

APPLICATION FOR CERTIFICATION

On Behalf of

TP-Link Technologies Co., Ltd

3G Mobile Wi-Fi

Model No.: M5250

FCC ID: TE7M5250

Brand: TP-LINK

Prepared for : TP-Link Technologies Co., Ltd
Building 24 (Floors 1,2,4,5) and 28
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Date of Test : Dec. 03 ~ 13, 2013
Date of Report : Dec. 13, 2013

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TEST REPORT CERTIFICATION

Applicant : TP-Link Technologies Co., Ltd
EUT Description : 3G Mobile Wi-Fi
FCC ID : TE7M5250
(A) Model No. : M5250
(B) Serial No. : N/A
(C) Brand : TP-LINK
(D) Power Supply : (1)DC 5V (Via USB)
(2)DC 3.7V (Via Battery)

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C, Oct. 2013
(FCC CFR 47 Part 15C, §15.205, §15.207, §15.209 and §15.247)
AND ANSI C63.4:2003

The device described above was tested by AUDIX Technology Corporation to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart C limits.

The measurement results are contained in this test report and AUDIX Technology Corporation 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 requirements of FCC standards.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX Technology Corporation.

Date of Test: Dec. 03 ~ 13, 2013

Date of Report: Dec. 13, 2013

Producer: Annie Yu
(Annie Yu/Administrator)

Signatory: Ben Cheng
(Ben Cheng/Manager)

1. DESCRIPTION OF REVISION HISTORY

| Edition No. | Date of Rev. | Revision Summary | Report No. |
|-------------|---------------|------------------|-------------|
| 0 | Dec. 13, 2013 | Original Report | EM-F1020902 |

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

| | |
|---------------------------|---|
| Product | 3G Mobile Wi-Fi |
| Model Number | M5250 |
| Serial Number | N/A |
| Brand Name | TP-LINK |
| Applicant | TP-Link Technologies Co., Ltd Building 24 (Floors 1,2,4,5) and 28 (floorsl-4) Central Science and technology park , Shennan Rd, Nanshan, Shenzhen, China |
| Manufacturer | TP-Link Technologies Co., Ltd Building 24 (Floors 1,2,4,5) and 28 (floorsl-4) Central Science and technology park , Shennan Rd, Nanshan, Shenzhen, China |
| FCC ID | TE7M5250 |
| Fundamental Range | 802.11b/g: 2412MHz ~ 2462MHz 802.11n-HT20: 2412MHz ~ 2462MHz GPRS/EGPRS 850: UL: 824MHz to 849MHz DL: 869MHz to 894MHz GPRS/EGPRS 1900: UL: 1850MHz to 1910MHz DL: 1930MHz to 1990MHz |
| Frequency Channel | 802.11b/g: 11 channels 802.11n-HT20: 2.4GHz: 11 channels GPRS/EGPRS 850: CH 128- CH 251 GPRS/EGPRS 1900: CH 512-CH 810 |
| Radio Technology | 802.11b: DSSS Modulation (DBPSK/DQPSK/CCK) 802.11g: DSSS /OFDM Modulation (BPSK/QPSK/16QAM/64QAM) 802.11n: DSSS /OFDM Modulation (SISO) (BPSK/QPSK/16QAM/64QAM) GSM/GPRS/EDGE (GMSK/8DPSK) |
| Data Transfer Rate | 802.11b: 1/2/5.5/11Mbps 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 72.2Mbps GSM:DL 14.4kbps/UL 14.4kbps GPRS: DL 85.6kbps/UL 85.6kbps EGPRS:DL 236.8kbps/UL 236.8kbps |
| USB Cable | Shielded, Detachable, 0.6m |
| Battery | M/N: TBL-71A20000, Rating: 3.7V, 2000mAh, 7.4Wh |
| Date of Receipt of Sample | Dec. 02, 2013 |
| Date of Test | Dec. 03 ~ 13, 2013 |

Note: This EUT has 2.4GHz (WLAN) and GPRS/EGPRS function. See below for related test reports based on radio functionality.

