.990                           | 8                | PASS    |
| 11N20SISO | MCH     | -19.773                           | 8                | PASS    |
| 11N20SISO | HCH     | -20.787                           | 8                | PASS    |
| 11N40SISO | LCH     | -17.664                           | 8                | PASS    |
| 11N40SISO | MCH     | -23.117                           | 8                | PASS    |
| 11N40SISO | HCH     | -23.462                           | 8                | PASS    |

## Test Graph

| Graphs  |                                                                                                                                                                                                                                                                                 |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11B/LCH | <p>Keyight Spectrum Analyzer - Sweep SA<br/>Center Freq 2.412000000 GHz<br/>Ref Offset 19.06 dB<br/>Ref 10.00 dBm<br/>Mkr1 2.411368 GHz<br/>-16.649 dBm<br/>Center Freq 2.412000000 GHz<br/>#Res BW 3.0 kHz<br/>#VBW 10 kHz<br/>Sweep 1.586 s (1001 pts)<br/>Span 15.05 MHz</p> |
| 11B/MCH | <p>Keyight Spectrum Analyzer - Sweep SA<br/>Center Freq 2.437000000 GHz<br/>Ref Offset 19.02 dB<br/>Ref 10.00 dBm<br/>Mkr1 2.438759 GHz<br/>-17.626 dBm<br/>Center Freq 2.437000000 GHz<br/>#Res BW 3.0 kHz<br/>#VBW 10 kHz<br/>Sweep 1.585 s (1001 pts)<br/>Span 15.03 MHz</p> |
| 11B/HCH | <p>Keyight Spectrum Analyzer - Sweep SA<br/>Center Freq 2.462000000 GHz<br/>Ref Offset 19.06 dB<br/>Ref 10.00 dBm<br/>Mkr1 2.461310 GHz<br/>-18.191 dBm<br/>Center Freq 2.462000000 GHz<br/>#Res BW 3.0 kHz<br/>#VBW 10 kHz<br/>Sweep 1.515 s (1001 pts)<br/>Span 14.37 MHz</p> |



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

|               |                                                                                      |
|---------------|--------------------------------------------------------------------------------------|
| 11N40SISO/LCH |    |
| 11N40SISO/MCH |   |
| 11N40SISO/HCH |  |

## Appendix F): Antenna Requirement

### 15.203 requirement:

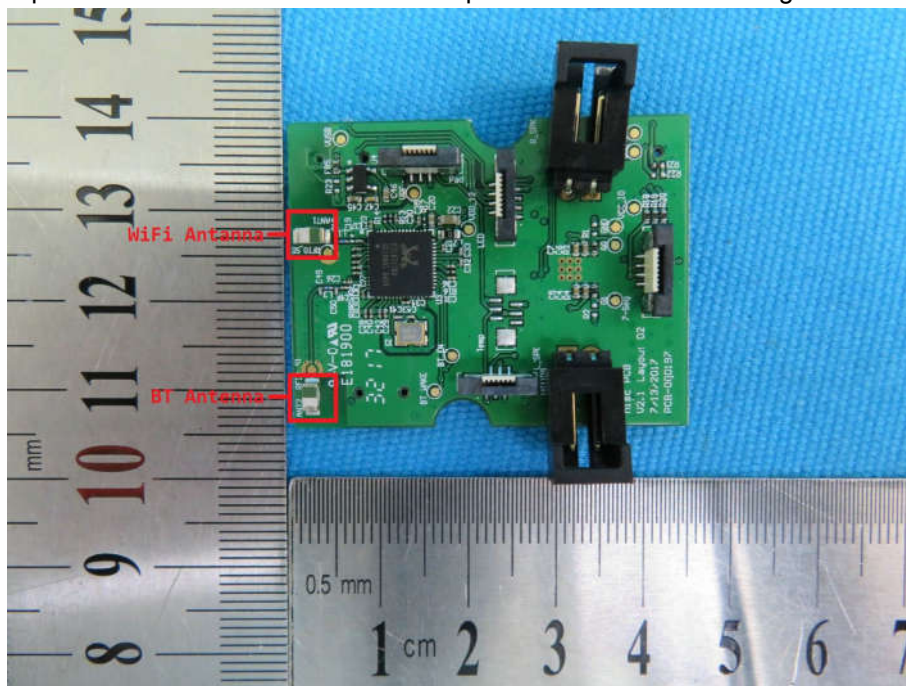
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit 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 chip antenna and no consideration of replacement. The best case gain of the antenna is 2dBi.



## 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        |                       |                    |  |            |         |          |           |           |       |    |    |      |    |    |

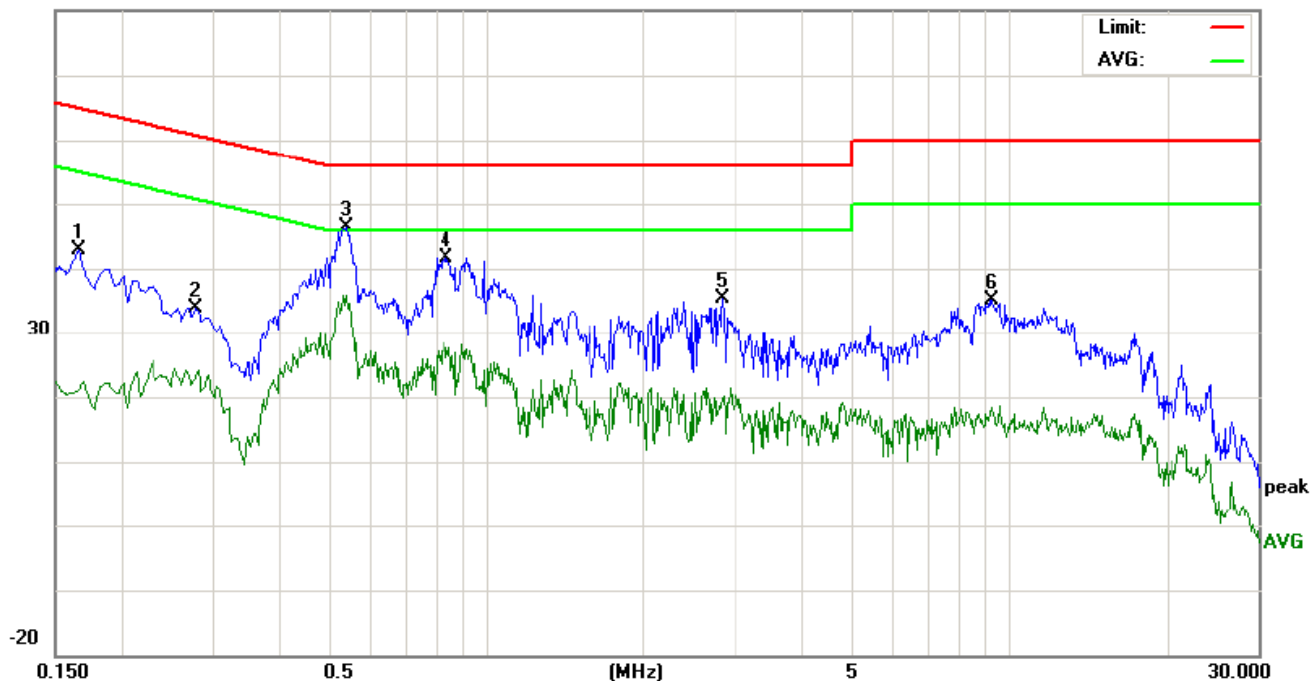
### Measurement Data

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.

Live line:

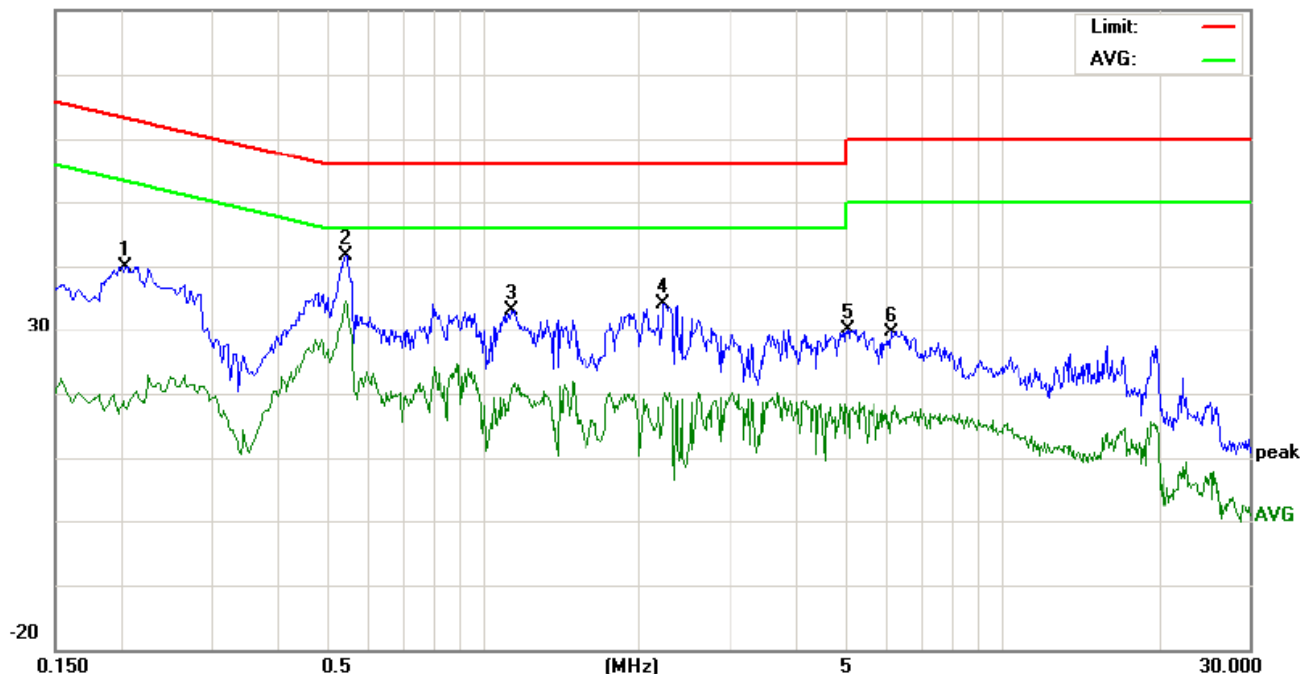
80.0 dBuV



| 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   | 0.1660       | 33.02                   | 27.40 | 11.02 | 9.75                    | 42.77                 | 37.15 | 20.77 | 65.15           | 55.15 | -28.00         | -34.38 | P   |         |
| 2   | 0.2779       | 24.14                   | 21.30 | 13.23 | 9.76                    | 33.90                 | 31.06 | 22.99 | 60.88           | 50.88 | -29.82         | -27.89 | P   |         |
| 3   | 0.5420       | 36.69                   | 33.37 | 24.01 | 9.73                    | 46.42                 | 43.10 | 33.74 | 56.00           | 46.00 | -12.90         | -12.26 | P   |         |
| 4   | 0.8380       | 31.80                   | 18.76 | 7.12  | 9.74                    | 41.54                 | 28.50 | 16.86 | 56.00           | 46.00 | -27.50         | -29.14 | P   |         |
| 5   | 2.8340       | 25.68                   | 18.60 | 7.99  | 9.69                    | 35.37                 | 28.29 | 17.68 | 56.00           | 46.00 | -27.71         | -28.32 | P   |         |
| 6   | 9.2860       | 25.47                   | 18.39 | 8.66  | 9.75                    | 35.22                 | 28.14 | 18.41 | 60.00           | 50.00 | -31.86         | -31.59 | 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   | 0.2039       | 30.28                   | 23.70 | 9.84  | 9.71                    | 39.99                 | 33.41 | 19.55 | 63.45           | 53.45 | -30.04         | -33.90 | P   |         |
| 2   | 0.5460       | 31.96                   | 30.11 | 22.55 | 9.73                    | 41.69                 | 39.84 | 32.28 | 56.00           | 46.00 | -16.16         | -13.72 | P   |         |
| 3   | 1.1380       | 23.35                   | 16.38 | 7.83  | 9.72                    | 33.07                 | 26.10 | 17.55 | 56.00           | 46.00 | -29.90         | -28.45 | P   |         |
| 4   | 2.2340       | 24.51                   | 14.66 | 7.22  | 9.71                    | 34.22                 | 24.37 | 16.93 | 56.00           | 46.00 | -31.63         | -29.07 | P   |         |
| 5   | 5.0459       | 20.53                   | 12.56 | 5.55  | 9.62                    | 30.15                 | 22.18 | 15.17 | 60.00           | 50.00 | -37.82         | -34.83 | P   |         |
| 6   | 6.1259       | 20.05                   | 12.98 | 5.35  | 9.62                    | 29.67                 | 22.60 | 14.97 | 60.00           | 50.00 | -37.40         | -35.03 | P   |         |

Notes:

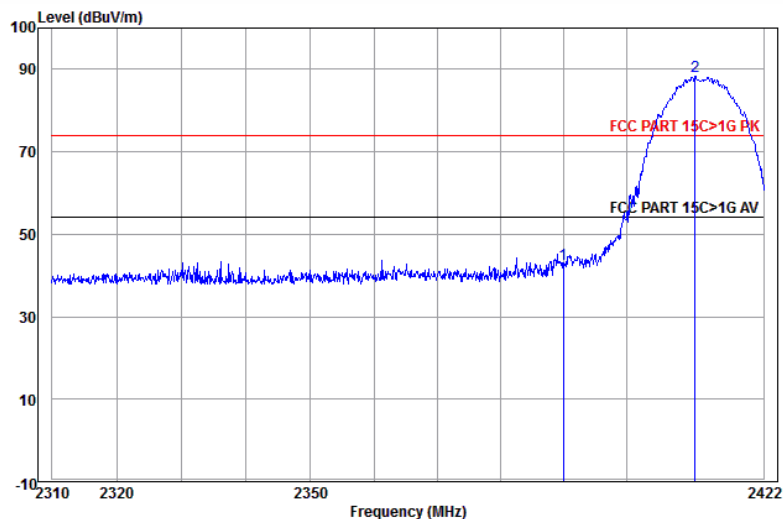
1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

