

APPLICATION FOR CERTIFICATION

On Behalf of

JIANGSU GOODWE POWER SUPPLY TECHNOLOGY CO., LTD.

Wi-Fi Kit

Model No. : Wi-Fi Kit  
Brand : GOODWE  
FCC ID : 2AU7J-WIFIKIT

Prepared for

**JIANGSU GOODWE POWER SUPPLY TECHNOLOGY CO., LTD.**

No.90 Zijin Rd., New District, Suzhou, 215011, China

Prepared by

**Audix Technology (Wujiang) Co., Ltd. EMC Dept.**

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Report No. : ACWE-F1912002  
Date of Test : Dec.02~13, 2019  
Date of Report : Dec.20, 2019

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**TEST REPORT CERTIFICATION**

Applicant : JIANGSU GOODWE POWER SUPPLY TECHNOLOGY CO., LTD.  
 Manufacturer : JIANGSU GOODWE POWER SUPPLY TECHNOLOGY CO., LTD.  
 EUT Description : Wi-Fi Kit  
 FCC ID : 2AU7J-WIFIKIT  
 (A) Model No. : Wi-Fi Kit  
 (B) Brand : GOODWE  
 (C) Test Voltage : DC 5V

## Applicable Standards:

47 CFR FCC Part 15 Subpart C  
 ANSI C63.10:2013  
 KDB 558074 D01 DTS Meas Guidance v05r02

The device described above was tested by Audix Technology (Wujiang) Co., Ltd. EMC Dept. to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart C section 15.247 limits.

The measurement results are contained in this test report and Audix Technology (Wujiang) Co., Ltd. EMC Dept. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Technology (Wujiang) Co., Ltd. EMC Dept.

Date of Test: Dec.02~13, 2019

Date of Report: Dec.20, 2019

Prepared by

:



(Emma Hu/Assistant Administrator)

Approved &amp; Authorized Signer

:



(Ken Lu/Assistant General Manager)



## 1. DESCRIPTION OF VERSION

| Edition No. | Date of Rev. | Summary          | Report No.    |
|-------------|--------------|------------------|---------------|
| 0           | Dec.20, 2019 | Original Report. | ACWE-F1912002 |

## 2. SUMMARY OF MEASUREMENTS AND RESULTS

The EUT have been tested according to the applicable standards as referenced below.

| <b>Rule</b>          | <b>Description</b>                                      | <b>Results</b>    |
|----------------------|---------------------------------------------------------|-------------------|
| 15.207               | Conducted Emission                                      | <b>PASS</b>       |
| 15.247(d)/<br>15.205 | Radiated Band Edge and<br>Radiated Spurious Emission    | <b>PASS</b>       |
| 15.247(a)(2)         | 6dB Bandwidth                                           | <b>PASS</b>       |
| 15.247(b)(3)         | Maximum Output Power                                    | <b>PASS</b>       |
| 15.247(d)            | Conducted Band Edges and<br>Conducted Spurious Emission | <b>PASS</b>       |
| 15.247 (e)           | Peak Power Spectral Density                             | <b>PASS</b>       |
| 15.203               | Antenna Requirement                                     | <b>Compliance</b> |

### 3. GENERAL INFORMATION

#### 3.1. Description of Device (EUT)

|                           |   |                                                                                                          |
|---------------------------|---|----------------------------------------------------------------------------------------------------------|
| Description               | : | Wi-Fi Kit                                                                                                |
| Model No.                 | : | Wi-Fi Kit                                                                                                |
| FCC ID                    | : | 2AU7J-WIFIKIT                                                                                            |
| Brand                     | : | GOODWE                                                                                                   |
| Applicant                 | : | JIANGSU GOODWE POWER SUPPLY TECHNOLOGY CO., LTD.<br>No.90 Zijin Rd., New District, Suzhou, 215011, China |
| Manufacturer              | : | JIANGSU GOODWE POWER SUPPLY TECHNOLOGY CO., LTD.<br>No.90 Zijin Rd., New District, Suzhou, 215011, China |
| Date of Receipt of Sample | : | Dec.01, 2019                                                                                             |
| Date of Test              | : | Dec.02~13, 2019                                                                                          |

## 3.2. Antenna Information

| Frequency (MHz) | Gain(dBi) |
|-----------------|-----------|
| 2400-2500       | 3         |

## 3.3. EUT Specification Assessed in Current Report

| Mode         | Fundamental Range (MHz) | Channel Number | Modulation                      | Data Rate (Mbps) |
|--------------|-------------------------|----------------|---------------------------------|------------------|
| 802.11b      | 2412-2462               | 11             | DSSS<br>(DBPSK/DQPSK/CCK)       | Up to 11         |
| 802.11g      |                         | 11             | OFDM<br>(BPSK/QPSK/16QAM/64QAM) | Up to 54         |
| 802.11n-HT20 |                         |                |                                 | Up to 144.4      |

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

## 3.4. Test Power Setting&amp;Software

| Mode          | Channel         | Power Setting |
|---------------|-----------------|---------------|
| 802.11b       | 1               | Default       |
|               | 6               |               |
|               | 11              |               |
| 802.11g       | 1               |               |
|               | 6               |               |
|               | 11              |               |
| 802.11n-HT20  | 1               |               |
|               | 6               |               |
|               | 11              |               |
| Test Software | BSP Version:2.3 |               |

## 3.5. Data Rate Relative to Output Power

| 802.11b |           |            |
|---------|-----------|------------|
| Channel | Data Rate | Power(dBm) |
| 1       | 1         | 16.90      |
| 1       | 2         | 16.75      |
| 1       | 5.5       | 16.60      |
| 1       | 11        | 16.05      |

| 802.11g |           |            |
|---------|-----------|------------|
| Channel | Data Rate | Power(dBm) |
| 1       | 6         | 12.63      |
| 1       | 9         | 12.56      |
| 1       | 12        | 12.43      |
| 1       | 18        | 12.24      |
| 1       | 24        | 12.05      |
| 1       | 36        | 11.72      |
| 1       | 48        | 11.45      |
| 1       | 54        | 11.30      |

| 802.11n-HT20 |           |            |
|--------------|-----------|------------|
| Channel      | Data Rate | Power(dBm) |
| 1            | MCS0      | 12.56      |
| 1            | MCS1      | 12.30      |
| 1            | MCS2      | 12.07      |
| 1            | MCS3      | 11.84      |
| 1            | MCS4      | 11.55      |
| 1            | MCS5      | 11.24      |
| 1            | MCS6      | 11.10      |
| 1            | MCS7      | 10.89      |

## 3.6. Duty Cycle

| Mode         | Duty Cycle | Duty Cycle Factor |
|--------------|------------|-------------------|
| 802.11b      | 97%        | 0.13              |
| 802.11g      | 95%        | 0.22              |
| 802.11n-HT20 | 95%        | 0.22              |



## 3.7. Tested Supporting System Details (AE)

## 3.7.1. USB Cable

Manufacturer : UGREEN  
Length : 1m

## 3.7.2. Notebook

Manufacturer : DELL  
Model Number : INSPIRON N4050

## 3.8. Description of Test Facility

Name of Firm : **Audix Technology (Wujiang) Co., Ltd. EMC Dept.**

Site Location : No. 1289 Jiangxing East Road, the Eastern Part of Wujiang Economic Development Zone Jiangsu China 215200

Test Facilities : **No.1 Conducted Shielding Enclosure  
No.2 3m Semi-anechoic Chamber  
RF Fully Chamber**

NVLAP Lab Code : 200786-0  
Valid until on Sep.30, 2020  
(NVLAP is a signatory member of ILAC MRA)  
Remark: This report shall not be imply endorsement, certification or approval by NVLAP, NIST, or any agency of the U.S. Federal Government.

## 3.9. Measurement Uncertainty

| Test Item                                           | Range Frequency | Uncertainty         |
|-----------------------------------------------------|-----------------|---------------------|
| No.1 Conducted Disturbance Measurement              | 0.15MHz ~ 30MHz | $\pm 3.40\text{dB}$ |
| Radiated Disturbance Measurement<br>(At 3m Chamber) | 30MHz ~ 1GHz    | $\pm 5.92\text{dB}$ |
|                                                     | 1GHz ~ 6GHz     | $\pm 6.02\text{dB}$ |
|                                                     | 6GHz ~ 18GHz    | $\pm 6.80\text{dB}$ |

Remark: Uncertainty =  $k_{uc}(y)$

| Test Item              | Uncertainty           |
|------------------------|-----------------------|
| 6 dB Bandwidth         | $\pm 0.16\text{ MHz}$ |
| Output Power           | $\pm 0.12\text{dB}$   |
| Band Edges             | $\pm 0.38\text{dB}$   |
| Power Spectral Density | $\pm 0.38\text{dB}$   |
| Emission Limitations   | $\pm 0.38\text{dB}$   |

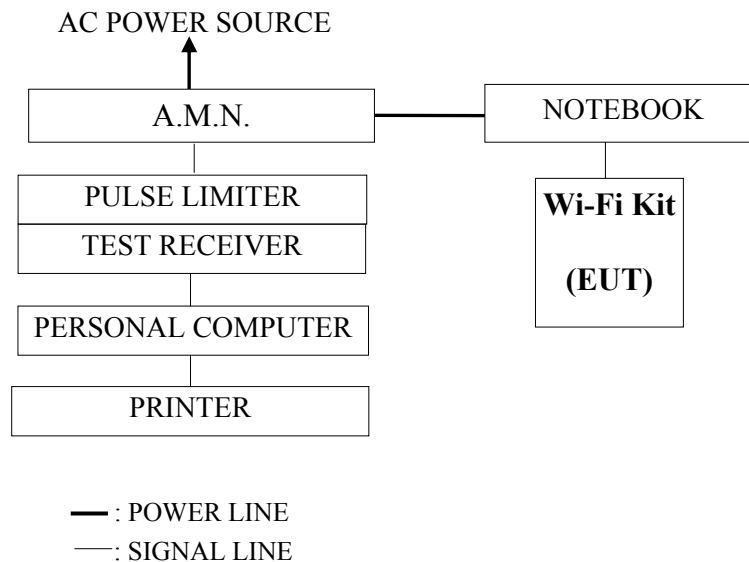
Remark: Uncertainty =  $k_{uc}(y)$

## 4. CONDUCTED EMISSION MEASUREMENT

### 4.1. Test Equipment

| Item | Type          | Manufacturer         | Model No. | Serial No.           | Cal. Date  | Cal. Period |
|------|---------------|----------------------|-----------|----------------------|------------|-------------|
| 1.   | Test Receiver | R & S                | ESCI      | 100351               | 2019-08-29 | 1 Year      |
| 2.   | A.M.N.        | R & S                | ESH2-Z5   | 100153               | 2018-12-25 | 1 Year      |
| 3.   | L.I.S.N.      | Kyoritsu             | KNW-407   | 8-1793-3             | 2019-04-04 | 1 Year      |
| 4.   | Pulse Limiter | R&S                  | ESH3-Z2   | 101832               | 2018-12-25 | 1 Year      |
| 5.   | RF Cable      | Shengxuan            | SX-ROS400 | Cable<br>59/2+Switch | 2018-12-25 | 1 Year      |
| 6.   | Software      | Audix /e3 (9.160323) |           |                      |            |             |

### 4.2. Block Diagram of Test Setup



### 4.3. Power line Conducted Emission Limit

| Frequency       | Maximum RF Line Voltage |                    |
|-----------------|-------------------------|--------------------|
|                 | Quasi-Peak Level        | Average Level      |
| 150kHz ~ 500kHz | 66 ~ 56 dB $\mu$ V      | 56 ~ 46 dB $\mu$ V |
| 500kHz ~ 5MHz   | 56 dB $\mu$ V           | 46 dB $\mu$ V      |
| 5MHz ~ 30MHz    | 60 dB $\mu$ V           | 50 dB $\mu$ V      |

Remark1: If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.

2: The lower limit applies at the band edges.

#### 4.4. Test Procedure

The measuring process is according to ANSI C63.10-2013 and laboratory internal procedure TKC-301-004. (For FCC Part15 Subpart C)

In the conducted emission measurement, the EUT and all peripheral devices were set up on a non-metallic table which was 0.8 meter height above the ground plane, and 0.4 meter far away from the vertical plane. The mains cable of the EUT connected to one Artificial Main Network(AMN). All other unit of the EUT and AE connected to a second Line Impedance Stabilization Network(L.I.S.N.). The telecommunication cable connected to the AE through a Impedance Stabilization Network(ISN) which terminated a 50Ω resistor. For the measurement, the A.M.N measuring port was terminated by a 50Ω measuring equipment and the second L.I.S.N measuring port was terminated by a 50Ω terminator. All measurements were done between the phase lead and the reference ground, and between the neutral lead and the reference ground. All cables or wires placement were verified to find out the maximum emission.

The bandwidth of measuring receiver was set at 9 kHz.

The required frequency band (0.15 MHz ~ 30 MHz) was pre-scanned with peak detector; the final measurement was measured with quasi-peak detector and average detector. (If the average limit is met when using a quasi-peak detector, the average detector is unnecessary).

The emission level is calculated automatically by the test system which uses the following equation:

Emission level (dBμV) = Reading (dBμV) + A.M.N factor (dB) + Cable loss (dB).  
(Cable loss includes Pulse Att+Cable+Switch)

## 4.5. Conducted Emission Measurement Results

For FCC Part15 Subpart C

**PASSED.**

EUT was performed during this section testing and all the test results are attached in next pages.

Test Date: Dec.13, 2019

Temperature: 21.6℃

Humidity: 47%

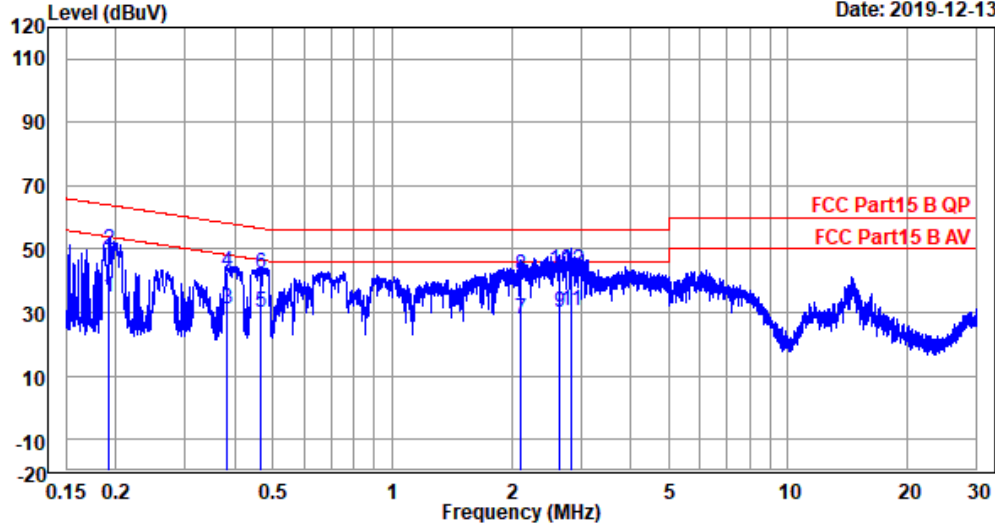
| Mode | Test Condition | Reference Test Data No. |      |
|------|----------------|-------------------------|------|
|      |                | Neutral                 | Line |
| 1    | TX 2.4GHz      | # 1                     | # 2  |



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 No.1289,Jiang Xing East Road,The Eastern Part of WuJiang  
 Economic Development Zone,JiangSu,China  
 Tel : (0512)63403993 Fax:(0512)63403339

File: F:\TEST DATA\2019\Report\12\C1W1912042\1220\_00001.EMI

Date: 2019-12-13



Site NO. : NO.1 Shielded Room  
 AMN/LISN : ESH2-Z5 -ADP-1812  
 Limit : FCC Part15 B QP  
 Env. / Ins. : 21.6°C&54%/ESCI  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 2.4GHz  
 Memo :

phase.: Neutral Data NO.:1  
 Engineer : Yucong

| Freq.<br>MHz | AMN.<br>Factor<br>dB | Cable<br>Loss<br>dB | Reading<br>dBuV | Emission<br>Level<br>dBuV | Limits<br>dBuV | Margin<br>dB | Remark  |
|--------------|----------------------|---------------------|-----------------|---------------------------|----------------|--------------|---------|
| 0.1931       | 0.18                 | 9.90                | 24.68           | 34.76                     | 53.90          | 19.14        | Average |
| 0.1931       | 0.18                 | 9.90                | 39.92           | 50.00                     | 63.90          | 13.90        | QP      |
| 0.3824       | 0.19                 | 9.91                | 20.92           | 31.02                     | 48.23          | 17.21        | Average |
| 0.3824       | 0.19                 | 9.91                | 32.54           | 42.64                     | 58.23          | 15.59        | QP      |
| 0.4634       | 0.20                 | 9.91                | 19.93           | 30.04                     | 46.63          | 16.59        | Average |
| 0.4634       | 0.20                 | 9.91                | 31.91           | 42.02                     | 56.63          | 14.61        | QP      |
| 2.1143       | 0.25                 | 9.94                | 17.90           | 28.09                     | 46.00          | 17.91        | Average |
| 2.1143       | 0.25                 | 9.94                | 31.30           | 41.49                     | 56.00          | 14.51        | QP      |
| 2.6430       | 0.27                 | 9.95                | 19.74           | 29.96                     | 46.00          | 16.04        | Average |
| 2.6430       | 0.27                 | 9.95                | 32.95           | 43.17                     | 56.00          | 12.83        | QP      |
| 2.8352       | 0.28                 | 9.96                | 20.45           | 30.69                     | 46.00          | 15.31        | Average |
| 2.8352       | 0.28                 | 9.96                | 32.87           | 43.11                     | 56.00          | 12.89        | QP      |

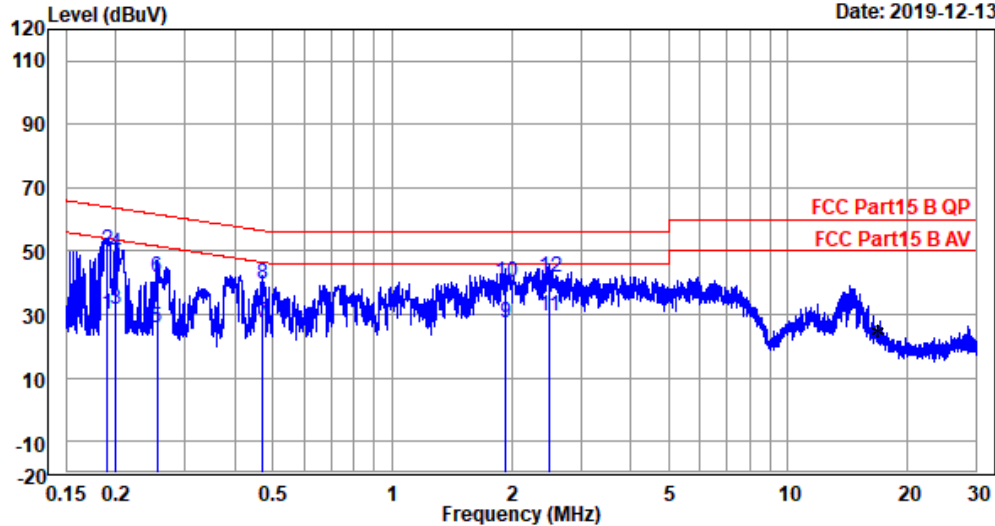
remarks:Emission Level = AMN factor+Cable loss(Pulse Att+Cable+Switch)+Reading



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File: F:\TEST DATA\2019\Report\12\C1W1912042\1220\_00002.EMI

Date: 2019-12-13



Site NO. : NO.1 Shielded Room  
 AMN/LISN : ESH2-Z5 -ADP-1812  
 Limit : FCC Part15 B QP  
 Env. / Ins. : 21.6°C&54%/ESCI  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 2.4GHz  
 Memo :

phase.: Line Data NO.:2  
 Engineer : Yucong

“\*” means the emission higher than limit were confirmed not emitted from RF transmitter are subject to FCC 15.107.

| Freq.<br>MHz | AMN.<br>Factor<br>dB | Cable<br>Loss<br>dB | Reading<br>dBuV | Emission<br>Level<br>dBuV | Limits<br>dBuV | Margin<br>dB | Remark  |
|--------------|----------------------|---------------------|-----------------|---------------------------|----------------|--------------|---------|
| 0.1897       | 0.30                 | 9.90                | 19.73           | 29.93                     | 54.05          | 24.12        | Average |
| 0.1897       | 0.30                 | 9.90                | 39.90           | 50.10                     | 64.05          | 13.95        | QP      |
| 0.1997       | 0.30                 | 9.90                | 21.69           | 31.89                     | 53.62          | 21.73        | Average |
| 0.1997       | 0.30                 | 9.90                | 38.93           | 49.13                     | 63.62          | 14.49        | QP      |
| 0.2543       | 0.30                 | 9.90                | 15.41           | 25.61                     | 51.62          | 26.01        | Average |
| 0.2543       | 0.30                 | 9.90                | 31.67           | 41.87                     | 61.62          | 19.75        | QP      |
| 0.4689       | 0.32                 | 9.91                | 17.06           | 27.29                     | 46.53          | 19.24        | Average |
| 0.4689       | 0.32                 | 9.91                | 29.63           | 39.86                     | 56.53          | 16.67        | QP      |
| 1.9348       | 0.37                 | 9.94                | 17.30           | 27.61                     | 46.00          | 18.39        | Average |
| 1.9348       | 0.37                 | 9.94                | 29.99           | 40.30                     | 56.00          | 15.70        | QP      |
| 2.4851       | 0.38                 | 9.95                | 19.42           | 29.75                     | 46.00          | 16.25        | Average |
| 2.4851       | 0.38                 | 9.95                | 31.17           | 41.50                     | 56.00          | 14.50        | QP      |

remarks:Emission Level = AMN factor+Cable loss(Pulse Att+Cable+Switch)+Reading

## 5. RADIATED EMISSION MEASUREMENT

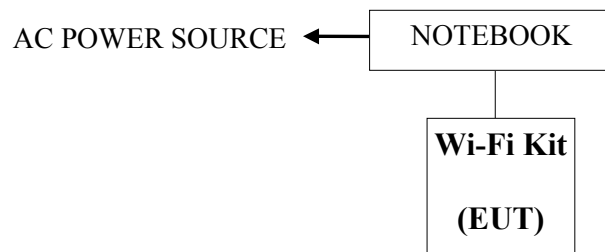
### 5.1. Test Equipment

The following test equipment was used during the radiated emission measurement:  
At 3m Semi-Anechoic Chamber

| Item | Type                   | Manufacturer         | Model No.    | Serial No.         | Cal. Date  | Cal. Period |
|------|------------------------|----------------------|--------------|--------------------|------------|-------------|
| 1.   | Preamplifier           | Agilent              | 8447D        | 2944A10922         | 2019-04-04 | 1 Year      |
| 2.   | Bi-log Antenna         | SCHWARZBECK          | VULB 9168    | 706                | 2019-02-21 | 1 Year      |
| 3.   | Horn Antenna           | ETS                  | 3117         | 00218586           | 2019-02-21 | 1 Year      |
| 4.   | Microwave Preamplifier | Agilent              | 8449B        | 3008A02233         | 2019-04-12 | 1 Year      |
| 5.   | EMI Test Receiver      | R&S                  | ESR7         | 101956             | 2019-04-10 | 1 Year      |
| 6.   | RF Cable               | Shengxuan            | SX-ROS400    | 3m(50/2+59/5)      | 2018-12-25 | 1 Year      |
| 7.   | RF Cable               | Huber+Shuner         | SUCOFLEX 104 | MY2865/2+MY 2863/2 | 2018-12-25 | 1 Year      |
| 8.   | Software               | Audix /e3 (9.160323) |              |                    |            |             |

### 5.2. Block Diagram of Test Setup

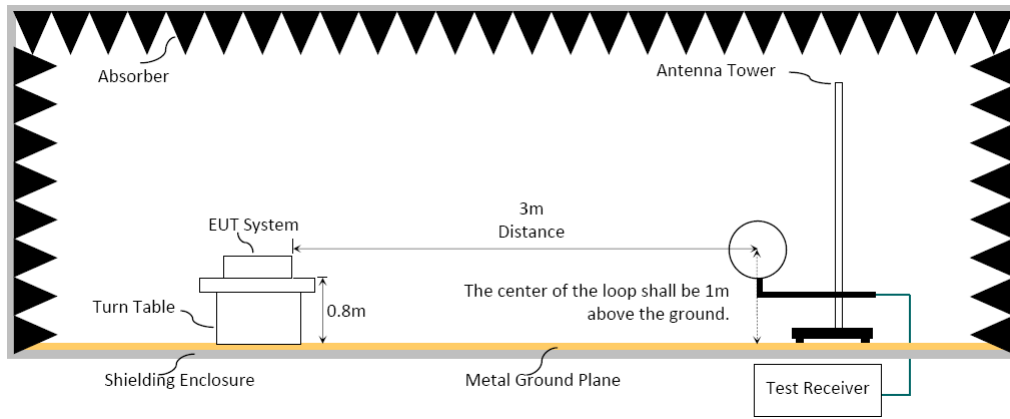
#### 5.2.1. Block Diagram of Test Setup between EUT and simulators



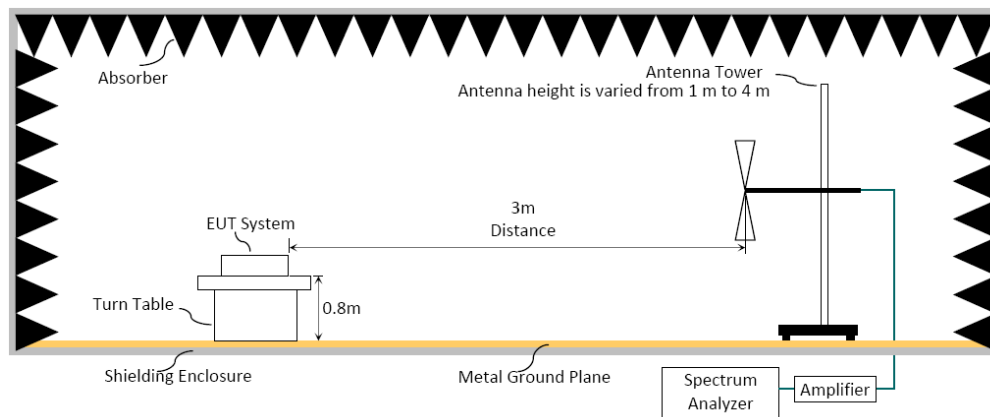
— : POWER LINE

— : SIGNAL LINE

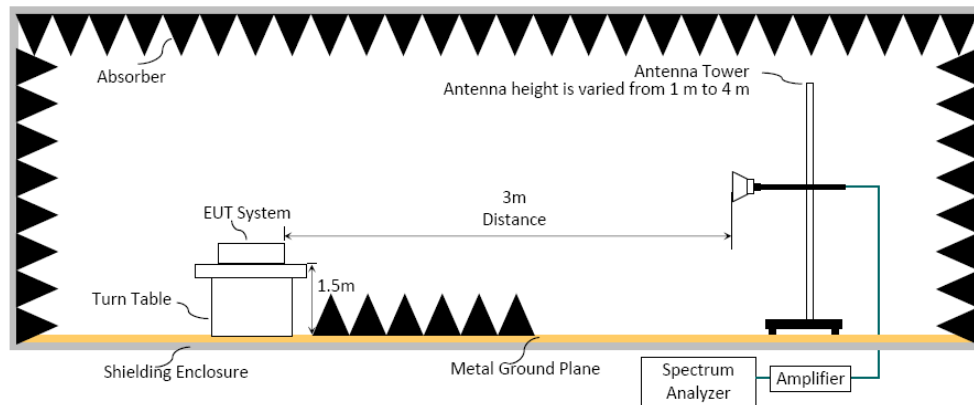
## 5.2.2. No. 2 3m Semi-Anechoic Chamber Setup Diagram (Test distance: 3m) for 9kHz-30MHz



## 5.2.3. No. 2 3m Semi-Anechoic Chamber Setup Diagram (Test distance: 3m) for 30MHz-1GHz



## 5.2.4. No. 2 3m Semi-Anechoic Chamber Setup Diagram (Test distance: 3m) for Above 1GHz





### 5.3. Radiated Emission Limits

In any 100kHz bandwidth outside the frequency band, the radio frequency power produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified as below.

| Frequency (MHz) | Distance (m) | Limits                                                  |             |
|-----------------|--------------|---------------------------------------------------------|-------------|
|                 |              | dB $\mu$ V/m                                            | $\mu$ V/m   |
| 0.009 - 0.490   | 300          | 67.6-20 log f(kHz)                                      | 2400/f kHz  |
| 0.490 - 1.705   | 30           | 87.6-20 log f(kHz)                                      | 24000/f kHz |
| 1.705 - 30      | 30           | 29.5                                                    | 30          |
| 30 - 88         | 3            | 40.0                                                    | 100         |
| 88- 216         | 3            | 43.5                                                    | 150         |
| 216- 960        | 3            | 46.0                                                    | 200         |
| Above 960       | 3            | 54.0                                                    | 500         |
| Above 1000      | 3            | 74.0 dB $\mu$ V/m (Peak)<br>54.0 dB $\mu$ V/m (Average) |             |

Remark: (1) dB $\mu$ V/m = 20 log ( $\mu$ V/m)

(2)The tighter limit applies to the edge between two frequency bands.

(3)Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

(4)Fundamental and emission fall within operation band are exempted from this section.

(5)Pursuant to ANSI C63.10: 6.6.4.3, if the maximized peak measured value complies with the average limit, then it is unnecessary to perform an average measurement.

## 5.4. Test Procedure

### Frequency Range 9kHz~30MHz:

The EUT setup on the turn table which has 0.8 m height to the ground. The turn table rotated 360 degrees and antenna fixed to 1 m to find the maximum emission level.

In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10-2013 regulation.

- (1) RBW = 9kHz with peak and average detector.
- (2) Detector: average and peak (9kHz-490kHz)  
Q.P. (490kHz-30MHz)

### Frequency Range 30MHz ~ 25GHz:

The EUT setup on the turn table which has 80 cm (for 30-1000 MHz) and 1.5m (for above 1GHz) height to the ground. The turn table rotated 360 degrees and antenna varied from 1 m to 4 m to find the maximum emission level. Both horizontal and vertical polarization are required. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10-2013 regulation.

### Frequency below 1 GHz:

Spectrum Analyzer is used for pre-testing with following setting:

- (1)RBW = 120KHz
- (2)VBW  $\geq 3 \times$  RBW.
- (3)Detector = Peak.
- (4)Sweep time = auto.
- (5)Trace mode = max hold.
- (6)Allow sweeps to continue until the trace stabilizes.
- (7)When peak-detected value is lower than limit that the measurement using the Q.P. detector is not required, otherwise using Q.P. for final measurement.

### Frequency above 1GHz to 10th harmonic (up to 25GHz):

#### Peak Dector:

- (1)RBW = 1MHz
- (2)VBW  $\geq 3 \times$  RBW.
- (3)Detector = Peak.
- (4)Sweep time = auto.
- (5)Trace mode = max hold.
- (6)Allow sweeps to continue until the trace stabilizes.
- (7)When peak-detected value is lower than limit that the measurement using the average detector is not required, otherwise using average detector for final measurement.

## 5.5. Measurement Results

### **PASSED**

The EUT was tested in restricted bands and all the test results are listed in next page.

The frequency range from 9kHz to 10th harmonic(25GHz) are checked, and the emission (9kHz~30MHz,18GHz~25GHz)not reported for there is no emission be found.

## 5.5.1. Emission Measurement Results (For Below 1GHz)



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 Tel : (0512)63403993 Fax:(0512)63403339

Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 9168-706-1902-3M  
 Limit : FCC PART 15B QP  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 2.4GHz  
 Memo :

Ant. pol.: Horizontal Data NO.:2  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|--------|
| 59.86        | 18.02                  | 0.83                | 34.15           | 27.81                  | 25.19                       | 40.00            | 14.81        | Peak   |
| 121.12       | 17.38                  | 1.14                | 35.69           | 27.21                  | 27.00                       | 43.50            | 16.50        | Peak   |
| 156.46       | 18.62                  | 1.29                | 36.36           | 26.99                  | 29.28                       | 43.50            | 14.22        | Peak   |
| 228.49       | 16.77                  | 1.55                | 39.04           | 26.70                  | 30.66                       | 46.00            | 15.34        | Peak   |
| 263.82       | 17.75                  | 1.68                | 38.08           | 26.63                  | 30.88                       | 46.00            | 15.12        | Peak   |
| 383.93       | 21.19                  | 1.98                | 34.02           | 27.23                  | 29.96                       | 46.00            | 16.04        | Peak   |

Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 9168-706-1902-3M  
 Limit : FCC PART 15B QP  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 2.4GHz  
 Memo :

Ant. pol.: Vertical Data NO.:1  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|--------|
| 53.69        | 18.88                  | 0.79                | 34.39           | 27.90                  | 26.16                       | 40.00            | 13.84        | Peak   |
| 72.08        | 16.08                  | 0.91                | 36.27           | 27.66                  | 25.60                       | 40.00            | 14.40        | Peak   |
| 160.91       | 18.50                  | 1.30                | 34.06           | 26.96                  | 26.90                       | 43.50            | 16.60        | Peak   |
| 263.82       | 17.75                  | 1.68                | 34.94           | 26.63                  | 27.74                       | 46.00            | 18.26        | Peak   |
| 319.94       | 19.14                  | 1.85                | 36.72           | 26.73                  | 30.98                       | 46.00            | 15.02        | Peak   |
| 706.70       | 26.82                  | 2.79                | 28.52           | 28.04                  | 30.09                       | 46.00            | 15.91        | Peak   |

Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor

## 5.5.2. Emission Measurement Results (For Above 1GHz)

|      |         |           |            |
|------|---------|-----------|------------|
| Mode | 802.11b | Frequency | TX 2412MHz |
|------|---------|-----------|------------|



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 Tel : (0512)63403993 Fax:(0512)63403339

Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11b 2412MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:27  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 3465.00      | 34.61                  | 4.13                | 40.22           | 33.51                  | 45.45                       | 74.00            | 28.55        | Peak    |
| 3466.23      | 34.61                  | 4.13                | 32.50           | 33.51                  | 37.73                       | 54.00            | 16.27        | Average |
| 4842.00      | 35.64                  | 4.88                | 41.06           | 33.32                  | 48.26                       | 74.00            | 25.74        | Peak    |
| 4843.28      | 35.64                  | 4.88                | 37.90           | 33.32                  | 45.10                       | 54.00            | 8.90         | Average |
| 6967.00      | 36.51                  | 5.92                | 42.90           | 33.40                  | 51.93                       | 74.00            | 22.07        | Peak    |
| 6968.98      | 36.51                  | 5.92                | 33.47           | 33.40                  | 42.50                       | 54.00            | 11.50        | Average |
| 13835.00     | 40.43                  | 8.37                | 38.48           | 31.45                  | 55.83                       | 74.00            | 18.17        | Peak    |
| 13836.45     | 40.43                  | 8.37                | 26.61           | 31.45                  | 43.96                       | 54.00            | 10.04        | Average |

Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11b 2412MHz  
 Memo :

Ant. pol.: Vertical Data NO.:28  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 4825.00      | 35.63                  | 4.87                | 42.54           | 33.32                  | 49.72                       | 74.00            | 24.28        | Peak    |
| 4826.25      | 35.63                  | 4.87                | 37.31           | 33.32                  | 44.49                       | 54.00            | 9.51         | Average |
| 8344.00      | 37.40                  | 6.43                | 40.67           | 33.67                  | 50.83                       | 74.00            | 23.17        | Peak    |
| 8345.26      | 37.40                  | 6.43                | 30.61           | 33.67                  | 40.77                       | 54.00            | 13.23        | Average |
| 14039.00     | 40.41                  | 8.42                | 39.56           | 31.44                  | 56.95                       | 74.00            | 17.05        | Peak    |
| 14040.64     | 40.41                  | 8.42                | 27.60           | 31.44                  | 44.99                       | 54.00            | 9.01         | Average |

Remarks: Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor

|      |         |           |            |
|------|---------|-----------|------------|
| Mode | 802.11b | Frequency | TX 2462MHz |
|------|---------|-----------|------------|



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11b 2462MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:29  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 4910.00      | 35.66                  | 4.91                | 43.89           | 33.31                  | 51.15                       | 74.00            | 22.85        | Peak    |
| 4912.25      | 35.66                  | 4.92                | 37.30           | 33.31                  | 44.57                       | 54.00            | 9.43         | Average |
| 8106.00      | 37.40                  | 6.35                | 40.45           | 33.62                  | 50.58                       | 74.00            | 23.42        | Peak    |
| 8107.25      | 37.40                  | 6.35                | 30.20           | 33.62                  | 40.33                       | 54.00            | 13.67        | Average |
| 13172.00     | 40.63                  | 8.16                | 39.91           | 31.65                  | 57.05                       | 74.00            | 16.95        | Peak    |
| 13173.25     | 40.63                  | 8.16                | 25.20           | 31.65                  | 42.34                       | 54.00            | 11.66        | Average |

Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor





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 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11b 2462MHz  
 Memo :

Ant. pol.: Vertical Data NO.:30  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 4842.00      | 35.64                  | 4.88                | 41.98           | 33.32                  | 49.18                       | 74.00            | 24.82        | Peak    |
| 7919.00      | 37.12                  | 6.28                | 42.65           | 33.58                  | 52.47                       | 74.00            | 21.53        | Peak    |
| 11676.00     | 39.50                  | 7.70                | 40.16           | 33.23                  | 54.13                       | 74.00            | 19.87        | Peak    |
| 11677.28     | 39.50                  | 7.70                | 30.25           | 33.23                  | 44.22                       | 54.00            | 9.78         | Average |

Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor

|      |         |           |            |
|------|---------|-----------|------------|
| Mode | 802.11g | Frequency | TX 2412MHz |
|------|---------|-----------|------------|



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11g 2412MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:31  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 4823.95      | 35.63                  | 4.87                | 39.71           | 33.32                  | 46.89                       | 54.00            | 7.11         | Average |
| 4825.00      | 35.63                  | 4.87                | 45.05           | 33.32                  | 52.23                       | 74.00            | 21.77        | Peak    |
| 7817.00      | 36.78                  | 6.24                | 42.59           | 33.56                  | 52.05                       | 74.00            | 21.95        | Peak    |
| 7818.54      | 36.78                  | 6.24                | 29.36           | 33.56                  | 38.82                       | 54.00            | 15.18        | Average |
| 14532.00     | 40.54                  | 8.57                | 39.59           | 31.93                  | 56.77                       | 74.00            | 17.23        | Peak    |
| 14533.25     | 40.55                  | 8.57                | 26.50           | 31.93                  | 43.69                       | 54.00            | 10.31        | Average |

Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11g 2412MHz  
 Memo :

Ant. pol.: Vertical Data NO.:32  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 4740.00      | 35.60                  | 4.83                | 40.81           | 33.33                  | 47.91                       | 74.00            | 26.09        | Peak    |
| 8140.00      | 37.40                  | 6.36                | 42.33           | 33.63                  | 52.46                       | 74.00            | 21.54        | Peak    |
| 8141.25      | 37.40                  | 6.36                | 31.60           | 33.63                  | 41.73                       | 54.00            | 12.27        | Average |
| 14838.00     | 40.97                  | 8.71                | 39.59           | 32.24                  | 57.03                       | 74.00            | 16.97        | Peak    |
| 14839.32     | 40.98                  | 8.71                | 26.25           | 32.24                  | 43.70                       | 54.00            | 10.30        | Average |

Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor

|      |         |           |            |
|------|---------|-----------|------------|
| Mode | 802.11g | Frequency | TX 2462MHz |
|------|---------|-----------|------------|



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11g 2462MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:33  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 4924.03      | 35.67                  | 4.92                | 38.34           | 33.31                  | 45.62                       | 54.00            | 8.38         | Average |
| 4927.00      | 35.67                  | 4.92                | 47.49           | 33.31                  | 54.77                       | 74.00            | 19.23        | Peak    |
| 7392.00      | 35.87                  | 6.07                | 44.89           | 33.48                  | 53.35                       | 74.00            | 20.65        | Peak    |
| 7393.25      | 35.87                  | 6.07                | 32.21           | 33.48                  | 40.67                       | 54.00            | 13.33        | Average |
| 11659.00     | 39.50                  | 7.69                | 40.46           | 33.23                  | 54.42                       | 74.00            | 19.58        | Peak    |
| 11660.25     | 39.50                  | 7.70                | 29.19           | 33.23                  | 43.16                       | 54.00            | 10.84        | Average |

Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11g 2462MHz  
 Memo :

Ant. pol.: Vertical Data NO.:34  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 4009.00      | 34.52                  | 4.44                | 41.70           | 33.40                  | 47.26                       | 74.00            | 26.74        | Peak    |
| 4010.25      | 34.52                  | 4.45                | 30.20           | 33.40                  | 35.77                       | 54.00            | 18.23        | Average |
| 6219.00      | 36.53                  | 5.57                | 41.28           | 33.40                  | 49.98                       | 74.00            | 24.02        | Peak    |
| 6220.18      | 36.53                  | 5.57                | 31.60           | 33.40                  | 40.30                       | 54.00            | 13.70        | Average |
| 8956.00      | 38.31                  | 6.67                | 41.98           | 33.79                  | 53.17                       | 74.00            | 20.83        | Peak    |
| 8957.25      | 38.31                  | 6.67                | 30.21           | 33.79                  | 41.40                       | 54.00            | 12.60        | Average |

Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor

|      |             |           |            |
|------|-------------|-----------|------------|
| Mode | 802.11nHT20 | Frequency | TX 2412MHz |
|------|-------------|-----------|------------|



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11nHT20 2412MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:35  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 4825.00      | 35.63                  | 4.87                | 46.53           | 33.32                  | 53.71                       | 74.00            | 20.29        | Peak    |
| 4826.25      | 35.63                  | 4.87                | 38.51           | 33.32                  | 45.69                       | 54.00            | 8.31         | Average |
| 7834.00      | 36.84                  | 6.24                | 42.11           | 33.57                  | 51.62                       | 74.00            | 22.38        | Peak    |
| 7835.25      | 36.84                  | 6.24                | 31.21           | 33.57                  | 40.72                       | 54.00            | 13.28        | Average |
| 12118.00     | 39.74                  | 7.80                | 40.14           | 33.02                  | 54.66                       | 74.00            | 19.34        | Peak    |
| 12119.90     | 39.74                  | 7.80                | 23.60           | 33.02                  | 38.12                       | 54.00            | 15.88        | Average |

Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11nHT20 2412MHz  
 Memo :

Ant. pol.: Vertical Data NO.:36  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 4859.00      | 35.64                  | 4.89                | 40.46           | 33.31                  | 47.68                       | 74.00            | 26.32        | Peak    |
| 6321.00      | 36.59                  | 5.61                | 40.68           | 33.40                  | 49.48                       | 74.00            | 24.52        | Peak    |
| 11404.00     | 39.50                  | 7.62                | 39.31           | 33.26                  | 53.17                       | 74.00            | 20.83        | Peak    |
| 11405.25     | 39.50                  | 7.62                | 27.60           | 33.26                  | 41.46                       | 54.00            | 12.54        | Average |

Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor

|      |             |           |            |
|------|-------------|-----------|------------|
| Mode | 802.11nHT20 | Frequency | TX 2462MHz |
|------|-------------|-----------|------------|



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11nHT20 2462MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:37  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 4910.00      | 35.66                  | 4.91                | 45.55           | 33.31                  | 52.81                       | 74.00            | 21.19        | Peak    |
| 4911.25      | 35.66                  | 4.92                | 39.20           | 33.31                  | 46.47                       | 54.00            | 7.53         | Average |
| 7307.00      | 36.01                  | 6.04                | 39.56           | 33.46                  | 48.15                       | 74.00            | 25.85        | Peak    |
| 11880.00     | 39.50                  | 7.74                | 39.49           | 33.21                  | 53.52                       | 74.00            | 20.48        | Peak    |
| 11881.25     | 39.50                  | 7.74                | 27.60           | 33.21                  | 41.63                       | 54.00            | 12.37        | Average |

Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor





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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11nHT20 2462MHz  
 Memo :

Ant. pol.: Vertical Data NO.:38  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 4910.00      | 35.66                  | 4.91                | 38.16           | 33.31                  | 45.42                       | 74.00            | 28.58        | Peak    |
| 6287.00      | 36.57                  | 5.59                | 40.49           | 33.40                  | 49.25                       | 74.00            | 24.75        | Peak    |
| 11999.00     | 39.50                  | 7.77                | 38.85           | 33.20                  | 52.92                       | 74.00            | 21.08        | Peak    |
| 12001.25     | 39.50                  | 7.77                | 27.20           | 33.20                  | 41.27                       | 54.00            | 12.73        | Average |

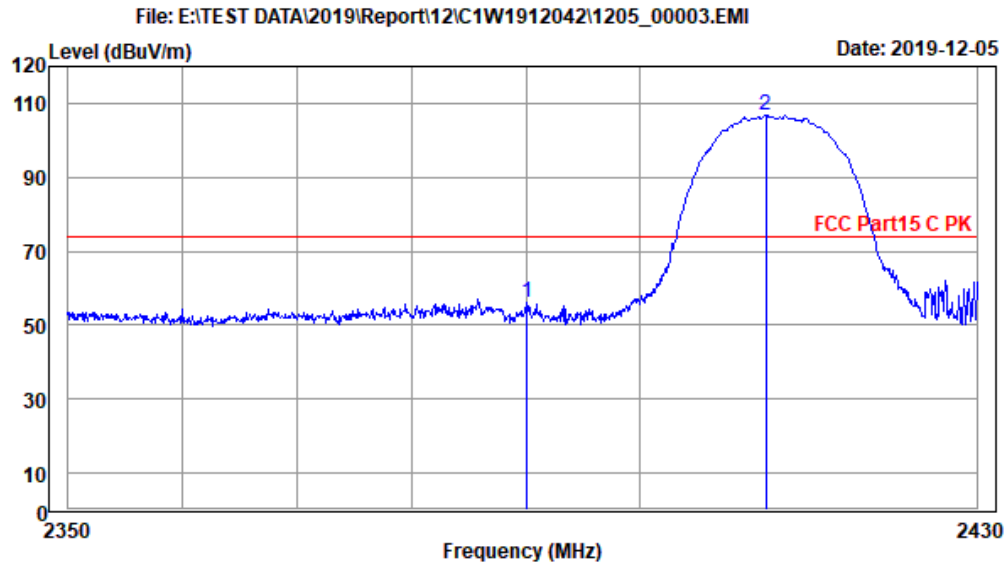
Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor

## 5.5.3. Spurious Emission Measurement Results in Band Edge Emission

|      |         |           |            |
|------|---------|-----------|------------|
| Mode | 802.11b | Frequency | TX 2412MHz |
|------|---------|-----------|------------|



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11b 2412MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:3  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|--------|
| 2390.00      | 33.28                  | 3.41                | 53.11           | 33.66                  | 56.14                       | 74.00            | 17.86        | Peak   |
| 2411.12      | 33.32                  | 3.42                | 103.66          | 33.66                  | 106.74                      | 74.00            | -32.74       | Peak   |

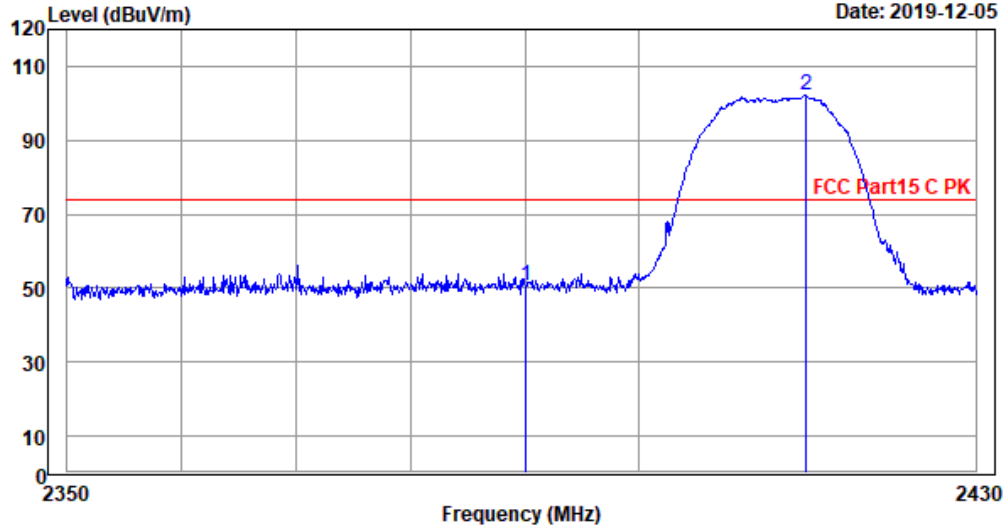
Remarks: Emission Level = Antenna factor + Cable loss + Reading - Preamp Factor



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Date: 2019-12-05



Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11b 2412MHz  
 Memo :

Ant. pol.: Vertical Data NO.:5  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|--------|
| 2390.00      | 33.28                  | 3.41                | 47.58           | 33.66                  | 50.61                       | 74.00            | 23.39        | Peak   |
| 2414.80      | 33.33                  | 3.43                | 99.23           | 33.66                  | 102.33                      | 74.00            | -28.33       | Peak   |

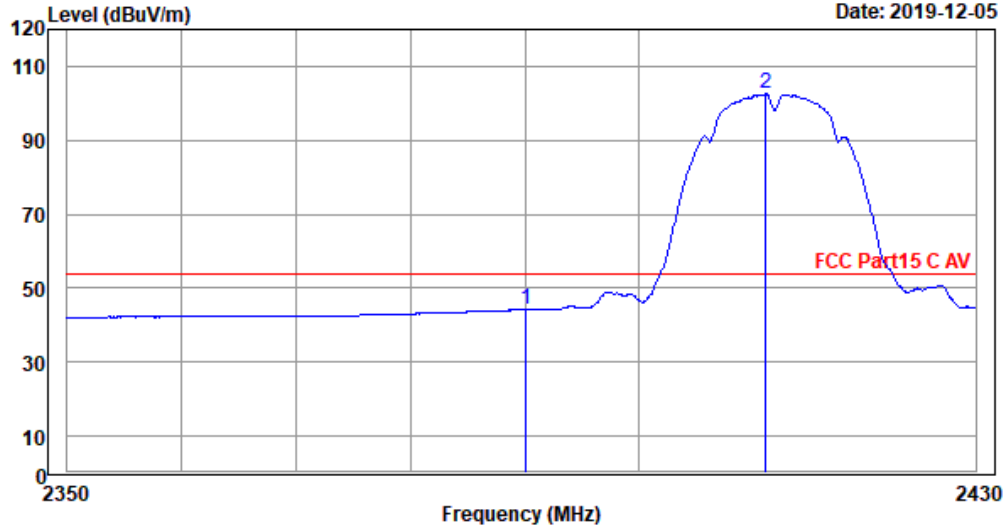
Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C AV  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11b 2412MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:4  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 2390.00      | 33.28                  | 3.41                | 41.29           | 33.66                  | 44.32                       | 54.00            | 9.68         | Average |
| 2411.20      | 33.32                  | 3.42                | 99.44           | 33.66                  | 102.52                      | 54.00            | -48.52       | Average |

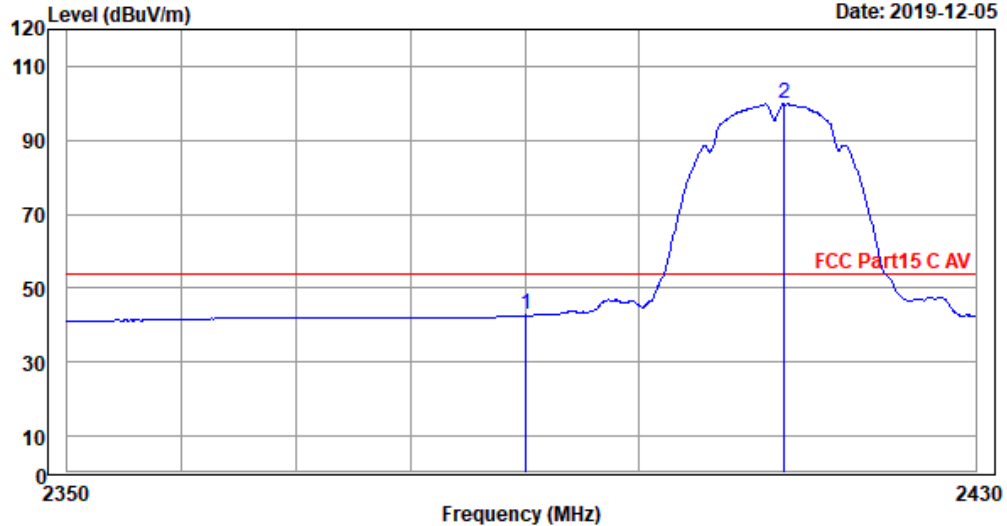
Remarks: Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C AV  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11b 2412MHz  
 Memo :

Ant. pol.: Vertical Data NO.:6  
 Engineer : Xiayankai

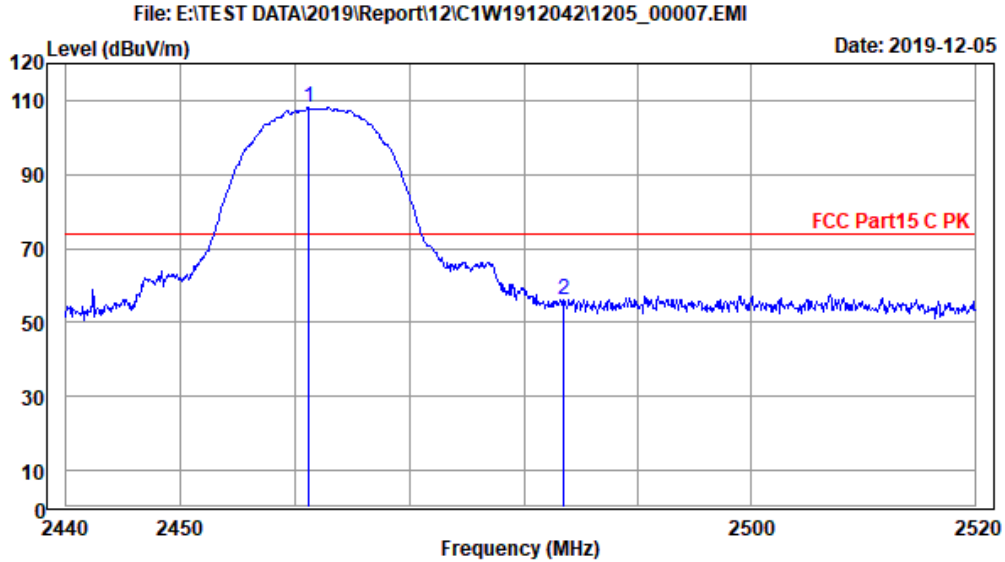
| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 2390.00      | 33.28                  | 3.41                | 39.64           | 33.66                  | 42.67                       | 54.00            | 11.33        | Average |
| 2412.80      | 33.33                  | 3.42                | 96.71           | 33.66                  | 99.80                       | 54.00            | -45.80       | Average |

Remarks: Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor

|      |         |           |            |
|------|---------|-----------|------------|
| Mode | 802.11b | Frequency | TX 2462MHz |
|------|---------|-----------|------------|



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11b 2462MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:7  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBUV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBUV/m | Limits<br>dBUV/m | Margin<br>dB | Remark |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|--------|
| 2461.12      | 33.42                  | 3.46                | 104.87          | 33.65                  | 108.10                      | 74.00            | -34.10       | Peak   |
| 2483.50      | 33.47                  | 3.48                | 52.87           | 33.65                  | 56.17                       | 74.00            | 17.83        | Peak   |

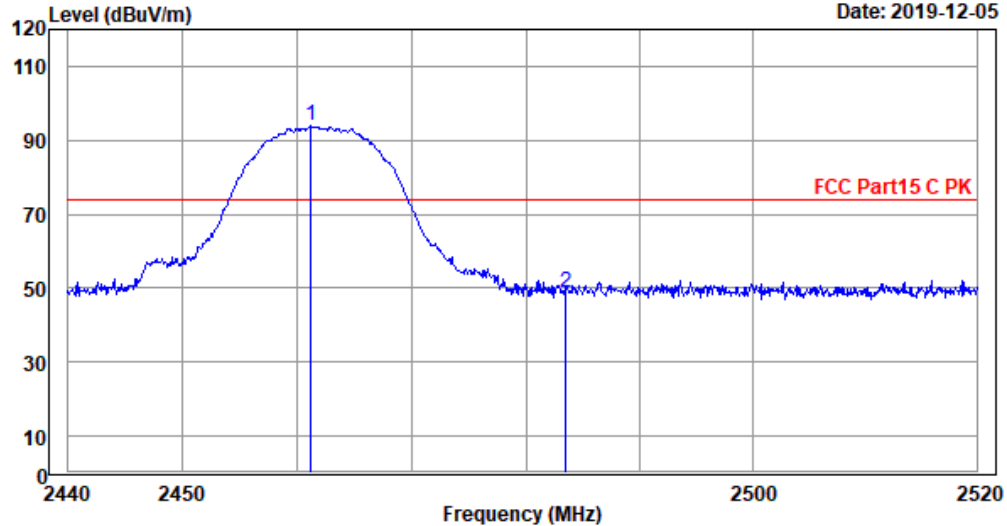
Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11b 2462MHz  
 Memo :

Ant. pol.: Vertical Data NO.:9  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBUV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBUV/m | Limits<br>dBUV/m | Margin<br>dB | Remark |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|--------|
| 2461.12      | 33.42                  | 3.46                | 90.57           | 33.65                  | 93.80                       | 74.00            | -19.80       | Peak   |
| 2483.50      | 33.47                  | 3.48                | 45.41           | 33.65                  | 48.71                       | 74.00            | 25.29        | Peak   |

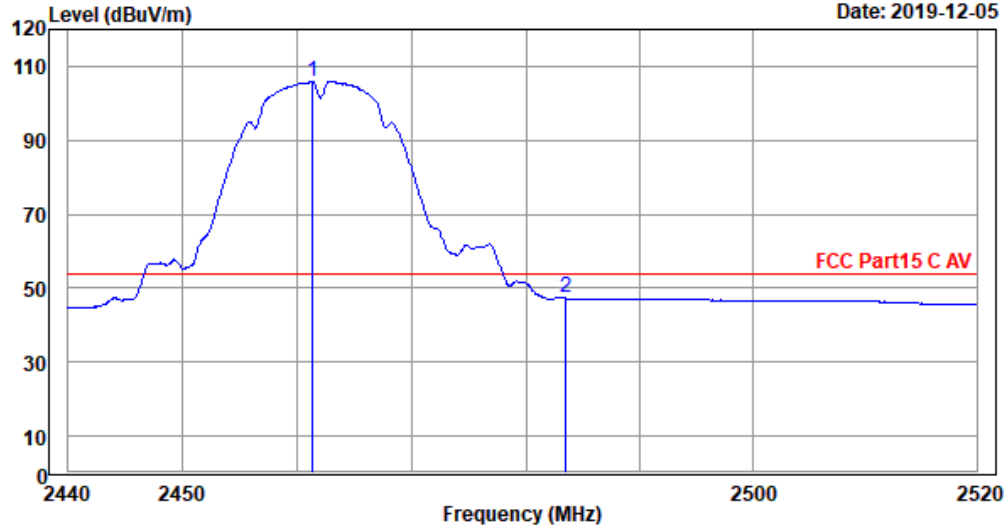
Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Date: 2019-12-05



Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C AV  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11b 2462MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:8  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 2461.28      | 33.42                  | 3.46                | 102.65          | 33.65                  | 105.88                      | 54.00            | -51.88       | Average |
| 2483.50      | 33.47                  | 3.48                | 43.94           | 33.65                  | 47.24                       | 54.00            | 6.76         | Average |

Remarks: Emission Level = Antenna factor + Cable loss + Reading - Preamp Factor

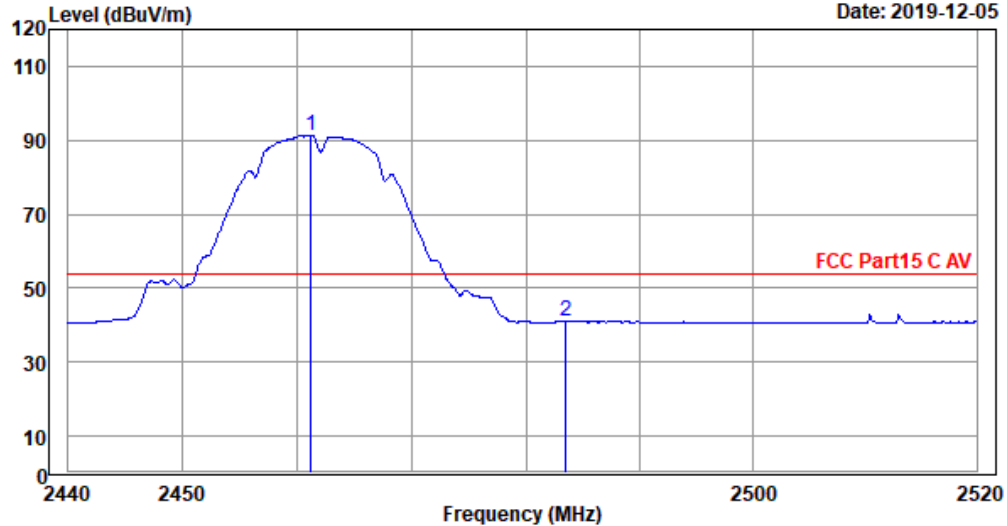




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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C AV  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11b 2462MHz  
 Memo :

Ant. pol.: Vertical Data NO.:10  
 Engineer : Xiayankai

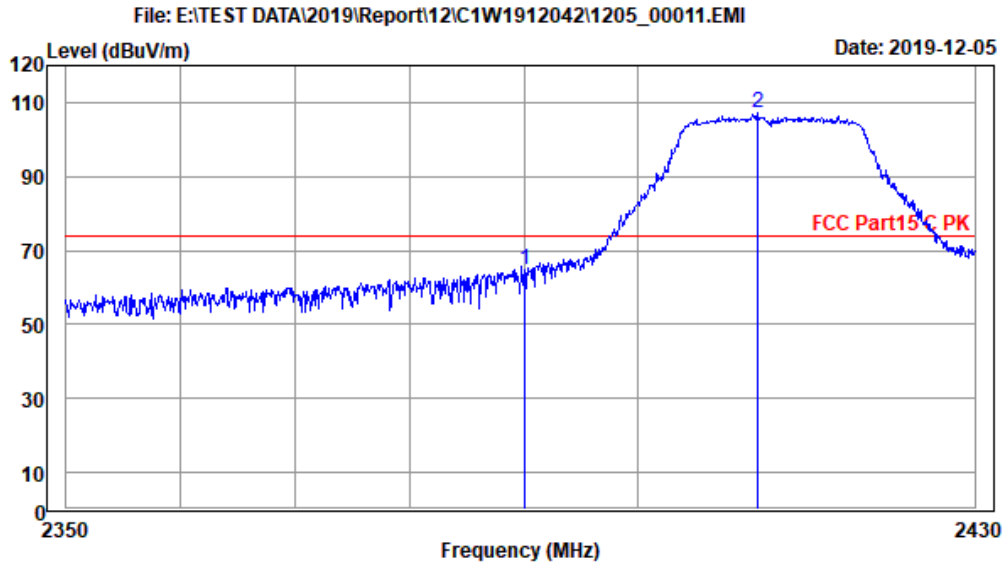
| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 2461.20      | 33.42                  | 3.46                | 88.21           | 33.65                  | 91.44                       | 54.00            | -37.44       | Average |
| 2483.50      | 33.47                  | 3.48                | 37.77           | 33.65                  | 41.07                       | 54.00            | 12.93        | Average |

Remarks: Emission Level = Antenna factor + Cable loss + Reading - Preamp Factor

|      |         |           |            |
|------|---------|-----------|------------|
| Mode | 802.11g | Frequency | TX 2412MHz |
|------|---------|-----------|------------|



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11g 2412MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:11  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|--------|
| 2390.00      | 33.28                  | 3.41                | 61.58           | 33.66                  | 64.61                       | 74.00            | 9.39         | Peak   |
| 2410.56      | 33.32                  | 3.42                | 104.11          | 33.66                  | 107.19                      | 74.00            | -33.19       | Peak   |

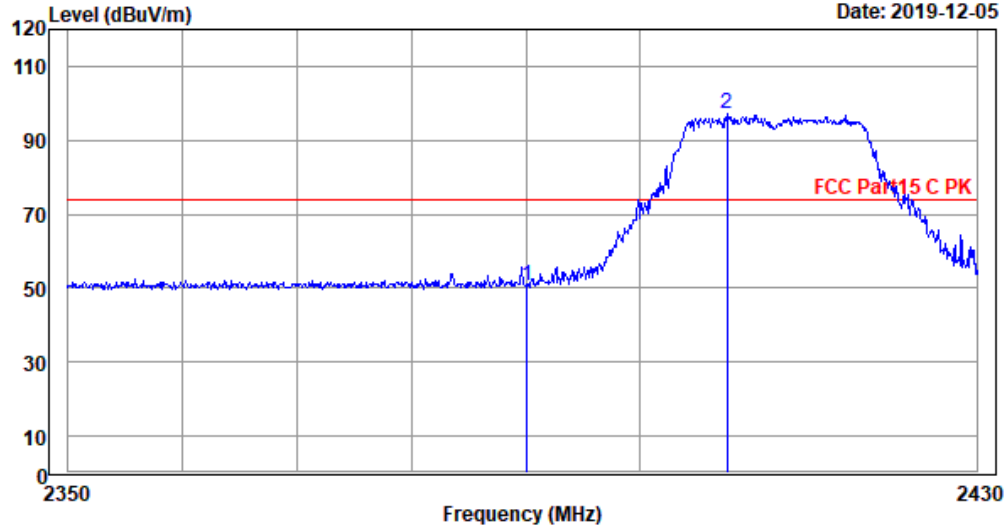
Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Date: 2019-12-05



Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11g 2412MHz  
 Memo :

Ant. pol.: Vertical Data NO.:13  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBUV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBUV/m | Limits<br>dBUV/m | Margin<br>dB | Remark |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|--------|
| 2390.00      | 33.28                  | 3.41                | 47.66           | 33.66                  | 50.69                       | 74.00            | 23.31        | Peak   |
| 2407.68      | 33.32                  | 3.42                | 93.88           | 33.66                  | 96.96                       | 74.00            | -22.96       | Peak   |

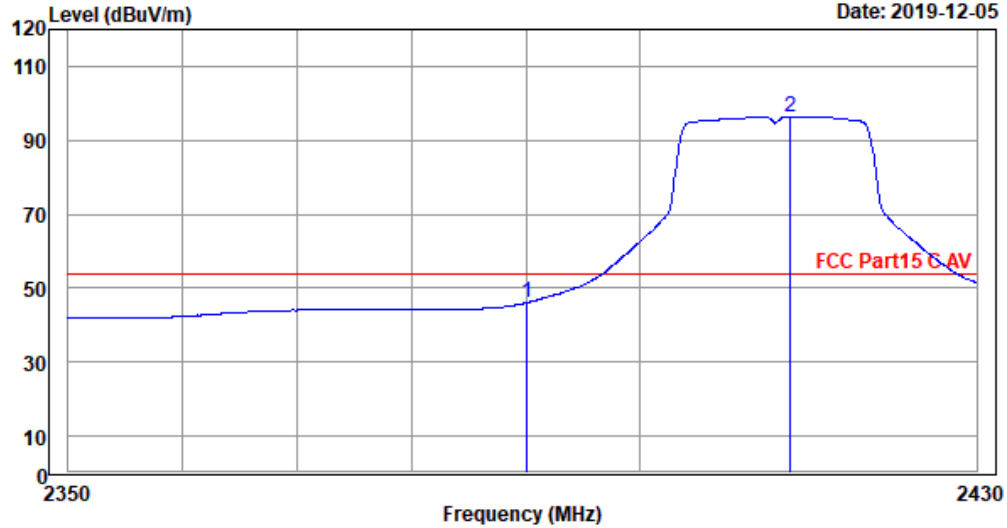
Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Date: 2019-12-05



Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C AV  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11g 2412MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:12  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 2390.00      | 33.28                  | 3.41                | 43.06           | 33.66                  | 46.09                       | 54.00            | 7.91         | Average |
| 2413.36      | 33.33                  | 3.42                | 93.40           | 33.66                  | 96.49                       | 54.00            | -42.49       | Average |

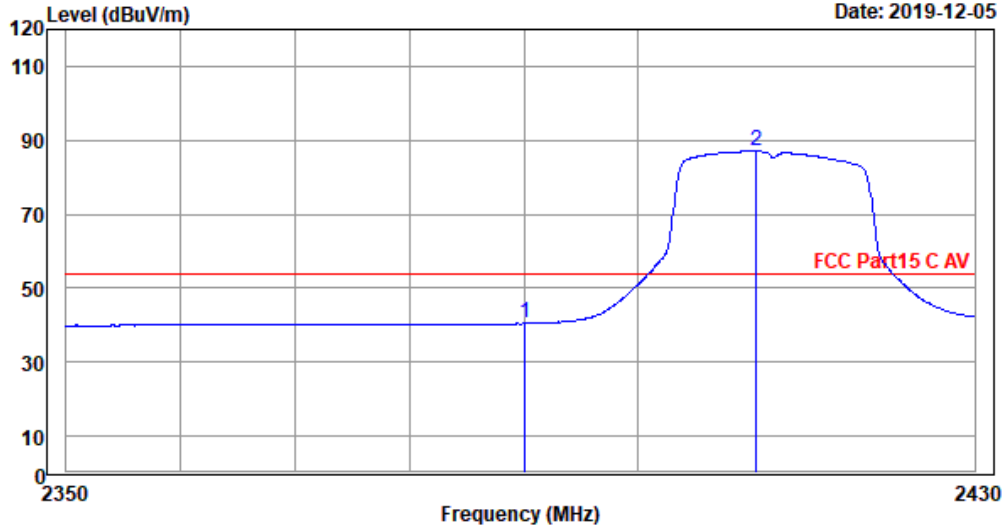
Remarks: Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Date: 2019-12-05



Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C AV  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11g 2412MHz  
 Memo :

Ant. pol.: Vertical Data NO.:14  
 Engineer : Xiayankai

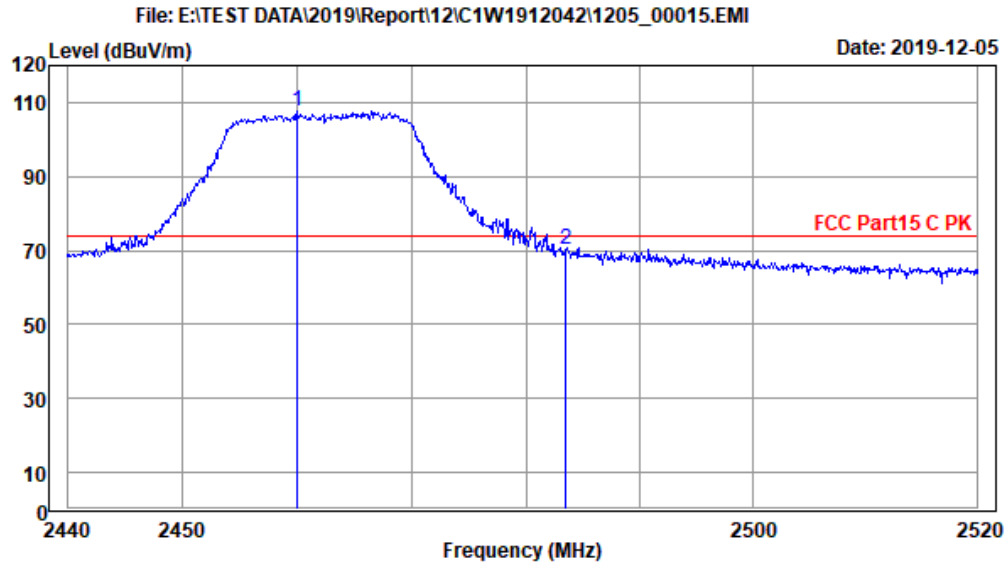
| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 2390.00      | 33.28                  | 3.41                | 37.39           | 33.66                  | 40.42                       | 54.00            | 13.58        | Average |
| 2410.40      | 33.32                  | 3.42                | 83.92           | 33.66                  | 87.00                       | 54.00            | -33.00       | Average |

Remarks: Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor

|      |         |           |            |
|------|---------|-----------|------------|
| Mode | 802.11g | Frequency | TX 2462MHz |
|------|---------|-----------|------------|



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11g 2462MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:15  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|--------|
| 2459.92      | 33.42                  | 3.46                | 104.31          | 33.65                  | 107.54                      | 74.00            | -33.54       | Peak   |
| 2483.50      | 33.47                  | 3.48                | 66.89           | 33.65                  | 70.19                       | 74.00            | 3.81         | Peak   |

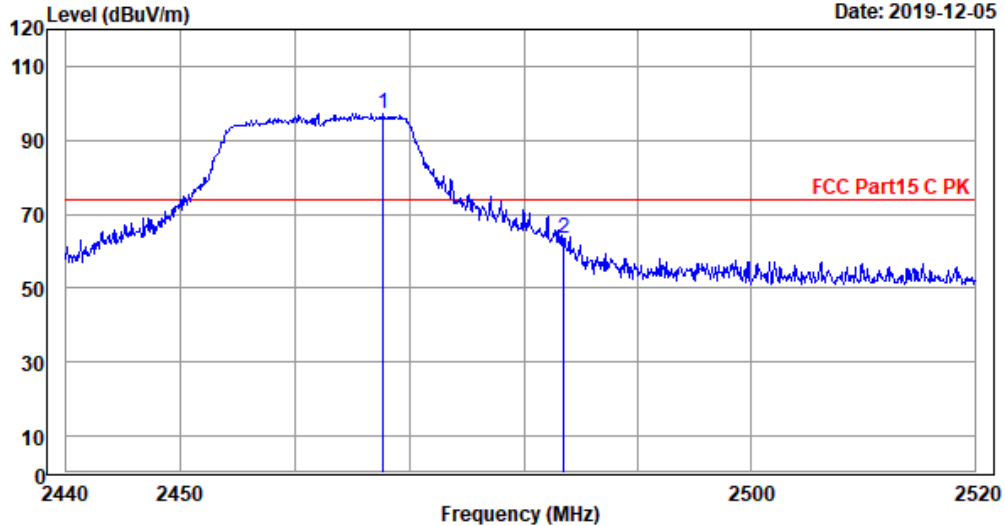
Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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File: E:\TEST DATA\2019\Report\12\C1W1912042\1205\_00017.EMI

Date: 2019-12-05



Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11g 2462MHz  
 Memo :

Ant. pol.: Vertical Data NO.:17  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|--------|
| 2467.68      | 33.44                  | 3.47                | 94.06           | 33.65                  | 97.32                       | 74.00            | -23.32       | Peak   |
| 2483.52      | 33.47                  | 3.48                | 60.13           | 33.65                  | 63.43                       | 74.00            | 10.57        | Peak   |