1. The 2.4GHz (WLAN) function has been test in other report of EM-F1020902.
2. The GPRS/EGPRS function has been test in other report of EM-F1020903.

2.2. Antenna Information

| Antenna Part Number | Manufacture | Antenna Type | Peak Gain | |
|---------------------|-------------------|--------------|--------------|----------|
| | | | Frequency | Max Gain |
| F | SHENZHEN SKYCROSS | PIFA | 2400-2500MHz | 3.73dBi |

2.3. Data Rate Relative to Peak Output Power

| 802.11b | | | |
|---------|------------|------------------|-------------|
| Channel | Modulation | Date Rate (Mbps) | Power (dBm) |
| 1 | BPSK | 1 | 12.99 |
| 1 | BPSK | 2 | 12.98 |
| 1 | QPSK | 5.5 | 12.95 |
| 1 | QPSK | 11 | 12.96 |

| 802.11g | | | |
|---------|------------|------------------|-------------|
| Channel | Modulation | Date Rate (Mbps) | Power (dBm) |
| 1 | BPSK | 6 | 10.82 |
| 1 | BPSK | 9 | 10.81 |
| 1 | QPSK | 12 | 10.81 |
| 1 | QPSK | 18 | 10.75 |
| 1 | 16-QAM | 24 | 10.79 |
| 1 | 16-QAM | 36 | 10.79 |
| 1 | 64-QAM | 48 | 10.80 |
| 1 | 64-QAM | 54 | 10.78 |

| 802.11n-HT20 | | | |
|--------------|------------|------------------|-------------|
| Channel | Modulation | Date Rate (Mbps) | Power (dBm) |
| 1 | BPSK | 6.5 | 10.72 |
| 1 | QPSK | 13 | 10.71 |
| 1 | QPSK | 19.5 | 10.70 |
| 1 | 16-QAM | 26 | 10.68 |
| 1 | 16-QAM | 39 | 10.69 |
| 1 | 64-QAM | 52 | 10.71 |
| 1 | 64-QAM | 58.6 | 10.69 |
| 1 | 64-QAM | 65 | 10.71 |

2.4. Test Configuration for Each Test Item

| Test Item | 802.11b | 802.11g | 802.11n-HT20 | 802.11n-HT40 |
|---------------------------|---------------------------|---------|--------------|--------------|
| | Data Rate for Test (Mbps) | | | |
| 6db Bandwidth | 1 | 6 | 6.5 | 6.5 |
| Maximum Peak Output Power | 1 | 6 | 6.5 | 6.5 |
| Emission Limitations | 1 | 6 | 6.5 | 6.5 |
| Band Edges | 1 | 6 | 6.5 | 6.5 |
| Power Spectral Density | 1 | 6 | 6.5 | 6.5 |

2.5. Tested Supporting System Details

2.5.1. Support Peripheral Unit

| No. | Product | Brand | Model No. | Serial No. | FCC ID |
|-----|-------------|-------|-----------|------------|------------------|
| 1. | Notebook PC | acer | ZL5 | N/A | FCC DoC Approved |

2.5.2. Cable Lists

| No. | Cable Description Of The Above Support Units |
|-----|---|
| 1. | Adapter: LITEON, M/N PA-1650-02 DC Cord: Non-Shielded, Undetachable, 1.8m AC Power Cord: Non-Shielded, Detachable, 1.8m |

2.6. Description of Test Facility

Name of Firm : **AUDIX Technology Corporation**
 EMC Department
 No. 53-11, Dingfu, Linkou Dist.,
 New Taipei City 244, Taiwan, R.O.C.