## 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       |            |

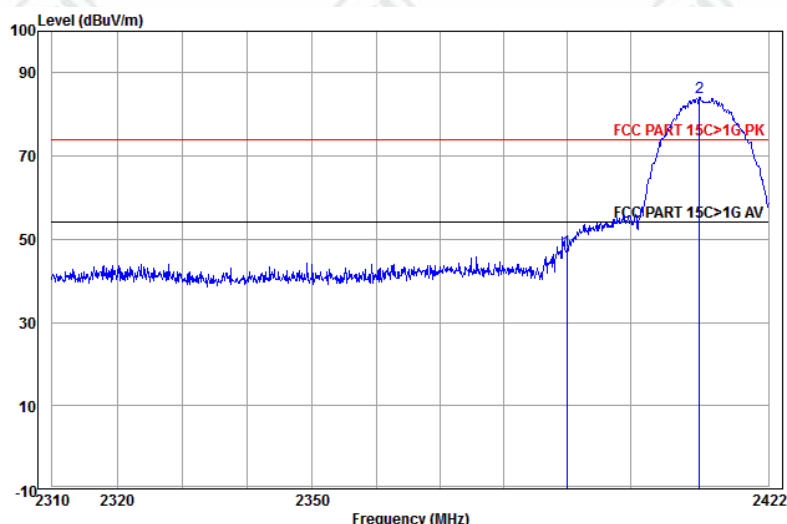
**Test plot as follows:**

|                      |                      |                          |              |
|----------------------|----------------------|--------------------------|--------------|
| Worse case mode:     | 802.11b (11Mbps)     |                          |              |
| Frequency: 2390.0MHz | Test channel: Lowest | Polarization: Horizontal | Remark: Peak |



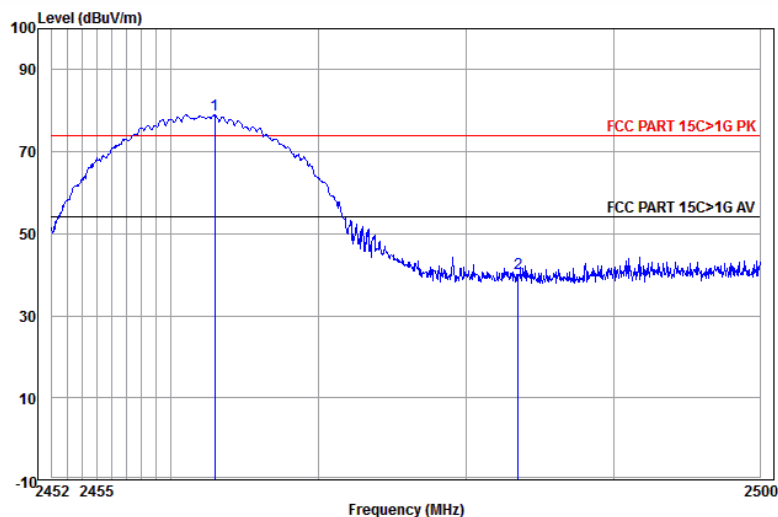
|      | Ant Freq | Cable Factor | Preamp Loss | Preamp Factor | Read Level | Read Level | Limit Line | Over Limit | Pol/Phase  | Remark |
|------|----------|--------------|-------------|---------------|------------|------------|------------|------------|------------|--------|
|      | MHz      | dB/m         | dB          | dB            | dBuV       | dBuV/m     | dBuV/m     | dB         |            |        |
| 1    | 2390.000 | 32.53        | 3.07        | 44.03         | 51.14      | 42.71      | 74.00      | -31.29     | Horizontal |        |
| 2 pp | 2411.016 | 32.58        | 3.08        | 44.05         | 96.75      | 88.36      | 74.00      | 14.36      | Horizontal |        |

|                      |                      |                        |              |
|----------------------|----------------------|------------------------|--------------|
| Worse case mode:     | 802.11b (11Mbps)     |                        |              |
| Frequency: 2390.0MHz | Test channel: Lowest | Polarization: Vertical | Remark: Peak |



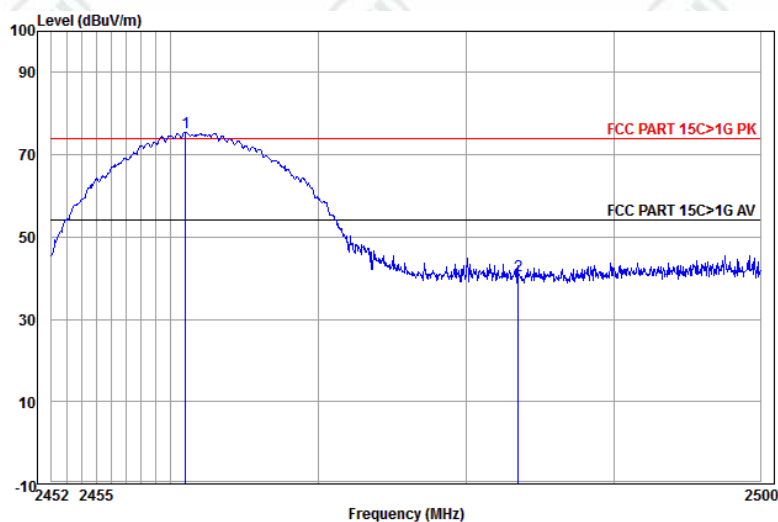
|      | Ant Freq | Cable Factor | Preamp Loss | Preamp Factor | Read Level | Read Level | Limit Line | Over Limit | Pol/Phase | Remark |
|------|----------|--------------|-------------|---------------|------------|------------|------------|------------|-----------|--------|
|      | MHz      | dB/m         | dB          | dB            | dBuV       | dBuV/m     | dBuV/m     | dB         |           |        |
| 1    | 2390.000 | 32.53        | 3.07        | 44.03         | 55.57      | 47.14      | 74.00      | -26.86     | Vertical  | Peak   |
| 2 pp | 2411.016 | 32.58        | 3.08        | 44.05         | 92.44      | 84.05      | 74.00      | 10.05      | Vertical  | Peak   |

|                      |                       |                          |              |
|----------------------|-----------------------|--------------------------|--------------|
| Worse case mode:     | 802.11b (11Mbps)      |                          |              |
| Frequency: 2483.5MHz | Test channel: Highest | Polarization: Horizontal | Remark: Peak |



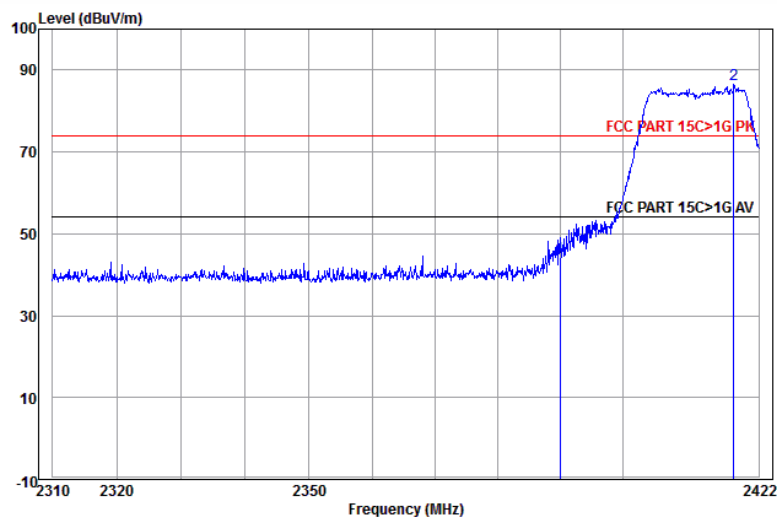
|      | Ant Freq | Cable Factor | Preamp Loss | Read Level | Read Level | Limit Line | Over Limit | Pol/Phase | Remark          |
|------|----------|--------------|-------------|------------|------------|------------|------------|-----------|-----------------|
|      | MHz      | dB/m         | dB          | dB         | dBuV       | dBuV/m     | dBuV/m     | dB        |                 |
| 1 pp | 2462.958 | 32.68        | 3.11        | 44.12      | 87.32      | 78.99      | 74.00      | 4.99      | Horizontal Peak |
| 2    | 2483.500 | 32.71        | 3.12        | 44.14      | 48.74      | 40.43      | 74.00      | -33.57    | Horizontal Peak |

|                      |                       |                        |              |
|----------------------|-----------------------|------------------------|--------------|
| Worse case mode:     | 802.11b (11Mbps)      |                        |              |
| Frequency: 2483.5MHz | Test channel: Highest | Polarization: Vertical | Remark: Peak |



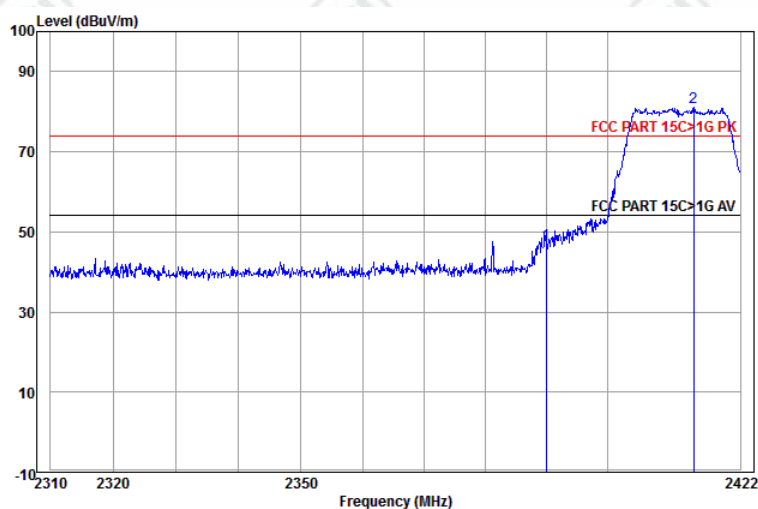
|      | Ant Freq | Cable Factor | Preamp Loss | Read Level | Read Level | Limit Line | Over Limit | Pol/Phase | Remark        |
|------|----------|--------------|-------------|------------|------------|------------|------------|-----------|---------------|
|      | MHz      | dB/m         | dB          | dB         | dBuV       | dBuV/m     | dBuV/m     | dB        |               |
| 1 pp | 2461.001 | 32.67        | 3.11        | 44.11      | 83.87      | 75.54      | 74.00      | 1.54      | Vertical Peak |
| 2    | 2483.500 | 32.71        | 3.12        | 44.14      | 48.94      | 40.63      | 74.00      | -33.37    | Vertical Peak |

|                      |                      |                          |              |
|----------------------|----------------------|--------------------------|--------------|
| Worse case mode:     | 802.11g (6Mbps)      |                          |              |
| Frequency: 2390.0MHz | Test channel: Lowest | Polarization: Horizontal | Remark: Peak |



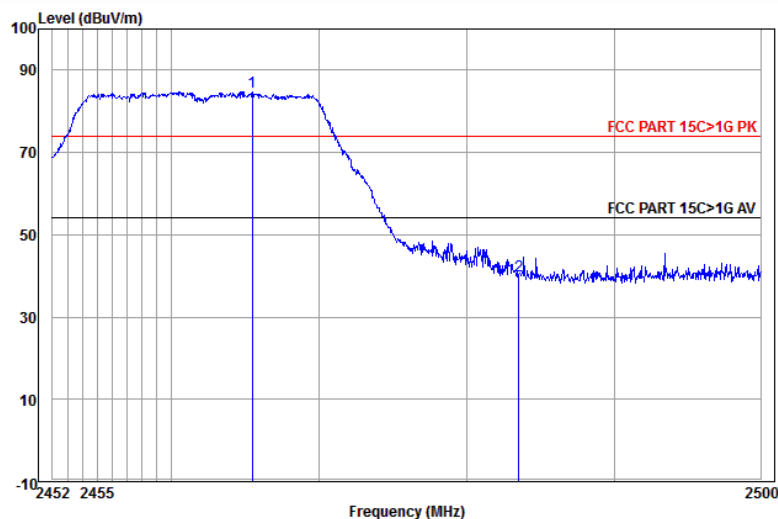
|      | Ant Freq | Cable Factor | Preamp Loss | Read Level | Read Level | Limit Line | Over Limit | Pol/Phase | Remark          |
|------|----------|--------------|-------------|------------|------------|------------|------------|-----------|-----------------|
|      | MHz      | dB/m         | dB          | dB         | dBuV       | dBuV/m     | dBuV/m     | dB        |                 |
| 1    | 2390.000 | 32.53        | 3.07        | 44.03      | 52.60      | 44.17      | 74.00      | -29.83    | Horizontal Peak |
| 2 pp | 2417.990 | 32.59        | 3.08        | 44.06      | 94.83      | 86.44      | 74.00      | 12.44     | Horizontal Peak |

|                      |                      |                        |              |
|----------------------|----------------------|------------------------|--------------|
| Worse case mode:     | 802.11g (6Mbps)      |                        |              |
| Frequency: 2390.0MHz | Test channel: Lowest | Polarization: Vertical | Remark: Peak |



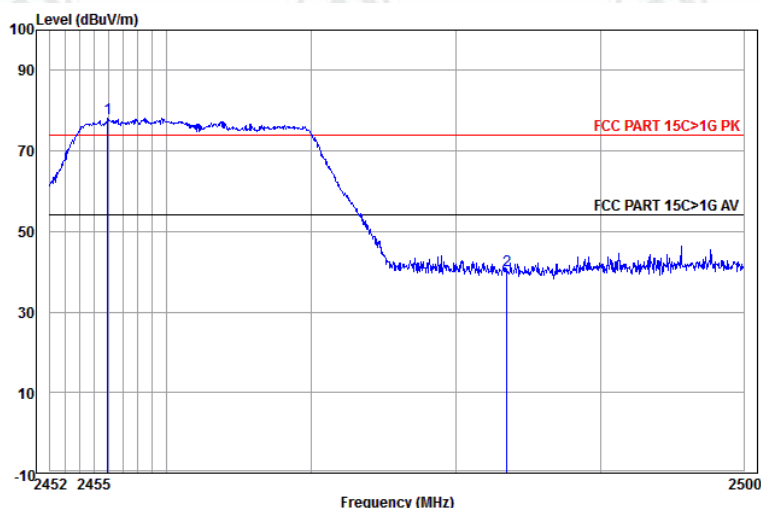
|      | Ant Freq | Cable Factor | Preamp Loss | Read Level | Read Level | Limit Line | Over Limit | Pol/Phase | Remark        |
|------|----------|--------------|-------------|------------|------------|------------|------------|-----------|---------------|
|      | MHz      | dB/m         | dB          | dB         | dBuV       | dBuV/m     | dBuV/m     | dB        |               |
| 1    | 2390.000 | 32.53        | 3.07        | 44.03      | 55.49      | 47.06      | 74.00      | -26.94    | Vertical Peak |
| 2 pp | 2414.329 | 32.58        | 3.08        | 44.06      | 89.62      | 81.22      | 74.00      | 7.22      | Vertical Peak |

|                      |                       |                          |              |
|----------------------|-----------------------|--------------------------|--------------|
| Worse case mode:     | 802.11g (6Mbps)       |                          |              |
| Frequency: 2483.5MHz | Test channel: Highest | Polarization: Horizontal | Remark: Peak |