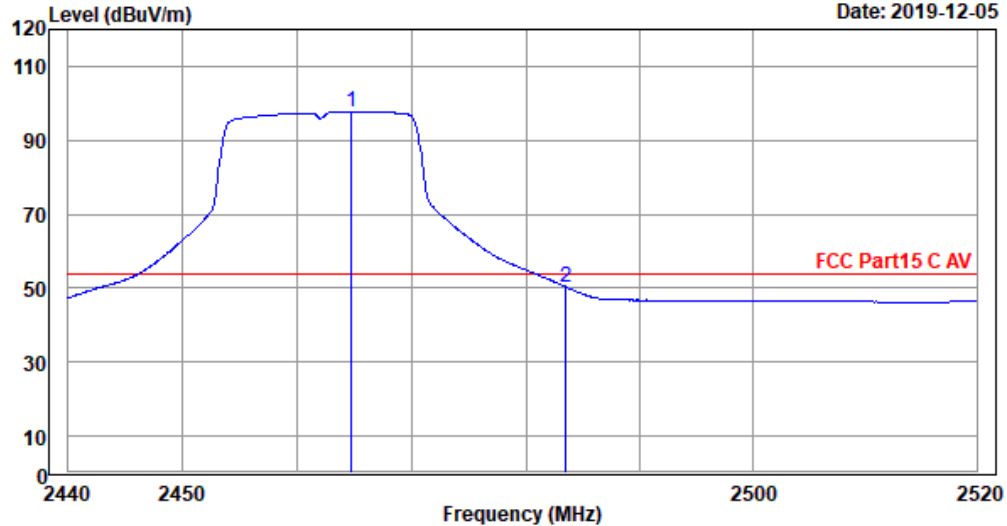
Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Date: 2019-12-05



Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C AV  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11g 2462MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:16  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBUV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBUV/m | Limits<br>dBUV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 2464.64      | 33.43                  | 3.46                | 94.56           | 33.65                  | 97.80                       | 54.00            | -43.80       | Average |
| 2483.50      | 33.47                  | 3.48                | 47.03           | 33.65                  | 50.33                       | 54.00            | 3.67         | Average |

Remarks: Emission Level = Antenna factor + Cable loss + Reading - Preamp Factor

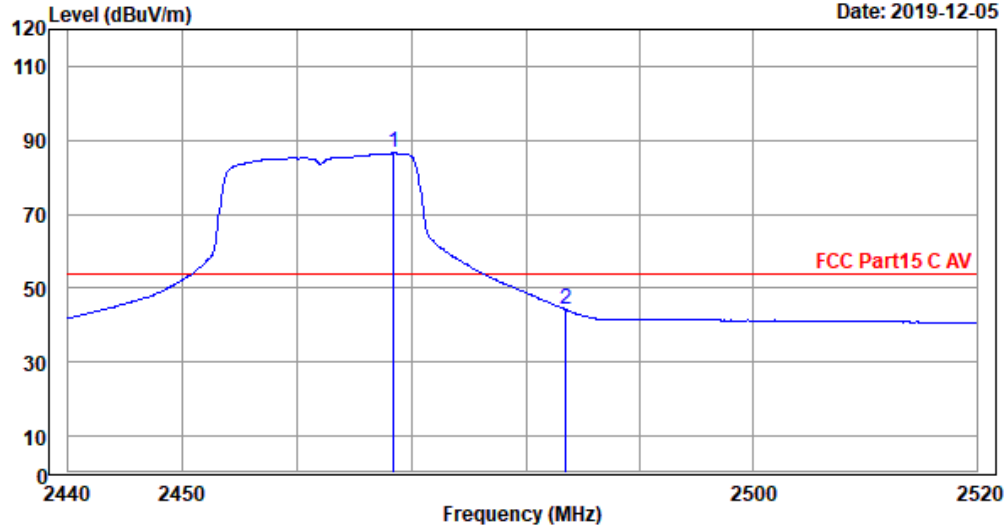




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Date: 2019-12-05



Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C AV  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11g 2462MHz  
 Memo :

Ant. pol.: Vertical Data NO.:18  
 Engineer : Xiayankai

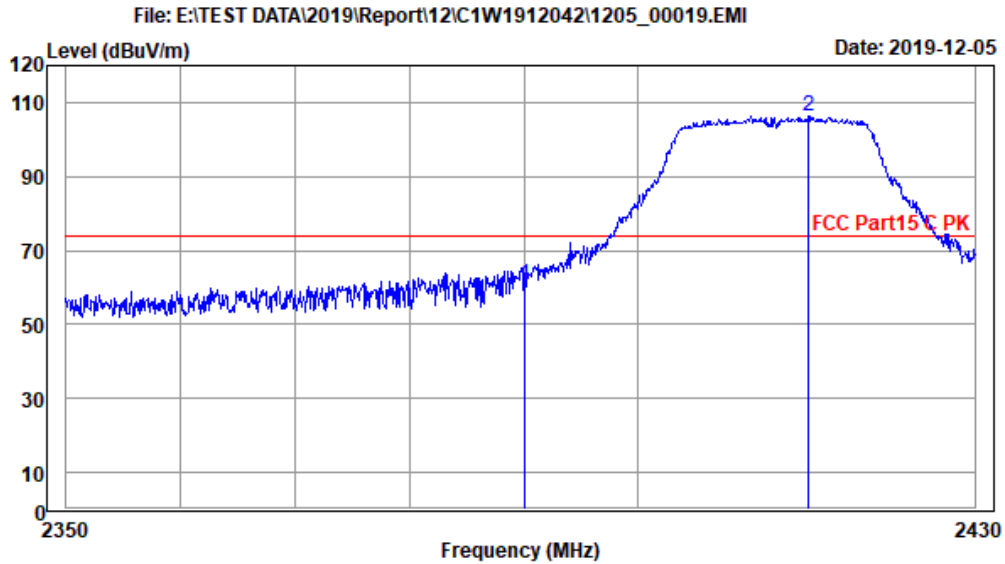
| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 2468.32      | 33.44                  | 3.47                | 83.23           | 33.65                  | 86.49                       | 54.00            | -32.49       | Average |
| 2483.50      | 33.47                  | 3.48                | 40.86           | 33.65                  | 44.16                       | 54.00            | 9.84         | Average |

Remarks: Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor

|      |             |           |            |
|------|-------------|-----------|------------|
| Mode | 802.11nHT20 | Frequency | TX 2412MHz |
|------|-------------|-----------|------------|



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Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11nHT20 2412MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:19  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|--------|
| 2390.00      | 33.28                  | 3.41                | 57.78           | 33.66                  | 60.81                       | 74.00            | 13.19        | Peak   |
| 2415.12      | 33.33                  | 3.43                | 103.44          | 33.66                  | 106.54                      | 74.00            | -32.54       | Peak   |

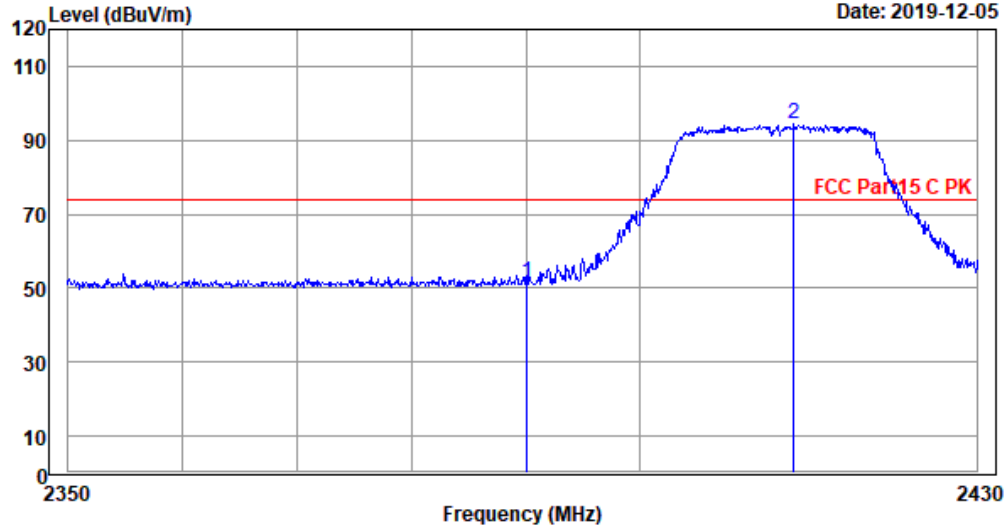
Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Date: 2019-12-05



Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11nHT20 2412MHz  
 Memo :

Ant. pol.: Vertical Data NO.:21  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|--------|
| 2390.00      | 33.28                  | 3.41                | 48.70           | 33.66                  | 51.73                       | 74.00            | 22.27        | Peak   |
| 2413.60      | 33.33                  | 3.42                | 91.20           | 33.66                  | 94.29                       | 74.00            | -20.29       | Peak   |

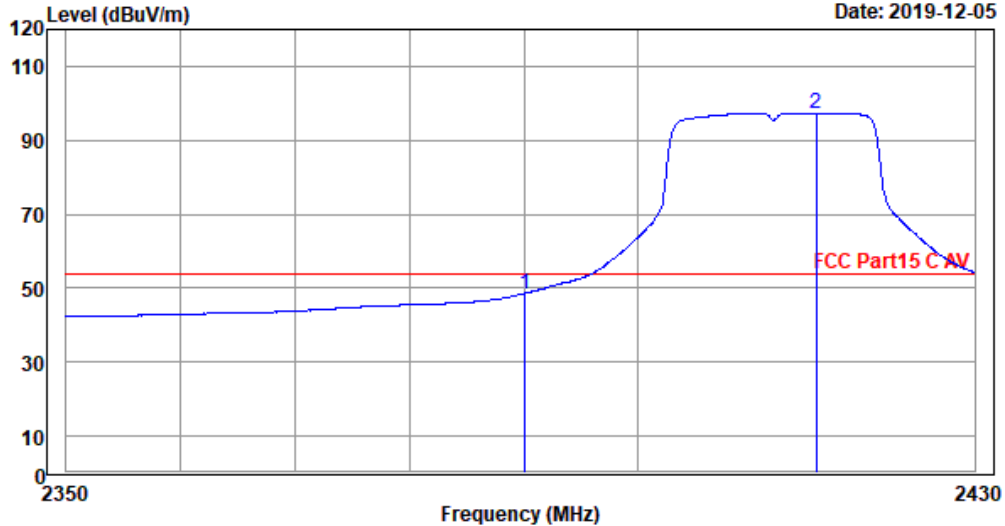
Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Date: 2019-12-05



Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C AV  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11nHT20 2412MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:20  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 2390.00      | 33.28                  | 3.41                | 45.54           | 33.66                  | 48.57                       | 54.00            | 5.43         | Average |
| 2415.76      | 33.33                  | 3.43                | 94.17           | 33.66                  | 97.27                       | 54.00            | -43.27       | Average |

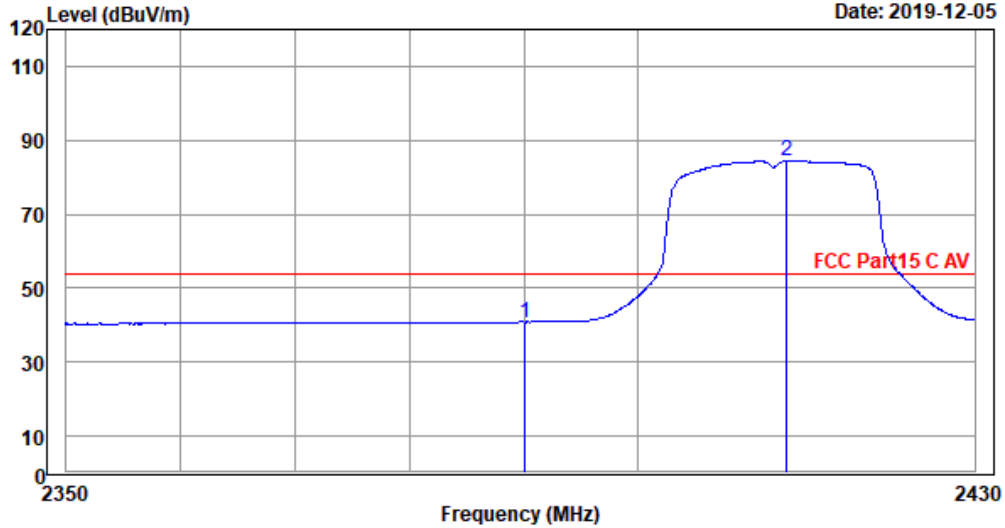
Remarks: Emission Level = Antenna factor + Cable loss + Reading - Preamp Factor



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Date: 2019-12-05



Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C AV  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11nHT20 2412MHz  
 Memo :

Ant. pol.: Vertical Data NO.:22  
 Engineer : Xiayankai

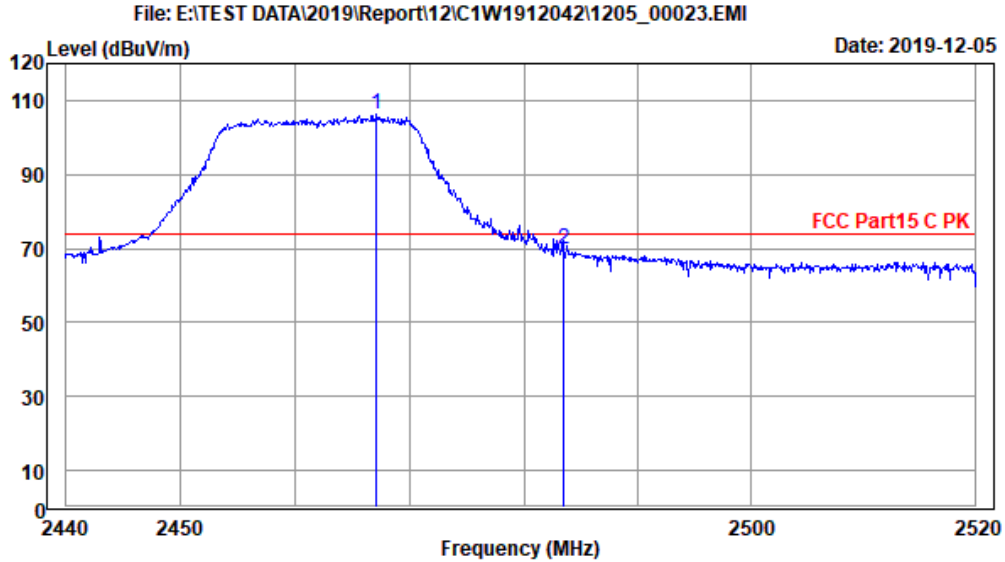
| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBuV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBuV/m | Limits<br>dBuV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 2390.00      | 33.28                  | 3.41                | 37.79           | 33.66                  | 40.82                       | 54.00            | 13.18        | Average |
| 2413.12      | 33.33                  | 3.42                | 81.23           | 33.66                  | 84.32                       | 54.00            | -30.32       | Average |

Remarks: Emission Level = Antenna factor + Cable loss + Reading - Preamp Factor

|      |             |           |            |
|------|-------------|-----------|------------|
| Mode | 802.11nHT20 | Frequency | TX 2462MHz |
|------|-------------|-----------|------------|



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Site NO. : NO.2 3M chamber  
Dis. / Ant. : 3117-586-1902  
Limit : FCC Part15 C PK  
Env. / Ins. : 17°C & 46% /ESR  
EUT : Wi-Fi Kit  
M/N : Wi-Fi Kit  
Power Rating : DC 5V  
Test Mode : TX 802.11nHT20 2462MHz  
Memo :

Ant. pol.: Horizontal Data NO.:23  
Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBUV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBUV/m | Limits<br>dBUV/m | Margin<br>dB | Remark |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|--------|
| 2467.04      | 33.43                  | 3.46                | 103.13          | 33.65                  | 106.37                      | 74.00            | -32.37       | Peak   |
| 2483.50      | 33.47                  | 3.48                | 66.63           | 33.65                  | 69.93                       | 74.00            | 4.07         | Peak   |

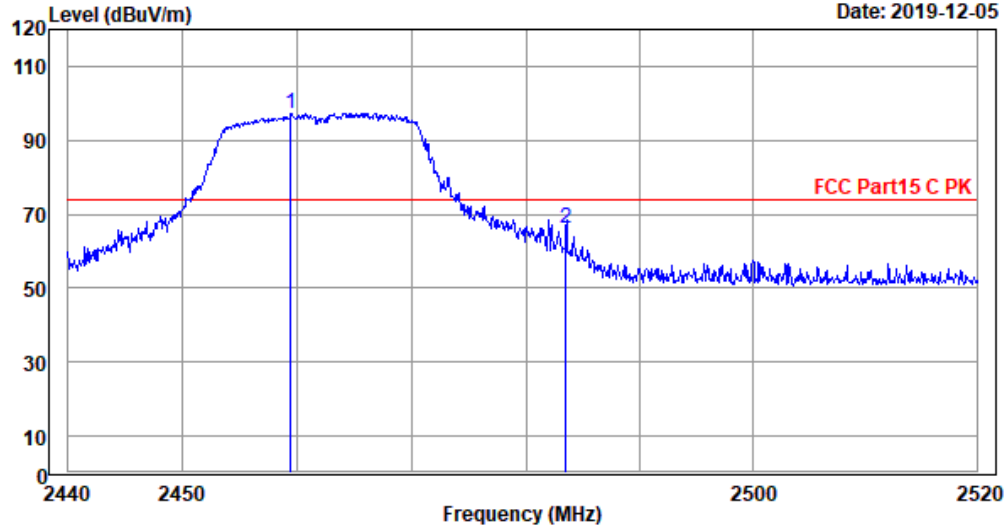
Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor



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Date: 2019-12-05



Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C PK  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11nHT20 2462MHz  
 Memo :

Ant. pol.: Vertical Data NO.:25  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBUV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBUV/m | Limits<br>dBUV/m | Margin<br>dB | Remark |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|--------|
| 2459.44      | 33.42                  | 3.46                | 94.16           | 33.65                  | 97.39                       | 74.00            | -23.39       | Peak   |
| 2483.50      | 33.47                  | 3.48                | 63.07           | 33.65                  | 66.37                       | 74.00            | 7.63         | Peak   |

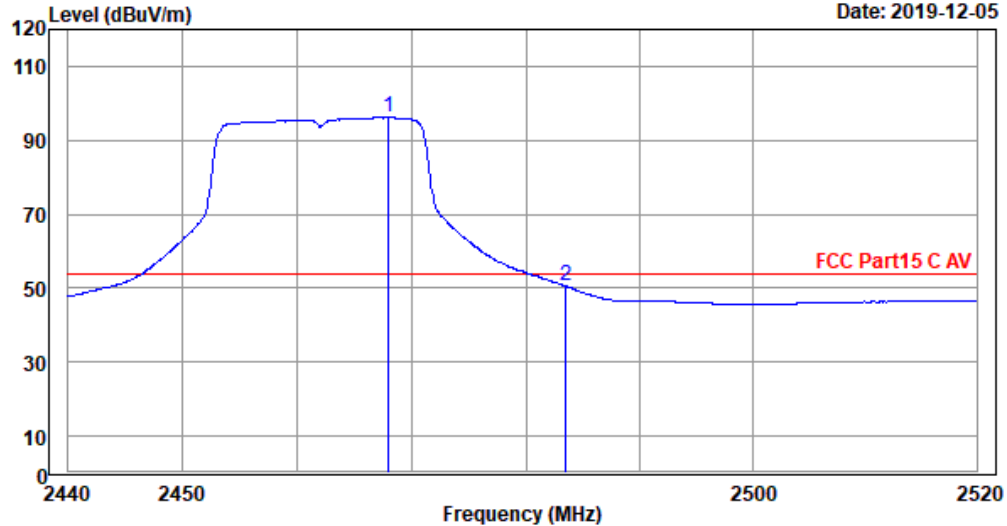
Remarks: Emission Level = Antenna factor + Cable loss + Reading - Preamp Factor



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Date: 2019-12-05



Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C AV  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11nHT20 2462MHz  
 Memo :

Ant. pol.: Horizontal Data NO.:24  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBUV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBUV/m | Limits<br>dBUV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 2467.92      | 33.44                  | 3.47                | 92.83           | 33.65                  | 96.09                       | 54.00            | -42.09       | Average |
| 2483.50      | 33.47                  | 3.48                | 47.22           | 33.65                  | 50.52                       | 54.00            | 3.48         | Average |

Remarks:Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor

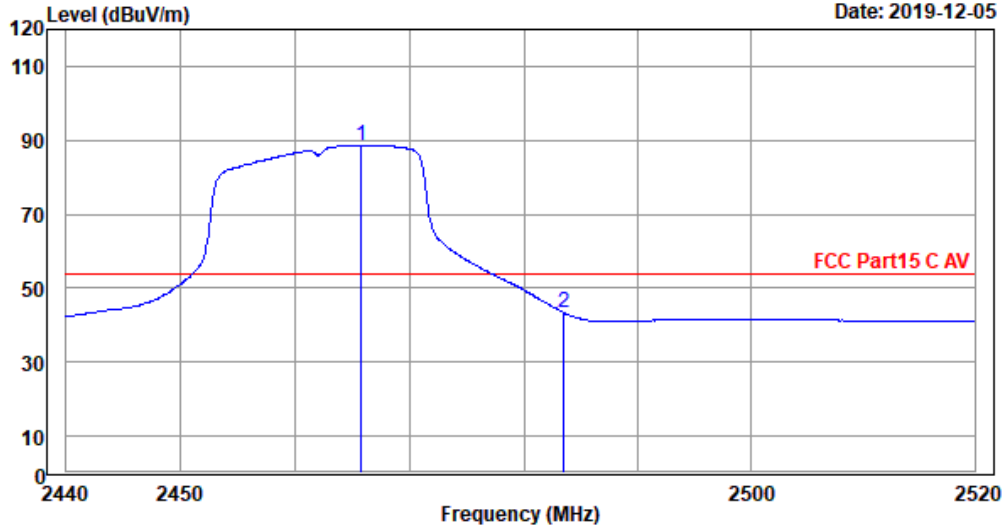




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Date: 2019-12-05



Site NO. : NO.2 3M chamber  
 Dis. / Ant. : 3117-586-1902  
 Limit : FCC Part15 C AV  
 Env. / Ins. : 17°C & 46% /ESR  
 EUT : Wi-Fi Kit  
 M/N : Wi-Fi Kit  
 Power Rating : DC 5V  
 Test Mode : TX 802.11nHT20 2462MHz  
 Memo :

Ant. pol.: Vertical Data NO.:26  
 Engineer : Xiayankai

| Freq.<br>MHz | Ant.<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Reading<br>dBUV | Preamp<br>Factor<br>dB | Emission<br>Level<br>dBUV/m | Limits<br>dBUV/m | Margin<br>dB | Remark  |
|--------------|------------------------|---------------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------|
| 2465.76      | 33.43                  | 3.46                | 85.45           | 33.65                  | 88.69                       | 54.00            | -34.69       | Average |
| 2483.50      | 33.47                  | 3.48                | 40.01           | 33.65                  | 43.31                       | 54.00            | 10.69        | Average |

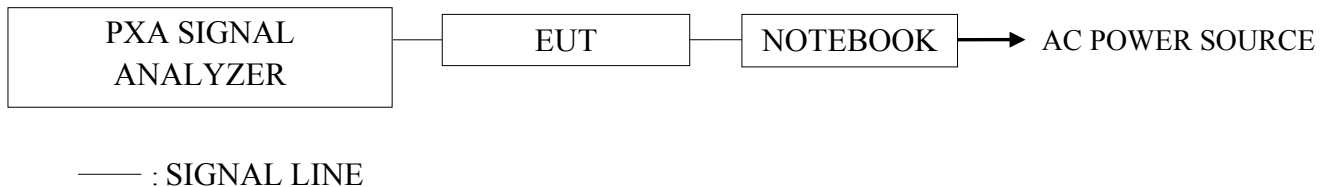
Remarks: Emission Level = Antenna factor+Cable loss+Reading-Preamp Factor

## 6. 6dB BANDWIDTH MEASUREMENT

### 6.1. Test Equipment

| Item | Type                | Manufacturer | Model No. | Serial No. | Cal. Date  | Cal. Period |
|------|---------------------|--------------|-----------|------------|------------|-------------|
| 1.   | PXA signal analyzer | Agilent      | N9030A    | MY53120217 | 2019-04-12 | 1 Year      |

### 6.2. Block Diagram of Test Setup



### 6.3. Specification Limits

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

### 6.4. Test Procedure

Following measurement procedure is reference to KDB 558074 D01 DTS Meas Guidance v05:

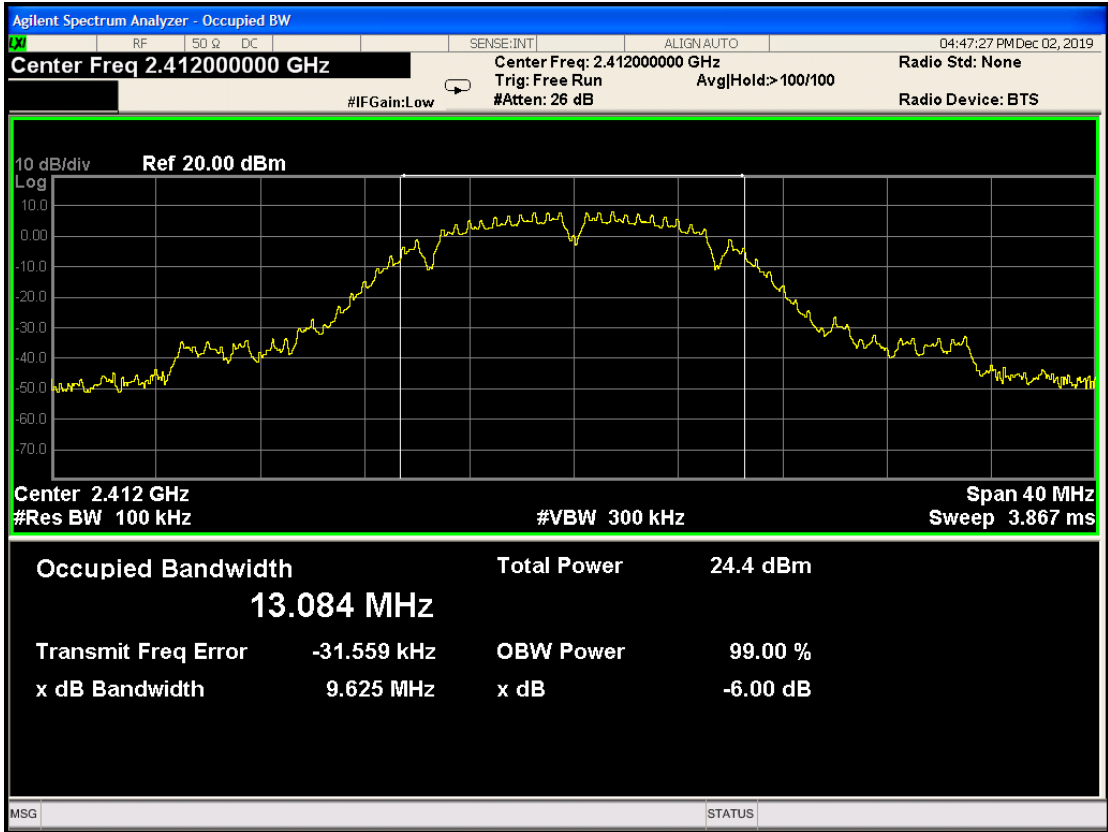
- (1) Set RBW = 100 kHz.
- (2) Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
- (3) Detector = Peak.
- (4) Trace mode = max hold.
- (5) Sweep = auto couple.
- (6) Allow the trace to stabilize.
- (7) Setting channel bandwidth function x dB to -6 dB to record the final bandwidth.

### 6.5. Test Results

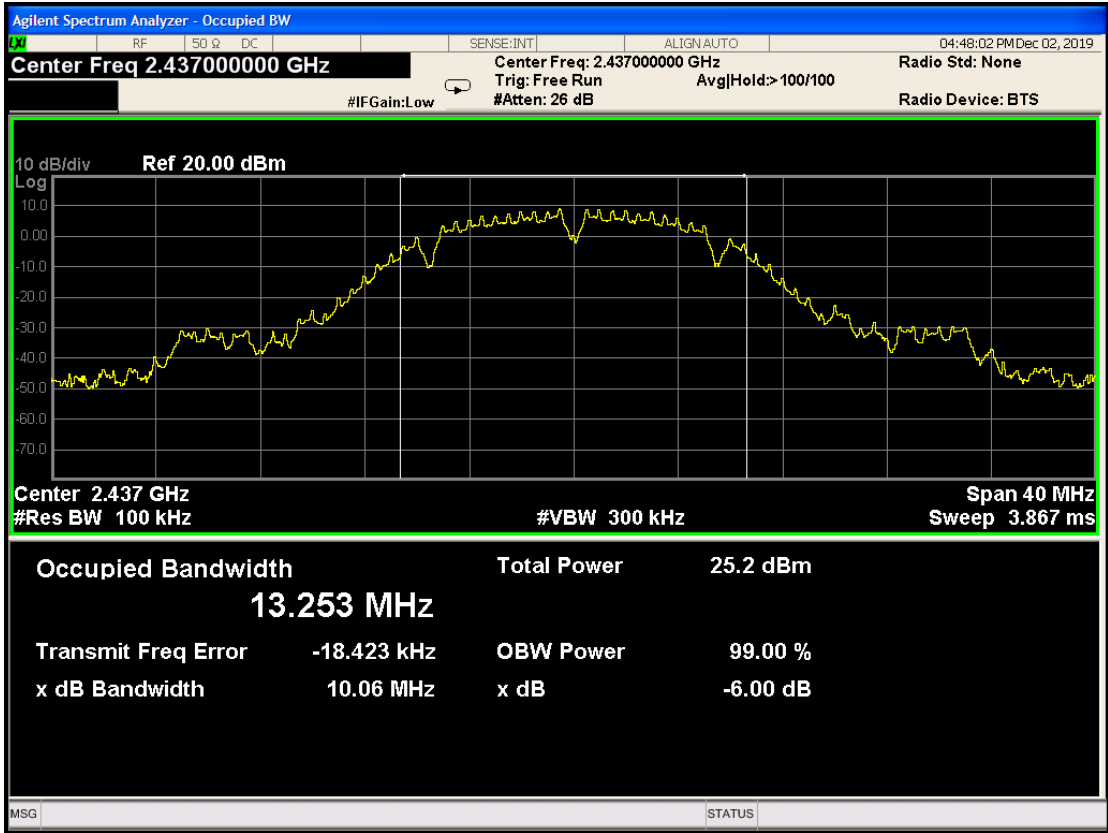
**PASSED.** All the test results are attached in next pages.

| Item        | Channel | Test Frequency (MHz) | 6dB Bandwidth (MHz) |
|-------------|---------|----------------------|---------------------|
| 802.11b     | 1       | 2412                 | 9.625               |
|             | 6       | 2437                 | 10.06               |
|             | 11      | 2462                 | 10.10               |
| 802.11g     | 1       | 2412                 | 16.34               |
|             | 6       | 2437                 | 16.37               |
|             | 11      | 2462                 | 16.35               |
| 802.11nHT20 | 1       | 2412                 | 17.35               |
|             | 6       | 2437                 | 17.33               |
|             | 11      | 2462                 | 17.28               |