Test Site : **No. 8 Shielded Room &**
 (C8/Semi-AC) No. 53-11, Dingfu, Linkou Dist.,
 New Taipei City 244, Taiwan, R.O.C.
Semi-Anechoic Chamber
 No. 53-11, Dingfu, Linkou Dist.,
 New Taipei City 244, Taiwan, R.O.C.
 May 11, 2012 Renewal on
 Federal Communication Commission
 Registration Number: 90993

NVLAP Lab. Code : 200077-0

TAF Accreditation No : 1724

2.7. Measurement Uncertainty

| Test Item | Frequency Range | Uncertainty (dB) |
|----------------------------------|-----------------|---------------------|
| Conduction Test | 150kHz~30MHz | $\pm 1.73\text{dB}$ |
| Radiation Test (Distance: 3m) | 30MHz~300MHz | $\pm 2.91\text{dB}$ |
| | 300MHz~1000MHz | $\pm 2.74\text{dB}$ |
| | Above 1GHz | $\pm 5.02\text{dB}$ |

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

| Test Item | Uncertainty |
|---------------------------|----------------------|
| 6dB Bandwidth | $\pm 0.05\text{kHz}$ |
| Maximum peak output power | $\pm 0.33\text{dBm}$ |
| Emission Limitations | $\pm 0.13\text{dB}$ |
| Band edges | $\pm 0.13\text{dB}$ |
| Power spectral density | $\pm 0.13\text{dB}$ |

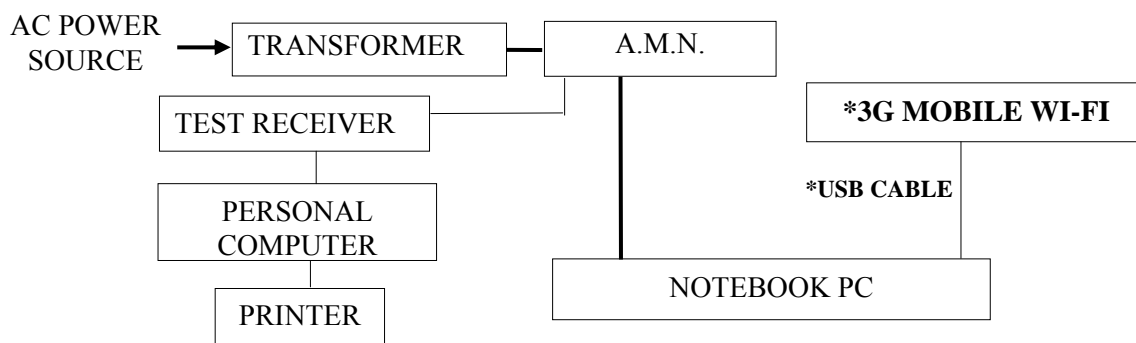
3. CONDUCTED EMISSION MEASUREMET

3.1. Test Equipment

The following test equipment was used during the conducted emission measurement : (No. 8 Shielded Room)

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|---------------|--------------|-----------|------------|--------------|--------------|
| 1. | Test Receiver | R&S | ESCS30 | 100265 | Aug. 22, 13' | Aug. 21, 14' |
| 2. | A.M.N. | R&S | ESH2-Z5 | 100366 | Mar. 19, 13' | Mar. 18, 14' |

3.2. Block Diagram of Test Setup



* : EUT — : DATA CABLE — : POWER CABLE

3.3. Powerline Conducted Emission Limit [§15.207, Class B]

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

Remark 1. 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.

3.4. Operating Condition of EUT

3.4.1. Set up the EUT and simulator as shown on 3.2.

3.4.2. To turn on the power of all equipment.

3.4.3. The test program “QPST” and “QRCT” was used to enable the EUT to transmit data during all testing.

3.4.4. The other peripheral devices were driven and operated in turn during all testing.

3.5. Test Procedure

The EUT (Link Notebook PC or Switching Power Supply) was placed on the table which was above the ground by 80cm and it's Notebook PC's adapter power cord or its Switching Power Supply power cord connected to the AC mains through an Artificial Mains Network (A.M.N.). This provided a 50 ohm coupling impedance for the measuring equipment. (Please refer to the block diagram of the test setup and photographs.)

Both sides of A.C. line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions simulators of the interface cables should be manipulated according to ANSI C63.4-2003 regulation during conducted measurement.

The bandwidth of the R&S Test Receiver ESCS30 was set at 9kHz.

The frequency range from 150kHz to 30MHz was checked.