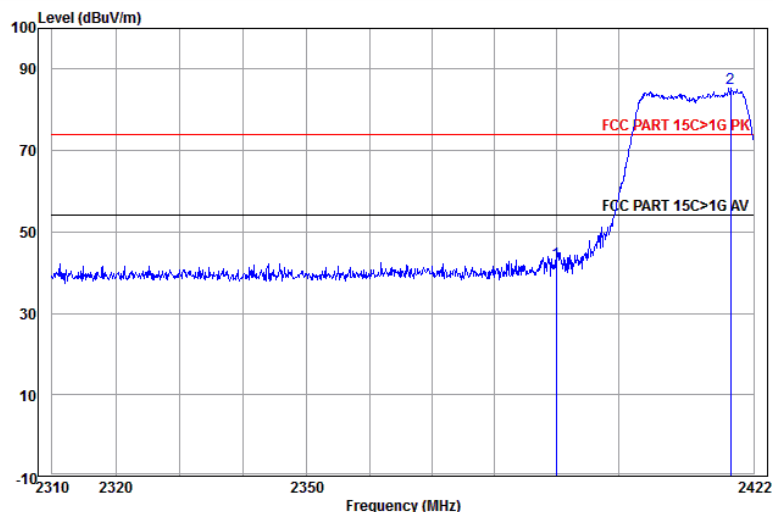
|   | Ant Freq    | Cable Factor | Preamp Loss | Read Level | Level | Limit Line | Over Limit | Pol/Phase | Remark          |
|---|-------------|--------------|-------------|------------|-------|------------|------------|-----------|-----------------|
|   | MHz         | dB/m         | dB          | dB         | dBuV  | dBuV/m     | dBuV/m     | dB        |                 |
| 1 | pp 2465.442 | 32.68        | 3.11        | 44.12      | 93.13 | 84.80      | 74.00      | 10.80     | Horizontal Peak |
| 2 | 2483.500    | 32.71        | 3.12        | 44.14      | 48.43 | 40.12      | 74.00      | -33.88    | Horizontal Peak |

|                      |                       |                        |              |
|----------------------|-----------------------|------------------------|--------------|
| Worse case mode:     | 802.11g (6Mbps)       |                        |              |
| Frequency: 2483.5MHz | Test channel: Highest | Polarization: Vertical | Remark: Peak |



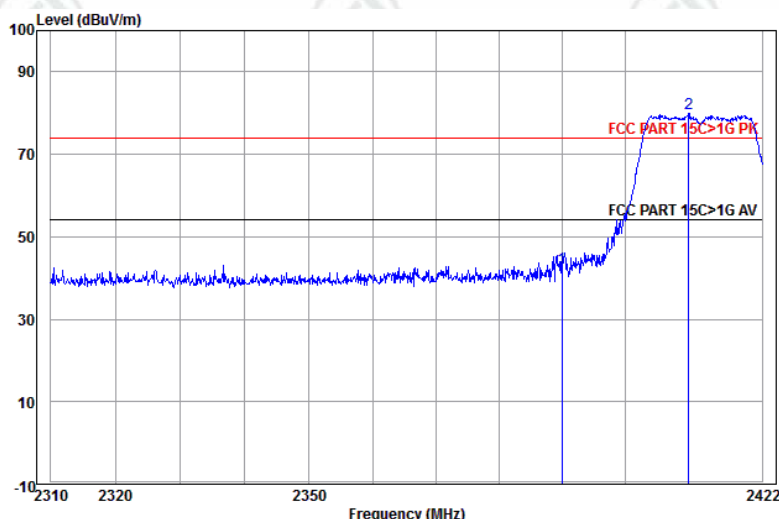
|   | Ant Freq    | Cable Factor | Preamp Loss | Read Level | Level | Limit Line | Over Limit | Pol/Phase | Remark        |
|---|-------------|--------------|-------------|------------|-------|------------|------------|-----------|---------------|
|   | MHz         | dB/m         | dB          | dB         | dBuV  | dBuV/m     | dBuV/m     | dB        |               |
| 1 | pp 2455.949 | 32.66        | 3.10        | 44.11      | 86.43 | 78.08      | 74.00      | 4.08      | Vertical Peak |
| 2 | 2483.500    | 32.71        | 3.12        | 44.14      | 48.55 | 40.24      | 74.00      | -33.76    | Vertical Peak |

|                      |                         |                          |              |
|----------------------|-------------------------|--------------------------|--------------|
| Worse case mode:     | 802.11n(HT20) (6.5Mbps) |                          |              |
| Frequency: 2390.0MHz | Test channel: Lowest    | Polarization: Horizontal | Remark: Peak |



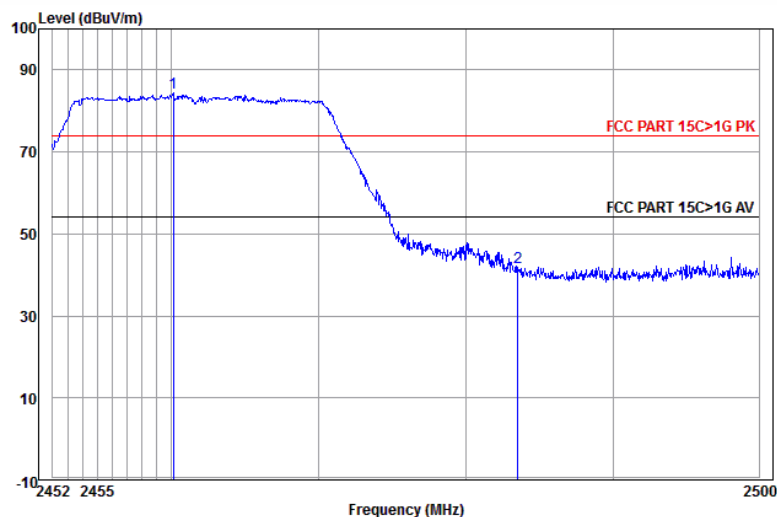
|      | Ant Freq | Cable Factor | Preamp Loss | Preamp Factor | Read Level | Level  | Limit Line | Over Limit | Pol/Phase  | Remark |
|------|----------|--------------|-------------|---------------|------------|--------|------------|------------|------------|--------|
|      | MHz      | dB/m         | dB          | dB            | dBuV       | dBuV/m | dBuV/m     | dB         |            |        |
| 1    | 2390.000 | 32.53        | 3.07        | 44.03         | 50.80      | 42.37  | 74.00      | -31.63     | Horizontal | Peak   |
| 2 pp | 2418.219 | 32.59        | 3.08        | 44.06         | 93.84      | 85.45  | 74.00      | 11.45      | Horizontal | Peak   |

|                      |                         |                        |              |
|----------------------|-------------------------|------------------------|--------------|
| Worse case mode:     | 802.11n(HT20) (6.5Mbps) |                        |              |
| Frequency: 2390.0MHz | Test channel: Lowest    | Polarization: Vertical | Remark: Peak |



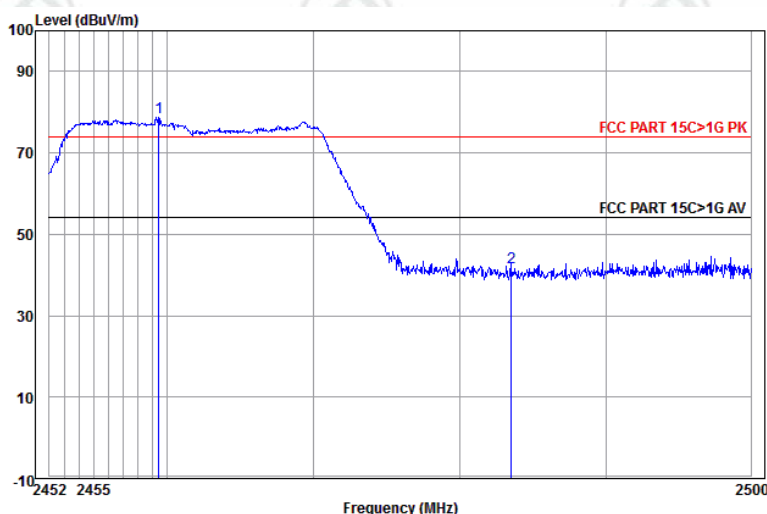
|      | Ant Freq | Cable Factor | Preamp Loss | Preamp Factor | Read Level | Level  | Limit Line | Over Limit | Pol/Phase | Remark |
|------|----------|--------------|-------------|---------------|------------|--------|------------|------------|-----------|--------|
|      | MHz      | dB/m         | dB          | dB            | dBuV       | dBuV/m | dBuV/m     | dB         |           |        |
| 1    | 2390.000 | 32.53        | 3.07        | 44.03         | 50.83      | 42.40  | 74.00      | -31.60     | Vertical  | Peak   |
| 2 pp | 2410.218 | 32.57        | 3.08        | 44.05         | 88.44      | 80.04  | 74.00      | 6.04       | Vertical  | Peak   |

|                      |                         |                          |              |
|----------------------|-------------------------|--------------------------|--------------|
| Worse case mode:     | 802.11n(HT20) (6.5Mbps) |                          |              |
| Frequency: 2483.5MHz | Test channel: Highest   | Polarization: Horizontal | Remark: Peak |



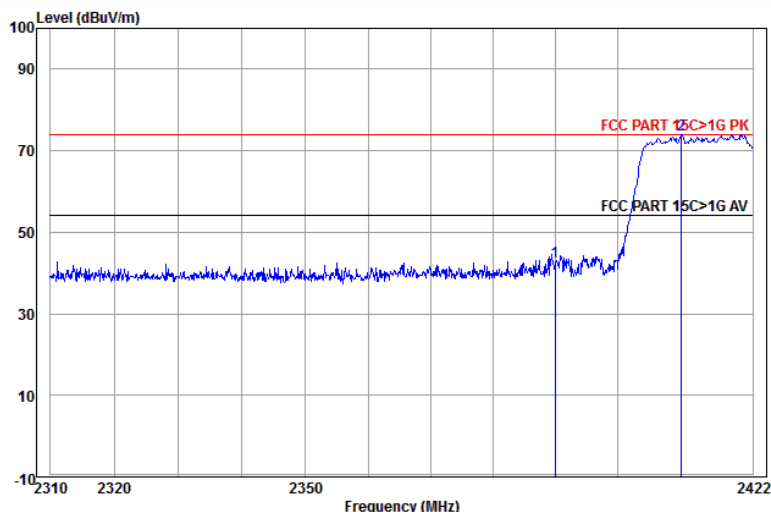
|   |             | Ant    | Cable | Preamp | Read  | Level  | Limit  | Over   |            |        |
|---|-------------|--------|-------|--------|-------|--------|--------|--------|------------|--------|
|   | Freq        | Factor | Loss  | Factor | Level | Level  | Line   | Limit  | Pol/Phase  | Remark |
|   | MHz         | dB/m   | dB    | dB     | dBuV  | dBuV/m | dBuV/m | dB     |            |        |
| 1 | pp 2460.142 | 32.67  | 3.11  | 44.11  | 92.60 | 84.27  | 74.00  | 10.27  | Horizontal | Peak   |
| 2 | 2483.500    | 32.71  | 3.12  | 44.14  | 50.30 | 41.99  | 74.00  | -32.01 | Horizontal | Peak   |

|                      |                         |                        |              |
|----------------------|-------------------------|------------------------|--------------|
| Worse case mode:     | 802.11n(HT20) (6.5Mbps) |                        |              |
| Frequency: 2483.5MHz | Test channel: Highest   | Polarization: Vertical | Remark: Peak |



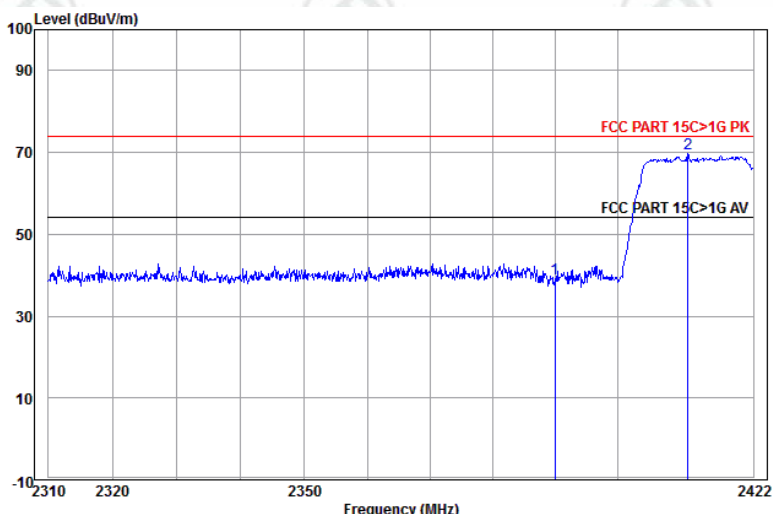
|   |             | Ant    | Cable | Preamp | Read  | Level  | Limit  | Over   |           |        |
|---|-------------|--------|-------|--------|-------|--------|--------|--------|-----------|--------|
|   | Freq        | Factor | Loss  | Factor | Level | Level  | Line   | Limit  | Pol/Phase | Remark |
|   | MHz         | dB/m   | dB    | dB     | dBuV  | dBuV/m | dBuV/m | dB     |           |        |
| 1 | pp 2459.427 | 32.67  | 3.11  | 44.11  | 86.93 | 78.60  | 74.00  | 4.60   | Vertical  | Peak   |
| 2 | 2483.500    | 32.71  | 3.12  | 44.14  | 50.29 | 41.98  | 74.00  | -32.02 | Vertical  | Peak   |

|                      |                           |                          |              |
|----------------------|---------------------------|--------------------------|--------------|
| Worse case mode:     | 802.11n(HT40) (13..5Mbps) |                          |              |
| Frequency: 2390.0MHz | Test channel: Lowest      | Polarization: Horizontal | Remark: Peak |