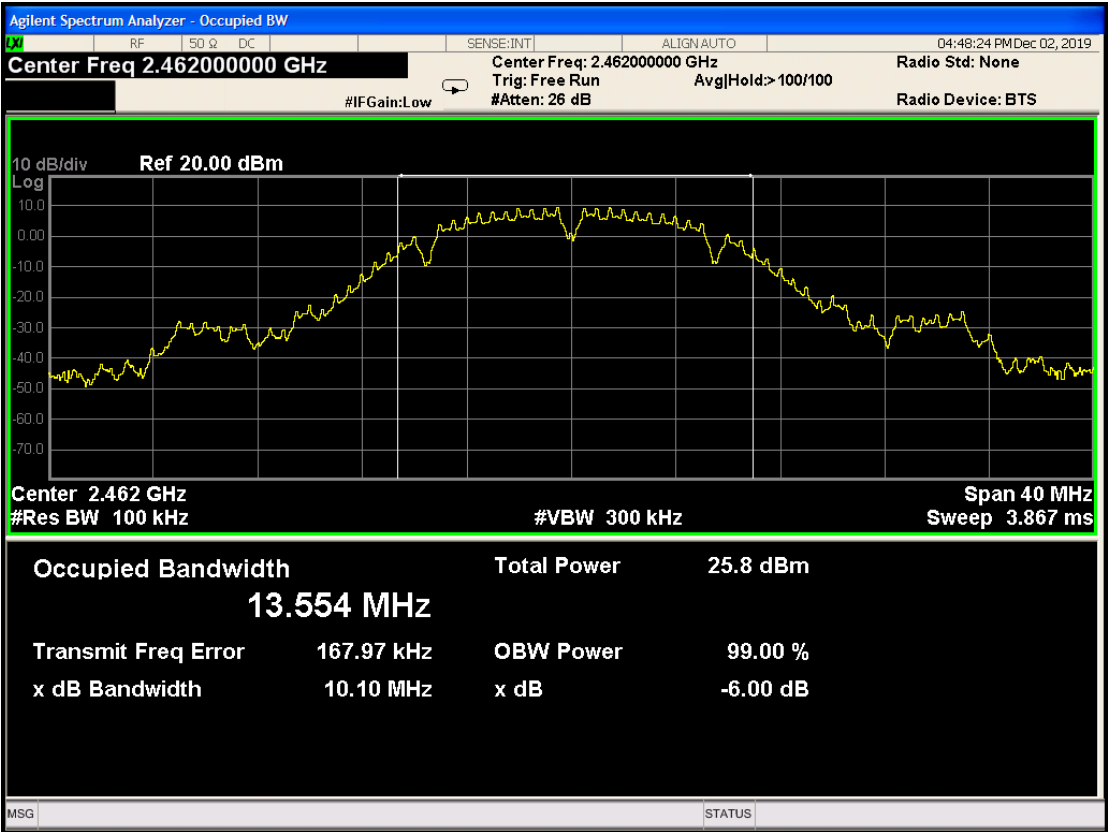
802.11b CH1



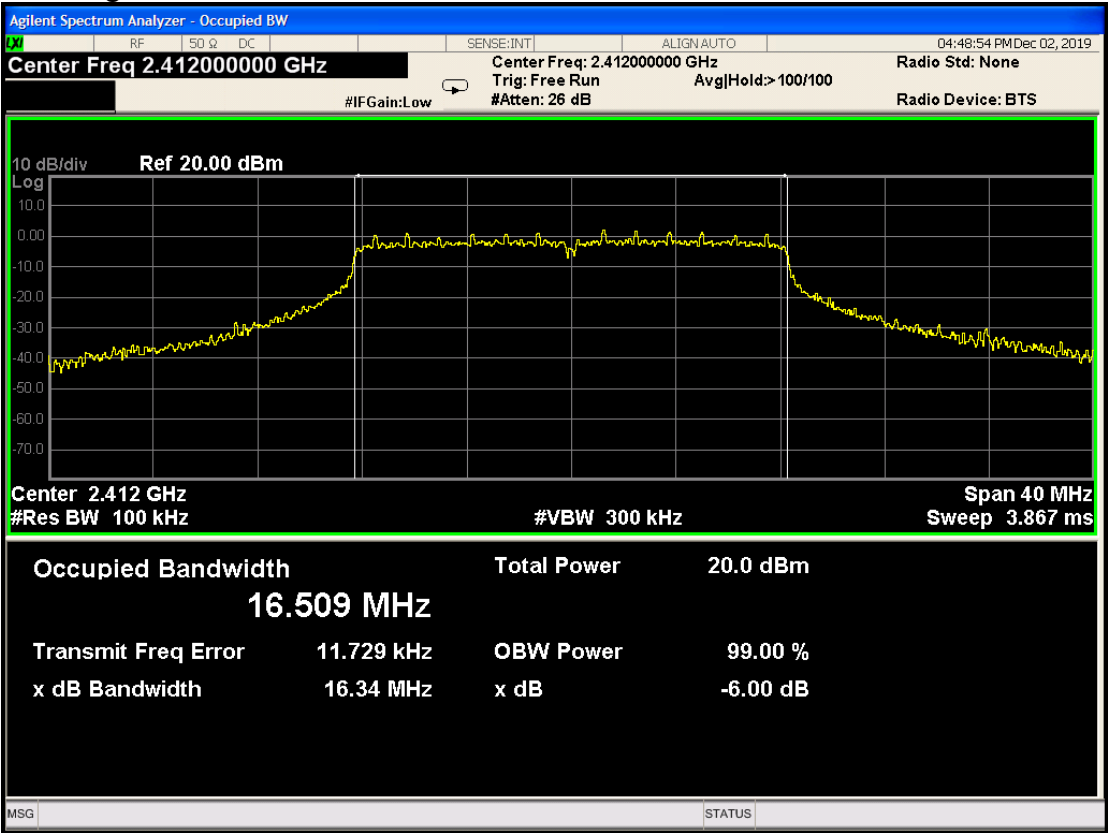
802.11b CH6



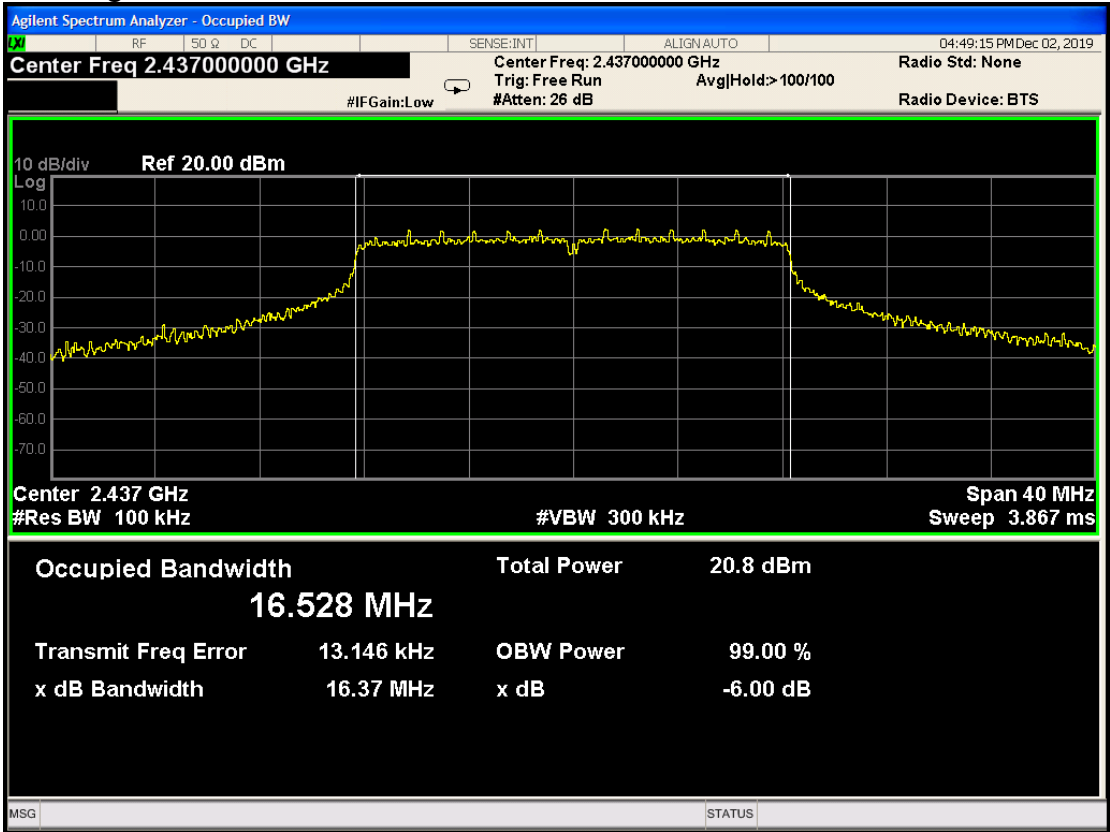
802.11b CH11



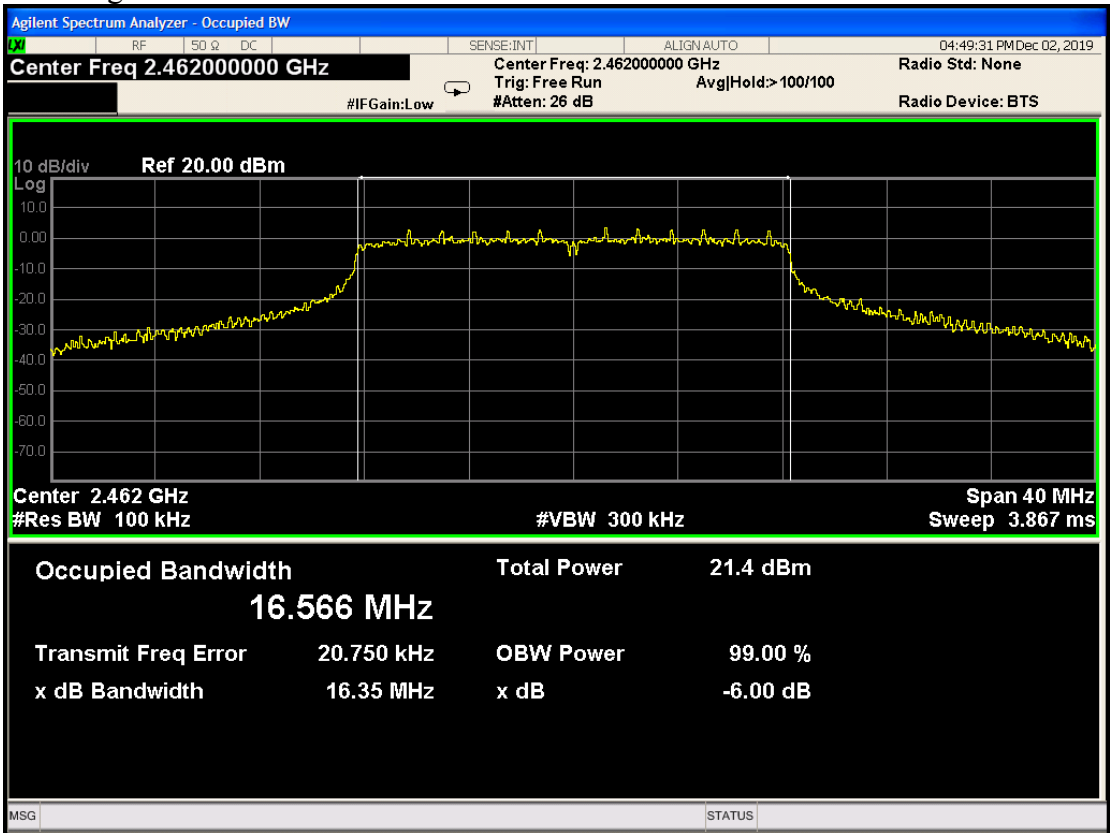
802.11g CH1



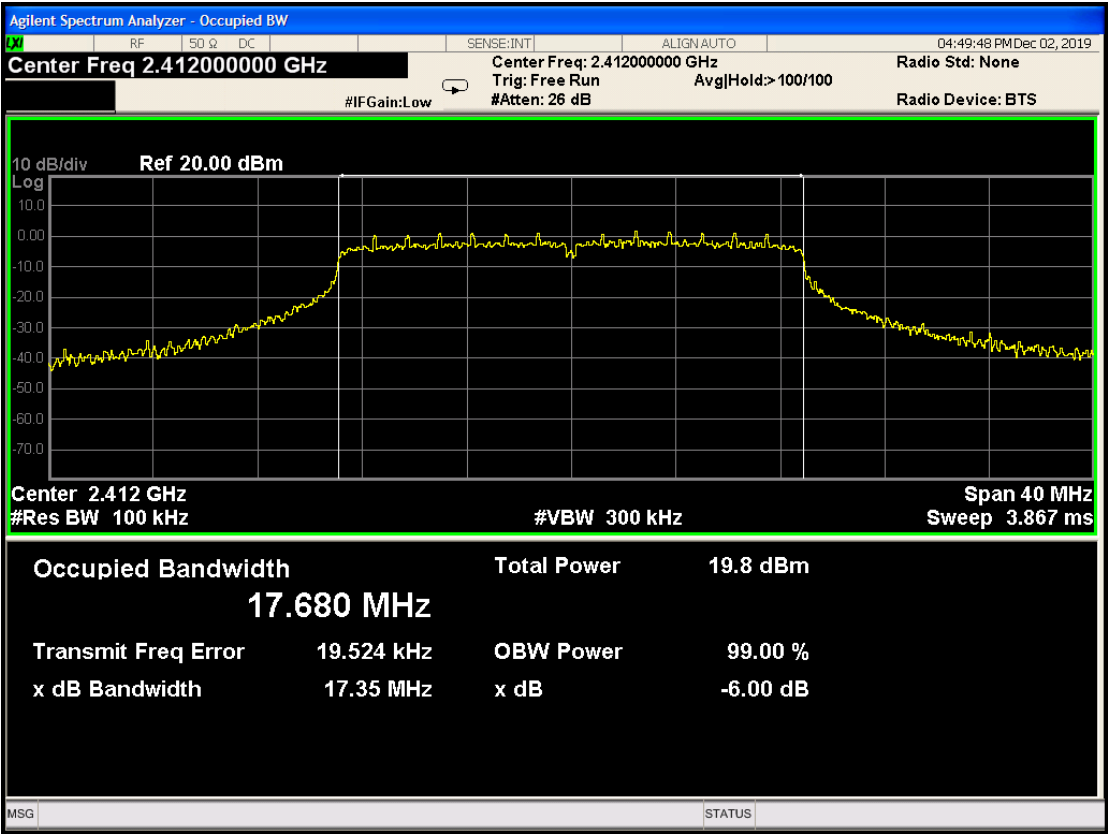
802.11g CH6



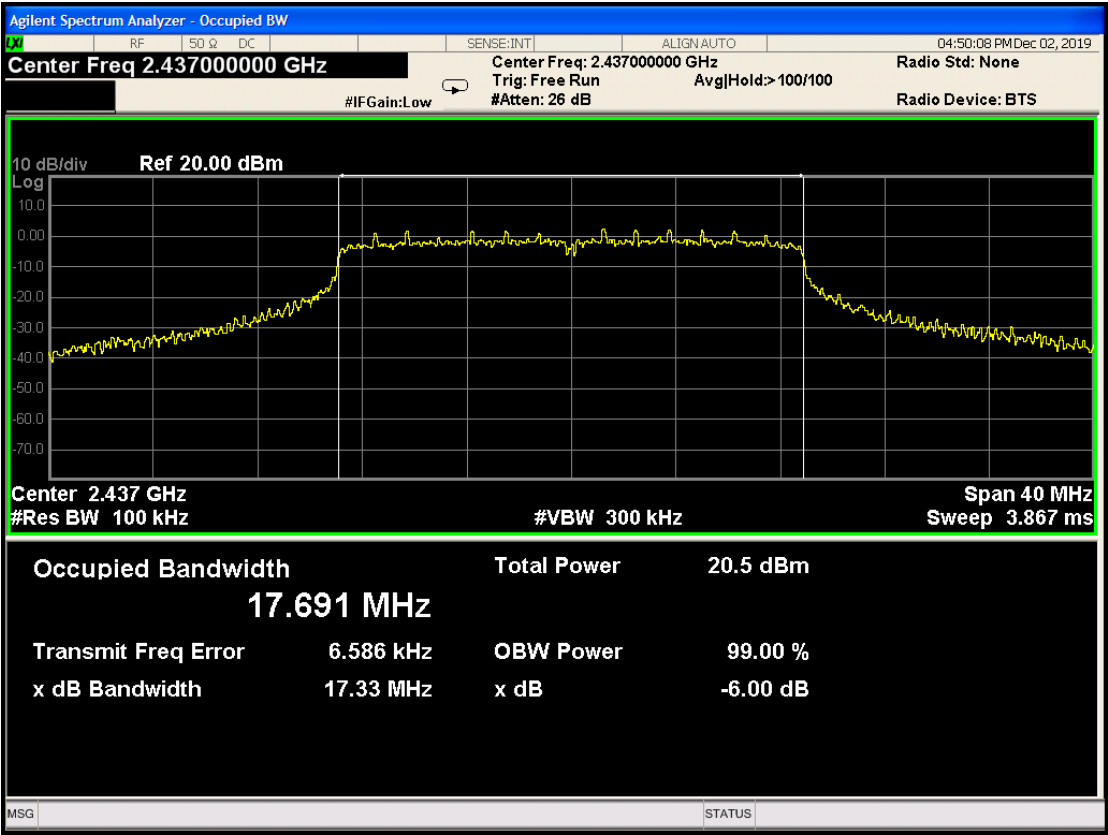
802.11g CH11



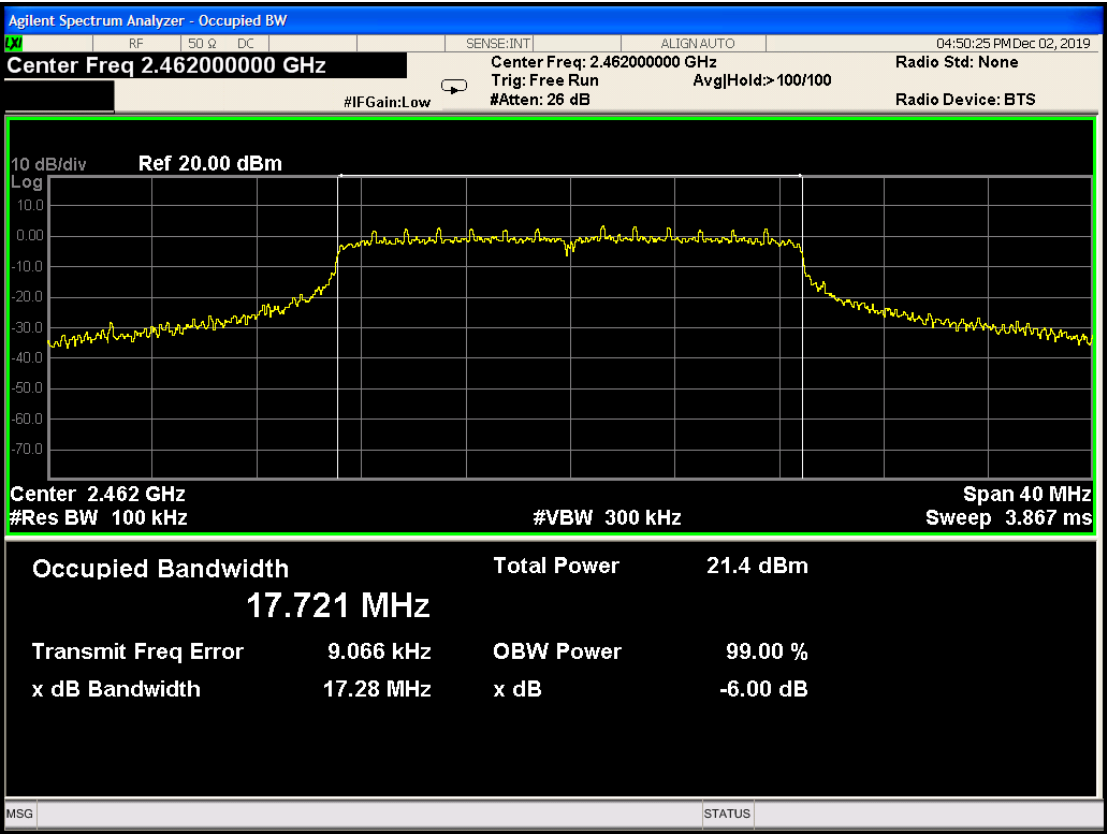
802.11nHT20 CH1



802.11nHT20 CH6



802.11nHT20 CH11

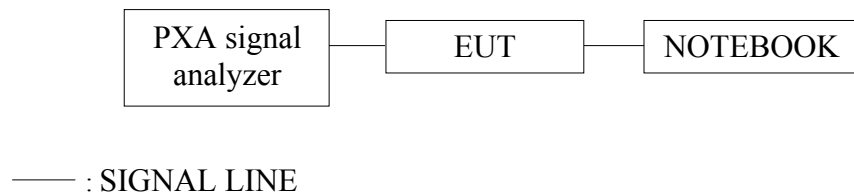


## 7. OUTPUT POWER MEASUREMENT

### 7.1. Test Equipment

| Item | Type                | Manufacturer | Model No. | Serial No. | Cal. Date  | Cal. Period |
|------|---------------------|--------------|-----------|------------|------------|-------------|
| 1.   | PXA signal analyzer | Agilent      | N9030A    | MY53120217 | 2019-04-12 | 1 Year      |

### 7.2. Block Diagram of Test Setup



### 7.3. Specification Limits (§15.247(b)(3))

The Limits of maximum Peak Output Power for digital modulation in 2400-2483.5MHz is : 1Watt. (30dBm), and E.I.R.P.: 4Watt (36dBm)

### 7.4. Test Procedure

Following measurement procedure is reference to KDB 558074 D01 DTS Meas Guidance v05:

#### ☐ Method AVGSA-2 (Spectrum channel power)

- (1) Set span to at least 1.5 times the OBW
- (2) Set RBW = 1 -5% of OBW
- (3) Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
- (4) Detector = RMS.
- (5) Trace mode = trace average at least 100 traces
- (6) Sweep = auto couple.
- (7) Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function with band limits set equal to the OBW band edges.
- (8) Duty cycle factor is added when duty cycle presented in chapter3.5 is  $< 98\%$ .

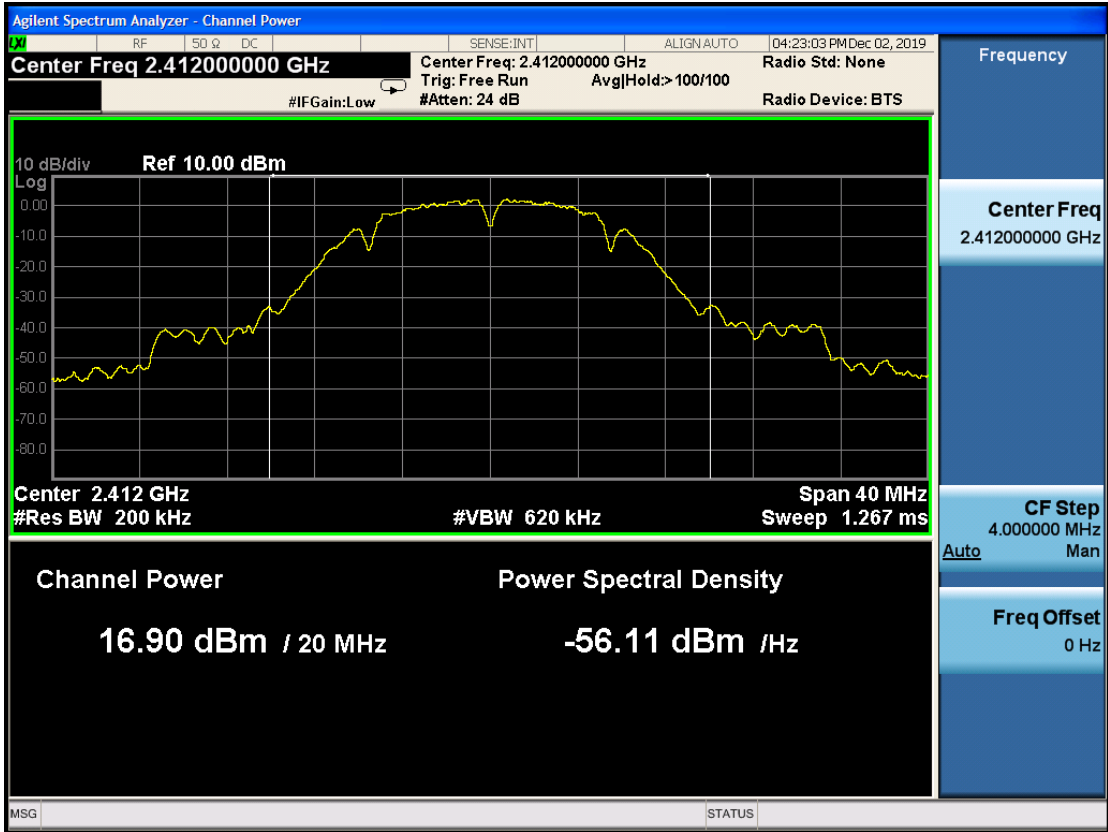


## 7.5. Test Results

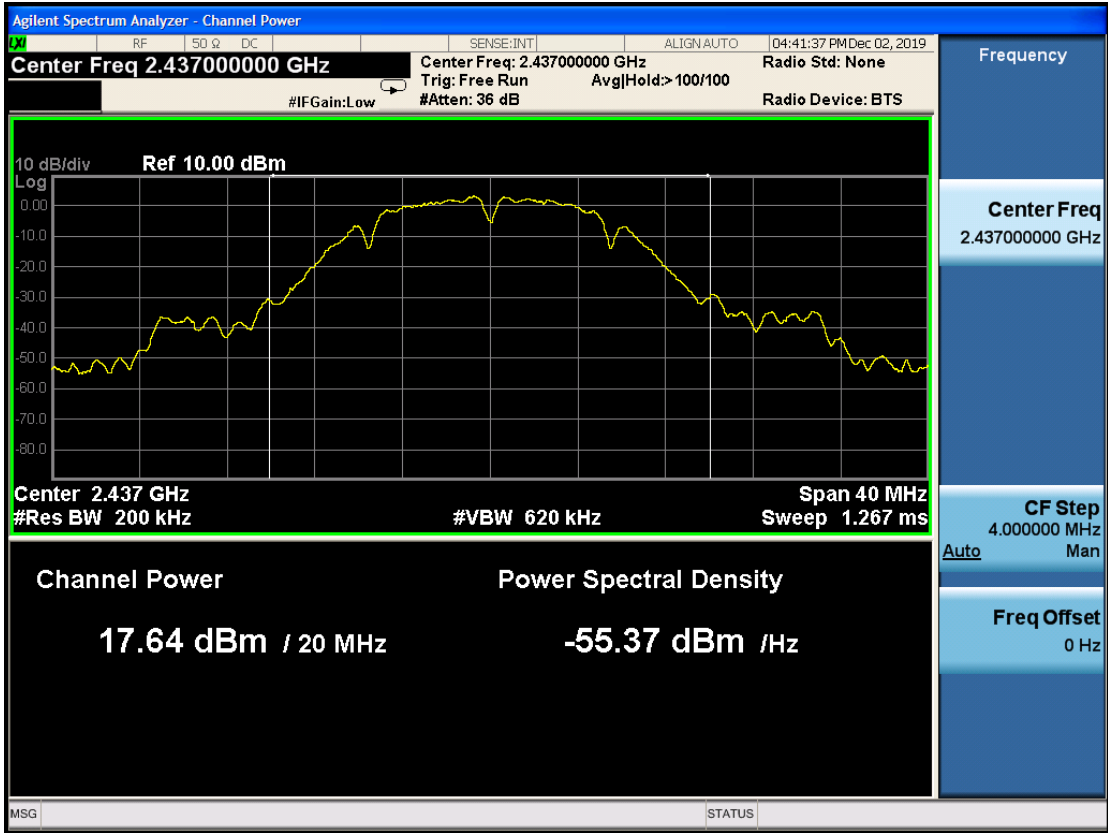
**PASSED.**

| Mode     | Frequency | Duty Cycle Factor | Reading (dBm) | Average Output Power (dBm) | Limit (dBm) |
|----------|-----------|-------------------|---------------|----------------------------|-------------|
| 11b      | 2412      | 0.13              | 16.90         | 17.03                      | 30          |
|          | 2437      |                   | 17.64         | 17.77                      |             |
|          | 2462      |                   | 18.18         | 18.31                      |             |
| 11g      | 2412      | 0.22              | 12.63         | 12.85                      |             |
|          | 2437      |                   | 13.40         | 13.62                      |             |
|          | 2462      |                   | 14.12         | 14.34                      |             |
| 11n-HT20 | 2412      | 0.22              | 12.56         | 12.78                      |             |
|          | 2437      |                   | 13.26         | 13.48                      |             |
|          | 2462      |                   | 13.92         | 14.14                      |             |

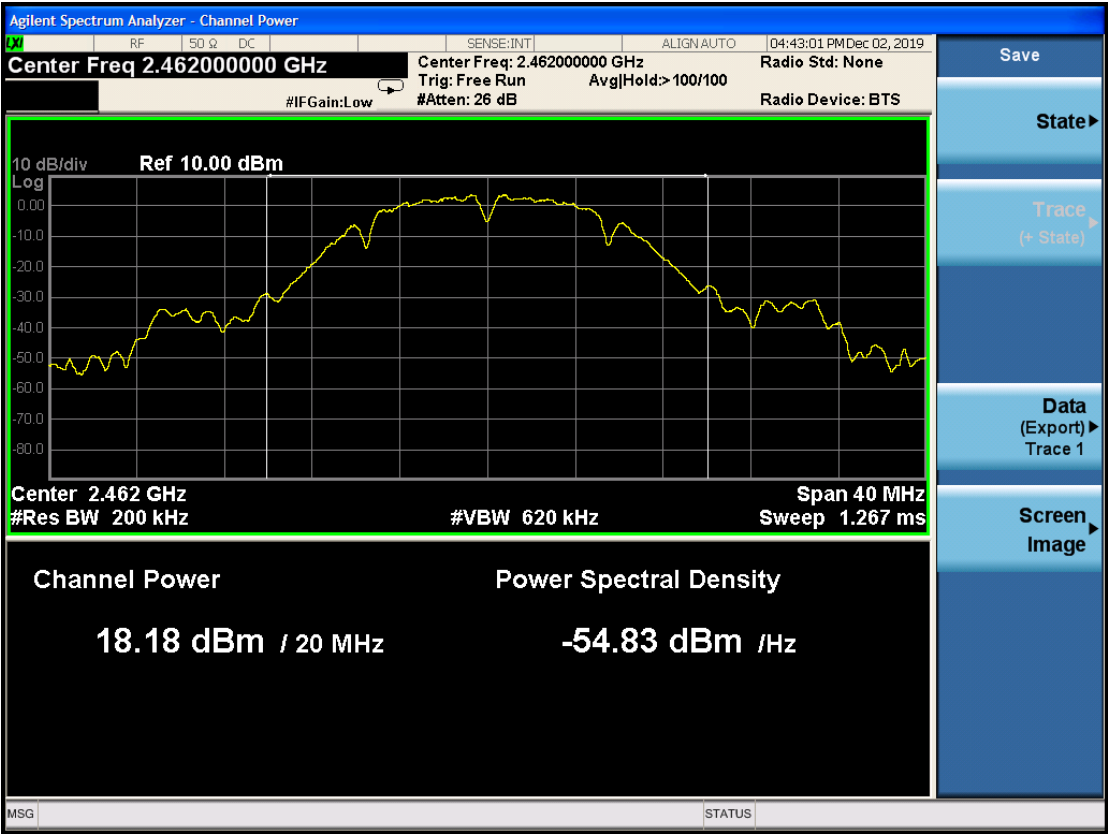
802.11b CH1



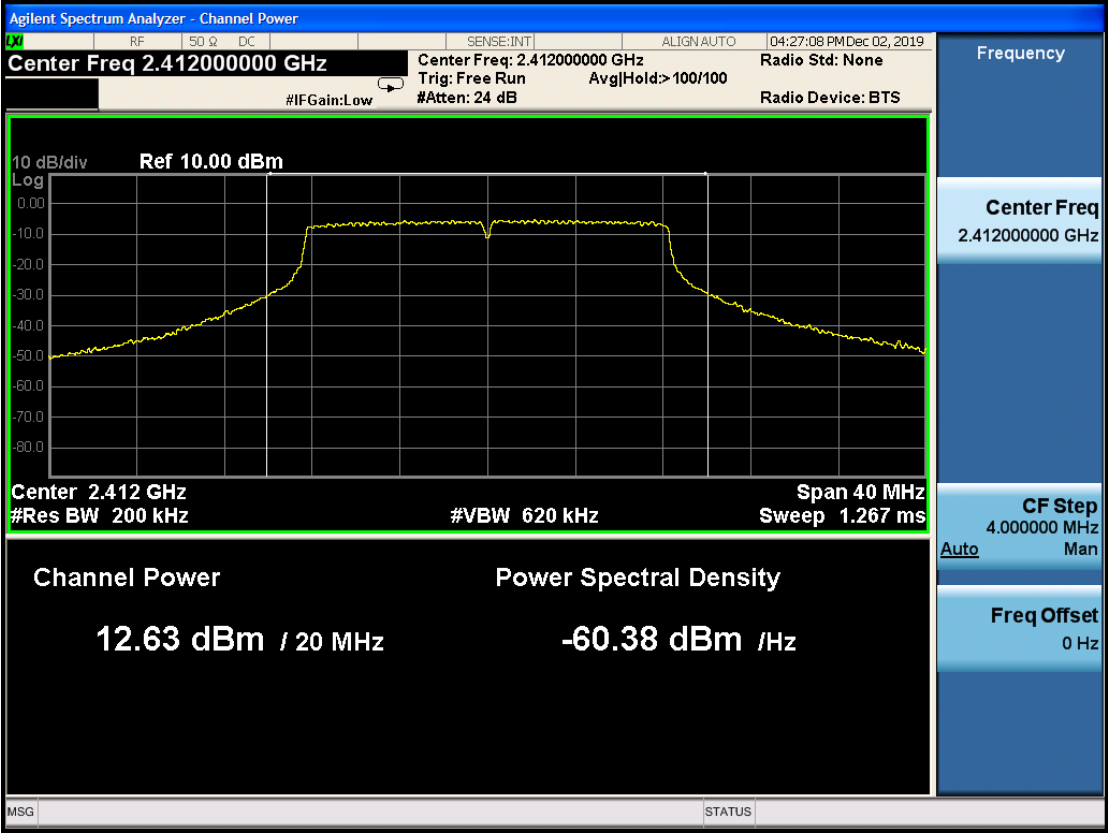
802.11b CH6



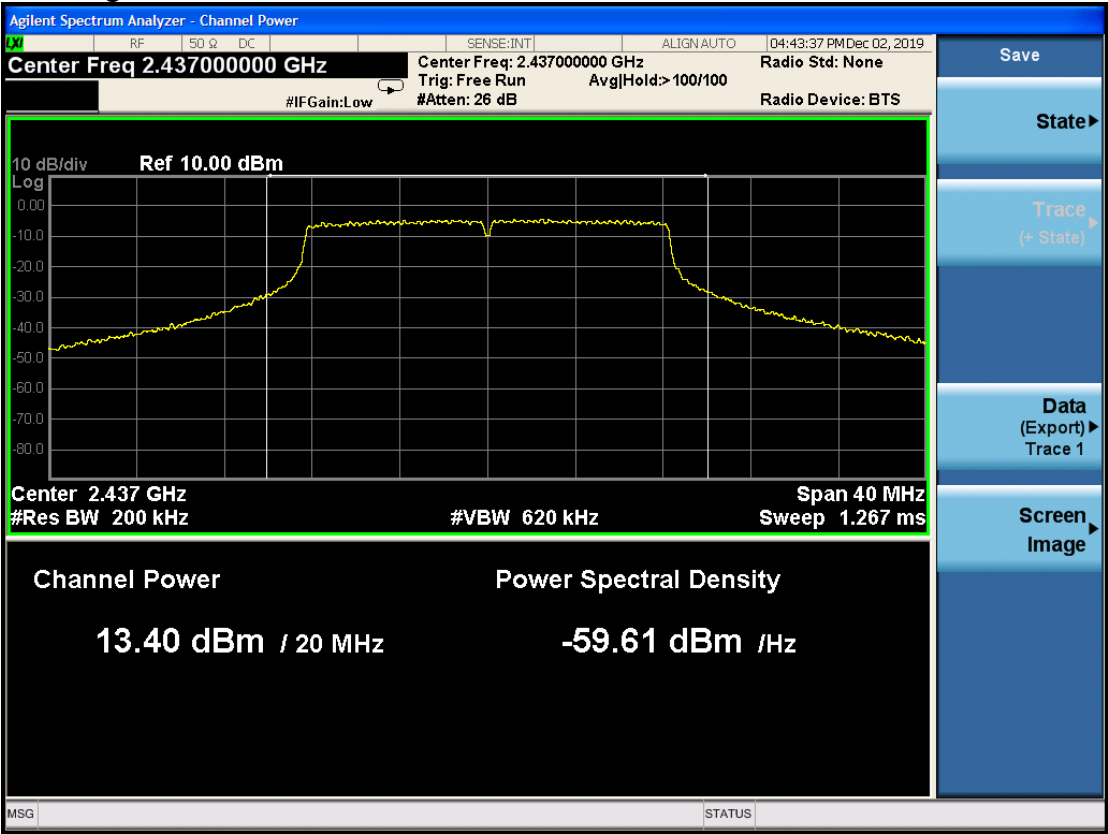
802.11b CH11



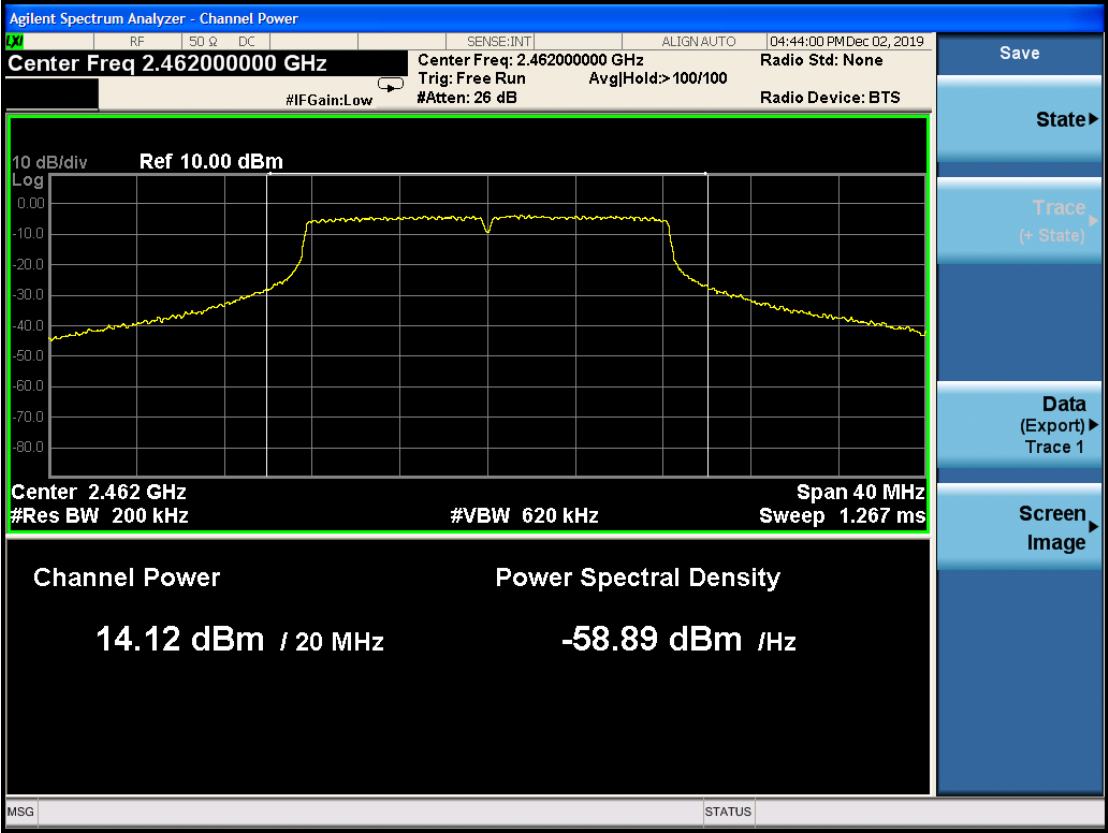
802.11g CH1



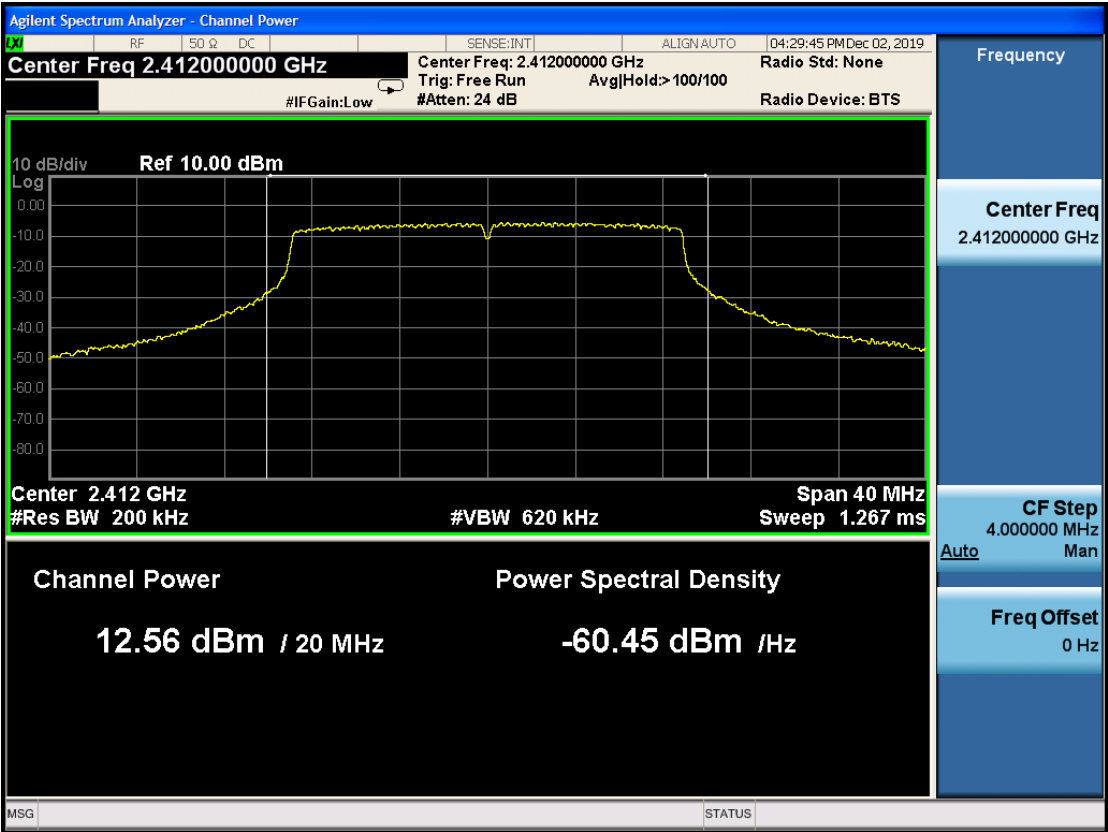
802.11g CH6



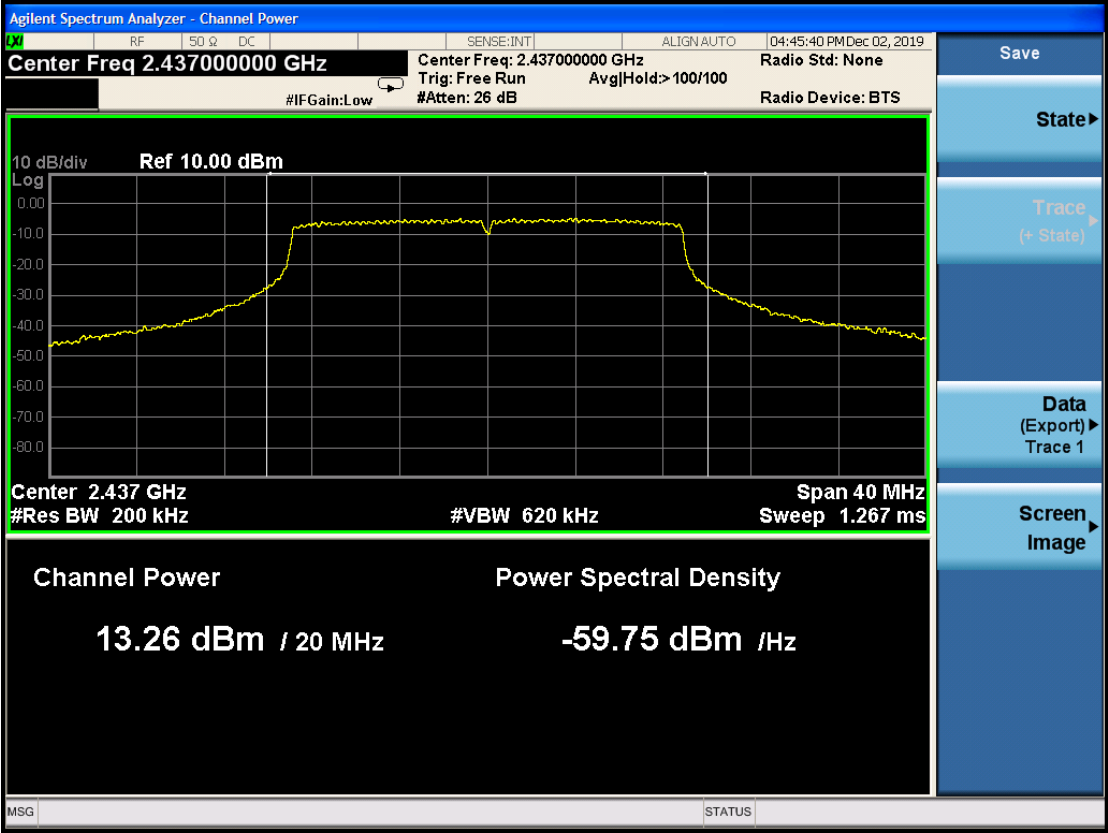
802.11g CH11



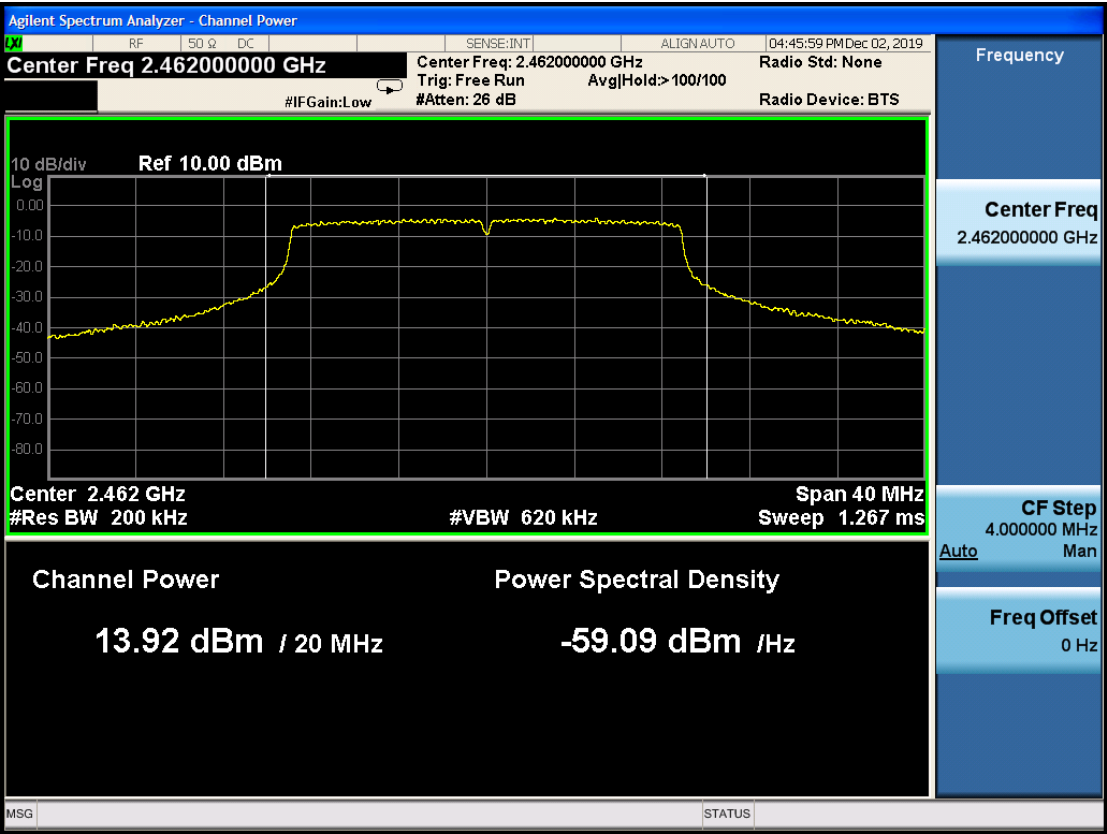
802.11nHT20 CH1



802.11nHT20 CH6



802.11nHT20 CH11



## 8. POWER SPECTRAL DENSITY MEASUREMENT

### 8.1. Test Equipment

| Item | Type                | Manufacturer | Model No. | Serial No. | Cal. Date  | Cal. Period |
|------|---------------------|--------------|-----------|------------|------------|-------------|
| 1.   | PXA signal analyzer | Agilent      | N9030A    | MY53120217 | 2019-04-12 | 1 Year      |

### 8.2. Block Diagram of Test Setup

The same as section 6.2.