All the final readings from Test Receiver were measured with the Quasi-Peak detector and Average detector. Remark: If the Average limit is met when using a Quasi-Peak detector, the Average detector is unnecessary)

3.6. Conducted Emission Measurement Results

PASSED.

(All the emissions not reported below are too low against the prescribed limits.)

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

EUT: 3G Mobile Wi-Fi

Model No.: M5250

Test Date: Dec. 10, 2013

Temperature: 21°C

Humidity: 50%

The details are as follows :

| Mode | Test Voltage | Operation of EUT | Reference Test Data No. | |
|------|--------------------------------|------------------|-------------------------|------|
| | | | Neutral | Line |
| 1 | AC 120V/60Hz (Via Notebook) | Operating | # 22 | # 21 |

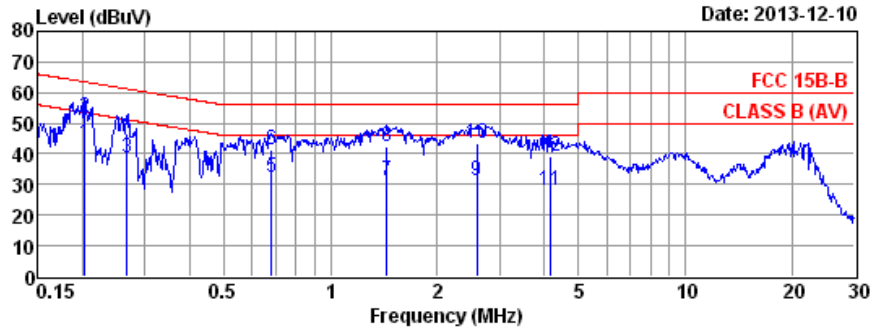


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Data: 22

File: D:\test data\REPORT\2013\1M1312XXX\1M1312001-C-D-EM6 (24)

Date: 2013-12-10



Site no. : No.8 Shielded Room Data no. : 22
Dis. / Ant. : ESH2-Z5 366 Ant. pol. : NEUTRAL
Limit : FCC 15B-B
Env. / Ins. : 21°C / 50% ESCS (265) Engineer : Jack_Wu
EUT : M5250
Power Rating : 120Vac/60Hz
Test Mode : Operating

| | Freq. (MHz) | CLAMP. Factor (dB) | Cable Loss (dB) | Reading (dBμV) | Emission Level (dBμV) | Limits (dBμV) | Margin (dB) | Remark |
|----|----------------|--------------------------|-----------------------|-------------------|-----------------------------|------------------|----------------|---------|
| 1 | 0.20 | 0.21 | 0.03 | 42.94 | 43.18 | 53.49 | 10.31 | Average |
| 2 | 0.20 | 0.21 | 0.03 | 51.94 | 52.18 | 63.49 | 11.31 | QP |
| 3 | 0.27 | 0.21 | 0.03 | 38.21 | 38.45 | 51.20 | 12.75 | Average |
| 4 | 0.27 | 0.21 | 0.03 | 46.21 | 46.45 | 61.20 | 14.75 | QP |
| 5 | 0.68 | 0.23 | 0.04 | 32.12 | 32.39 | 46.00 | 13.61 | Average |
| 6 | 0.68 | 0.23 | 0.04 | 41.12 | 41.39 | 56.00 | 14.61 | QP |
| 7 | 1.44 | 0.26 | 0.06 | 30.87 | 31.19 | 46.00 | 14.81 | Average |
| 8 | 1.44 | 0.26 | 0.06 | 41.87 | 42.19 | 56.00 | 13.81 | QP |
| 9 | 2.58 | 0.28 | 0.09 | 31.07 | 31.44 | 46.00 | 14.56 | Average |
| 10 | 2.58 | 0.28 | 0.09 | 43.07 | 43.44 | 56.00 | 12.56 | QP |
| 11 | 4.16 | 0.31 | 0.12 | 27.66 | 28.09 | 46.00 | 17.91 | Average |
| 12 | 4.16 | 0.31 | 0.12 | 38.66 | 39.09 | 56.00 | 16.91 | QP |