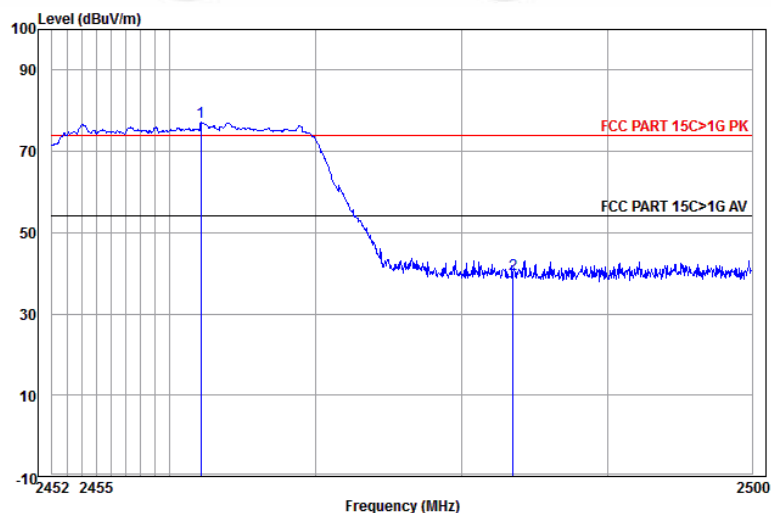
|      | Ant<br>Freq | Cable<br>Factor | Preamp<br>Loss | Preamp<br>Factor | Read<br>Level | Level  | Limit<br>Line | Over<br>Limit | Pol/Phase  | Remark |
|------|-------------|-----------------|----------------|------------------|---------------|--------|---------------|---------------|------------|--------|
|      | MHz         | dB/m            | dB             | dB               | dBuV          | dBuV/m | dBuV/m        | dB            |            |        |
| 1    | 2390.000    | 32.53           | 3.07           | 44.03            | 51.21         | 42.78  | 74.00         | -31.22        | Horizontal | Peak   |
| 2 pp | 2410.446    | 32.57           | 3.08           | 44.05            | 82.30         | 73.90  | 74.00         | -0.10         | Horizontal | Peak   |

|                      |                           |                        |              |
|----------------------|---------------------------|------------------------|--------------|
| Worse case mode:     | 802.11n(HT40) (13..5Mbps) |                        |              |
| Frequency: 2390.0MHz | Test channel: Lowest      | Polarization: Vertical | Remark: Peak |



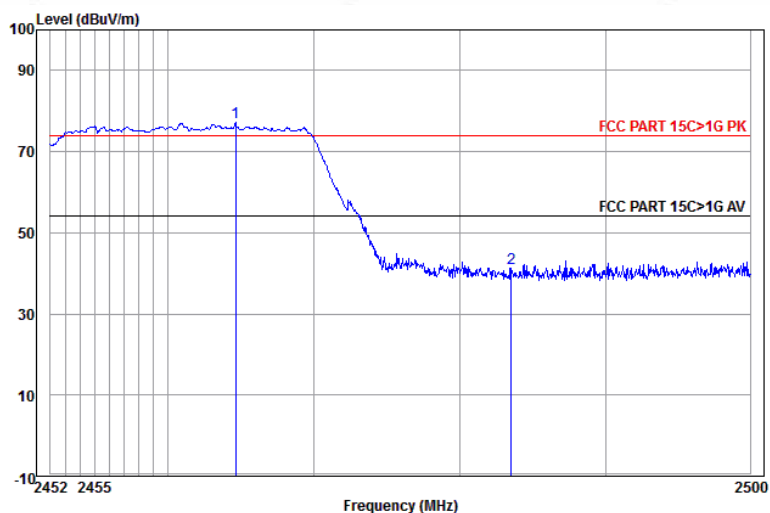
|      | Ant<br>Freq | Cable<br>Factor | Preamp<br>Loss | Preamp<br>Factor | Read<br>Level | Level  | Limit<br>Line | Over<br>Limit | Pol/Phase | Remark |
|------|-------------|-----------------|----------------|------------------|---------------|--------|---------------|---------------|-----------|--------|
|      | MHz         | dB/m            | dB             | dB               | dBuV          | dBuV/m | dBuV/m        | dB            |           |        |
| 1    | 2390.000    | 32.53           | 3.07           | 44.03            | 47.73         | 39.30  | 74.00         | -34.70        | Vertical  | Peak   |
| 2 pp | 2411.359    | 32.58           | 3.08           | 44.05            | 77.99         | 69.60  | 74.00         | -4.40         | Vertical  | Peak   |

|                      |                           |                          |              |
|----------------------|---------------------------|--------------------------|--------------|
| Worse case mode:     | 802.11n(HT40) (13..5Mbps) |                          |              |
| Frequency: 2483.5MHz | Test channel:Highest      | Polarization: Horizontal | Remark: Peak |



|      | Ant Freq | Cable Factor | Preamp Loss | Read Level | Read Level | Limit Line | Over Limit | Pol/Phase | Remark          |
|------|----------|--------------|-------------|------------|------------|------------|------------|-----------|-----------------|
|      | MHz      | dB/m         | dB          | dB         | dBuV       | dBuV/m     | dBuV/m     | dB        |                 |
| 1 pp | 2462.146 | 32.67        | 3.11        | 44.12      | 85.41      | 77.07      | 74.00      | 3.07      | Horizontal Peak |
| 2    | 2483.500 | 32.71        | 3.12        | 44.14      | 48.17      | 39.86      | 74.00      | -34.14    | Horizontal Peak |

|                      |                           |                        |              |
|----------------------|---------------------------|------------------------|--------------|
| Worse case mode:     | 802.11n(HT40) (13..5Mbps) |                        |              |
| Frequency: 2483.5MHz | Test channel:Highest      | Polarization: Vertical | Remark: Peak |



|      | Ant Freq | Cable Factor | Preamp Loss | Read Level | Read Level | Limit Line | Over Limit | Pol/Phase | Remark        |
|------|----------|--------------|-------------|------------|------------|------------|------------|-----------|---------------|
|      | MHz      | dB/m         | dB          | dB         | dBuV       | dBuV/m     | dBuV/m     | dB        |               |
| 1 pp | 2464.629 | 32.68        | 3.11        | 44.12      | 85.44      | 77.11      | 74.00      | 3.11      | Vertical Peak |
| 2    | 2483.500 | 32.71        | 3.12        | 44.14      | 49.67      | 41.36      | 74.00      | -32.64    | Vertical Peak |

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.

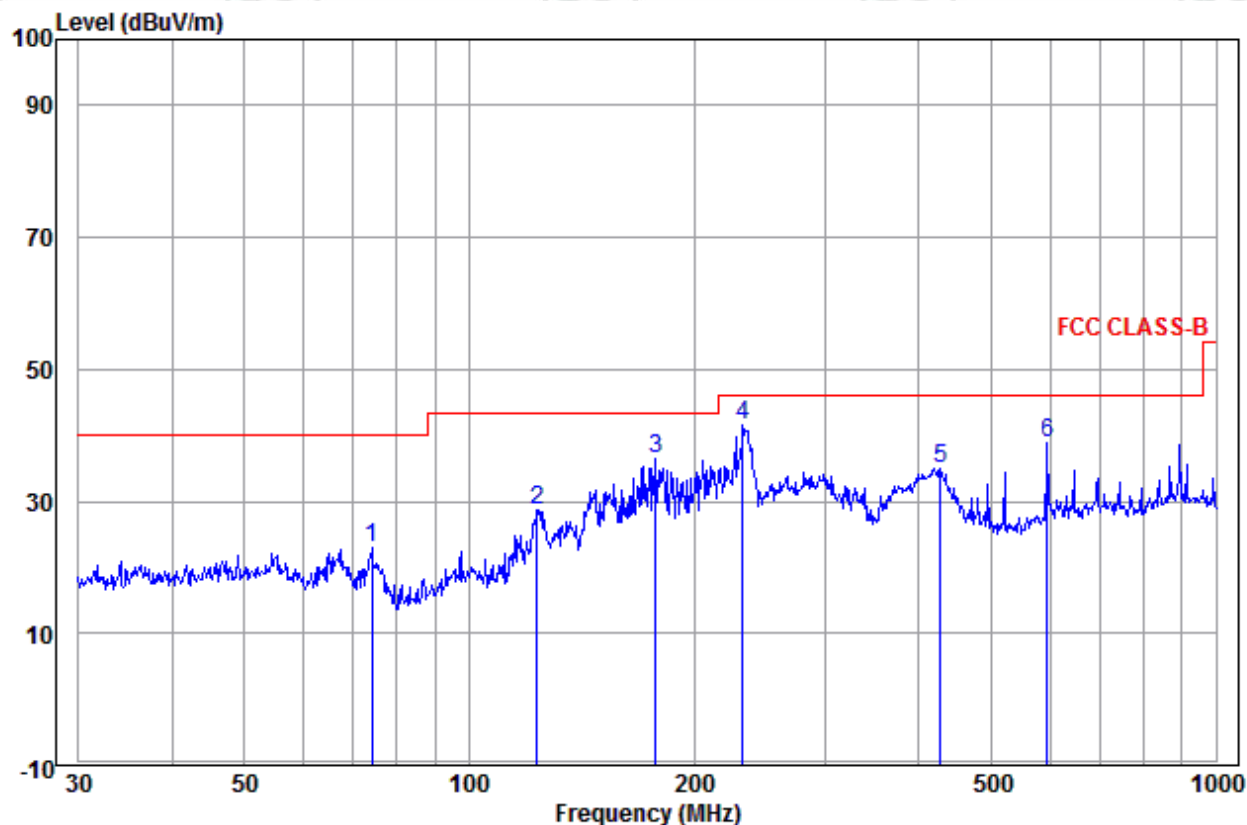
Limit:

|                   |                                  |                |            |                          |
|-------------------|----------------------------------|----------------|------------|--------------------------|
| 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.

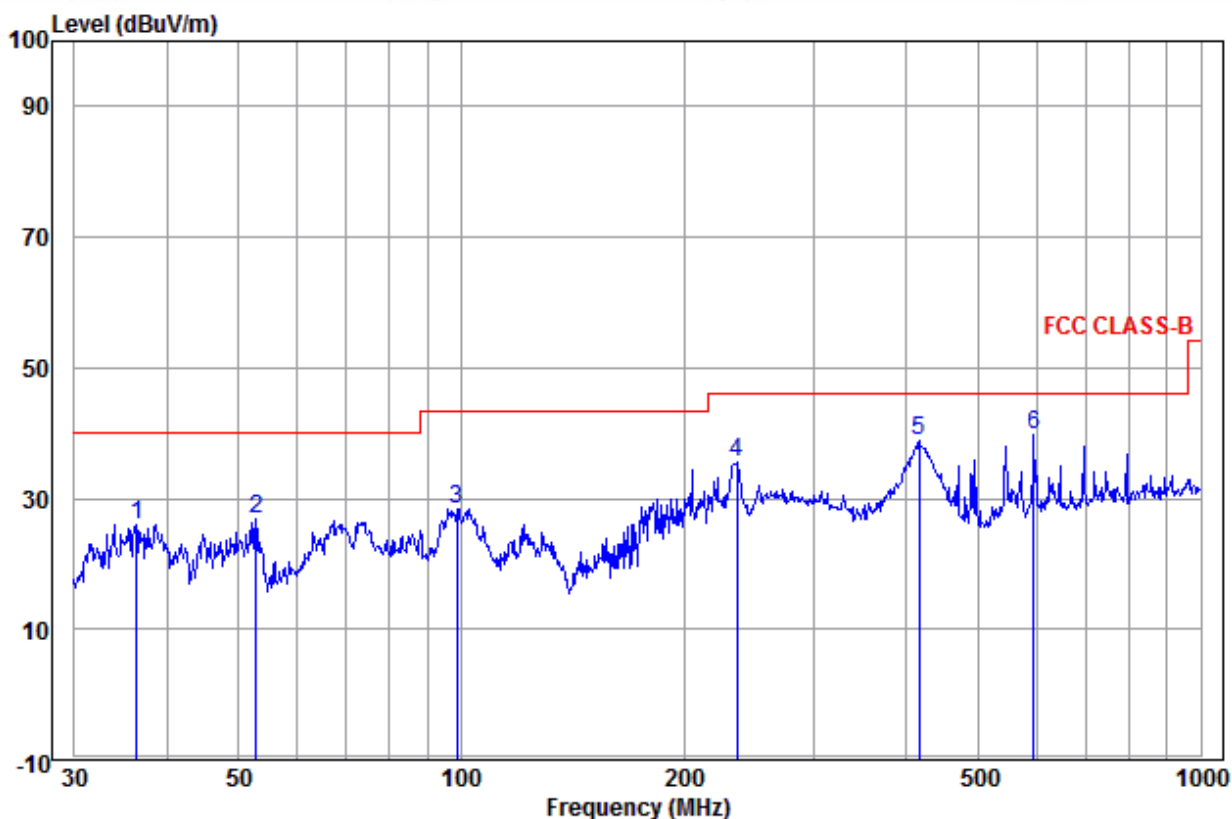
**Radiated Spurious Emissions test Data:**  
**Radiated Emission below 1GHz**  
**802.11b**

|                 |              |            |
|-----------------|--------------|------------|
| 30MHz~1GHz (QP) |              |            |
| Test mode:      | Transmitting | Horizontal |



|      | Ant Freq | Ant Factor | Cable Loss | Read Level | Level  | Limit Line | Over Limit | Pol/Phase  | Remark |
|------|----------|------------|------------|------------|--------|------------|------------|------------|--------|
|      | MHz      | dB/m       | dB         | dBuV       | dBuV/m | dBuV/m     | dB         |            |        |
| 1    | 74.135   | 9.63       | 0.32       | 12.92      | 22.87  | 40.00      | -17.13     | Horizontal | QP     |
| 2    | 123.266  | 10.59      | 0.60       | 17.56      | 28.75  | 43.50      | -14.75     | Horizontal | QP     |
| 3    | 177.509  | 10.38      | 0.90       | 25.19      | 36.47  | 43.50      | -7.03      | Horizontal | QP     |
| 4 pp | 232.532  | 12.24      | 1.26       | 27.92      | 41.42  | 46.00      | -4.58      | Horizontal | QP     |
| 5    | 428.019  | 15.77      | 1.41       | 17.82      | 35.00  | 46.00      | -11.00     | Horizontal | QP     |
| 6    | 595.133  | 18.62      | 1.80       | 18.36      | 38.78  | 46.00      | -7.22      | Horizontal | QP     |

|            |              |          |
|------------|--------------|----------|
| Test mode: | Transmitting | Vertical |
|------------|--------------|----------|