### 8.3. Specification Limits

The peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band.

### 8.4. Test Procedure

- (1) Set analyzer center frequency to DTS channel center frequency.
- (2) Set the span to 1.5 times the DTS bandwidth.
- (3) Set the RBW to:  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ .
- (4) Set the VBW  $\geq 3 \times \text{RBW}$ .
- (5) Detector = peak.
- (6) Sweep time = auto couple.
- (7) Trace mode = max hold.
- (8) Allow trace to fully stabilize.
- (9) Use the peak marker function to determine the maximum amplitude level.

### 8.5. Test Results

**PASSED.** All the test results are attached in next page.

| Item        | Channel | Frequency (MHz) | Duty Cycle Factor | Reading (dBm) | Result (dBm) |
|-------------|---------|-----------------|-------------------|---------------|--------------|
| 802.11b     | 1       | 2412            | 0.13              | -6.735        | -6.605       |
|             | 6       | 2437            |                   | -5.507        | -5.377       |
|             | 11      | 2462            |                   | -4.635        | -4.505       |
| 802.11g     | 1       | 2412            | 0.22              | -11.196       | -10.976      |
|             | 6       | 2437            |                   | -11.985       | -11.765      |
|             | 11      | 2462            |                   | -10.726       | -10.506      |
| 802.11nHT20 | 1       | 2412            | 0.22              | -12.452       | -12.232      |
|             | 6       | 2437            |                   | -12.049       | -11.829      |
|             | 11      | 2462            |                   | -9.766        | -9.546       |

## 802.11b CH1



## 802.11b CH6

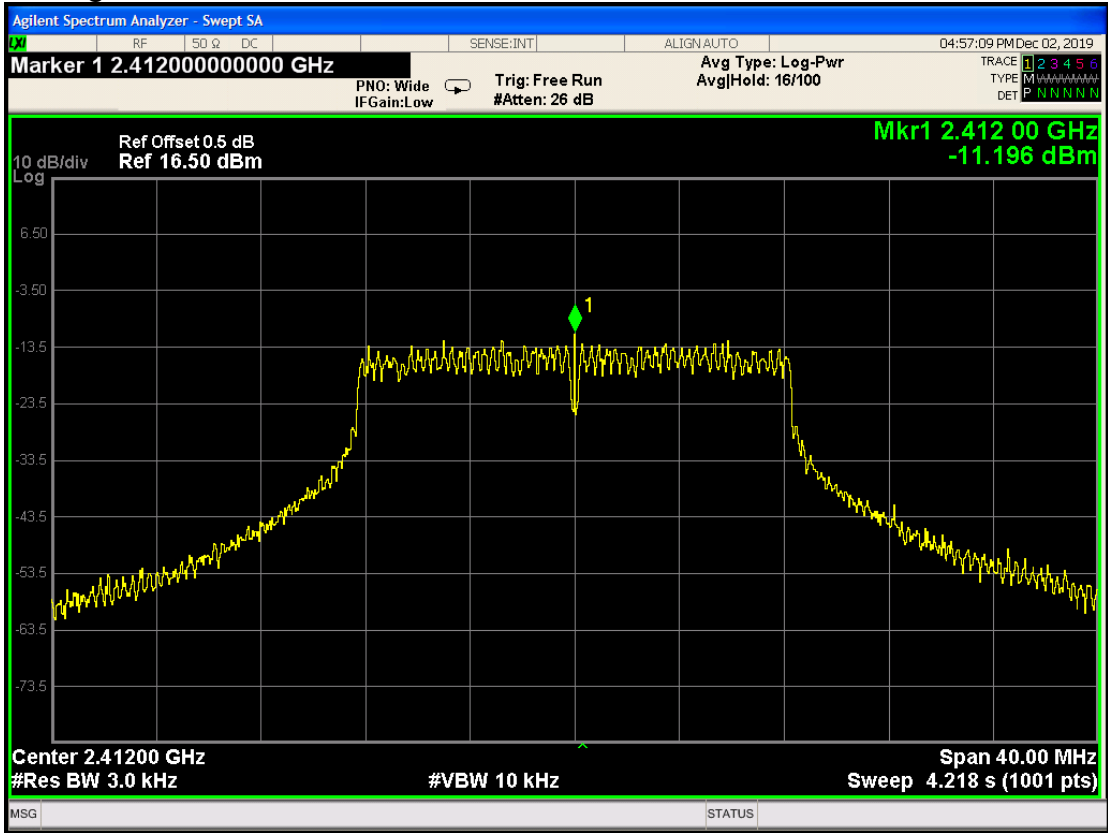




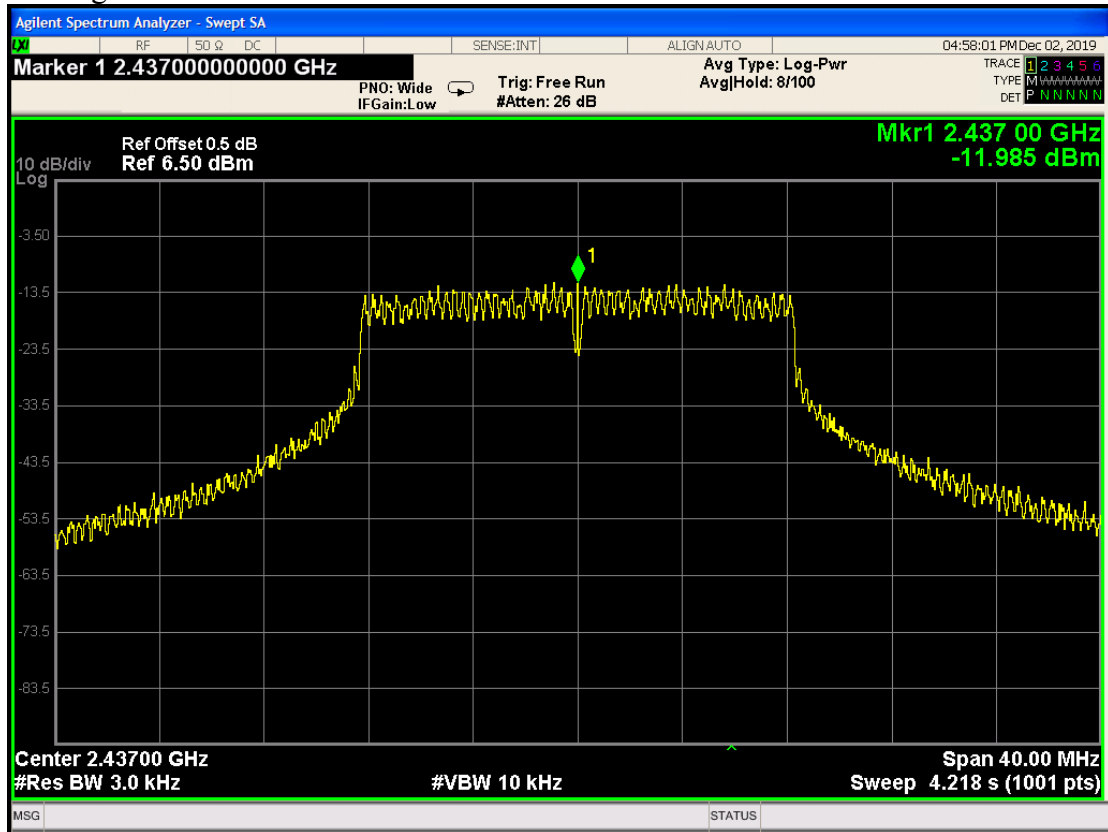
802.11b CH11



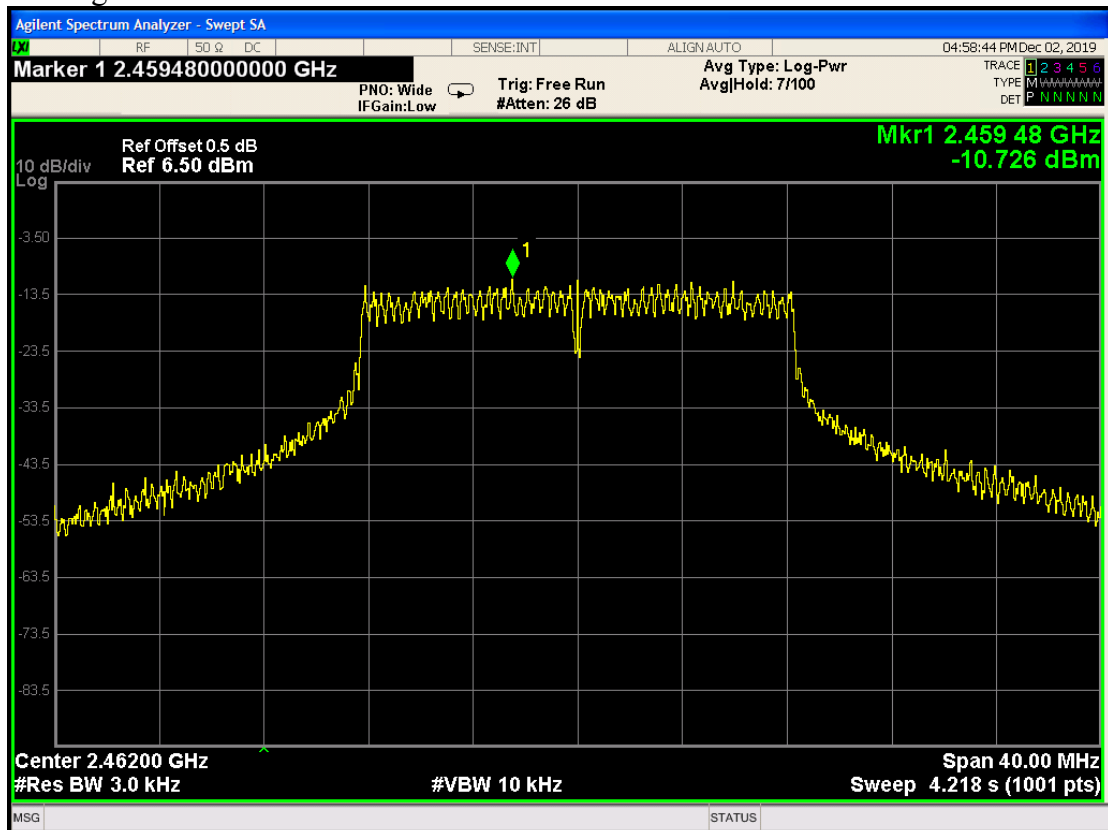
802.11g CH1



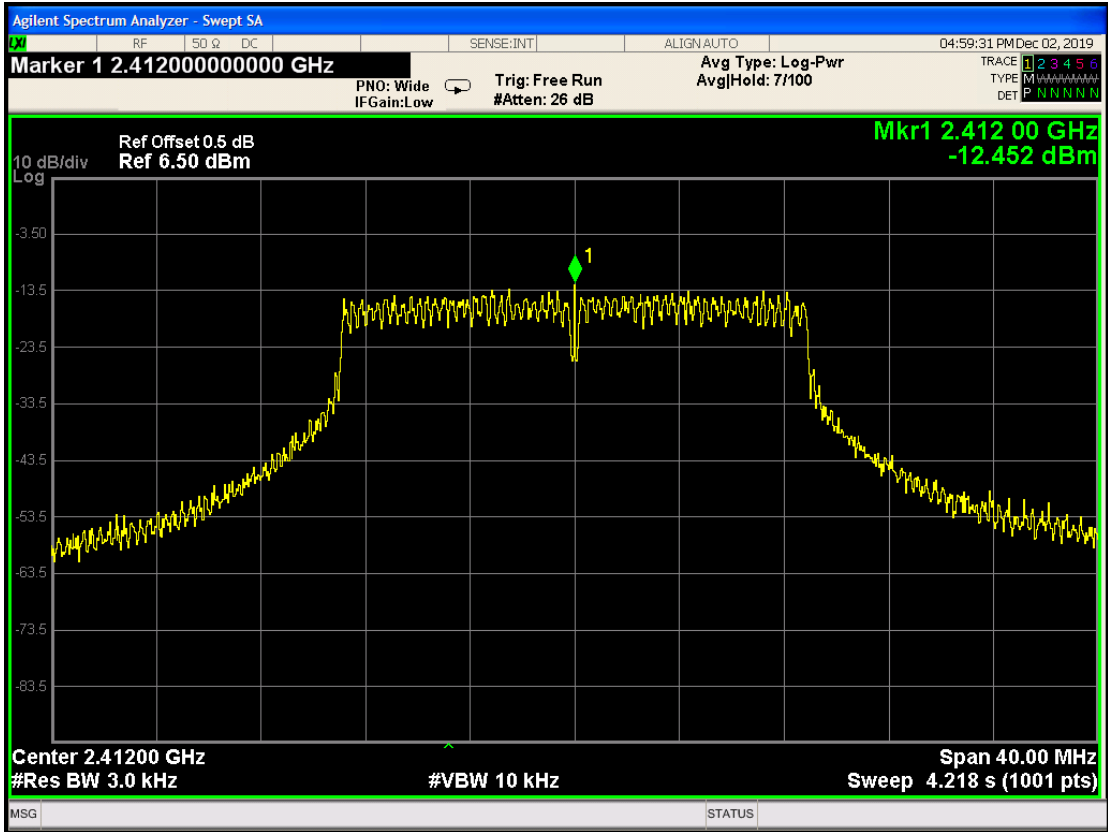
## 802.11g CH6



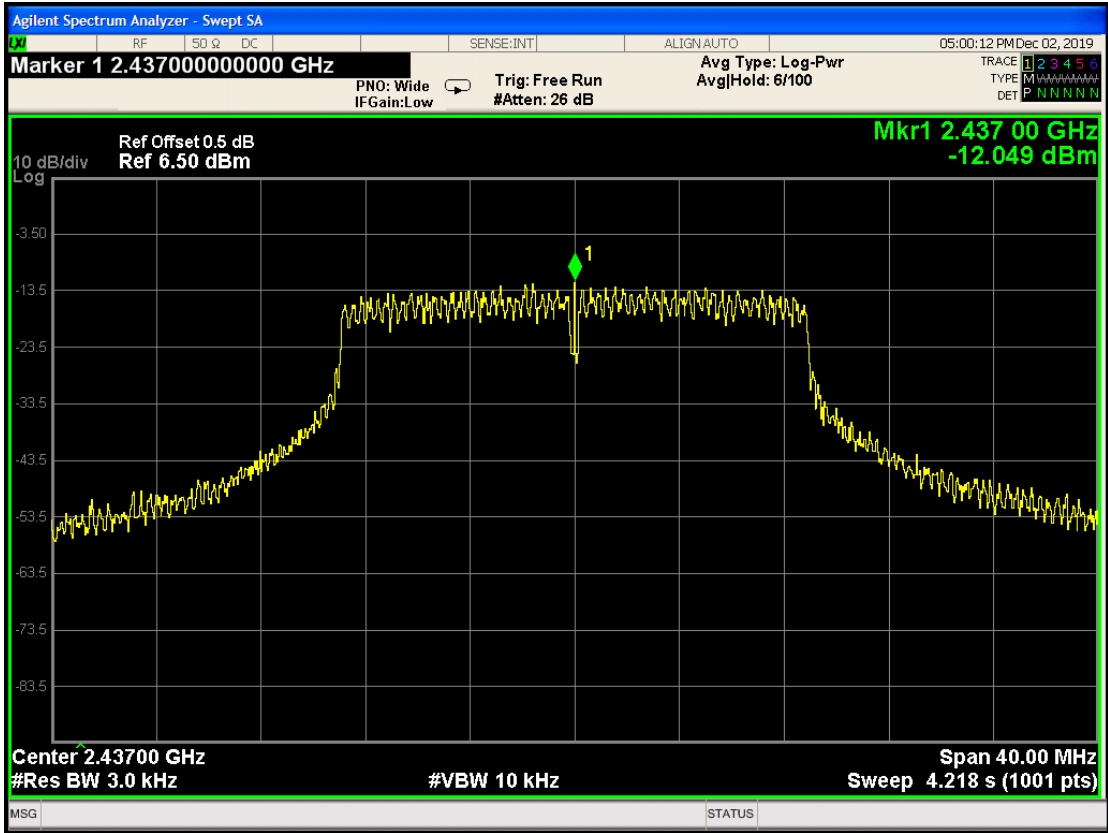
## 802.11g CH11



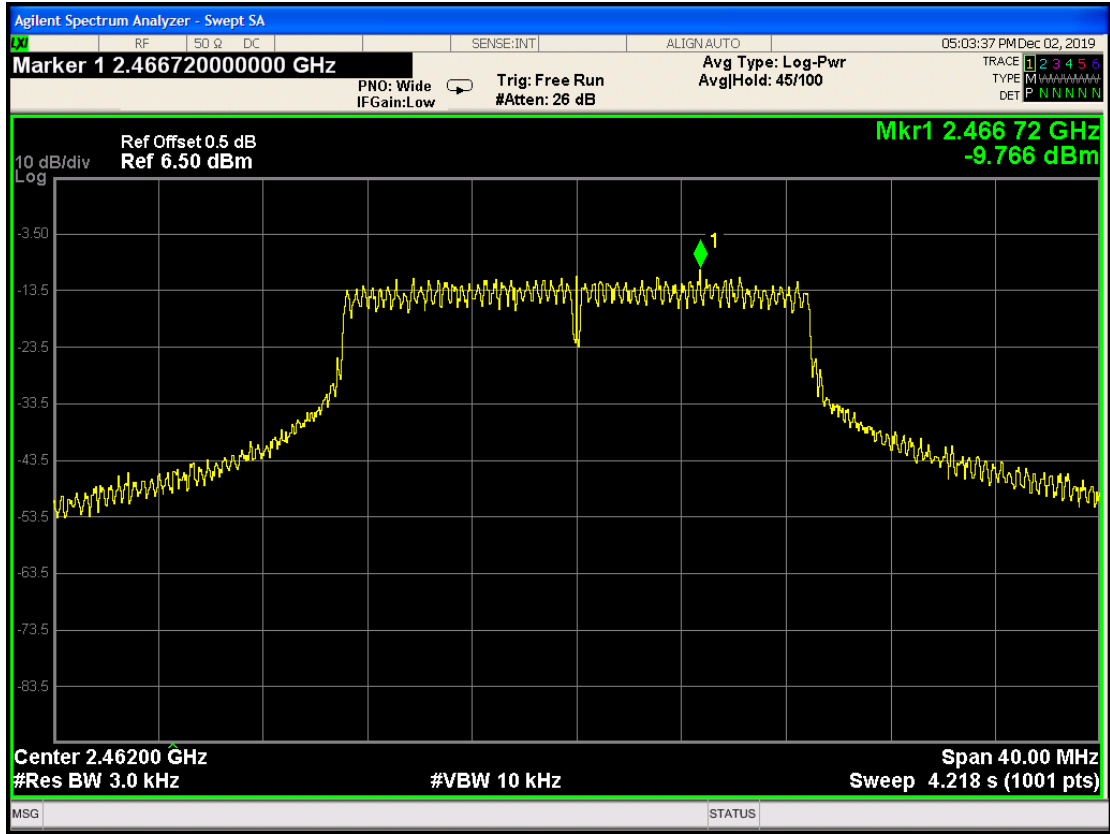
802.11nHT20 CH1



802.11nHT20 CH6



802.11nHT20 CH11



## 9. EMISSION LIMITATIONS MEASUREMENT

### 9.1. Test Equipment

| Item | Type                | Manufacturer | Model No. | Serial No. | Cal. Date  | Cal. Period |
|------|---------------------|--------------|-----------|------------|------------|-------------|
| 1.   | PXA signal analyzer | Agilent      | N9030A    | MY53120217 | 2019-04-12 | 1 Year      |

### 9.2. Block Diagram of Test Setup

The same as section 6.2.

### 9.3. Specification Limits

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, that the required attenuation shall be 30 dB instead of 20 dB.

### 9.4. Test Procedure

Following measurement procedure is reference to KDB 558074 D01 DTS Meas Guidance v05r02:

- (1) Set analyzer center frequency to DTS channel center frequency.
- (2) Set the span to 1.5 times the DTS bandwidth.
- (3) Set the RBW to: 100 kHz.
- (4) Set the VBW  $\geq 3 \times$  RBW.
- (5) Detector = peak.
- (6) Sweep time = auto couple.
- (7) Trace mode = max hold.
- (8) Allow trace to fully stabilize to find the max level.

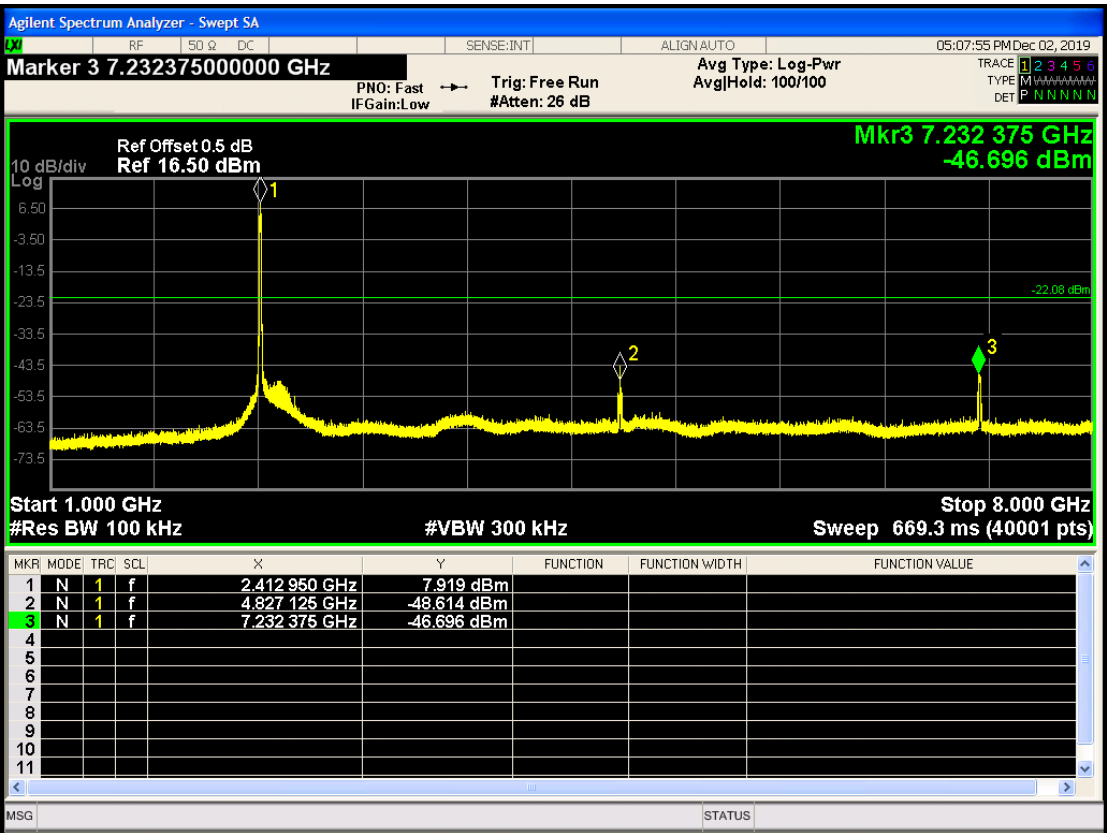
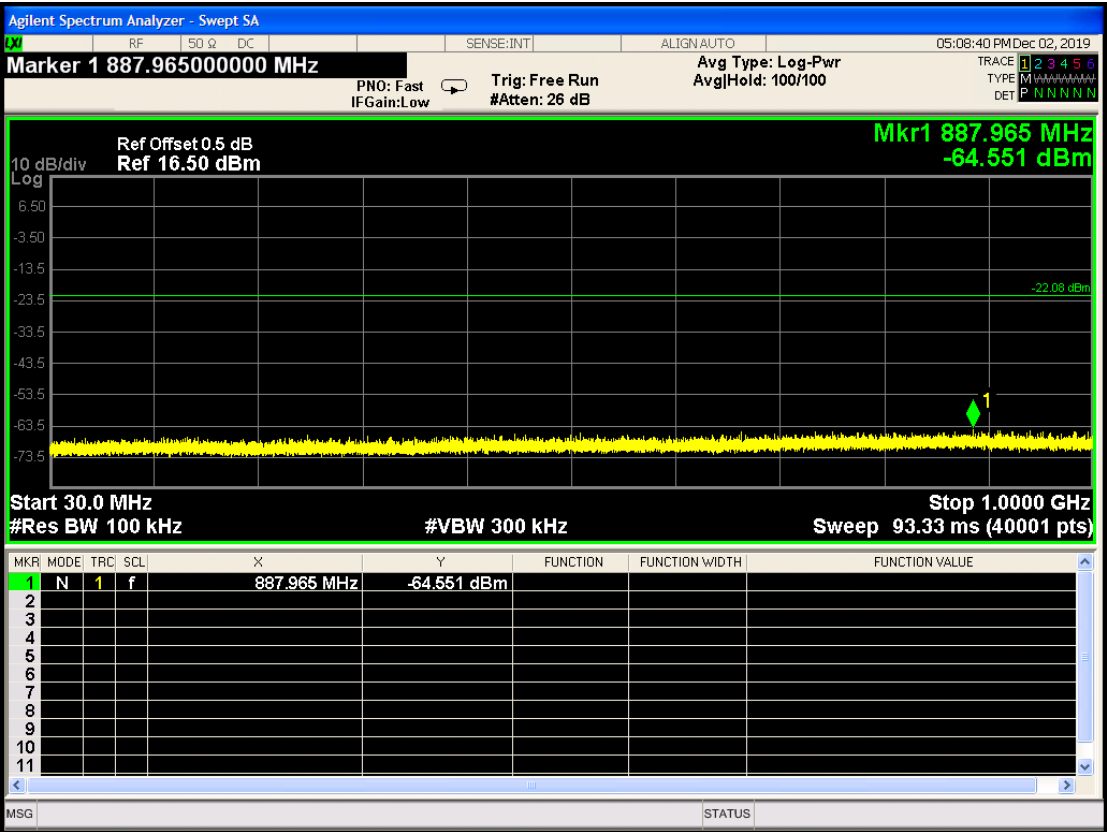
## 9.5. Test Results

**PASSED.** All the test results are attached in next pages.

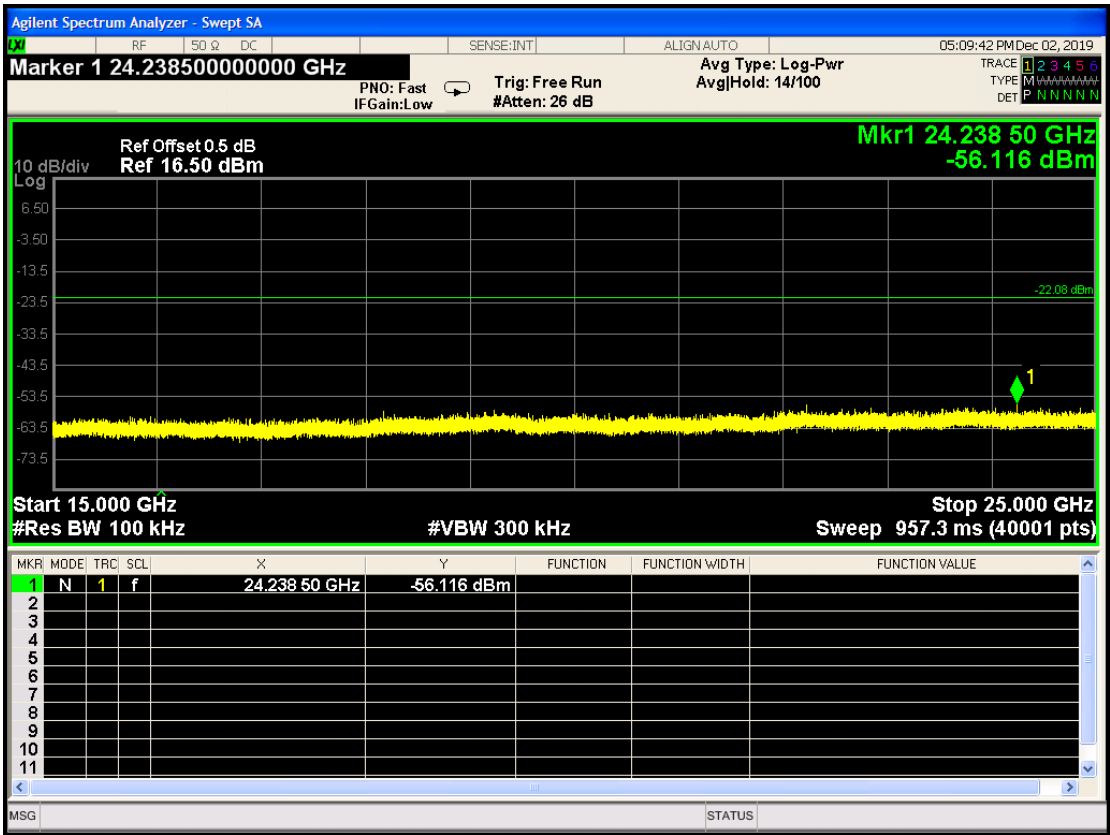
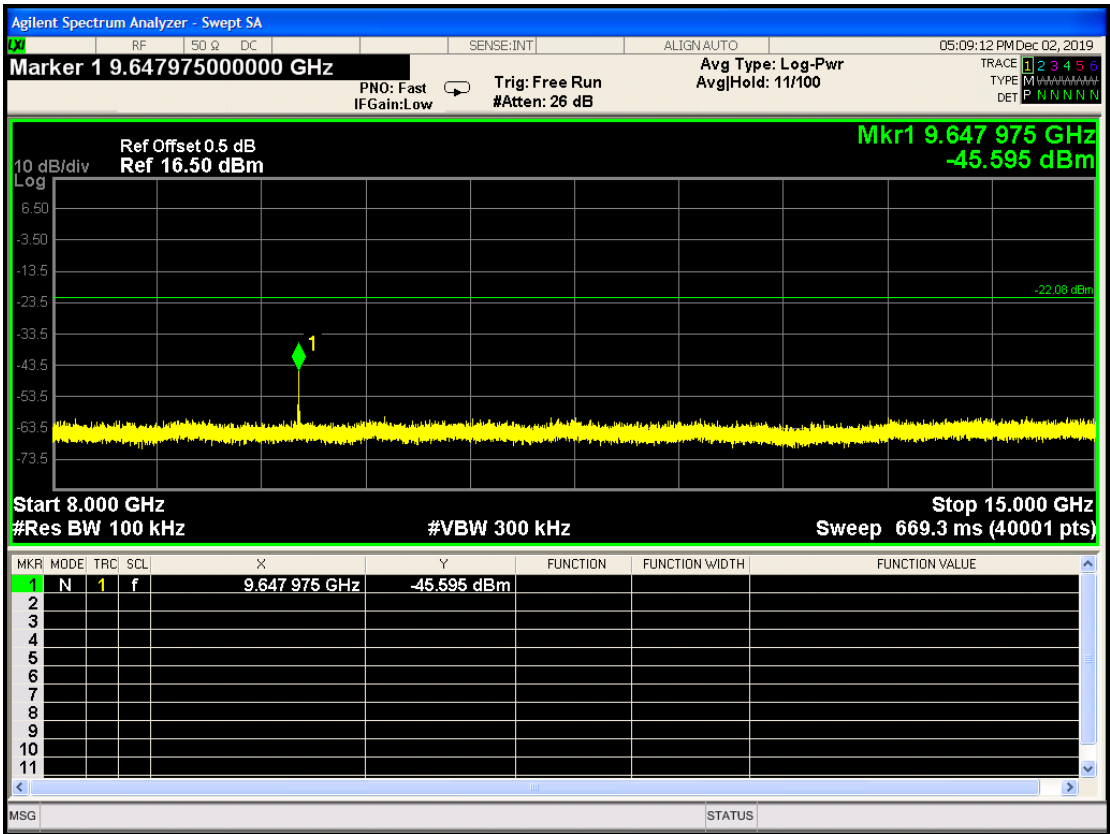
| Item            | Channel | Frequency (MHz) | Amplitude (dBm) |
|-----------------|---------|-----------------|-----------------|
| 802.11b         | 1       | 887.965         | -64.551         |
|                 |         | 2412.950        | 7.919           |
|                 |         | 4827.125        | -48.614         |
|                 |         | 7232.375        | -46.696         |
|                 |         | 9647.975        | -45.595         |
|                 |         | 24238.50        | -56.116         |
|                 |         | 2390            | -51.930         |
|                 |         | 2400            | -38.887         |
|                 | 6       | 668.187         | -64.471         |
|                 |         | 2435.525        | 8.560           |
|                 |         | 4874.075        | -42.809         |
|                 |         | 7310.950        | -39.769         |
|                 |         | 9748.075        | -44.374         |
|                 |         | 22161.25        | -56.529         |
|                 | 11      | 976.744         | -65.242         |
|                 |         | 2462.475        | 9.214           |
|                 |         | 4926.925        | -38.624         |
|                 |         | 7382.925        | -37.097         |
|                 |         | 9848            | -42.267         |
|                 |         | 22405.50        | -55.867         |
|                 |         | 2483.50         | -42.844         |
|                 |         | 2475.751        | -27.975         |
| 802.11g         | 1       | 906.904         | -64.785         |
|                 |         | 2407            | 0.848           |
|                 |         | 4823.975        | -46.366         |
|                 |         | 7245.350        | -50.831         |
|                 |         | 9647.975        | -50.476         |
|                 |         | 23.727          | -56.380         |
|                 |         | 2390            | -48.456         |
|                 | 6       | 863.012         | -64.509         |
|                 |         | 2438.150        | 1.657           |
|                 |         | 4874.075        | -49.475         |
|                 |         | 7302.925        | -49.321         |
|                 |         | 9747.90         | -51.282         |
|                 |         | 23544.25        | -57.082         |
|                 | 11      | 876.180         | -64.382         |
|                 |         | 2455.825        | 2.641           |
|                 |         | 4924.075        | -45.986         |
|                 |         | 7387.125        | -48.837         |
|                 |         | 9848            | -54.716         |
|                 |         | 24055.75        | -56.029         |
|                 |         | 2483.50         | -38.619         |
|                 |         |                 |                 |
| 802.11n<br>HT20 | 1       | 768.704         | -64.898         |
|                 |         | 2410.675        | 0.908           |
|                 |         | 4824.150        | -47.178         |
|                 |         | 7240.30         | -49.561         |
|                 |         | 9647.975        | -50.631         |