Remarks: 1. Emission Level= CLAMP Factor + Cable Loss + Reading.
2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

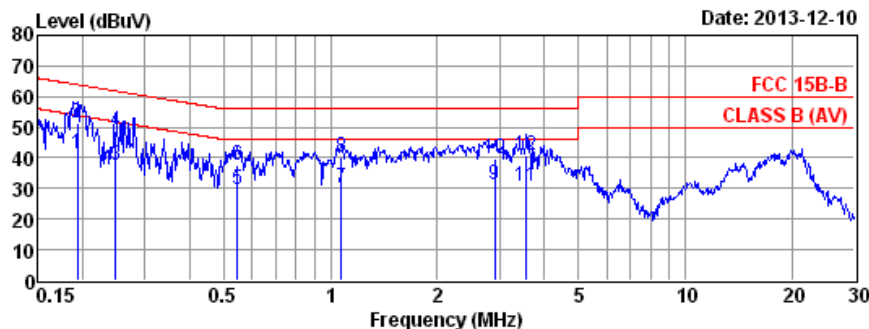


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Email:emc@audixtech.com

Data: 21

File: D:\test data\REPORT\2013\1M1312XXX\1M1312001-C-D.EM6 (24)

Date: 2013-12-10



Site no. : No.8 Shielded Room Data no. : 21
Dis. / Ant. : ESH2-Z5 366 Ant. pol. : LINE
Limit : FCC 15B-B
Env. / Ins. : 21°C / 50% ESCS (265) Engineer : Jack_Wu
EUT : M5250
Power Rating : 120Vac/60Hz
Test Mode : Operating

| | Freq. (MHz) | CLAMP. Factor (dB) | Cable Loss (dB) | Reading (dBμV) | Emission Level (dBμV) | Limits (dBμV) | Margin (dB) | Remark |
|----|----------------|-----------------------|--------------------|-------------------|--------------------------|------------------|----------------|---------|
| 1 | 0.19 | 0.11 | 0.03 | 41.29 | 41.43 | 53.89 | 12.46 | Average |
| 2 | 0.19 | 0.11 | 0.03 | 51.29 | 51.43 | 63.89 | 12.46 | QP |
| 3 | 0.25 | 0.11 | 0.03 | 37.46 | 37.60 | 51.82 | 14.22 | Average |
| 4 | 0.25 | 0.11 | 0.03 | 48.46 | 48.60 | 61.82 | 13.22 | QP |
| 5 | 0.55 | 0.13 | 0.04 | 29.67 | 29.84 | 46.00 | 16.16 | Average |
| 6 | 0.55 | 0.13 | 0.04 | 37.67 | 37.84 | 56.00 | 18.16 | QP |
| 7 | 1.07 | 0.14 | 0.05 | 30.02 | 30.21 | 46.00 | 15.79 | Average |
| 8 | 1.07 | 0.14 | 0.05 | 40.02 | 40.21 | 56.00 | 15.79 | QP |
| 9 | 2.90 | 0.18 | 0.10 | 31.24 | 31.52 | 46.00 | 14.48 | Average |
| 10 | 2.90 | 0.18 | 0.10 | 39.24 | 39.52 | 56.00 | 16.48 | QP |
| 11 | 3.57 | 0.19 | 0.11 | 30.50 | 30.80 | 46.00 | 15.20 | Average |
| 12 | 3.57 | 0.19 | 0.11 | 40.50 | 40.80 | 56.00 | 15.20 | QP |

Remarks: 1. Emission Level= CLAMP Factor + Cable Loss + Reading.
2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

4. RADIATED EMISSION MEASUREMENT

4.1. Test Equipment

The following test equipment was used during the radiated emission measurement:

4.1.1. For Frequency Range 30MHz~1000MHz (at Semi-Anechoic Chamber)

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|-------------------|--------------|------------|------------|--------------|--------------|
| 1. | Spectrum Analyzer | Agilent | N9030A-544 | US51350140 | Jul. 30, 13' | Jul. 29, 14' |
| 2. | Test Receiver | R & S | ESCS30 | 100338 | Jul. 01, 13' | Jun. 30, 14' |
| 3. | Amplifier | HP | 8447D | 2944A06305 | Feb. 29, 13' | Feb. 28, 14' |
| 4. | Bilog Antenna | TESEQ | CBL6112D | 33821 | Aug. 08, 13' | Aug. 07, 14' |

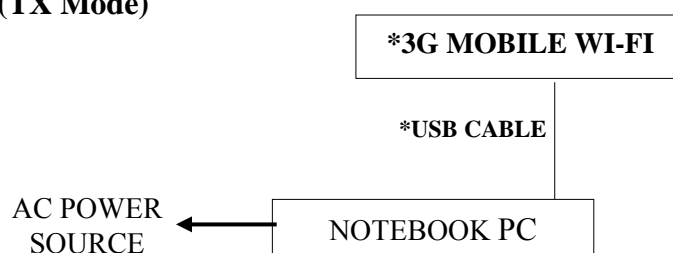
4.1.2. For Frequency Above 1GHz (at Semi-Anechoic Chamber)

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|---------------------|--------------------|------------------------|------------|--------------|--------------|
| 1. | Spectrum Analyzer | Agilent | N9030A-544 | US51350140 | Jul. 30, 13' | Jul. 29, 14' |
| 2. | Test Receiver | R & S | ESCS30 | 100338 | Jul. 01, 13' | Jun. 30, 14' |
| 3. | Pre-Amplifier | HP | 8449B | 3008A02678 | Mar. 08, 13' | Mar. 07, 14' |
| 4. | 2.4GHz Notch Filter | K&L | 7NSL10-2441.5E130.5-00 | 1 | Jun. 13, 13' | Jun. 12, 14' |
| 5. | 3G High Pass Filter | Microware Circuits | H3G018G1 | 484796 | Jun. 13, 13' | Jun. 12, 14' |
| 6. | Horn Antenna | EMCO | 3115 | 9112-3775 | May 07, 13' | May 06, 14' |
| 7. | Horn Antenna | EMCO | 3116 | 2653 | Oct. 11, 13' | Oct. 10, 14' |

4.2. Test Setup

4.2.1. Block Diagram of connection between EUT and simulators

(TX Mode)