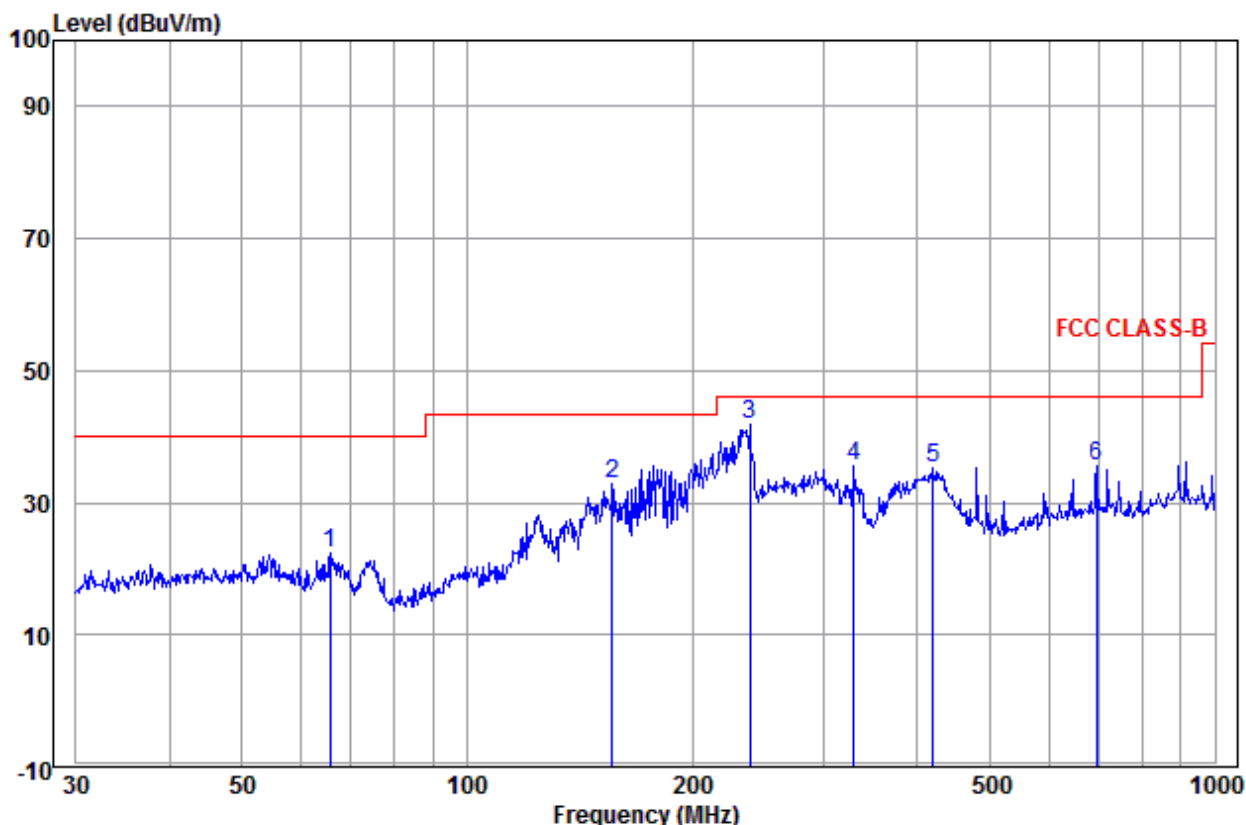


|      | Ant Freq | Cable Factor | Cable Loss | Read Level | Limit Level | Over Limit | Pol/Phase | Remark      |
|------|----------|--------------|------------|------------|-------------|------------|-----------|-------------|
|      | MHz      |              | dB         | dBuV       | dBuV/m      | dBuV/m     | dB        |             |
| 1    | 36.381   | 13.17        | 0.06       | 12.68      | 25.91       | 40.00      | -14.09    | Vertical QP |
| 2    | 52.760   | 14.16        | 0.14       | 12.68      | 26.98       | 40.00      | -13.02    | Vertical QP |
| 3    | 98.833   | 12.32        | 0.57       | 15.54      | 28.43       | 43.50      | -15.07    | Vertical QP |
| 4    | 235.816  | 12.31        | 1.28       | 21.93      | 35.52       | 46.00      | -10.48    | Vertical QP |
| 5    | 416.179  | 15.54        | 1.37       | 21.92      | 38.83       | 46.00      | -7.17     | Vertical QP |
| 6 pp | 595.133  | 18.62        | 1.80       | 19.26      | 39.68       | 46.00      | -6.32     | Vertical QP |

**802.11g**

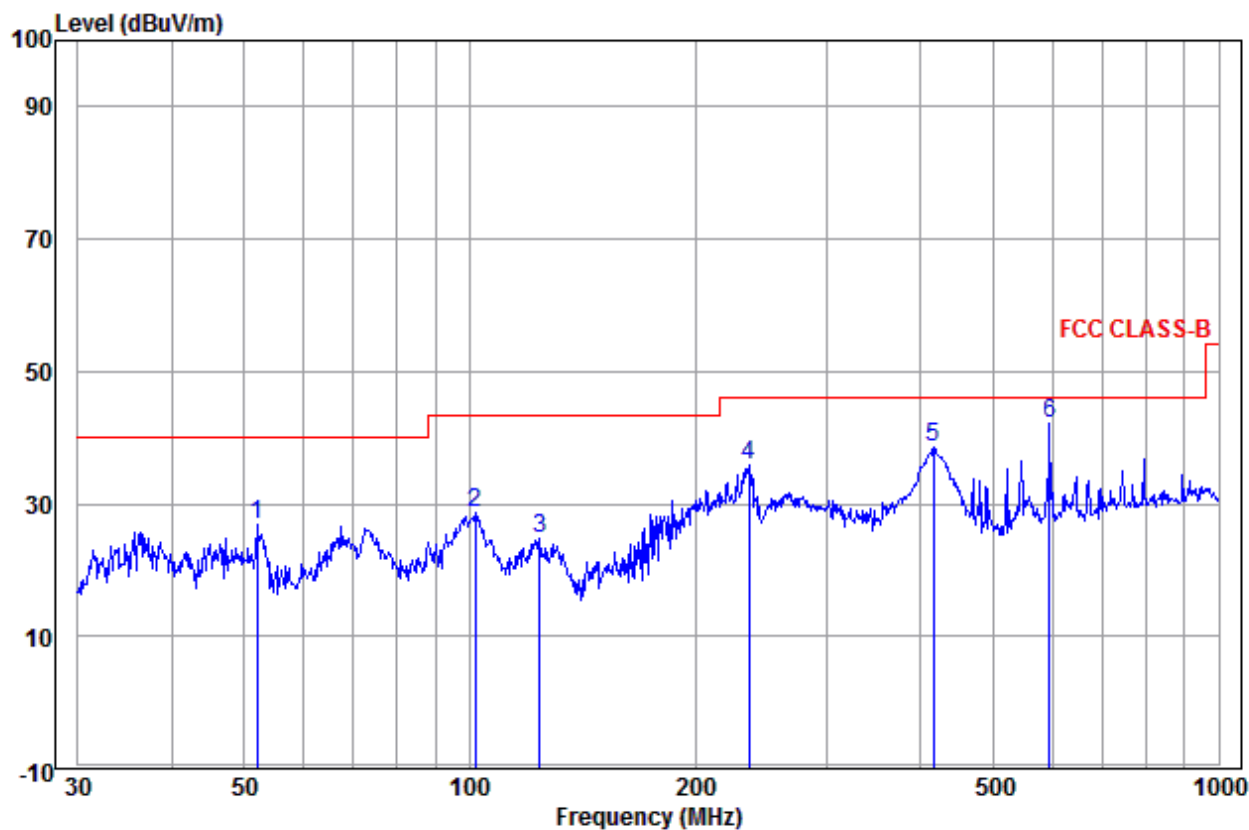
30MHz~1GHz (QP)

|            |              |            |
|------------|--------------|------------|
| Test mode: | Transmitting | Horizontal |
|------------|--------------|------------|



|      | Ant<br>Freq | Cable<br>Factor | Read<br>Loss | Level | Limit  | Over   | Pol/Phase | Remark        |
|------|-------------|-----------------|--------------|-------|--------|--------|-----------|---------------|
|      | MHz         | dB/m            | dB           | dBuV  | dBuV/m | dBuV/m | dB        |               |
| 1    | 65.573      | 11.54           | 0.23         | 10.60 | 22.37  | 40.00  | -17.63    | Horizontal QP |
| 2    | 156.458     | 9.20            | 0.68         | 22.86 | 32.74  | 43.50  | -10.76    | Horizontal QP |
| 3 pp | 239.147     | 12.38           | 1.29         | 28.16 | 41.83  | 46.00  | -4.17     | Horizontal QP |
| 4    | 329.039     | 14.00           | 1.22         | 20.19 | 35.41  | 46.00  | -10.59    | Horizontal QP |
| 5    | 420.580     | 15.63           | 1.38         | 18.20 | 35.21  | 46.00  | -10.79    | Horizontal QP |
| 6    | 694.417     | 19.08           | 2.00         | 14.41 | 35.49  | 46.00  | -10.51    | Horizontal QP |

|            |              |          |
|------------|--------------|----------|
| Test mode: | Transmitting | Vertical |
|------------|--------------|----------|



|      | Ant<br>Freq | Cable<br>Factor | Read<br>Loss | Level<br>Level | Limit<br>Line | Over<br>Limit | Pol/Phase | Remark      |
|------|-------------|-----------------|--------------|----------------|---------------|---------------|-----------|-------------|
|      | MHz         | dB/m            | dB           | dBuV           | dBuV/m        | dB            |           |             |
| 1    | 52.025      | 14.27           | 0.13         | 12.53          | 26.93         | 40.00         | -13.07    | Vertical QP |
| 2    | 101.644     | 12.35           | 0.59         | 15.68          | 28.62         | 43.50         | -14.88    | Vertical QP |
| 3    | 124.133     | 10.53           | 0.60         | 13.52          | 24.65         | 43.50         | -18.85    | Vertical QP |
| 4    | 235.816     | 12.31           | 1.28         | 22.12          | 35.71         | 46.00         | -10.29    | Vertical QP |
| 5    | 416.179     | 15.54           | 1.37         | 21.53          | 38.44         | 46.00         | -7.56     | Vertical QP |
| 6 pp | 595.133     | 18.62           | 1.80         | 21.61          | 42.03         | 46.00         | -3.97     | Vertical QP |

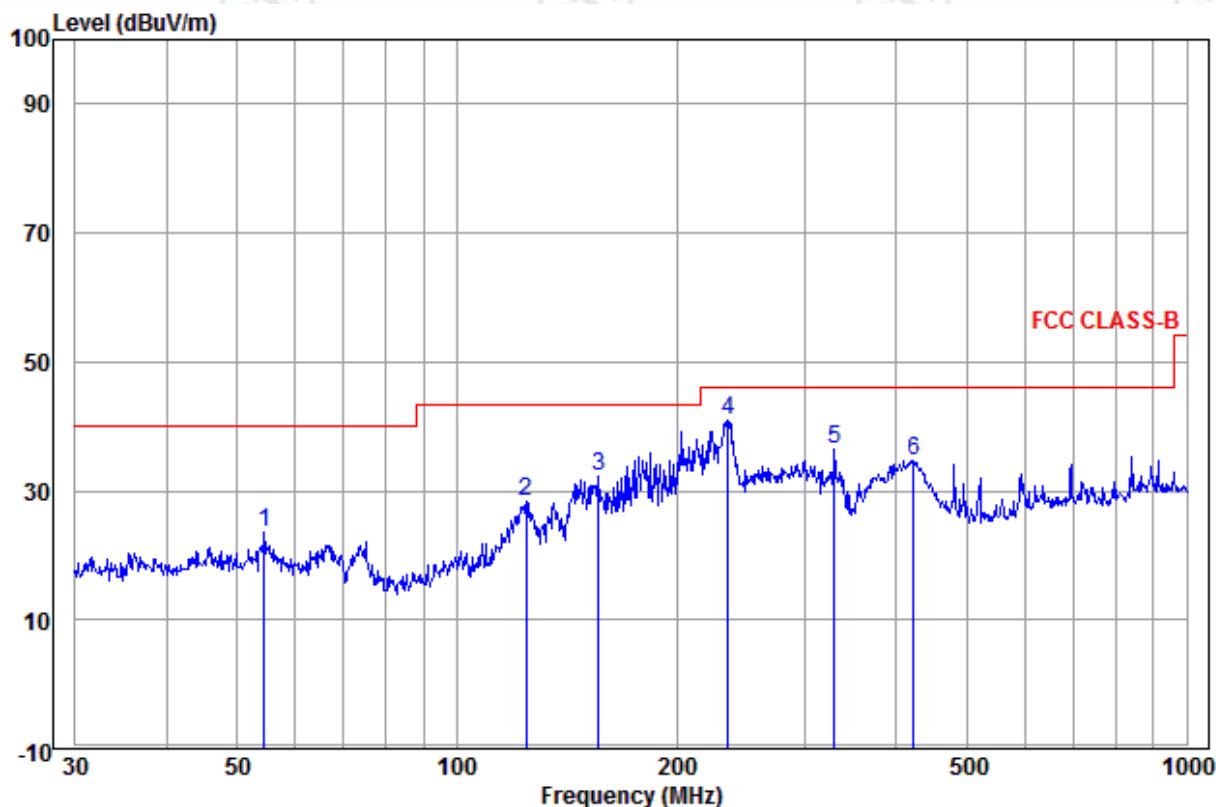
# 802.11n(HT20)

30MHz~1GHz (QP)

Test mode:

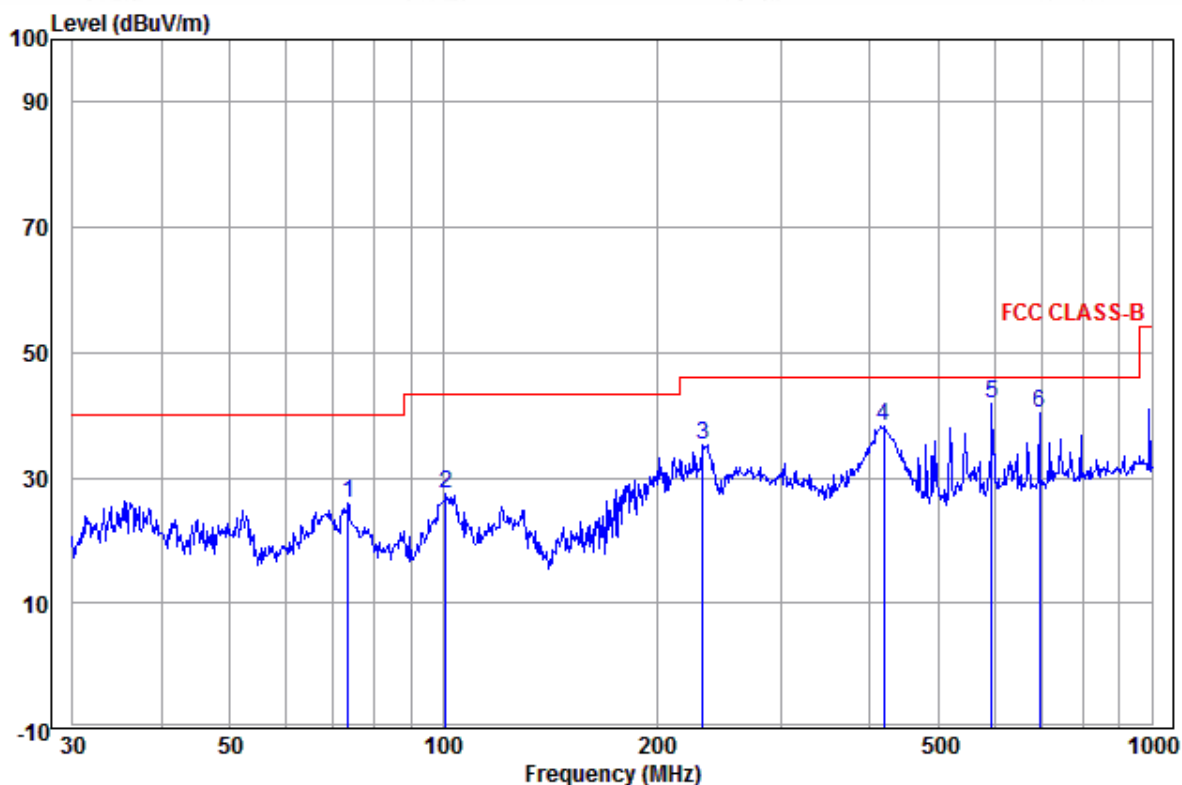
Transmitting

Horizontal



|      | Freq    | Ant Factor | Cable Loss | Read Level | Level  | Limit Line | Over Limit | Pol/Phase  | Remark |
|------|---------|------------|------------|------------|--------|------------|------------|------------|--------|
|      | MHz     | dB/m       | dB         | dBuV       | dBuV/m | dBuV/m     | dB         |            |        |
| 1    | 54.452  | 13.90      | 0.16       | 9.47       | 23.53  | 40.00      | -16.47     | Horizontal | QP     |
| 2    | 124.569 | 10.50      | 0.60       | 17.26      | 28.36  | 43.50      | -15.14     | Horizontal | QP     |
| 3    | 156.458 | 9.20       | 0.68       | 22.46      | 32.34  | 43.50      | -11.16     | Horizontal | QP     |
| 4 pp | 234.991 | 12.29      | 1.27       | 27.30      | 40.86  | 46.00      | -5.14      | Horizontal | QP     |
| 5    | 329.039 | 14.00      | 1.22       | 21.13      | 36.35  | 46.00      | -9.65      | Horizontal | QP     |
| 6    | 422.058 | 15.66      | 1.39       | 17.52      | 34.57  | 46.00      | -11.43     | Horizontal | QP     |

|            |              |          |
|------------|--------------|----------|
| Test mode: | Transmitting | Vertical |
|------------|--------------|----------|