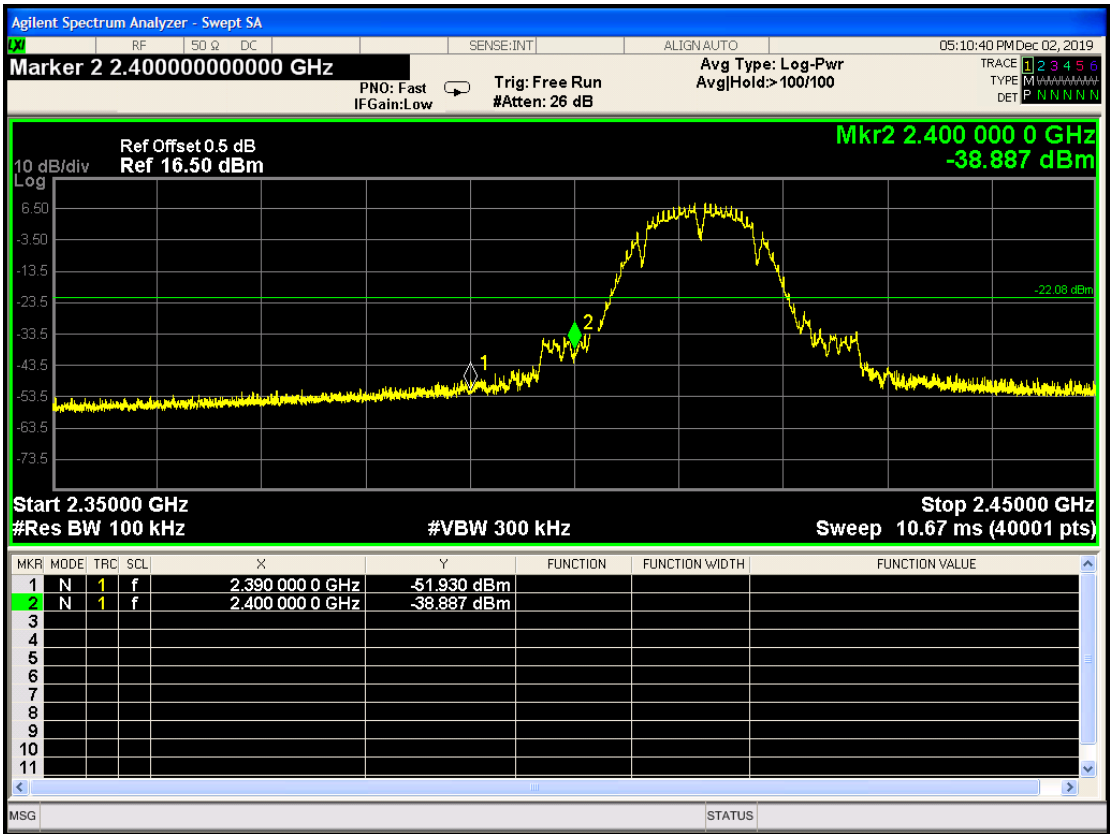
|  |    |          |         |
|--|----|----------|---------|
|  |    | 22373.25 | -56.417 |
|  |    | 2390     | -47.138 |
|  | 6  | 883.430  | -64.797 |
|  |    | 2432.025 | 1.750   |
|  |    | 4874.175 | -50.895 |
|  |    | 7304.875 | -52.567 |
|  |    | 9748.075 | -52.430 |
|  |    | 24926.25 | -57.035 |
|  | 11 | 915.828  | -64.974 |
|  |    | 2458.275 | 2.485   |
|  |    | 4923.90  | -48.557 |
|  |    | 7379.050 | -50.722 |
|  |    | 9848     | -54.331 |
|  |    | 23727    | -56.549 |
|  |    | 2483.50  | -37.333 |

802.11b CH1

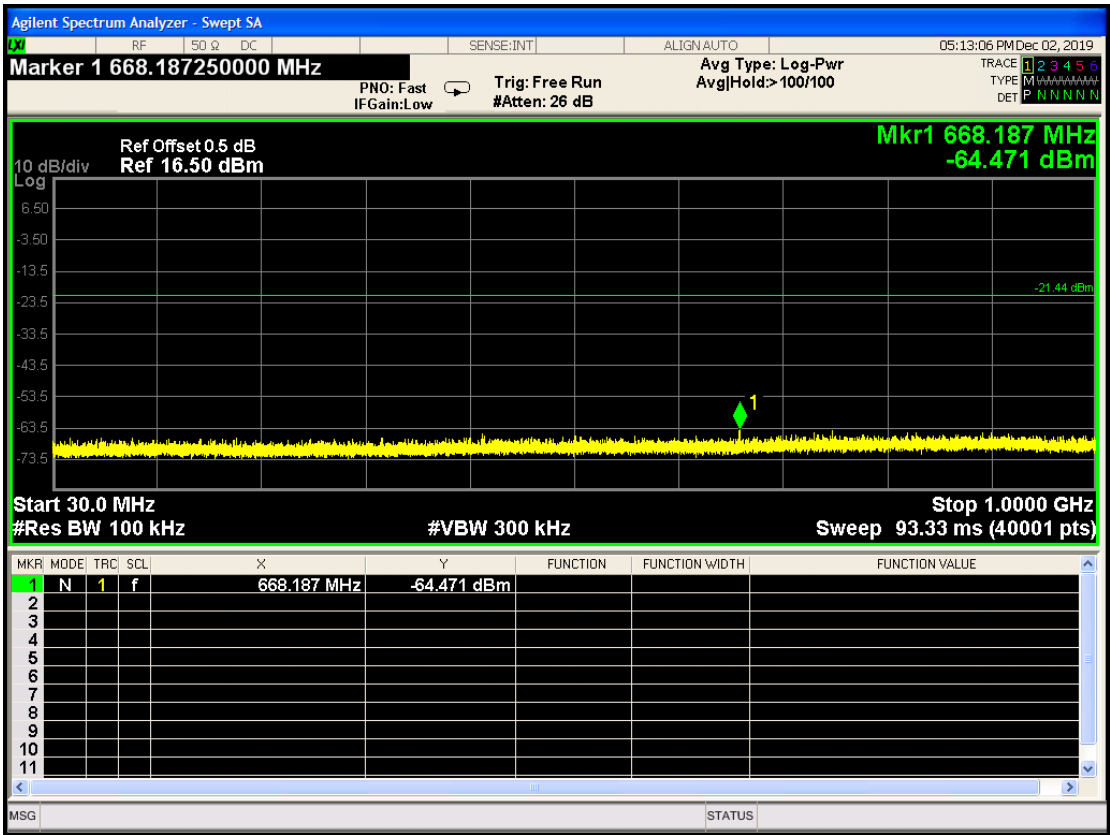


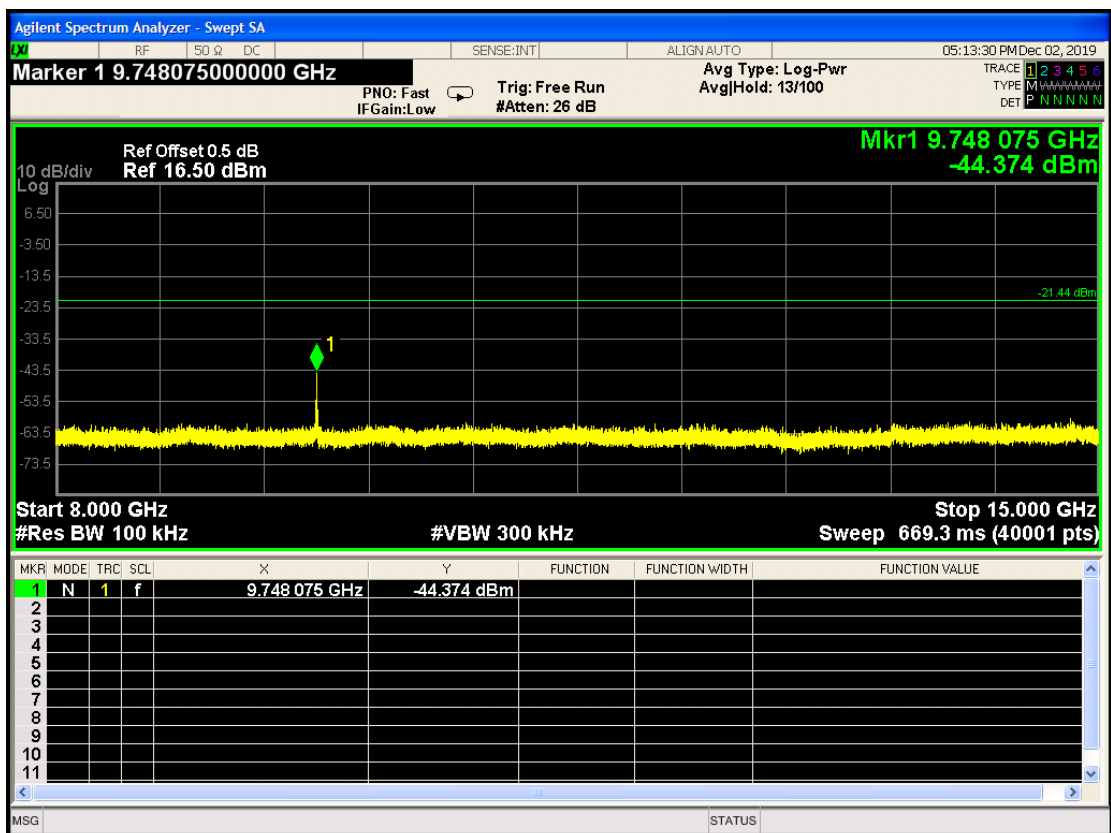
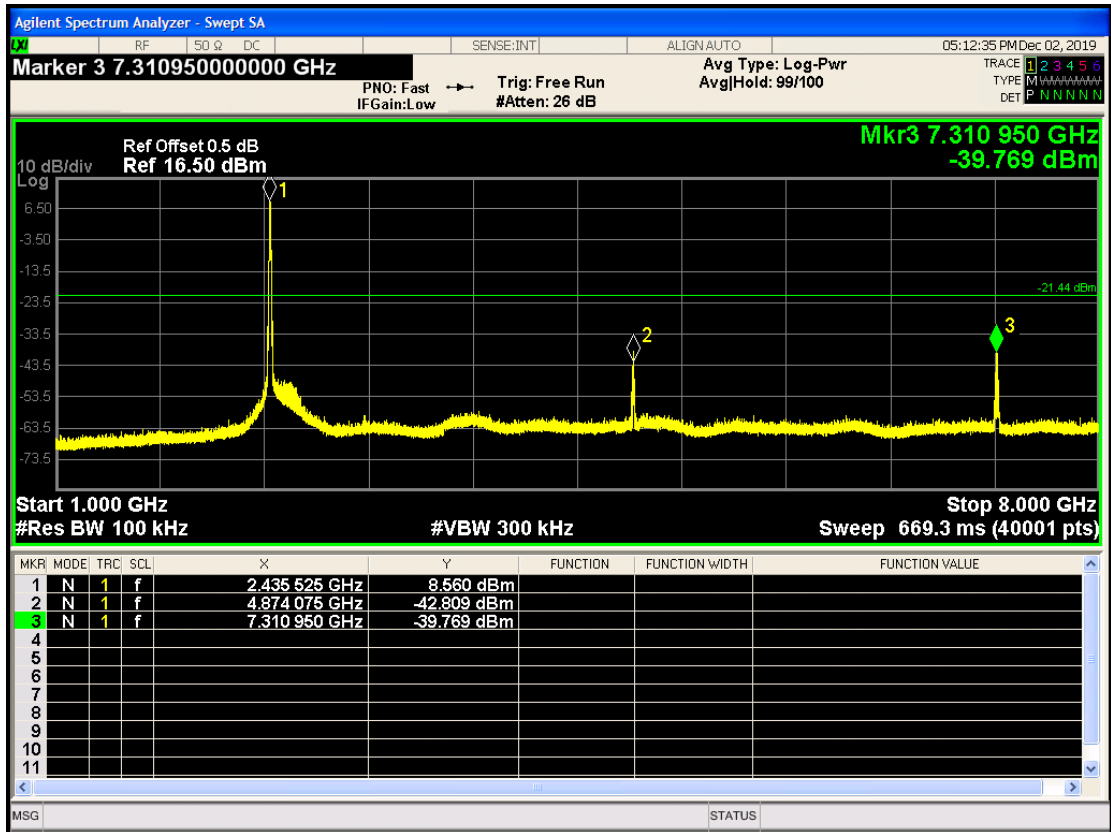


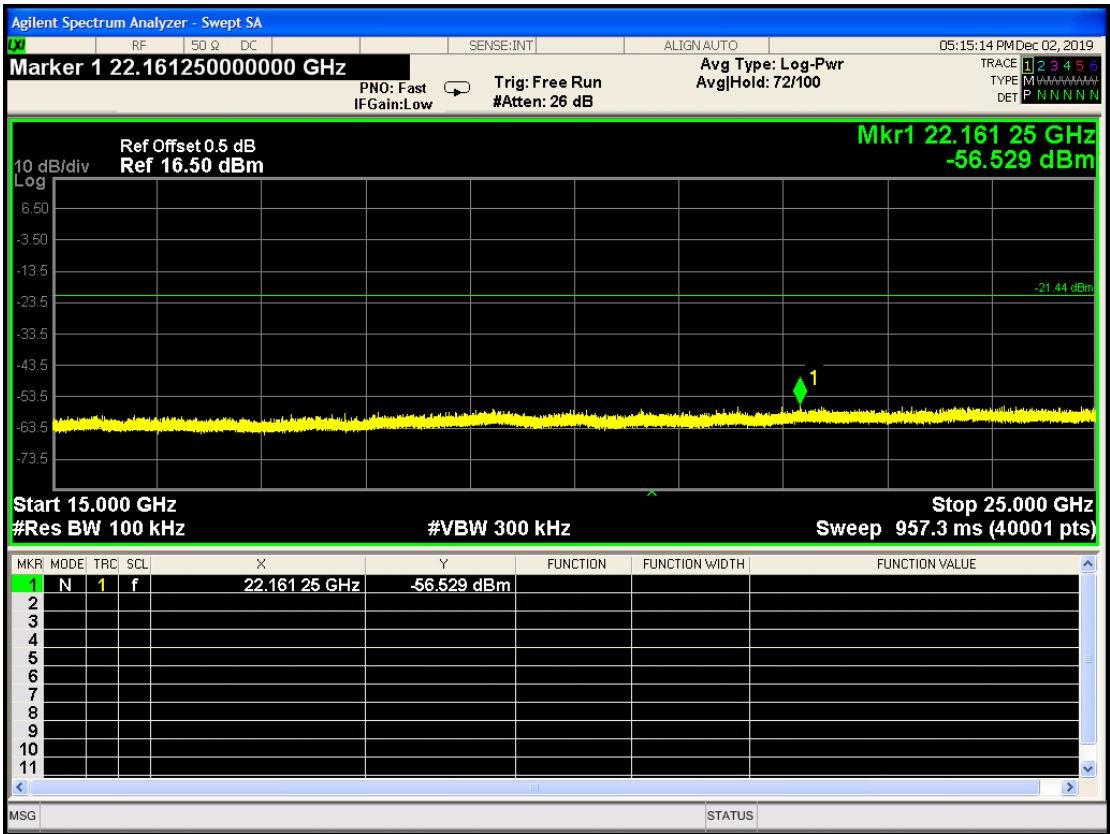




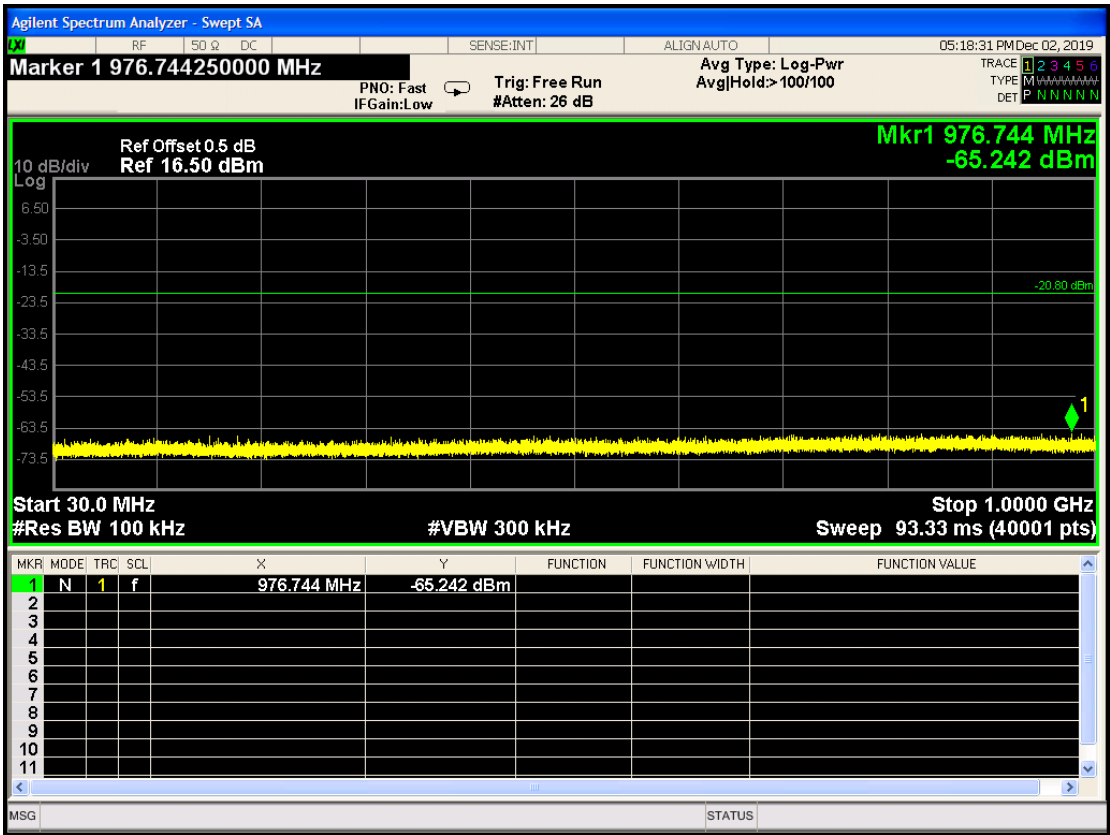
802.11b CH6

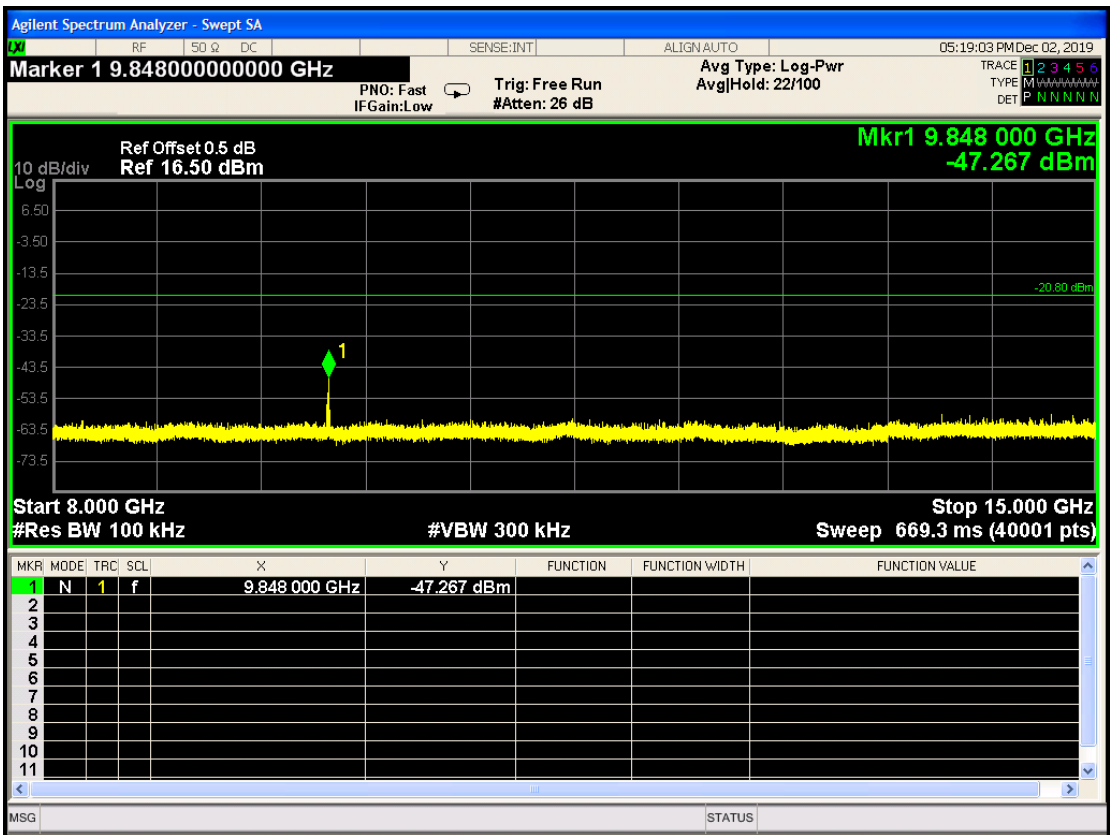
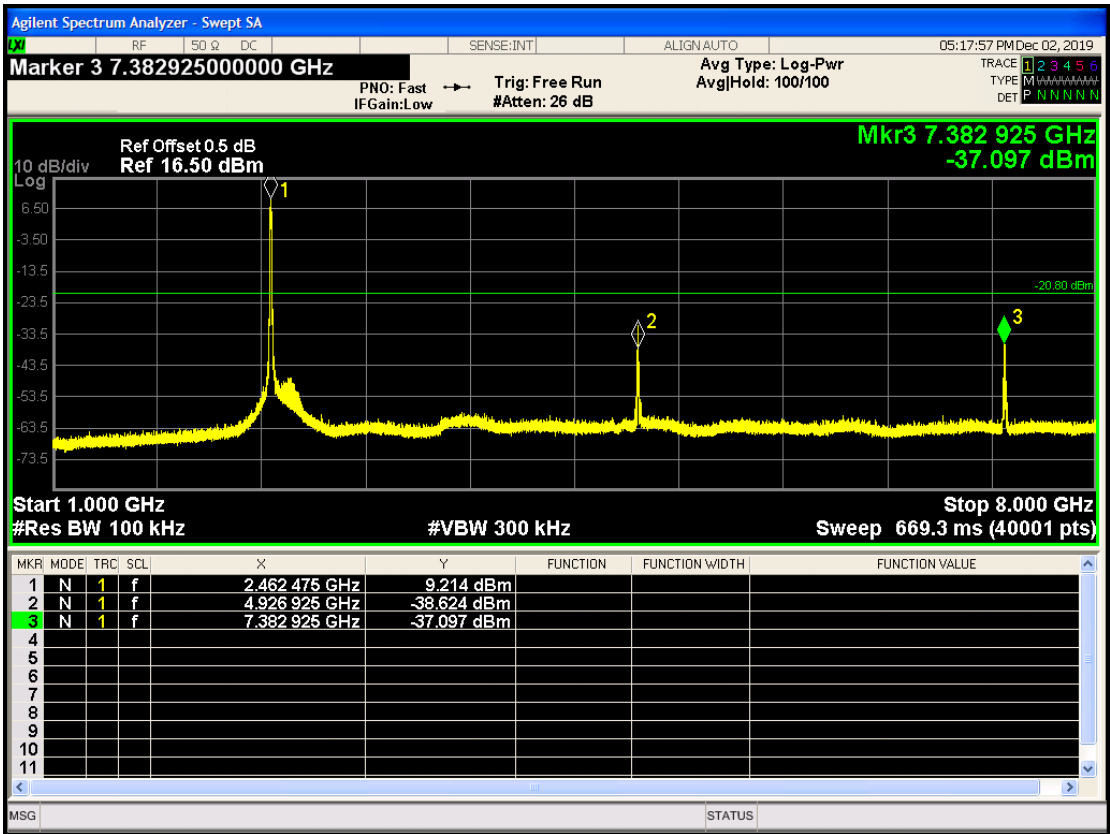


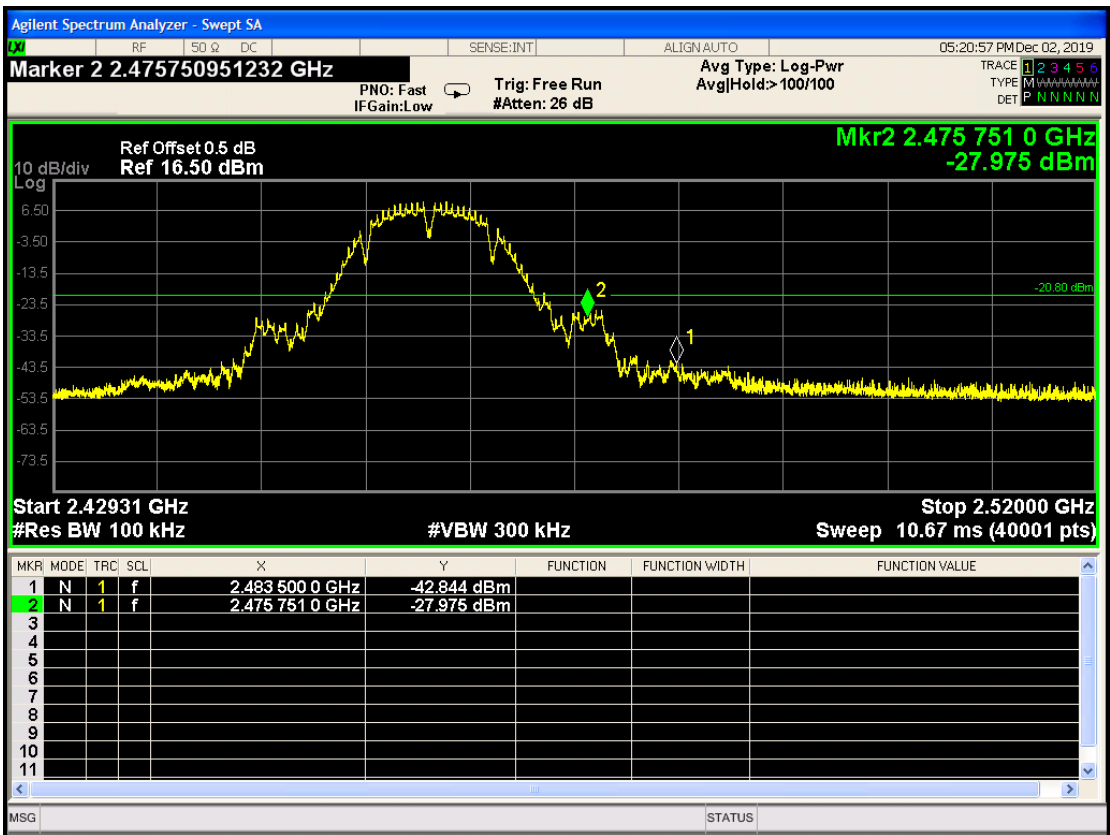
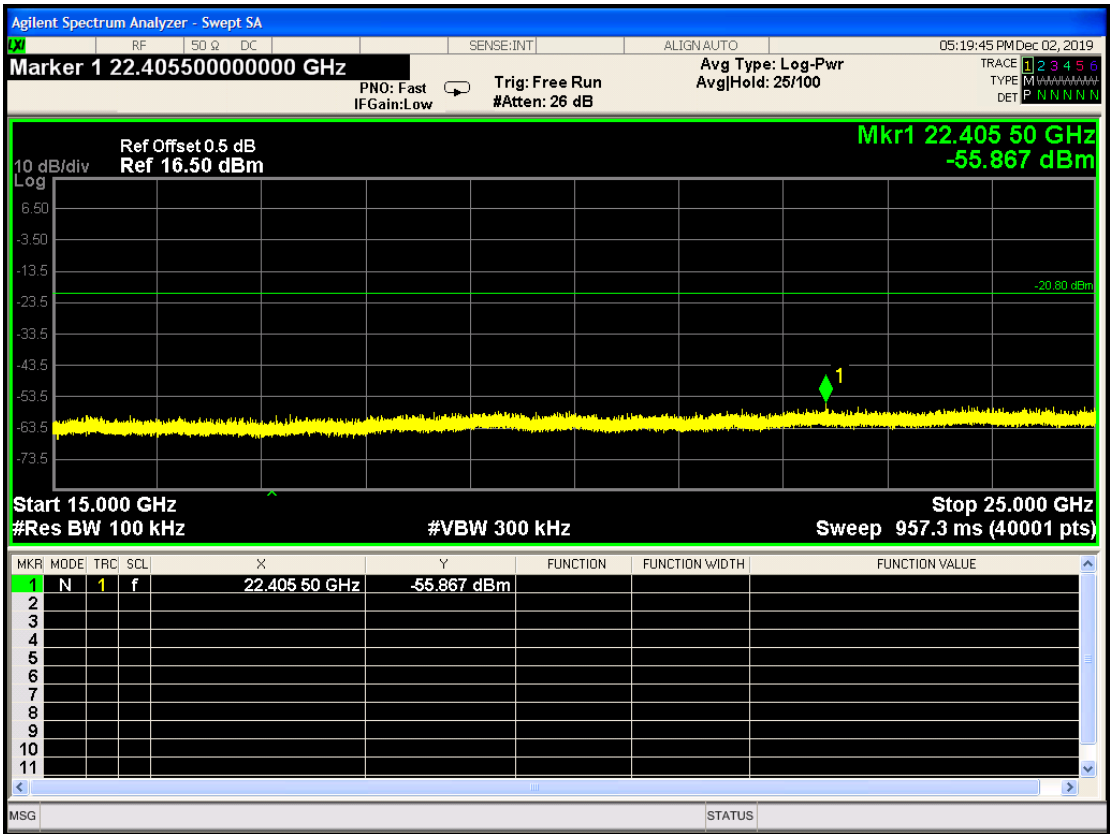




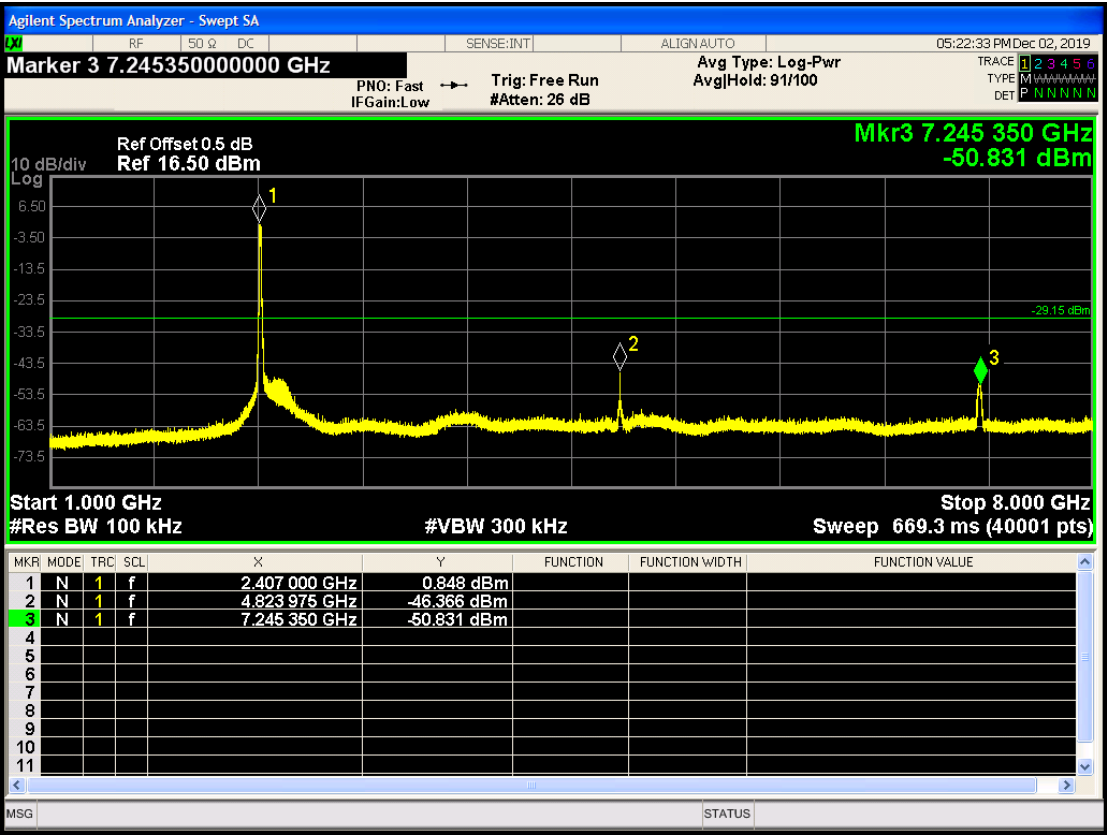
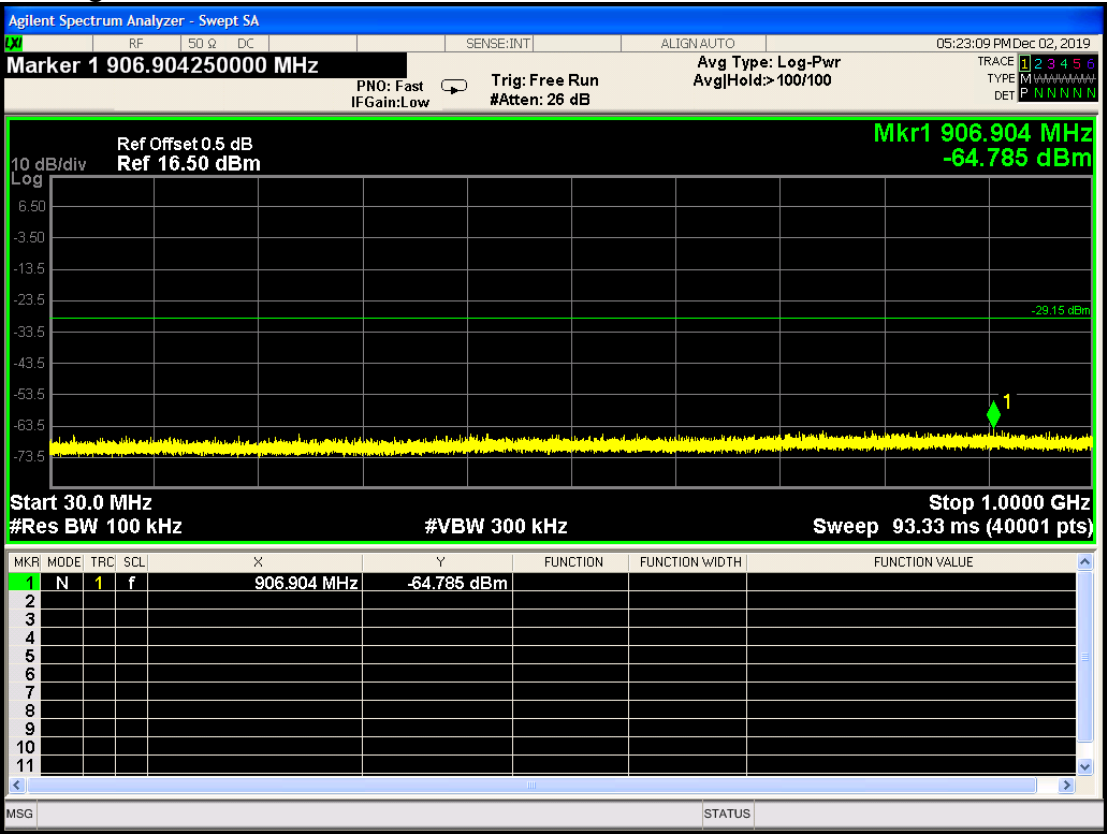
802.11b CH11