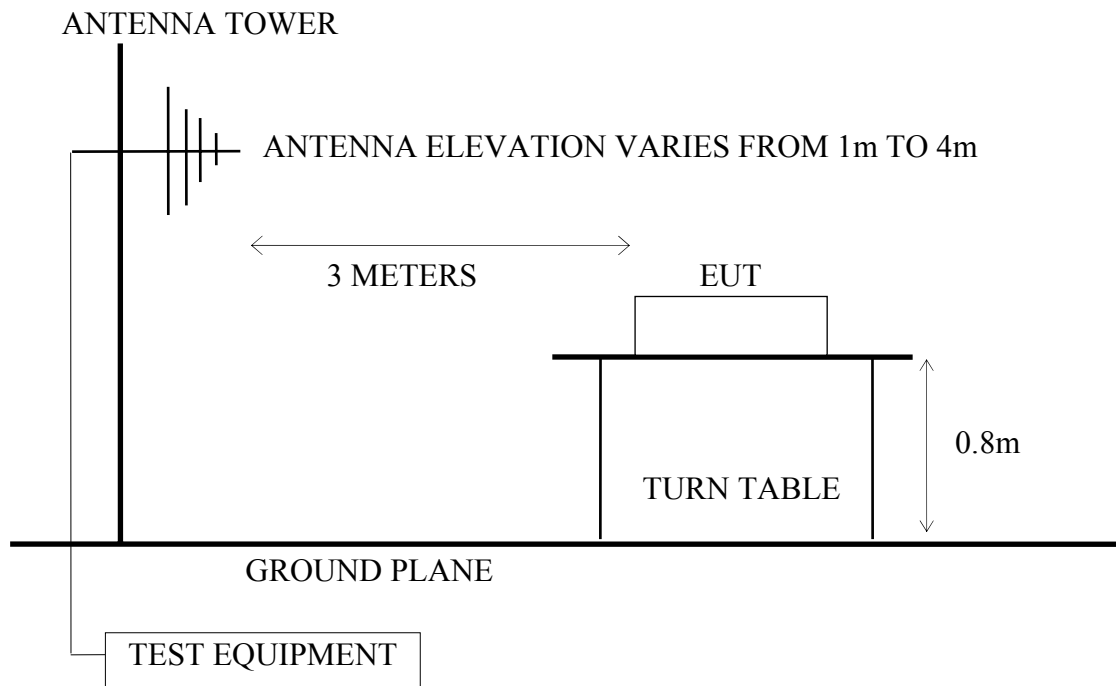
* : EUT

(Battery Mode)

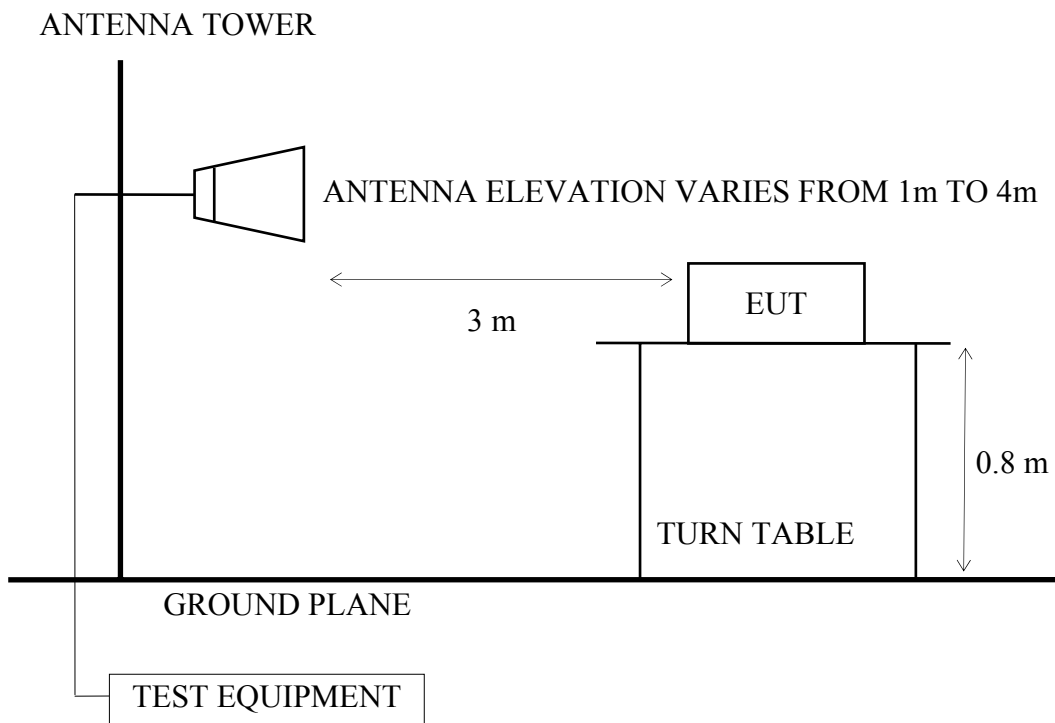


* : EUT

4.2.2. Semi-Anechoic Chamber (3m) Setup Diagram for 30-1000MHz



4.2.3. Semi-Anechoic Chamber (3m) Setup Diagram for above 1GHz



4.3. Radiated Emission Limits (§15.209)

| FREQUENCY MHz | DISTANCE Meters | FIELD STRENGTHS LIMITS | |
|------------------|--------------------|---|--------------------------|
| | | $\mu\text{V/m}$ | $\text{dB}\mu\text{V/m}$ |
| 30 ~ 88 | 3 | 100 | 40.0 |
| 88 ~ 216 | 3 | 150 | 43.5 |
| 216 ~ 960 | 3 | 200 | 46.0 |
| Above 960 | 3 | 500 | 54.0 |
| Above 1000 | 3 | 74.0 $\text{dB}\mu\text{V/m}$ (Peak) 54.0 $\text{dB}\mu\text{V/m}$ (Average) | |

Remark : (1) Emission level ($\text{dB}\mu\text{V/m}$) = $20 \log$ Emission level ($\mu\text{V/m}$)

(2) The tighter limit applies at 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) The limits in this table are based on CFR 47 Part 15.205(a)(b) and Part 15.209 (a).