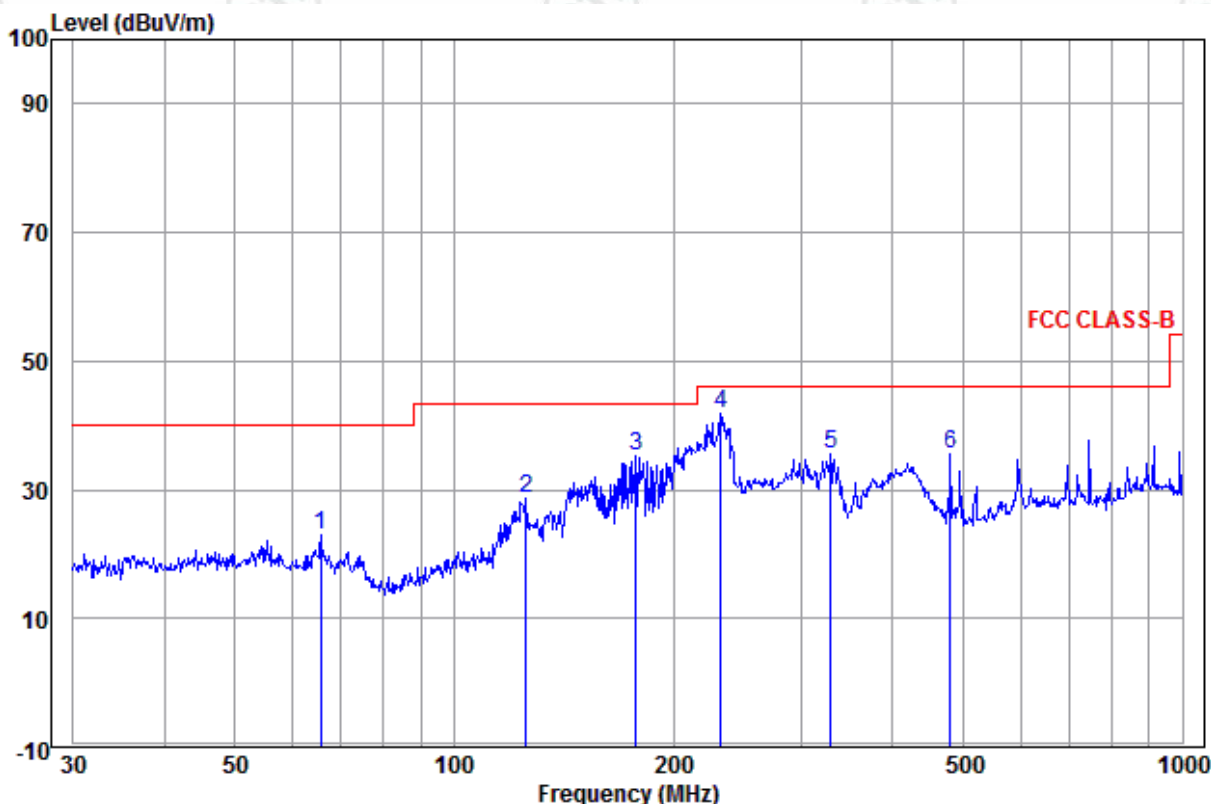


|      | Freq    | Ant<br>Factor | Cable<br>Loss | Read<br>Level | Level  | Limit<br>Line | Over<br>Limit | Pol/Phase | Remark |
|------|---------|---------------|---------------|---------------|--------|---------------|---------------|-----------|--------|
|      | MHz     | dB/m          | dB            | dBuV          | dBuV/m | dBuV/m        | dB            |           |        |
| 1    | 73.359  | 9.77          | 0.31          | 15.74         | 25.82  | 40.00         | -14.18        | Vertical  | QP     |
| 2    | 100.934 | 12.42         | 0.59          | 14.32         | 27.33  | 43.50         | -16.17        | Vertical  | QP     |
| 3    | 232.532 | 12.24         | 1.26          | 21.83         | 35.33  | 46.00         | -10.67        | Vertical  | QP     |
| 4    | 419.108 | 15.60         | 1.38          | 21.40         | 38.38  | 46.00         | -7.62         | Vertical  | QP     |
| 5 pp | 595.133 | 18.62         | 1.80          | 21.29         | 41.71  | 46.00         | -4.29         | Vertical  | QP     |
| 6    | 694.417 | 19.08         | 2.00          | 19.17         | 40.25  | 46.00         | -5.75         | Vertical  | QP     |

# 802.11n(HT40)

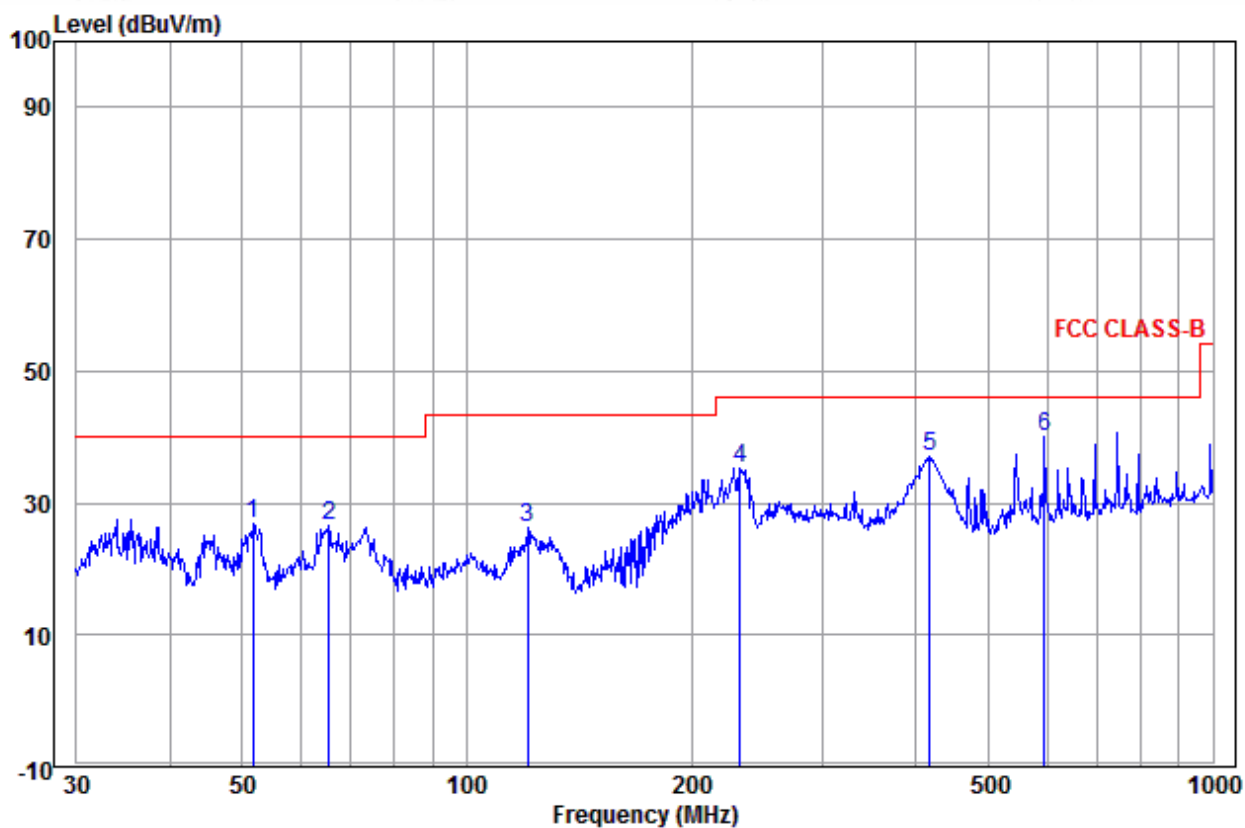
30MHz~1GHz (QP)

|            |              |            |
|------------|--------------|------------|
| Test mode: | Transmitting | Horizontal |
|------------|--------------|------------|



|      | Ant Freq | Cable Factor | Loss | Read Level | Level  | Limit Line | Over Limit | Pol/Phase  | Remark |
|------|----------|--------------|------|------------|--------|------------|------------|------------|--------|
|      | MHz      |              | dB   | dBuV       | dBuV/m | dBuV/m     | dB         |            |        |
| 1    | 65.573   | 11.54        | 0.23 | 11.26      | 23.03  | 40.00      | -16.97     | Horizontal | QP     |
| 2    | 125.446  | 10.43        | 0.60 | 17.74      | 28.77  | 43.50      | -14.73     | Horizontal | QP     |
| 3    | 177.509  | 10.38        | 0.90 | 24.00      | 35.28  | 43.50      | -8.22      | Horizontal | QP     |
| 4 pp | 232.532  | 12.24        | 1.26 | 28.30      | 41.80  | 46.00      | -4.20      | Horizontal | QP     |
| 5    | 329.039  | 14.00        | 1.22 | 20.45      | 35.67  | 46.00      | -10.33     | Horizontal | QP     |
| 6    | 480.528  | 16.64        | 1.50 | 17.33      | 35.47  | 46.00      | -10.53     | Horizontal | QP     |

|            |              |          |
|------------|--------------|----------|
| Test mode: | Transmitting | Vertical |
|------------|--------------|----------|



|      | Freq    | Ant Factor | Cable Loss | Read Level | Level  | Limit Line | Over Limit | Pol/Phase | Remark |
|------|---------|------------|------------|------------|--------|------------|------------|-----------|--------|
|      | MHz     | dB/m       | dB         | dBuV       | dBuV/m | dBuV/m     | dB         |           |        |
| 1    | 51.662  | 14.33      | 0.13       | 12.31      | 26.77  | 40.00      | -13.23     | Vertical  | QP     |
| 2    | 65.343  | 11.61      | 0.23       | 14.70      | 26.54  | 40.00      | -13.46     | Vertical  | QP     |
| 3    | 120.699 | 10.78      | 0.60       | 14.88      | 26.26  | 43.50      | -17.24     | Vertical  | QP     |
| 4    | 232.532 | 12.24      | 1.26       | 21.84      | 35.34  | 46.00      | -10.66     | Vertical  | QP     |
| 5    | 417.641 | 15.57      | 1.37       | 20.14      | 37.08  | 46.00      | -8.92      | Vertical  | QP     |
| 6 pp | 595.133 | 18.62      | 1.80       | 19.74      | 40.16  | 46.00      | -5.84      | Vertical  | QP     |

**Transmitter Emission above 1GHz**

| Test mode: 802.11b(11Mbps) |                       |                 | Test Frequency: 2412MHz |                   |                           | Remark: Peak   |                 |        |                 |
|----------------------------|-----------------------|-----------------|-------------------------|-------------------|---------------------------|----------------|-----------------|--------|-----------------|
| Frequency (MHz)            | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Gain (dB)  | Read Level (dBμV) | Final test level (dBμV/m) | Limit (dBμV/m) | Over Limit (dB) | Result | Antenna Polaxis |
| 1182.943                   | 30.18                 | 1.83            | 44.41                   | 47.48             | 35.08                     | 74.00          | -38.92          | Pass   | Horizontal      |
| 1561.221                   | 30.99                 | 2.36            | 43.93                   | 47.45             | 36.87                     | 74.00          | -37.13          | Pass   | Horizontal      |
| 4824.000                   | 34.73                 | 6.02            | 44.60                   | 43.42             | 39.57                     | 74.00          | -34.43          | Pass   | Horizontal      |
| 6363.645                   | 36.09                 | 7.34            | 44.54                   | 46.59             | 45.48                     | 74.00          | -28.52          | Pass   | Horizontal      |
| 7236.000                   | 36.42                 | 6.94            | 44.80                   | 44.69             | 43.25                     | 74.00          | -30.75          | Pass   | Horizontal      |
| 9648.000                   | 37.93                 | 7.01            | 45.57                   | 44.34             | 43.71                     | 74.00          | -30.29          | Pass   | Horizontal      |
| 1098.763                   | 29.97                 | 1.69            | 44.54                   | 47.77             | 34.89                     | 74.00          | -39.11          | Pass   | Vertical        |
| 1638.585                   | 31.12                 | 2.46            | 43.85                   | 48.27             | 38.00                     | 74.00          | -36.00          | Pass   | Vertical        |
| 4824.000                   | 34.73                 | 6.02            | 44.60                   | 43.05             | 39.20                     | 74.00          | -34.80          | Pass   | Vertical        |
| 5821.207                   | 35.77                 | 7.26            | 44.52                   | 45.99             | 44.50                     | 74.00          | -29.50          | Pass   | Vertical        |
| 7236.000                   | 36.42                 | 6.94            | 44.80                   | 43.88             | 42.44                     | 74.00          | -31.56          | Pass   | Vertical        |
| 9648.000                   | 37.93                 | 7.01            | 45.57                   | 40.93             | 40.30                     | 74.00          | -33.70          | Pass   | Vertical        |