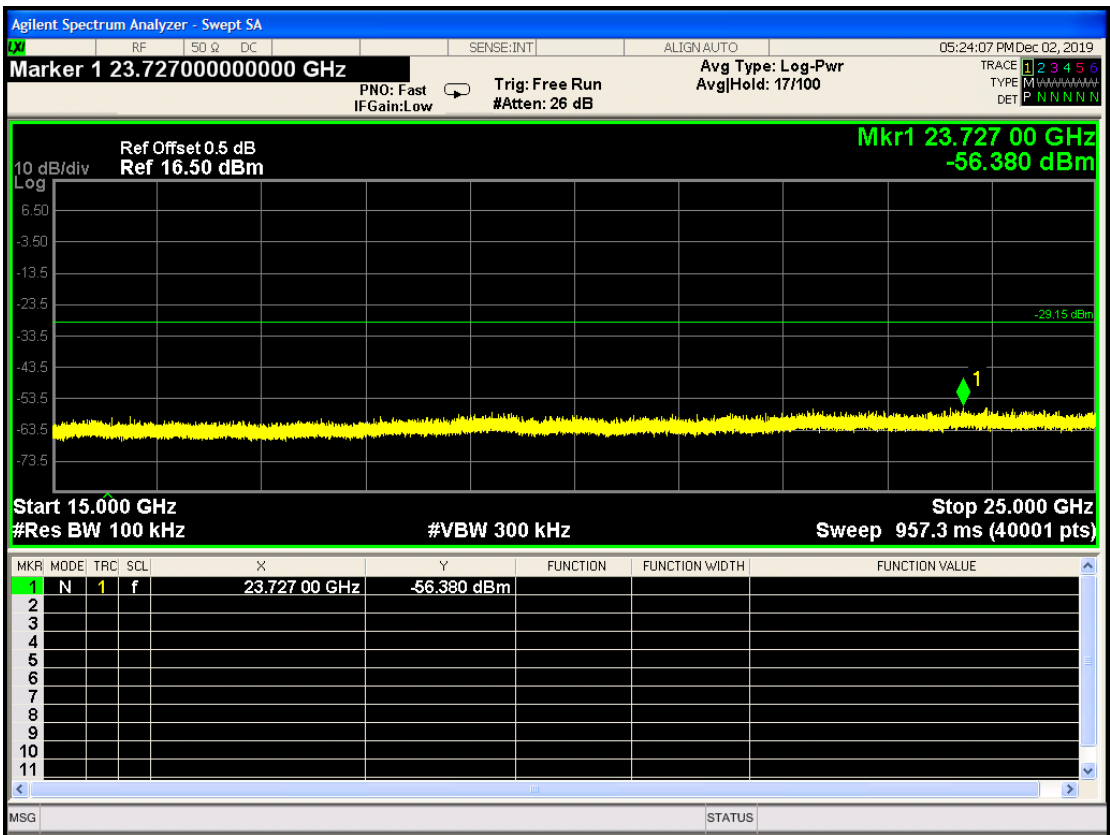
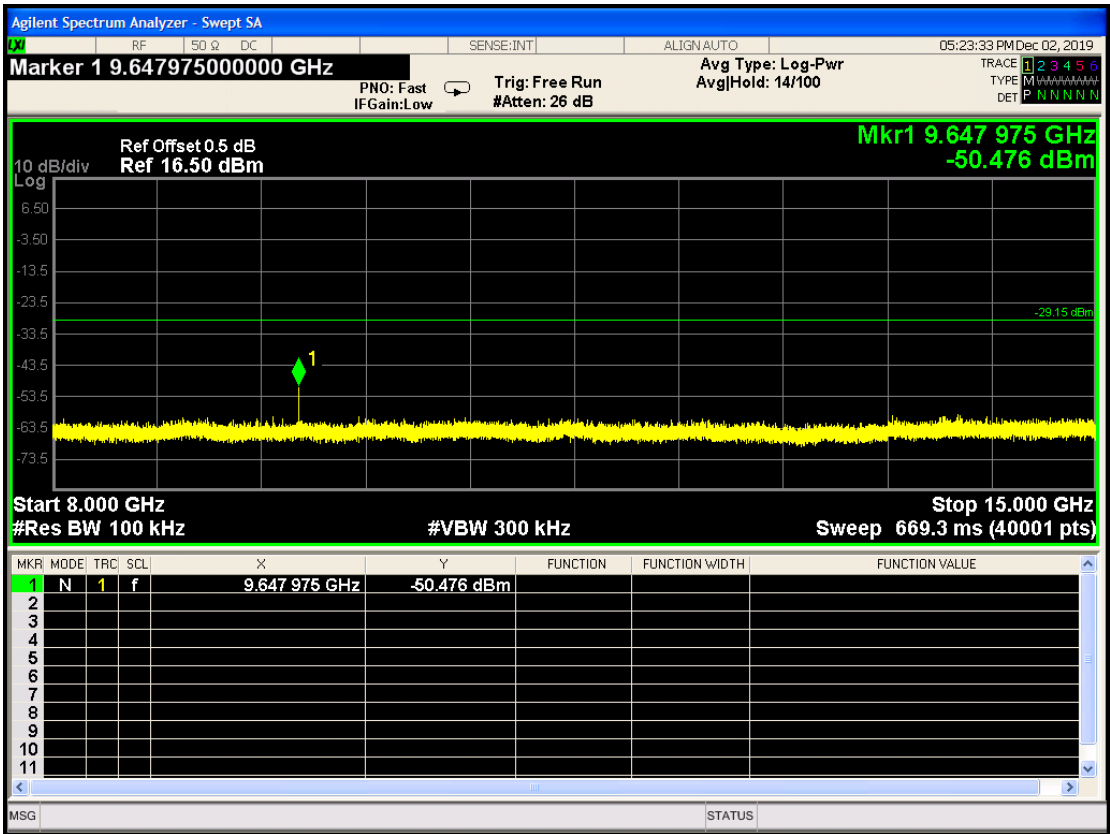




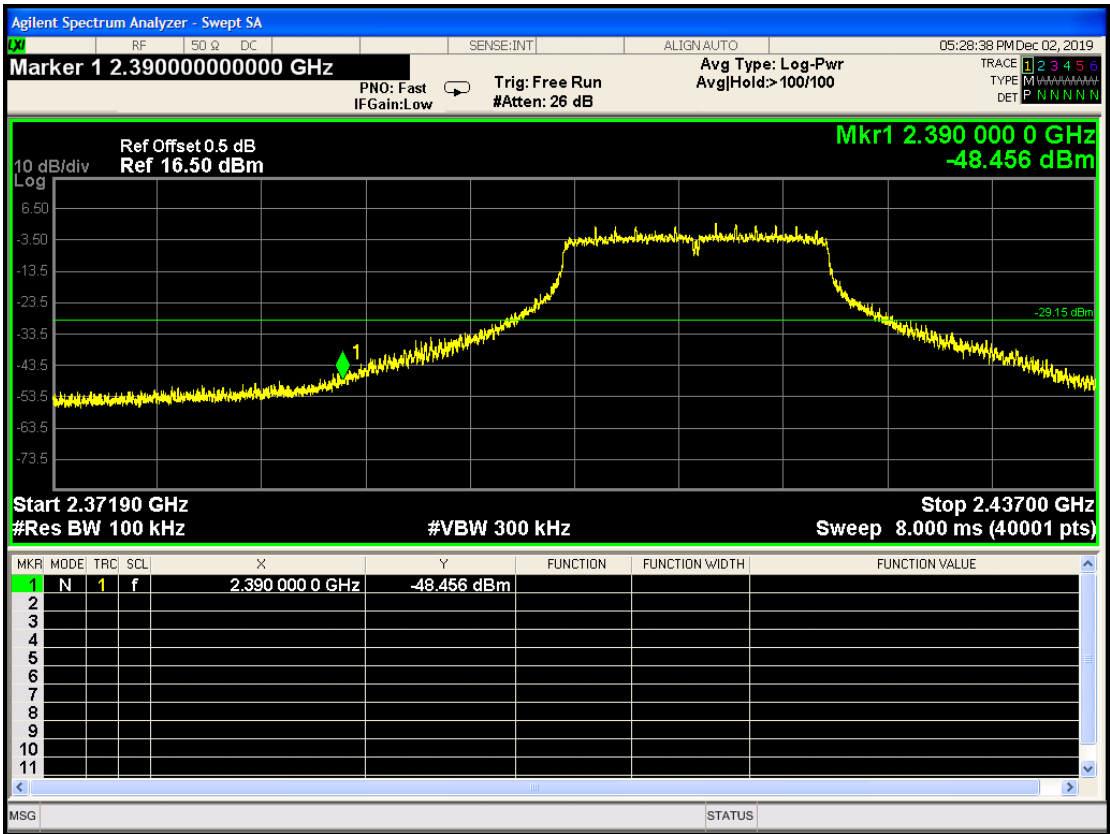


802.11g CH1

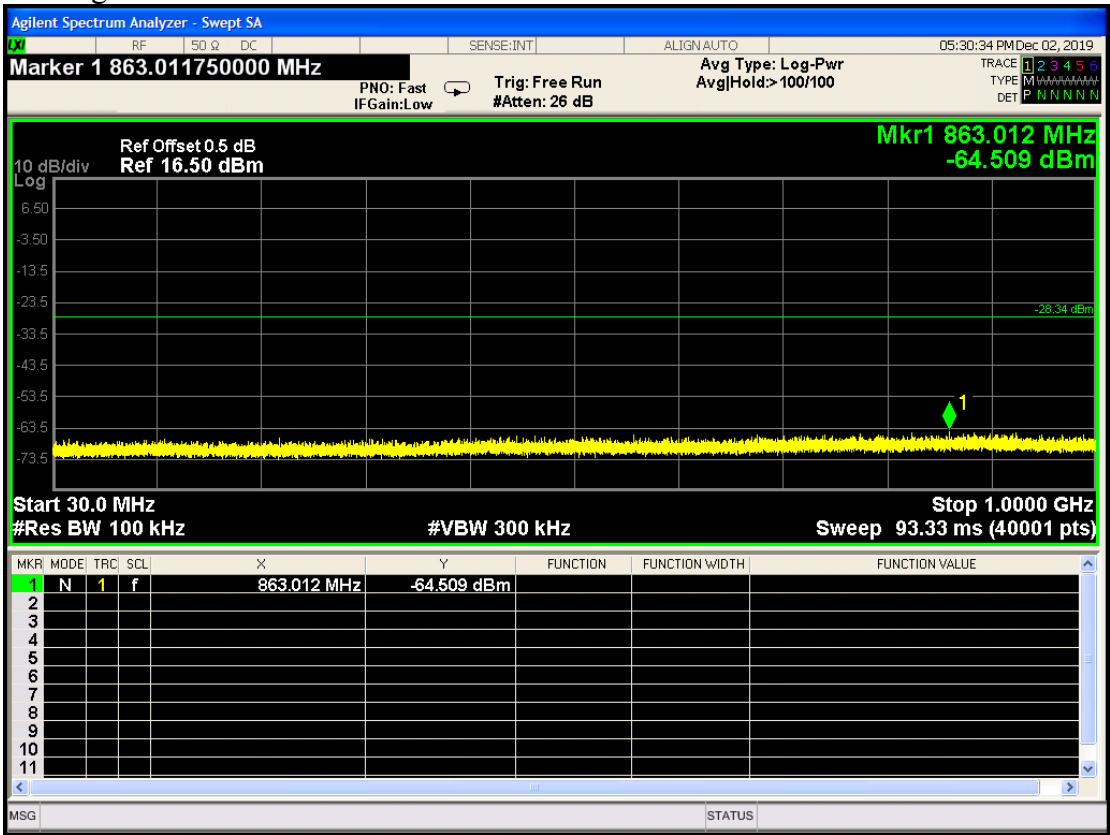


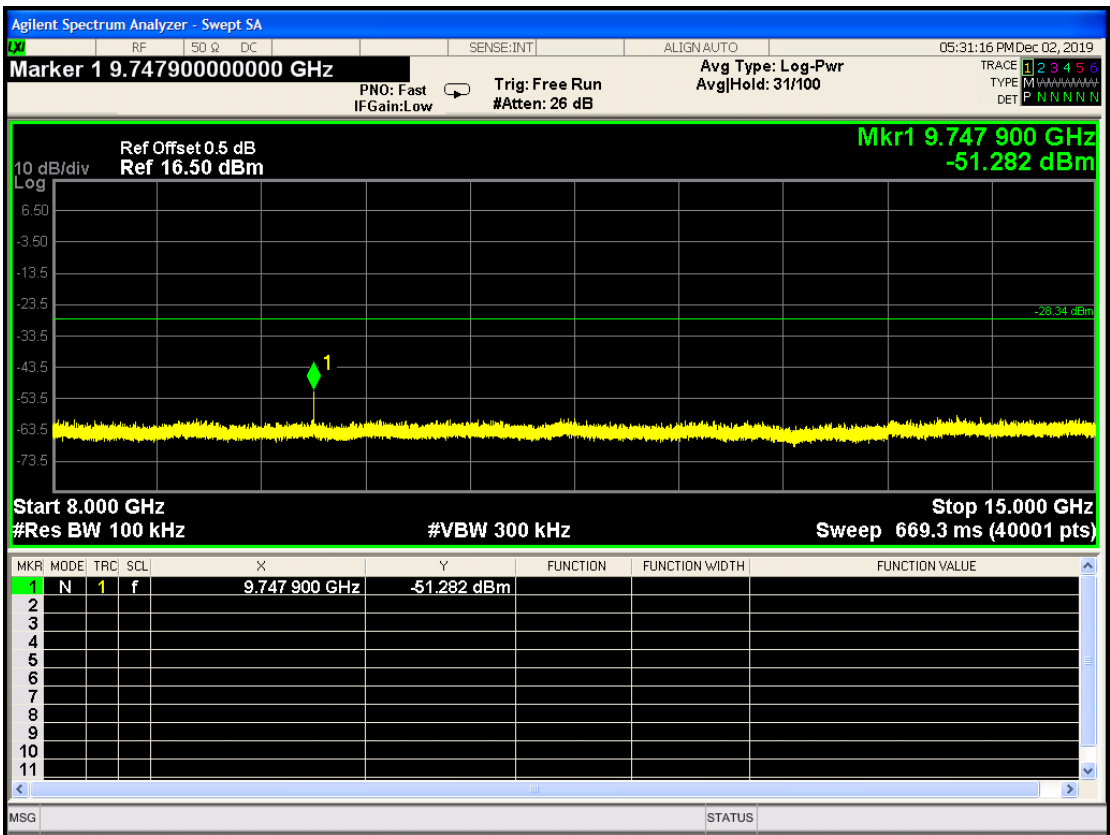
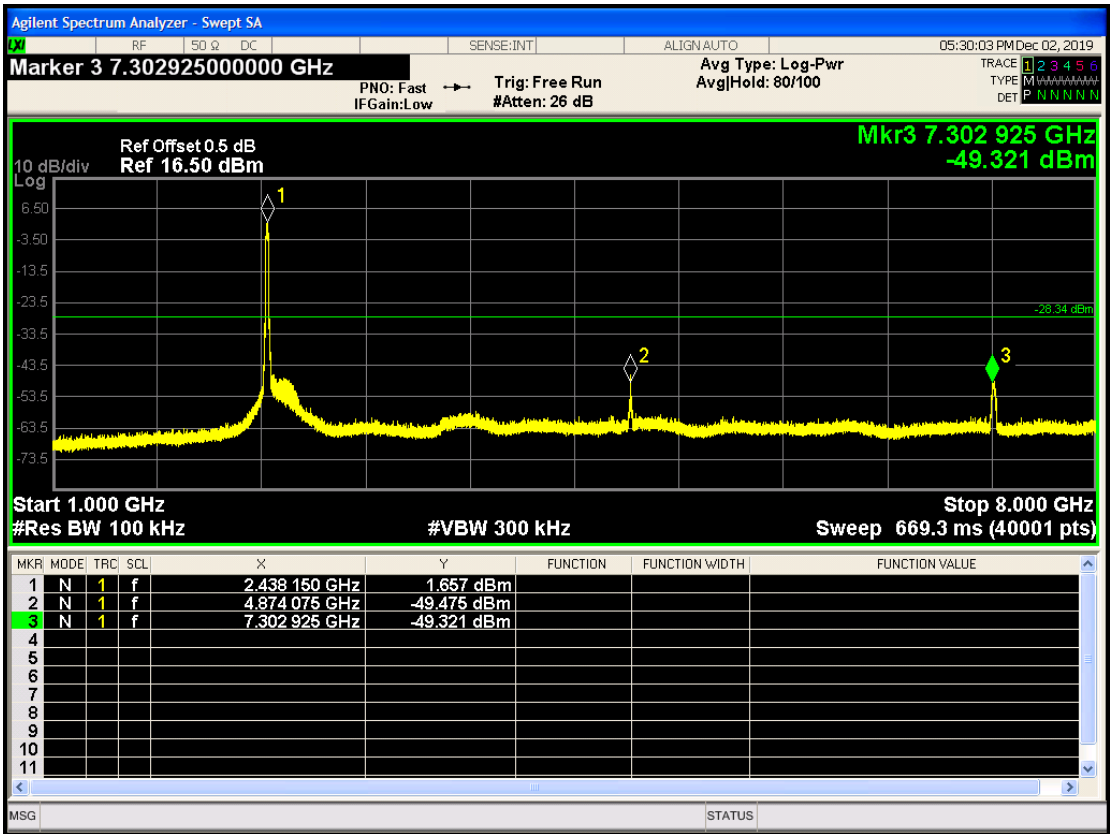


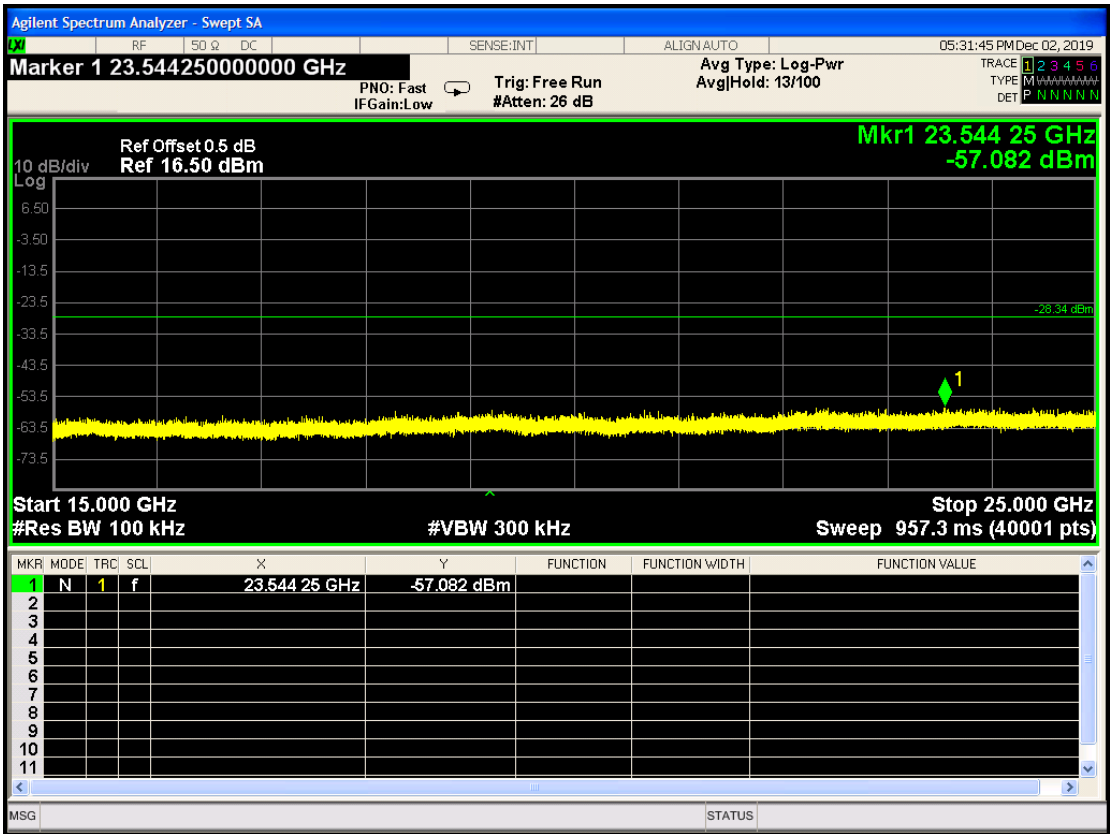




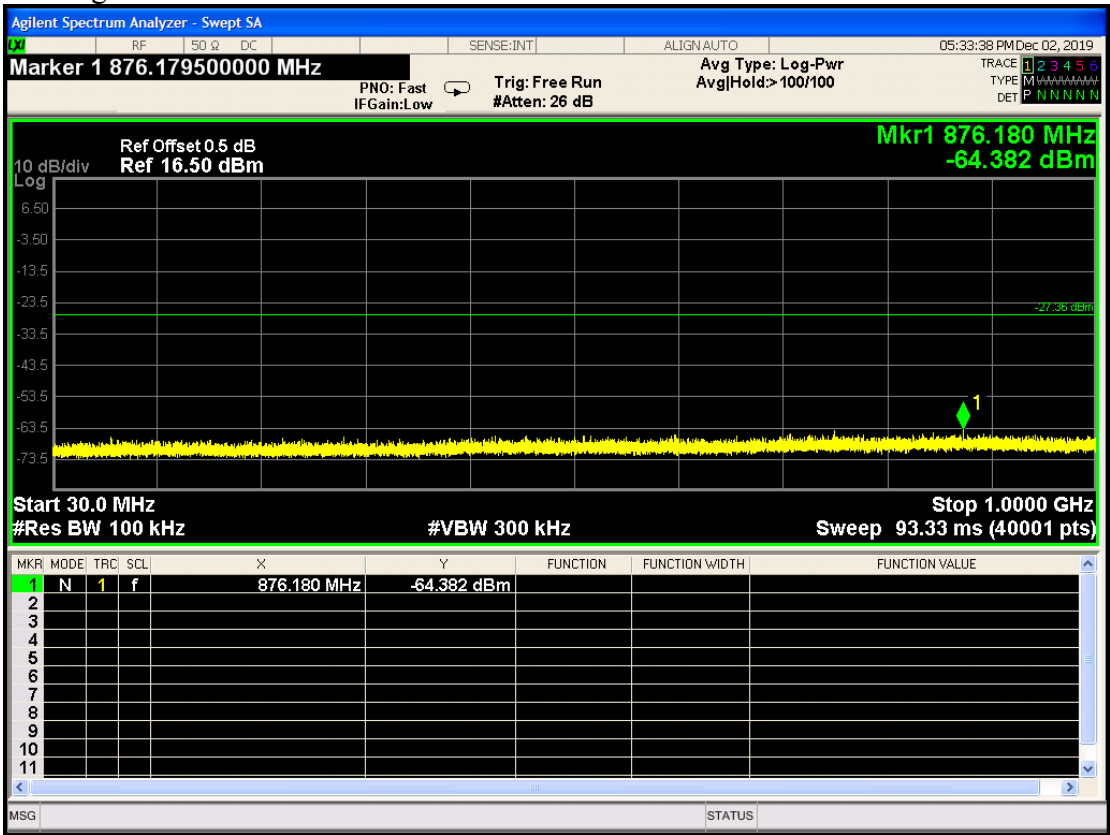
802.11g CH6

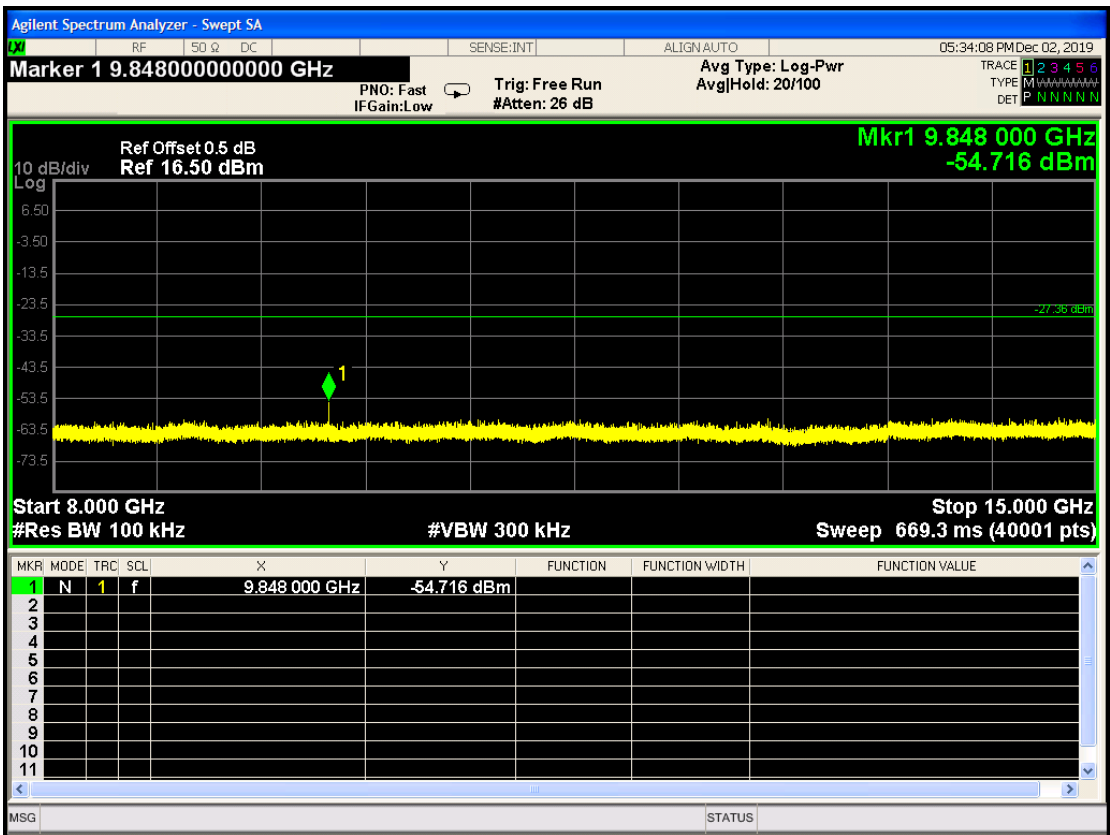
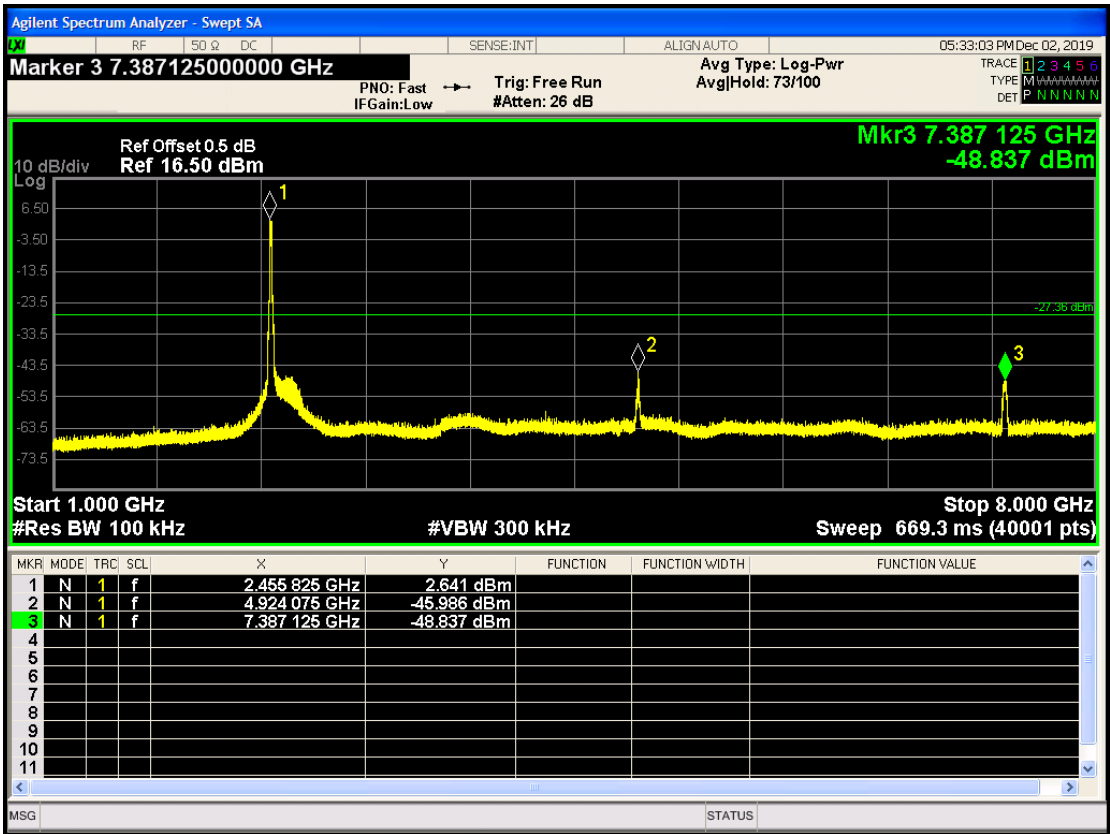


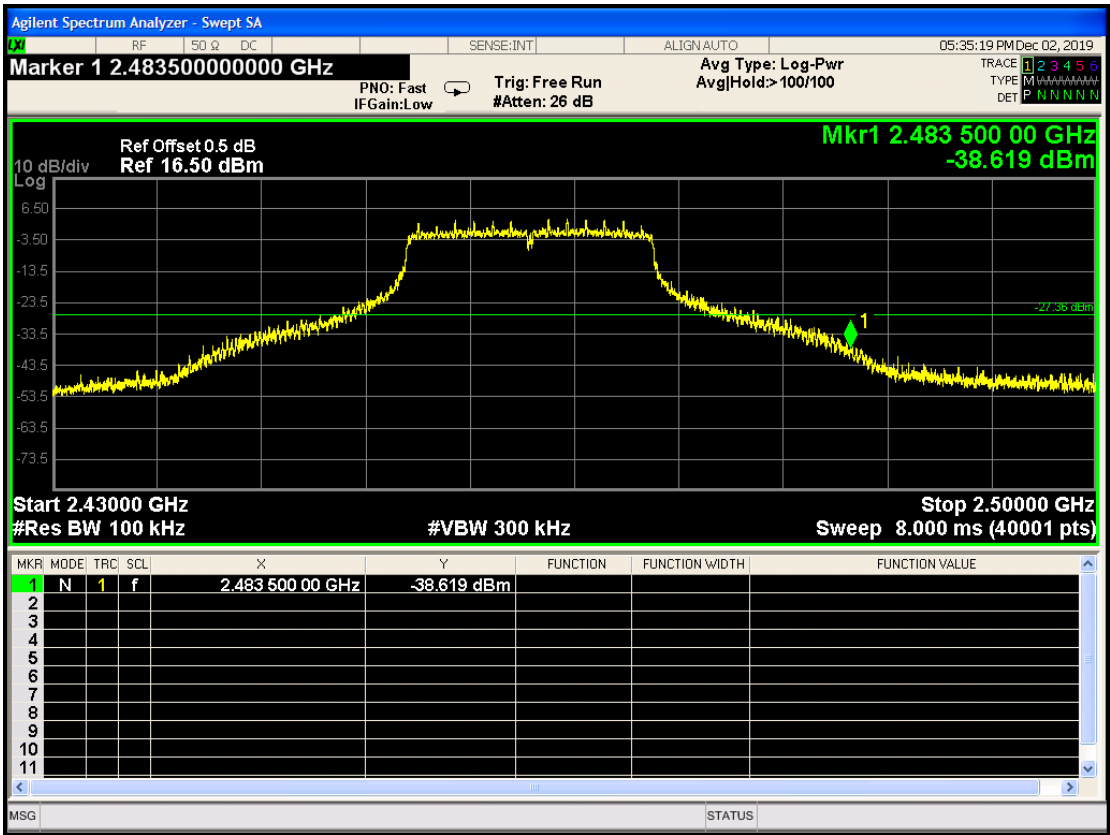
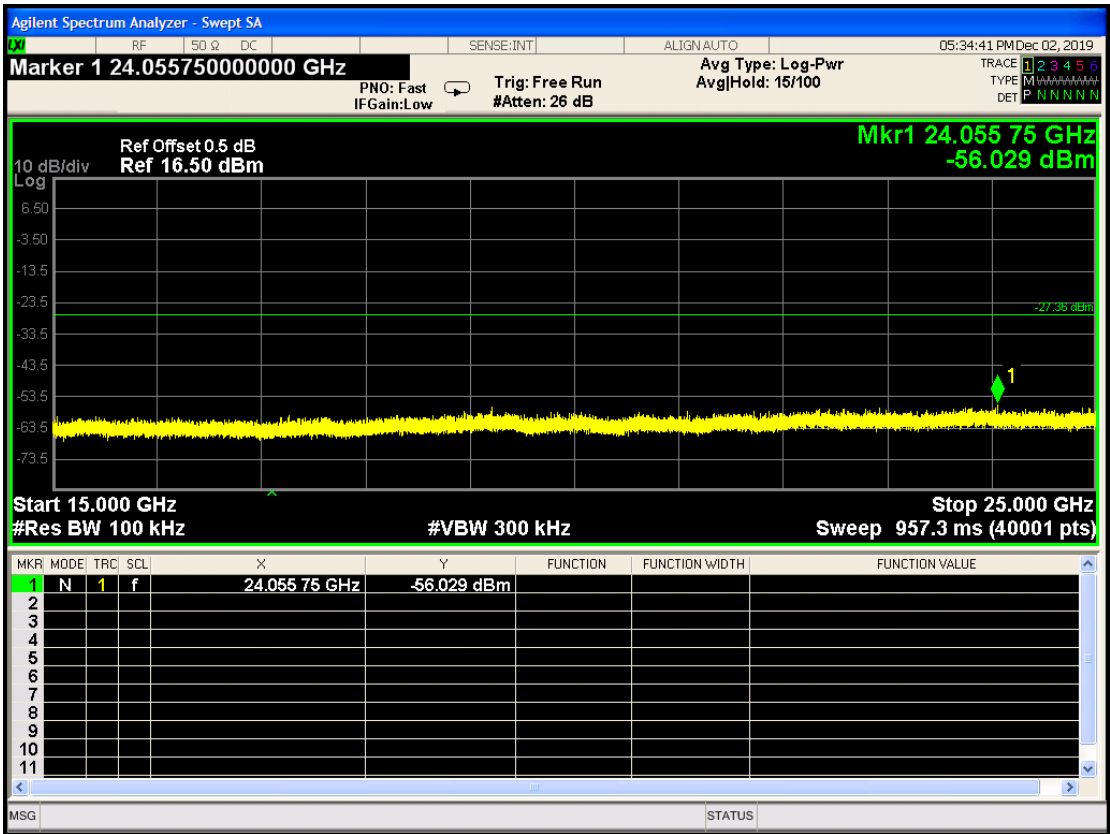




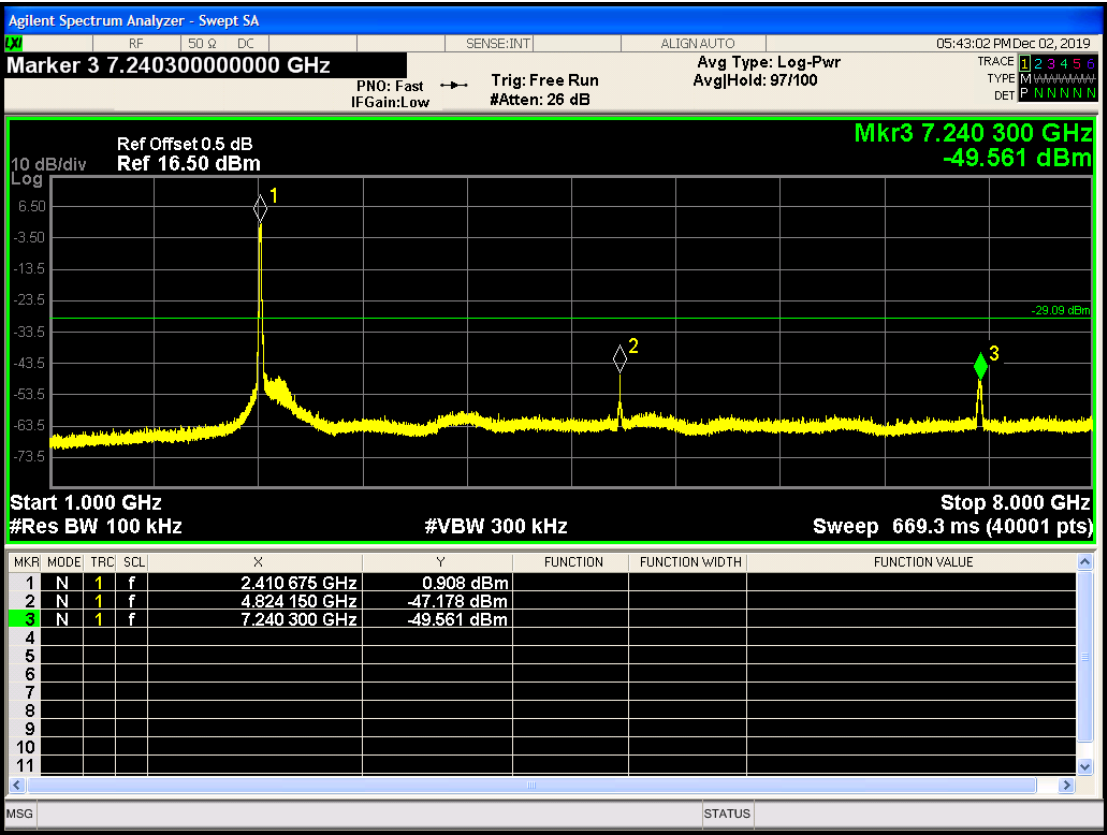
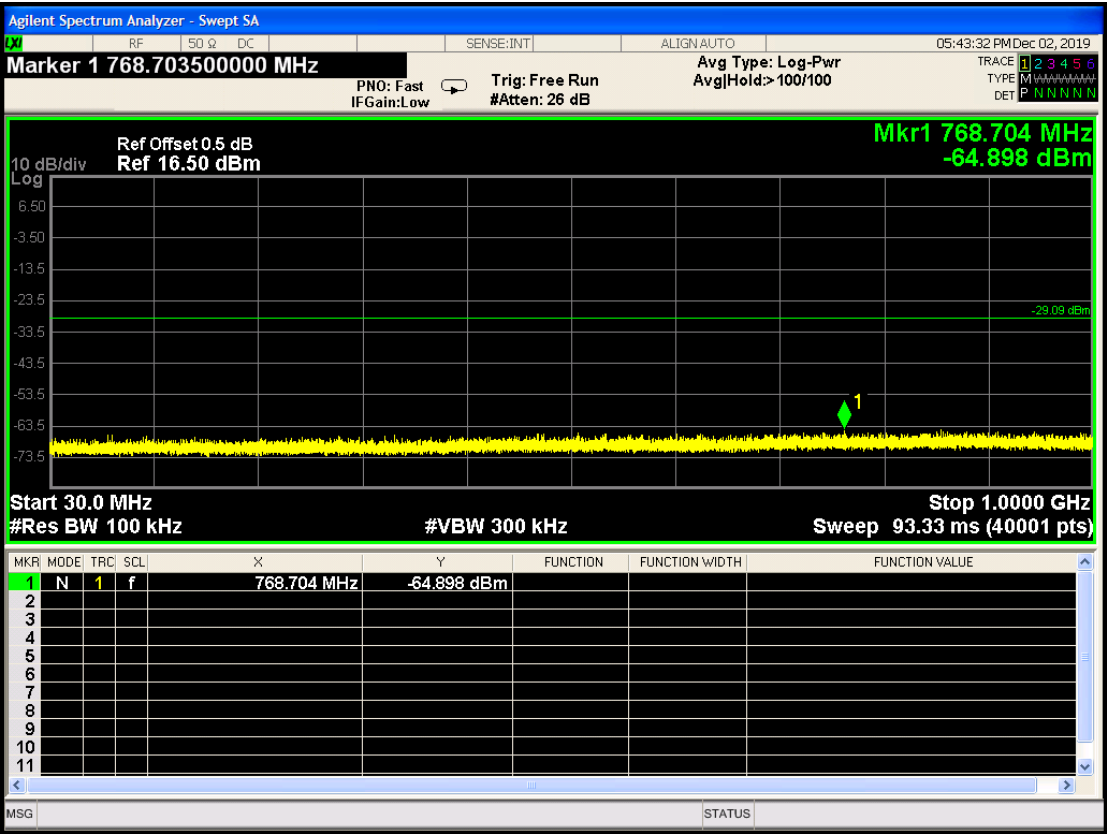
802.11g CH11