| Test mode: 802.11b(11Mbps) |                       |                 | Test Frequency: 2437MHz |                   |                           | Remark: Peak   |                 |        |                 |
|----------------------------|-----------------------|-----------------|-------------------------|-------------------|---------------------------|----------------|-----------------|--------|-----------------|
| Frequency (MHz)            | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Gain (dB)  | Read Level (dBμV) | Final test level (dBμV/m) | Limit (dBμV/m) | Over Limit (dB) | Result | Antenna Polaxis |
| 1101.563                   | 29.98                 | 1.70            | 44.53                   | 47.36             | 34.51                     | 74.00          | -39.49          | Pass   | Horizontal      |
| 1428.142                   | 30.73                 | 2.19            | 44.08                   | 46.75             | 35.59                     | 74.00          | -38.41          | Pass   | Horizontal      |
| 4874.000                   | 34.84                 | 6.12            | 44.60                   | 42.33             | 38.69                     | 74.00          | -35.31          | Pass   | Horizontal      |
| 5806.408                   | 35.76                 | 7.25            | 44.52                   | 45.65             | 44.14                     | 74.00          | -29.86          | Pass   | Horizontal      |
| 7311.000                   | 36.43                 | 6.86            | 44.86                   | 43.66             | 42.09                     | 74.00          | -31.91          | Pass   | Horizontal      |
| 9748.000                   | 38.03                 | 7.10            | 45.55                   | 43.04             | 42.62                     | 74.00          | -31.38          | Pass   | Horizontal      |
| 1041.569                   | 29.82                 | 1.59            | 44.63                   | 48.01             | 34.79                     | 74.00          | -39.21          | Pass   | Vertical        |
| 1525.860                   | 30.92                 | 2.32            | 43.97                   | 47.51             | 36.78                     | 74.00          | -37.22          | Pass   | Vertical        |
| 4874.000                   | 34.84                 | 6.12            | 44.60                   | 42.61             | 38.97                     | 74.00          | -35.03          | Pass   | Vertical        |
| 5836.044                   | 35.78                 | 7.28            | 44.52                   | 45.86             | 44.40                     | 74.00          | -29.60          | Pass   | Vertical        |
| 7311.000                   | 36.43                 | 6.86            | 44.86                   | 43.67             | 42.10                     | 74.00          | -31.90          | Pass   | Vertical        |
| 9748.000                   | 38.03                 | 7.10            | 45.55                   | 42.79             | 42.37                     | 74.00          | -31.63          | Pass   | Vertical        |

| Test mode: 802.11b(11Mbps) |                       |                 | Test Frequency: 2462MHz |                   |                           | Remark: Peak   |                 |        |                 |
|----------------------------|-----------------------|-----------------|-------------------------|-------------------|---------------------------|----------------|-----------------|--------|-----------------|
| Frequency (MHz)            | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Gain (dB)        | Read Level (dBμV) | Final test level (dBμV/m) | Limit (dBμV/m) | Over Limit (dB) | Result | Antenna Polaxis |
| 1309.737                   | 30.48                 | 2.03            | 44.23                   | 47.96             | 36.24                     | 74.00          | -37.76          | Pass   | Horizontal      |
| 1693.716                   | 31.22                 | 2.52            | 43.79                   | 46.33             | 36.28                     | 74.00          | -37.72          | Pass   | Horizontal      |
| 4924.000                   | 34.94                 | 6.22            | 44.60                   | 44.29             | 40.85                     | 74.00          | -33.15          | Pass   | Horizontal      |
| 5791.646                   | 35.74                 | 7.23            | 44.52                   | 47.52             | 45.97                     | 74.00          | -28.03          | Pass   | Horizontal      |
| 7386.000                   | 36.44                 | 6.78            | 44.92                   | 42.40             | 40.70                     | 74.00          | -33.30          | Pass   | Horizontal      |
| 9848.000                   | 38.14                 | 7.19            | 45.53                   | 43.76             | 43.56                     | 74.00          | -30.44          | Pass   | Horizontal      |
| 1101.563                   | 29.98                 | 1.70            | 44.53                   | 47.59             | 34.74                     | 74.00          | -39.26          | Pass   | Vertical        |
| 1549.344                   | 30.96                 | 2.35            | 43.94                   | 47.37             | 36.74                     | 74.00          | -37.26          | Pass   | Vertical        |
| 4924.000                   | 34.94                 | 6.22            | 44.60                   | 44.91             | 41.47                     | 74.00          | -32.53          | Pass   | Vertical        |
| 6921.301                   | 36.36                 | 7.21            | 44.59                   | 46.02             | 45.00                     | 74.00          | -29.00          | Pass   | Vertical        |
| 7386.000                   | 36.44                 | 6.78            | 44.92                   | 42.64             | 40.94                     | 74.00          | -33.06          | Pass   | Vertical        |
| 9848.000                   | 38.14                 | 7.19            | 45.53                   | 42.68             | 42.48                     | 74.00          | -31.52          | Pass   | Vertical        |

| Test mode: 802.11g(6Mbps) |                       |                 | Test Frequency: 2412MHz |                   |                           | Remark: Peak   |                 |        |                 |
|---------------------------|-----------------------|-----------------|-------------------------|-------------------|---------------------------|----------------|-----------------|--------|-----------------|
| Frequency (MHz)           | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Gain (dB)        | Read Level (dBμV) | Final test level (dBμV/m) | Limit (dBμV/m) | Over Limit (dB) | Result | Antenna Polaxis |
| 1296.469                  | 30.45                 | 2.01            | 44.25                   | 47.09             | 35.30                     | 74.00          | -38.70          | Pass   | Horizontal      |
| 1800.416                  | 31.40                 | 2.64            | 43.68                   | 46.48             | 36.84                     | 74.00          | -37.16          | Pass   | Horizontal      |
| 4824.000                  | 34.73                 | 6.02            | 44.60                   | 42.36             | 38.51                     | 74.00          | -35.49          | Pass   | Horizontal      |
| 6063.190                  | 35.93                 | 7.42            | 44.51                   | 45.88             | 44.72                     | 74.00          | -29.28          | Pass   | Horizontal      |
| 7236.000                  | 36.42                 | 6.94            | 44.80                   | 44.42             | 42.98                     | 74.00          | -31.02          | Pass   | Horizontal      |
| 9648.000                  | 37.93                 | 7.01            | 45.57                   | 41.45             | 40.82                     | 74.00          | -33.18          | Pass   | Horizontal      |
| 1201.149                  | 30.23                 | 1.86            | 44.38                   | 47.42             | 35.13                     | 74.00          | -38.87          | Pass   | Vertical        |
| 1655.354                  | 31.15                 | 2.48            | 43.83                   | 46.32             | 36.12                     | 74.00          | -37.88          | Pass   | Vertical        |
| 4824.000                  | 34.73                 | 6.02            | 44.60                   | 43.21             | 39.36                     | 74.00          | -34.64          | Pass   | Vertical        |
| 5806.408                  | 35.76                 | 7.25            | 44.52                   | 47.01             | 45.50                     | 74.00          | -28.50          | Pass   | Vertical        |
| 7236.000                  | 36.42                 | 6.94            | 44.80                   | 44.45             | 43.01                     | 74.00          | -30.99          | Pass   | Vertical        |
| 9648.000                  | 37.93                 | 7.01            | 45.57                   | 43.18             | 42.55                     | 74.00          | -31.45          | Pass   | Vertical        |

| Test mode: 802.11g(6Mbps) |                       |                 | Test Frequency: 2437MHz |                   |                           | Remark: Peak   |                 |        |                 |
|---------------------------|-----------------------|-----------------|-------------------------|-------------------|---------------------------|----------------|-----------------|--------|-----------------|
| Frequency (MHz)           | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Gain (dB)        | Read Level (dBμV) | Final test level (dBμV/m) | Limit (dBμV/m) | Over Limit (dB) | Result | Antenna Polaxis |
| 1247.899                  | 30.34                 | 1.93            | 44.32                   | 46.67             | 34.62                     | 74.00          | -39.38          | Pass   | Horizontal      |
| 1573.189                  | 31.01                 | 2.38            | 43.92                   | 46.95             | 36.42                     | 74.00          | -37.58          | Pass   | Horizontal      |
| 4874.000                  | 34.84                 | 6.12            | 44.60                   | 42.60             | 38.96                     | 74.00          | -35.04          | Pass   | Horizontal      |
| 6094.137                  | 35.95                 | 7.41            | 44.51                   | 45.76             | 44.61                     | 74.00          | -29.39          | Pass   | Horizontal      |
| 7311.000                  | 36.43                 | 6.86            | 44.86                   | 43.33             | 41.76                     | 74.00          | -32.24          | Pass   | Horizontal      |
| 9748.000                  | 38.03                 | 7.10            | 45.55                   | 42.53             | 42.11                     | 74.00          | -31.89          | Pass   | Horizontal      |
| 1207.279                  | 30.24                 | 1.87            | 44.37                   | 47.13             | 34.87                     | 74.00          | -39.13          | Pass   | Vertical        |
| 1581.218                  | 31.02                 | 2.39            | 43.91                   | 46.95             | 36.45                     | 74.00          | -37.55          | Pass   | Vertical        |
| 4874.000                  | 34.84                 | 6.12            | 44.60                   | 42.90             | 39.26                     | 74.00          | -34.74          | Pass   | Vertical        |
| 5836.044                  | 35.78                 | 7.28            | 44.52                   | 46.13             | 44.67                     | 74.00          | -29.33          | Pass   | Vertical        |
| 7311.000                  | 36.43                 | 6.86            | 44.86                   | 42.41             | 40.84                     | 74.00          | -33.16          | Pass   | Vertical        |
| 9748.000                  | 38.03                 | 7.10            | 45.55                   | 42.03             | 41.61                     | 74.00          | -32.39          | Pass   | Vertical        |

| Test mode: 802.11g(6Mbps) |                       |                 | Test Frequency: 2462MHz |                   |                           | Remark: Peak   |                 |        |                 |
|---------------------------|-----------------------|-----------------|-------------------------|-------------------|---------------------------|----------------|-----------------|--------|-----------------|
| Frequency (MHz)           | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Gain (dB)        | Read Level (dBμV) | Final test level (dBμV/m) | Limit (dBμV/m) | Over Limit (dB) | Result | Antenna Polaxis |
| 1170.959                  | 30.16                 | 1.81            | 44.43                   | 47.79             | 35.33                     | 74.00          | -38.67          | Pass   | Horizontal      |
| 1549.344                  | 30.96                 | 2.35            | 43.94                   | 47.39             | 36.76                     | 74.00          | -37.24          | Pass   | Horizontal      |
| 4924.000                  | 34.94                 | 6.22            | 44.60                   | 43.27             | 39.83                     | 74.00          | -34.17          | Pass   | Horizontal      |
| 6363.645                  | 36.09                 | 7.34            | 44.54                   | 46.60             | 45.49                     | 74.00          | -28.51          | Pass   | Horizontal      |
| 7386.000                  | 36.44                 | 6.78            | 44.92                   | 42.68             | 40.98                     | 74.00          | -33.02          | Pass   | Horizontal      |
| 9848.000                  | 38.14                 | 7.19            | 45.53                   | 42.01             | 41.81                     | 74.00          | -32.19          | Pass   | Horizontal      |
| 1204.210                  | 30.24                 | 1.87            | 44.38                   | 47.91             | 35.64                     | 74.00          | -38.36          | Pass   | Vertical        |
| 1549.344                  | 30.96                 | 2.35            | 43.94                   | 46.83             | 36.20                     | 74.00          | -37.80          | Pass   | Vertical        |
| 4924.000                  | 34.94                 | 6.22            | 44.60                   | 44.06             | 40.62                     | 74.00          | -33.38          | Pass   | Vertical        |
| 6363.645                  | 36.09                 | 7.34            | 44.54                   | 45.83             | 44.72                     | 74.00          | -29.28          | Pass   | Vertical        |
| 7386.000                  | 36.44                 | 6.78            | 44.92                   | 41.89             | 40.19                     | 74.00          | -33.81          | Pass   | Vertical        |
| 9848.000                  | 38.14                 | 7.19            | 45.53                   | 42.37             | 42.17                     | 74.00          | -31.83          | Pass   | Vertical        |

| Test mode: 802.11n(HT20)(6.5Mbps) |                       |                 |                  | Test Frequency: 2412MHz |                           |                | Remark: Peak    |        |                 |
|-----------------------------------|-----------------------|-----------------|------------------|-------------------------|---------------------------|----------------|-----------------|--------|-----------------|
| Frequency (MHz)                   | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Gain (dB) | Read Level (dBμV)       | Final test level (dBμV/m) | Limit (dBμV/m) | Over Limit (dB) | Result | Antenna Polaxis |
| 1201.149                          | 30.23                 | 1.86            | 44.38            | 46.98                   | 34.69                     | 74.00          | -39.31          | Pass   | Horizontal      |
| 1525.860                          | 30.92                 | 2.32            | 43.97            | 47.18                   | 36.45                     | 74.00          | -37.55          | Pass   | Horizontal      |
| 1856.261                          | 31.48                 | 2.70            | 43.63            | 47.43                   | 37.98                     | 74.00          | -36.02          | Pass   | Horizontal      |
| 4824.000                          | 34.73                 | 6.02            | 44.60            | 43.87                   | 40.02                     | 74.00          | -33.98          | Pass   | Horizontal      |
| 7236.000                          | 36.42                 | 6.94            | 44.80            | 44.31                   | 42.87                     | 74.00          | -31.13          | Pass   | Horizontal      |
| 9648.000                          | 37.93                 | 7.01            | 45.57            | 42.42                   | 41.79                     | 74.00          | -32.21          | Pass   | Horizontal      |
| 1121.367                          | 30.03                 | 1.73            | 44.50            | 47.64                   | 34.90                     | 74.00          | -39.10          | Pass   | Vertical        |
| 1569.189                          | 31.00                 | 2.37            | 43.92            | 47.61                   | 37.06                     | 74.00          | -36.94          | Pass   | Vertical        |
| 4824.000                          | 34.73                 | 6.02            | 44.60            | 43.08                   | 39.23                     | 74.00          | -34.77          | Pass   | Vertical        |
| 5791.646                          | 35.74                 | 7.23            | 44.52            | 46.15                   | 44.60                     | 74.00          | -29.40          | Pass   | Vertical        |
| 7236.000                          | 36.42                 | 6.94            | 44.80            | 44.95                   | 43.51                     | 74.00          | -30.49          | Pass   | Vertical        |
| 9648.000                          | 37.93                 | 7.01            | 45.57            | 43.20                   | 42.57                     | 74.00          | -31.43          | Pass   | Vertical        |