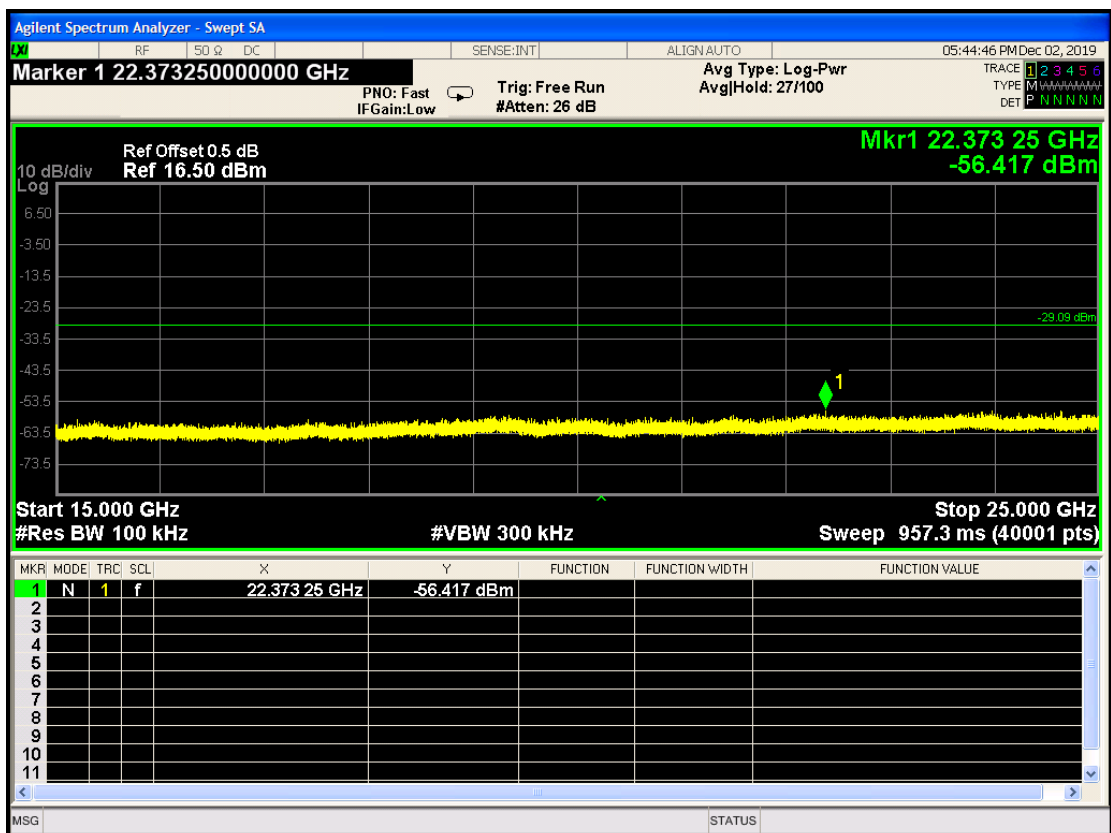
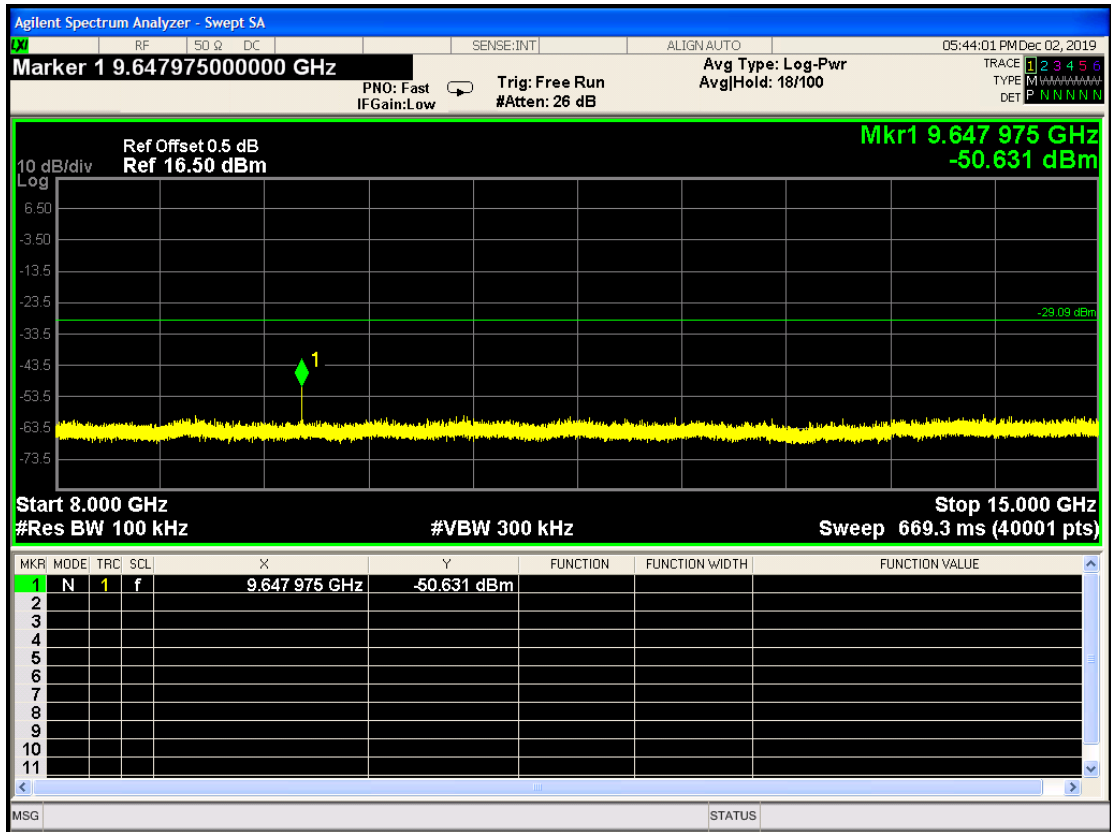


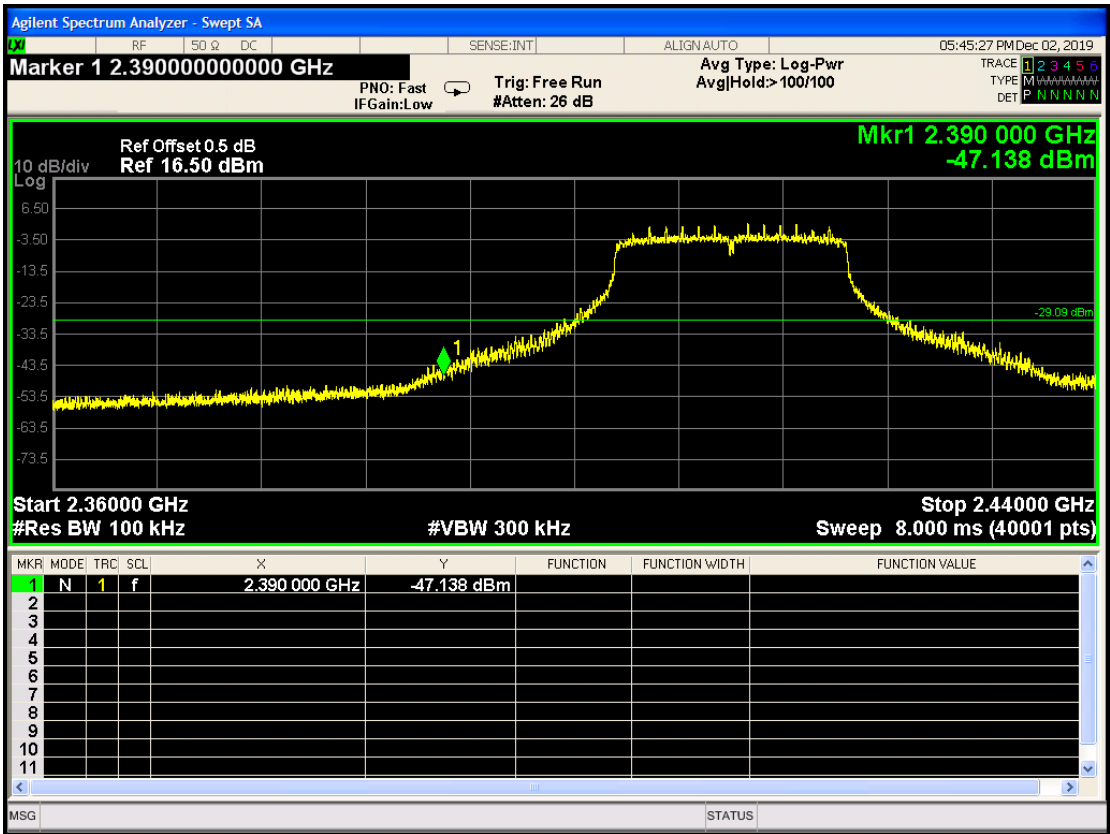




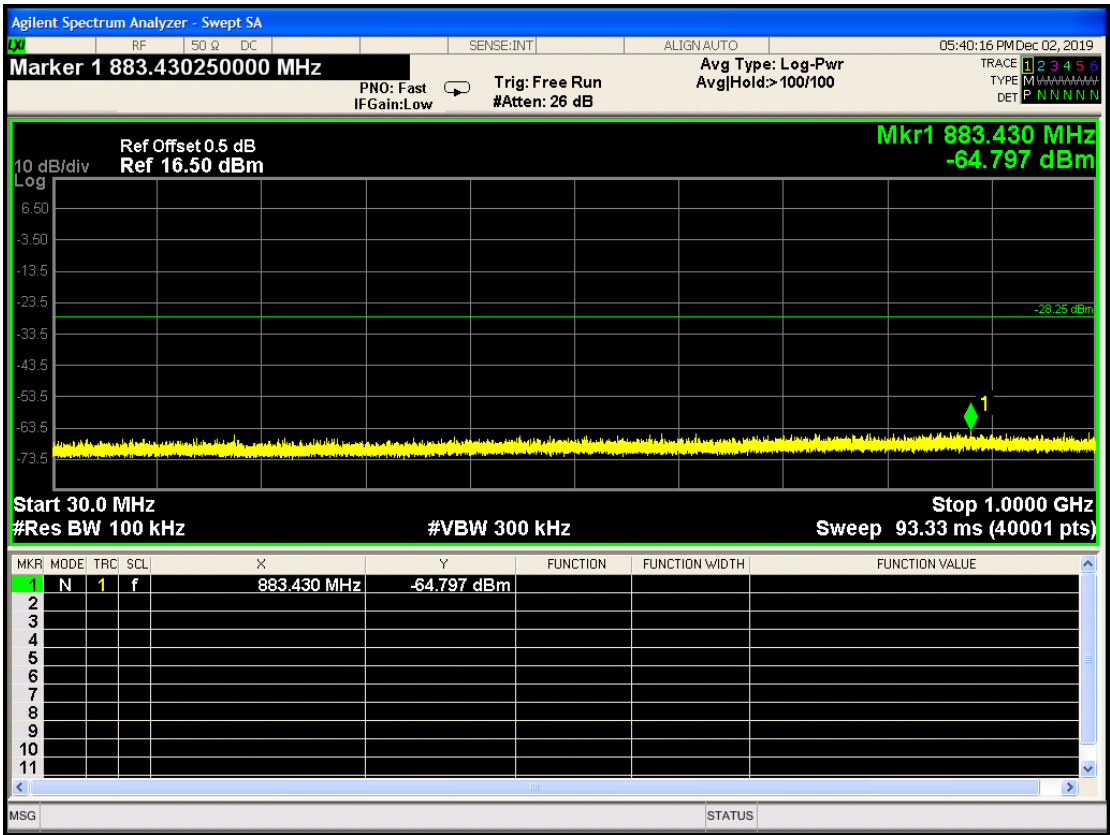
802.11nHT20 CH1



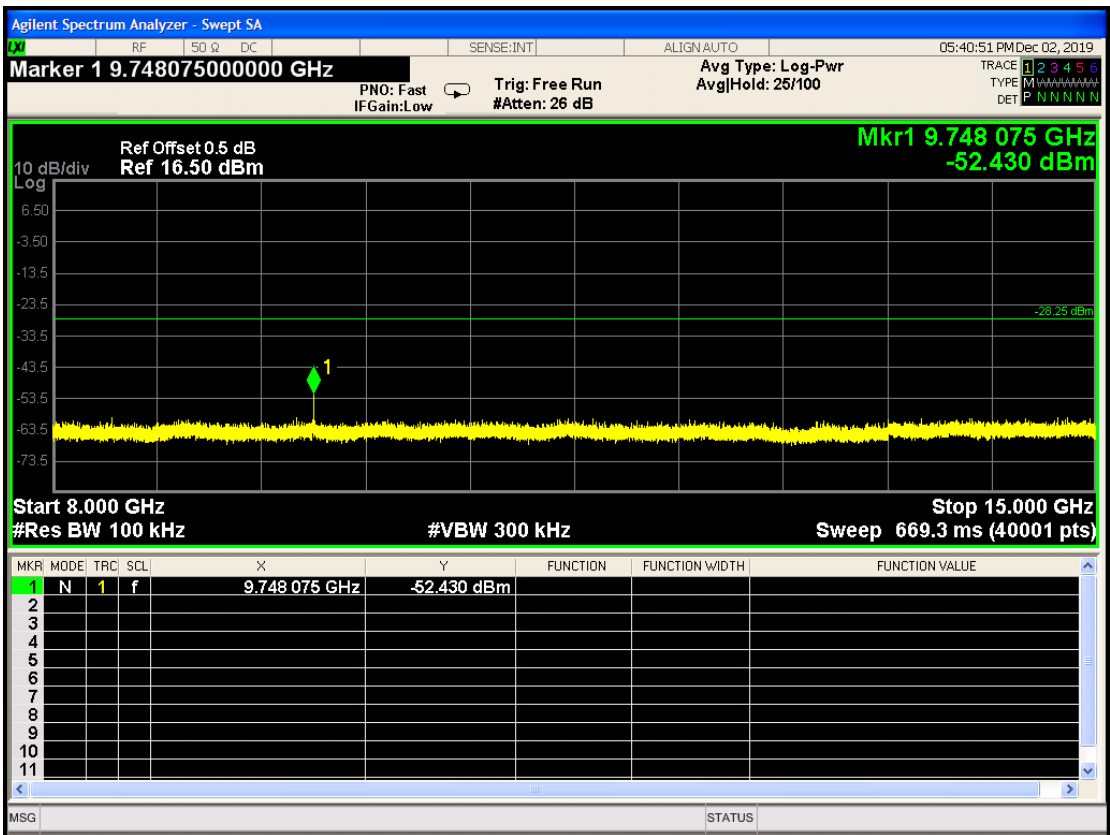
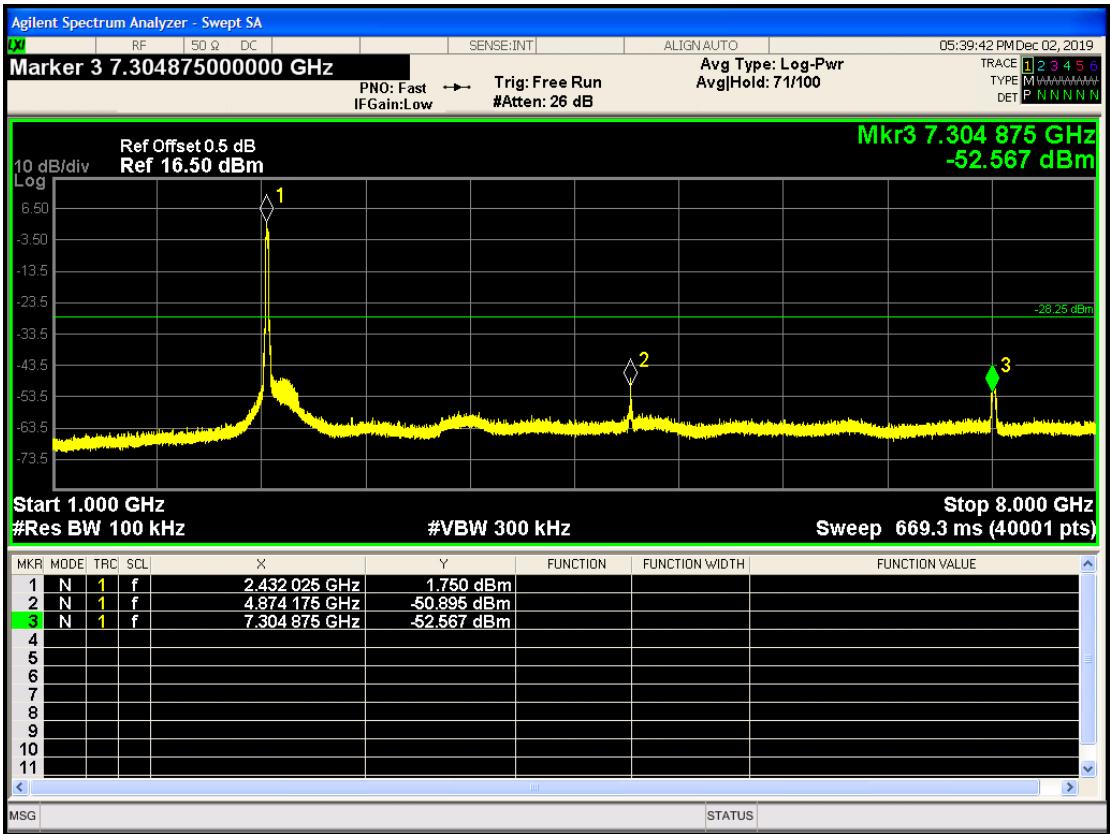


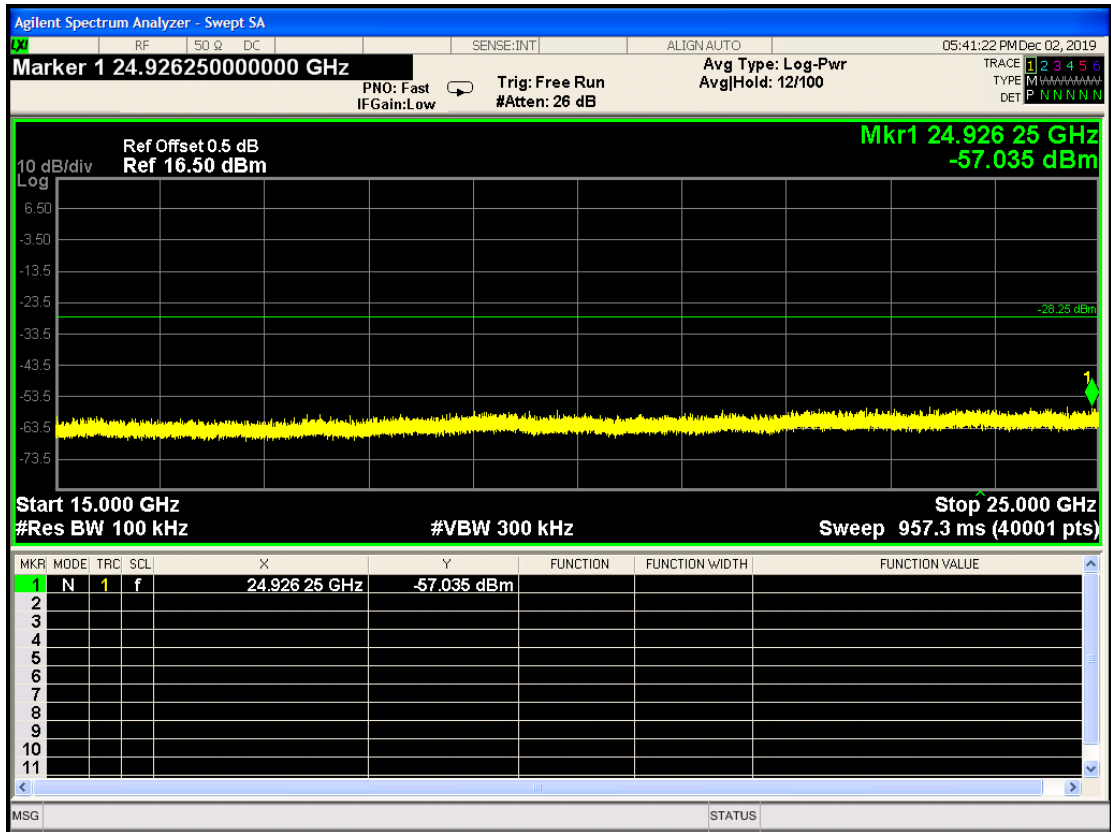


802.11nHT20 CH6

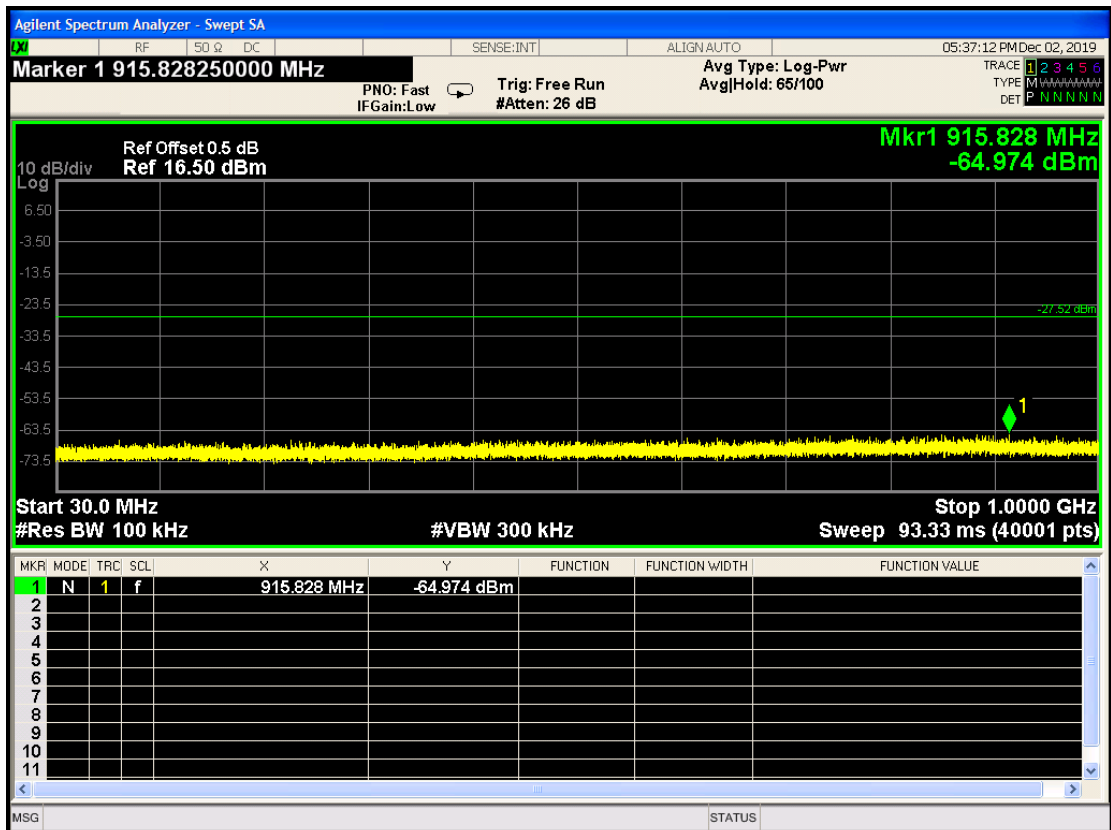


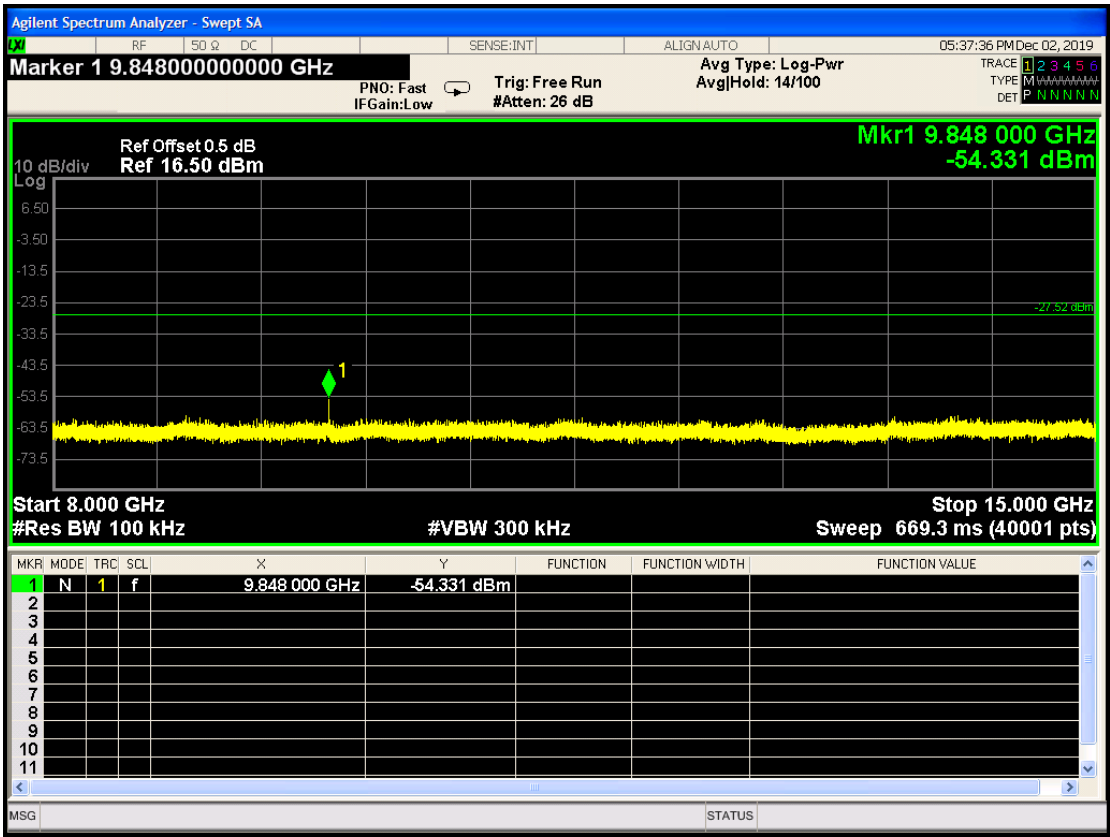
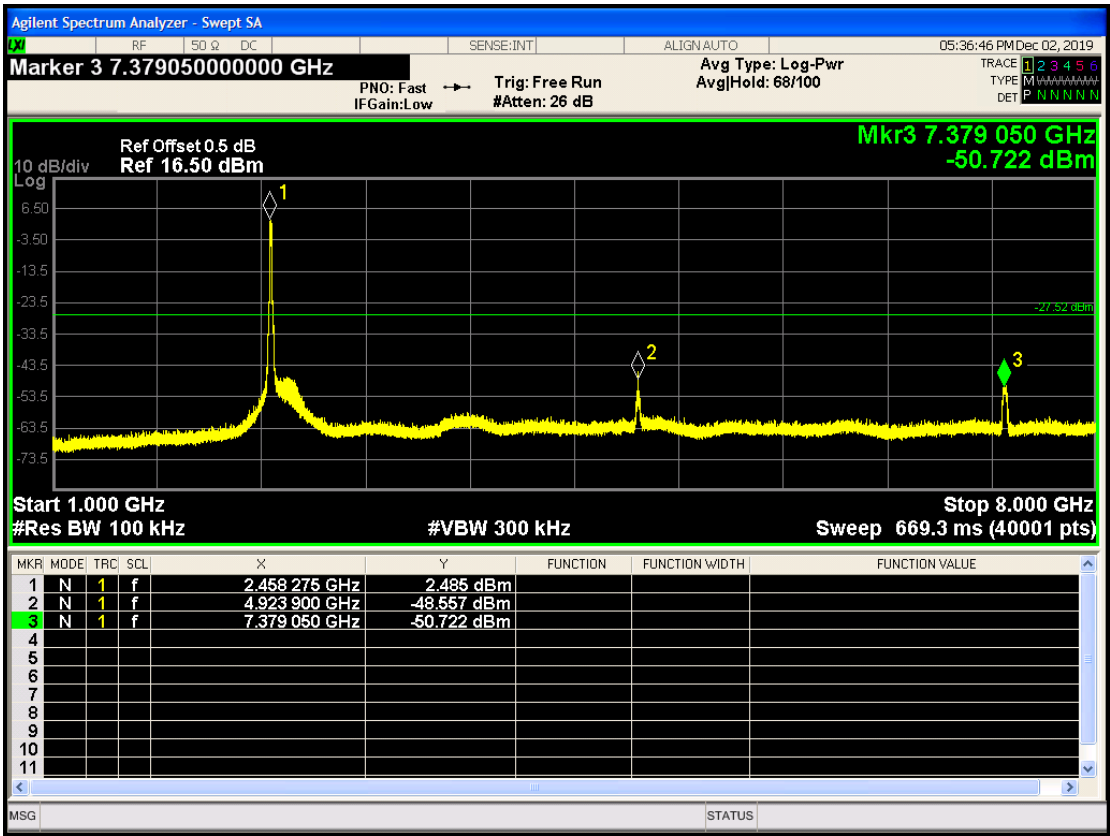


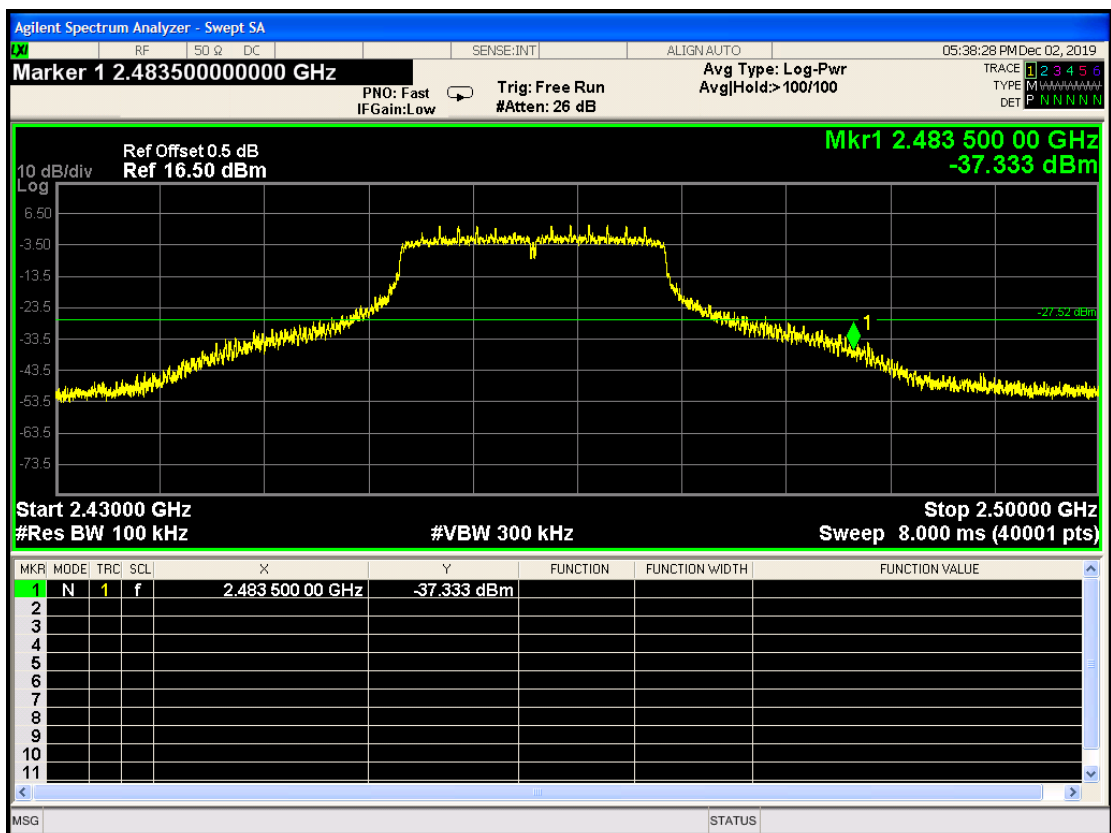
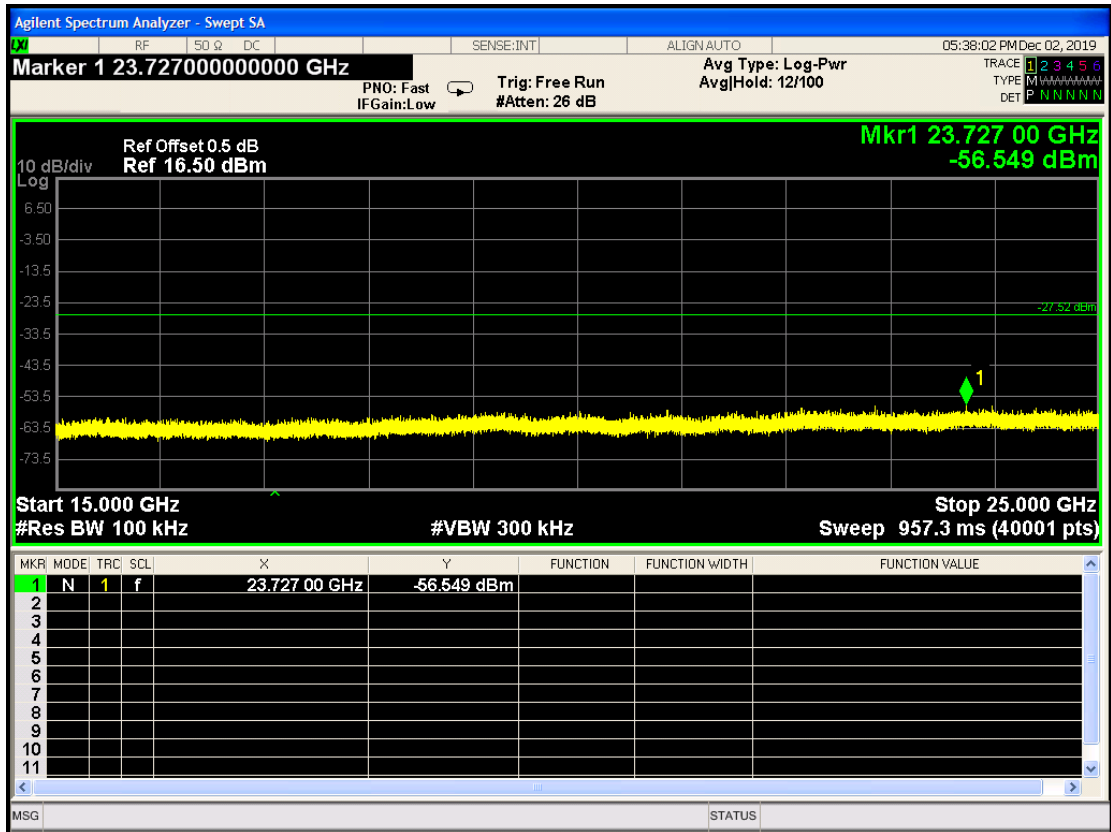




802.11nHT20 CH11







## **10.DEVIATION TO TEST SPECIFICATIONS**

**【NONE】**