| Test mode: 802.11n(HT20)(6.5Mbps) |                       |                 |                  | Test Frequency: 2437MHz |                           |                | Remark: Peak    |        |                 |
|-----------------------------------|-----------------------|-----------------|------------------|-------------------------|---------------------------|----------------|-----------------|--------|-----------------|
| Frequency (MHz)                   | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Gain (dB) | Read Level (dBμV)       | Final test level (dBμV/m) | Limit (dBμV/m) | Over Limit (dB) | Result | Antenna Polaxis |
| 1270.334                          | 30.39                 | 1.97            | 44.29            | 47.57                   | 35.64                     | 74.00          | -38.36          | Pass   | Horizontal      |
| 1506.563                          | 30.88                 | 2.30            | 43.99            | 47.23                   | 36.42                     | 74.00          | -37.58          | Pass   | Horizontal      |
| 1851.542                          | 31.48                 | 2.69            | 43.63            | 47.22                   | 37.76                     | 74.00          | -36.24          | Pass   | Horizontal      |
| 4874.000                          | 34.84                 | 6.12            | 44.60            | 42.75                   | 39.11                     | 74.00          | -34.89          | Pass   | Horizontal      |
| 7311.000                          | 36.43                 | 6.86            | 44.86            | 42.83                   | 41.26                     | 74.00          | -32.74          | Pass   | Horizontal      |
| 9748.000                          | 38.03                 | 7.10            | 45.55            | 42.79                   | 42.37                     | 74.00          | -31.63          | Pass   | Horizontal      |
| 1188.980                          | 30.20                 | 1.84            | 44.40            | 46.51                   | 34.15                     | 74.00          | -39.85          | Pass   | Vertical        |
| 1487.509                          | 30.85                 | 2.27            | 44.01            | 47.51                   | 36.62                     | 74.00          | -37.38          | Pass   | Vertical        |
| 1856.261                          | 31.48                 | 2.70            | 43.63            | 46.63                   | 37.18                     | 74.00          | -36.82          | Pass   | Vertical        |
| 4874.000                          | 34.84                 | 6.12            | 44.60            | 43.16                   | 39.52                     | 74.00          | -34.48          | Pass   | Vertical        |
| 7311.000                          | 36.43                 | 6.86            | 44.86            | 42.61                   | 41.04                     | 74.00          | -32.96          | Pass   | Vertical        |
| 9748.000                          | 38.03                 | 7.10            | 45.55            | 41.80                   | 41.38                     | 74.00          | -32.62          | Pass   | Vertical        |

| Test mode: 802.11n(HT20)(6.5Mbps) |                       |                 |                        | Test Frequency: 2462MHz |                           |                | Remark: Peak    |        |                 |
|-----------------------------------|-----------------------|-----------------|------------------------|-------------------------|---------------------------|----------------|-----------------|--------|-----------------|
| Frequency (MHz)                   | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Gain (dB) | Read Level (dBμV)       | Final test level (dBμV/m) | Limit (dBμV/m) | Over Limit (dB) | Result | Antenna Polaxis |
| 1073.876                          | 29.91                 | 1.65            | 44.58                  | 47.45                   | 34.43                     | 74.00          | -39.57          | Pass   | Horizontal      |
| 1557.252                          | 30.98                 | 2.36            | 43.93                  | 47.23                   | 36.64                     | 74.00          | -37.36          | Pass   | Horizontal      |
| 1823.477                          | 31.43                 | 2.66            | 43.66                  | 47.09                   | 37.52                     | 74.00          | -36.48          | Pass   | Horizontal      |
| 4924.000                          | 34.94                 | 6.22            | 44.60                  | 44.55                   | 41.11                     | 74.00          | -32.89          | Pass   | Horizontal      |
| 7386.000                          | 36.44                 | 6.78            | 44.92                  | 42.40                   | 40.70                     | 74.00          | -33.30          | Pass   | Horizontal      |
| 9848.000                          | 38.14                 | 7.19            | 45.53                  | 42.08                   | 41.88                     | 74.00          | -32.12          | Pass   | Horizontal      |
| 1118.517                          | 30.02                 | 1.72            | 44.51                  | 47.69                   | 34.92                     | 74.00          | -39.08          | Pass   | Vertical        |
| 1521.981                          | 30.91                 | 2.32            | 43.97                  | 46.47                   | 35.73                     | 74.00          | -38.27          | Pass   | Vertical        |
| 1832.785                          | 31.45                 | 2.67            | 43.65                  | 47.27                   | 37.74                     | 74.00          | -36.26          | Pass   | Vertical        |
| 4924.000                          | 34.94                 | 6.22            | 44.60                  | 43.32                   | 39.88                     | 74.00          | -34.12          | Pass   | Vertical        |
| 7386.000                          | 36.44                 | 6.78            | 44.92                  | 42.65                   | 40.95                     | 74.00          | -33.05          | Pass   | Vertical        |
| 9848.000                          | 38.14                 | 7.19            | 45.53                  | 41.86                   | 41.66                     | 74.00          | -32.34          | Pass   | Vertical        |

| Test mode: 802.11n(HT40)(13.5Mbps) |                       |                 |                        | Test Frequency: 2422MHz |                           |                | Remark: Peak    |        |                 |
|------------------------------------|-----------------------|-----------------|------------------------|-------------------------|---------------------------|----------------|-----------------|--------|-----------------|
| Frequency (MHz)                    | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Gain (dB) | Read Level (dBμV)       | Final test level (dBμV/m) | Limit (dBμV/m) | Over Limit (dB) | Result | Antenna Polaxis |
| 1254.268                           | 30.35                 | 1.94            | 44.31                  | 46.96                   | 34.94                     | 74.00          | -39.06          | Pass   | Horizontal      |
| 1759.638                           | 31.33                 | 2.59            | 43.72                  | 46.23                   | 36.43                     | 74.00          | -37.57          | Pass   | Horizontal      |
| 4824.000                           | 34.73                 | 6.02            | 44.60                  | 41.67                   | 37.82                     | 74.00          | -36.18          | Pass   | Horizontal      |
| 5821.207                           | 35.77                 | 7.26            | 44.52                  | 45.56                   | 44.07                     | 74.00          | -29.93          | Pass   | Horizontal      |
| 7236.000                           | 36.42                 | 6.94            | 44.80                  | 43.37                   | 41.93                     | 74.00          | -32.07          | Pass   | Horizontal      |
| 9648.000                           | 37.93                 | 7.01            | 45.57                  | 39.00                   | 38.37                     | 74.00          | -35.63          | Pass   | Horizontal      |
| 1095.969                           | 29.96                 | 1.69            | 44.54                  | 46.89                   | 34.00                     | 74.00          | -40.00          | Pass   | Vertical        |
| 1537.557                           | 30.94                 | 2.34            | 43.96                  | 47.03                   | 36.35                     | 74.00          | -37.65          | Pass   | Vertical        |
| 1889.633                           | 31.54                 | 2.73            | 43.60                  | 46.96                   | 37.63                     | 74.00          | -36.37          | Pass   | Vertical        |
| 4824.000                           | 34.73                 | 6.02            | 44.60                  | 41.57                   | 37.72                     | 74.00          | -36.28          | Pass   | Vertical        |
| 7236.000                           | 36.42                 | 6.94            | 44.80                  | 43.04                   | 41.60                     | 74.00          | -32.40          | Pass   | Vertical        |
| 9648.000                           | 37.93                 | 7.01            | 45.57                  | 38.65                   | 38.02                     | 74.00          | -35.98          | Pass   | Vertical        |

| Test mode: 802.11n(HT40)(13.5Mbps) |                       |                 |                  | Test Frequency: 2437MHz |                           |                | Remark: Peak    |        |                 |
|------------------------------------|-----------------------|-----------------|------------------|-------------------------|---------------------------|----------------|-----------------|--------|-----------------|
| Frequency (MHz)                    | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Gain (dB) | Read Level (dBμV)       | Final test level (dBμV/m) | Limit (dBμV/m) | Over Limit (dB) | Result | Antenna Polaxis |
| 1104.371                           | 29.99                 | 1.70            | 44.53            | 47.28                   | 34.44                     | 74.00          | -39.56          | Pass   | Horizontal      |
| 1529.749                           | 30.93                 | 2.33            | 43.96            | 46.71                   | 36.01                     | 74.00          | -37.99          | Pass   | Horizontal      |
| 1823.477                           | 31.43                 | 2.66            | 43.66            | 47.88                   | 38.31                     | 74.00          | -35.69          | Pass   | Horizontal      |
| 4874.000                           | 34.84                 | 6.12            | 44.60            | 42.86                   | 39.22                     | 74.00          | -34.78          | Pass   | Horizontal      |
| 7311.000                           | 36.43                 | 6.86            | 44.86            | 41.85                   | 40.28                     | 74.00          | -33.72          | Pass   | Horizontal      |
| 9748.000                           | 38.03                 | 7.10            | 45.55            | 40.58                   | 40.16                     | 74.00          | -33.84          | Pass   | Horizontal      |
| 1219.635                           | 30.27                 | 1.89            | 44.36            | 47.50                   | 35.30                     | 74.00          | -38.70          | Pass   | Vertical        |
| 1545.405                           | 30.96                 | 2.35            | 43.95            | 47.37                   | 36.73                     | 74.00          | -37.27          | Pass   | Vertical        |
| 4874.000                           | 34.84                 | 6.12            | 44.60            | 43.05                   | 39.41                     | 74.00          | -34.59          | Pass   | Vertical        |
| 5776.922                           | 35.73                 | 7.22            | 44.52            | 47.41                   | 45.84                     | 74.00          | -28.16          | Pass   | Vertical        |
| 7311.000                           | 36.43                 | 6.86            | 44.86            | 41.17                   | 39.60                     | 74.00          | -34.40          | Pass   | Vertical        |
| 9748.000                           | 38.03                 | 7.10            | 45.55            | 39.77                   | 39.35                     | 74.00          | -34.65          | Pass   | Vertical        |

| Test mode: 802.11n(HT40)(13.5Mbps) |                       |                 |                  | Test Frequency: 2452MHz |                           |                | Remark: Peak    |        |                 |
|------------------------------------|-----------------------|-----------------|------------------|-------------------------|---------------------------|----------------|-----------------|--------|-----------------|
| Frequency (MHz)                    | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Gain (dB) | Read Level (dBμV)       | Final test level (dBμV/m) | Limit (dBμV/m) | Over Limit (dB) | Result | Antenna Polaxis |
| 1232.117                           | 30.30                 | 1.91            | 44.34            | 47.01                   | 34.88                     | 74.00          | -39.12          | Pass   | Horizontal      |
| 2118.973                           | 31.97                 | 2.91            | 43.67            | 46.58                   | 37.79                     | 74.00          | -36.21          | Pass   | Horizontal      |
| 4904.000                           | 34.90                 | 6.18            | 44.60            | 42.92                   | 39.40                     | 74.00          | -34.60          | Pass   | Horizontal      |
| 5791.646                           | 35.74                 | 7.23            | 44.52            | 46.12                   | 44.57                     | 74.00          | -29.43          | Pass   | Horizontal      |
| 7356.000                           | 36.44                 | 6.81            | 44.90            | 41.32                   | 39.67                     | 74.00          | -34.33          | Pass   | Horizontal      |
| 9808.000                           | 38.10                 | 7.16            | 45.54            | 39.99                   | 39.71                     | 74.00          | -34.29          | Pass   | Horizontal      |
| 1267.104                           | 30.38                 | 1.96            | 44.29            | 46.20                   | 34.25                     | 74.00          | -39.75          | Pass   | Vertical        |
| 1565.200                           | 30.99                 | 2.37            | 43.92            | 46.97                   | 36.41                     | 74.00          | -37.59          | Pass   | Vertical        |
| 2146.115                           | 32.03                 | 2.93            | 43.71            | 46.39                   | 37.64                     | 74.00          | -36.36          | Pass   | Vertical        |
| 4904.000                           | 34.90                 | 6.18            | 44.60            | 42.63                   | 39.11                     | 74.00          | -34.89          | Pass   | Vertical        |
| 7356.000                           | 36.44                 | 6.81            | 44.90            | 40.51                   | 38.86                     | 74.00          | -35.14          | Pass   | Vertical        |
| 9808.000                           | 38.10                 | 7.16            | 45.54            | 40.03                   | 39.75                     | 74.00          | -34.25          | 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

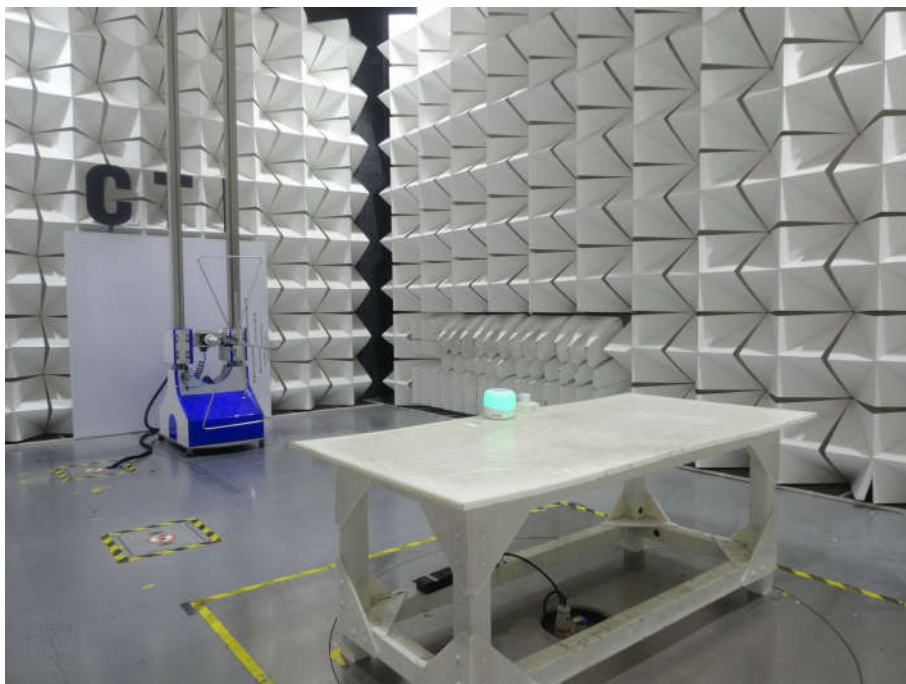
3) Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below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

## PHOTOGRAPHS OF TEST SETUP

Test Model No.: CWMEMOOV01



**Radiated spurious emission Test Setup-1 (9KHz-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

Refer to Report No.EED32J00168901 for EUT external and internal photos.

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

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.