(5) The over 1GHz limit, FCC limit is used based on CFR 47 Part 15.35(b) and Part 15.205(b) & Part 15.209(e) and Part 15.207(c).

4.4. Operating Condition of EUT

4.4.1. The 3G Mobile Wi-Fi (EUT) can be operated with battery (DC 3.7V) or USB port (DC 5V), after pre-scanning stand(x), lie(y) and side(z) axes that x axis is the worst axis. We did TX test and associated with USB to connect to notebook.

4.4.2. The test program “QPST” and “QRCT” was used to enable the EUT to transmit data at different channel frequency individually.

4.4.3. The EUT supports 802.11b/g/n-HT20 modes, we performed pre-scan high, middle, low channels for each mode for spurious emission and listed the worst channel of each mode in test report.

4.4.4. The worst channel of each mode as following:

| Mode | Type of Network | Channel |
|------|-----------------|---------|
| 1. | 802.11b | CH 1 |
| 2. | 802.11g | CH 1 |
| 3. | 802.11n-HT20 | CH 1 |

4.5. Test Procedure

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set 3 meters away from the receiving antenna which was mounted on an antenna tower. The antenna moved up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna such as calibrated biconical and log-periodical antenna or horn antenna were used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4-2003 regulation.

The bandwidth of the R&S Test Receiver was set at 120kHz. (For 30MHz to 1000MHz)

The resolution bandwidth and video bandwidth of test spectrum analyzer is 1MHz for peak detection (PK) at frequency above 1GHz.

The resolution bandwidth of test spectrum analyzer is 1MHz and the video bandwidth is 10Hz for average detection (AV) at frequency above 1GHz.

The frequency range from 30MHz to 25GHz (Up to 10th harmonics from fundamental frequency) was checked. 30MHz to 1000MHz was measured with Quasi-Peak detector.

Pursuant to ANSI C63.4 8.3.1.2, when peak value complies with the average limit, we didn't perform measurement in average detector.

4.6. Test Results

PASSED.

(All emissions not reported for there is no emission be found.)

For Frequency Range 30MHz~1000MHz:

The EUT with following test modes was performed during this section testing and all the test results are listed in section 4.6.1.

EUT: 3G Mobile Wi-Fi

M/N: M5250

Test Date: Dec. 06, 2013 Temperature: 23°C Humidity: 56%

| No. | Test Voltage | Type | Channel | Frequency | Test Mode | Reference Test Data No. | |
|-----|-------------------|--------------|---------|-----------|-----------|-------------------------|----------|
| | | | | | | Horizontal | Vertical |
| 1 | DC 5V (Via NB) | 802.11b | CH 1 | 2412MHz | Transmit | # 4 | # 1 |
| 2 | | 802.11g | CH 1 | 2412MHz | | # 5 | # 2 |
| 3 | | 802.11n-HT20 | CH 1 | 2412MHz | | # 6 | # 3 |

* Above all final readings were measured with Peak detector.

For Frequency above 1GHz:

Remark : The emissions (up to 25GHz) not reported are too low to be measured.

For Restricted Bands:

The EUT was tested in restricted bands and all the test results are listed in section 4.6.2. (The restricted bands defined in part 15.205(a))

| No. | Test Voltage | Type | Channel | Frequency | Test Mode | Reference Test Data No. | |
|-----|-------------------|--------------|---------|-----------|-----------|-------------------------|----------|
| | | | | | | Horizontal | Vertical |
| 1 | DC 5V (Via NB) | 802.11b | CH 1 | 2412MHz | Transmit | # 3, # 4 | # 1, # 2 |
| 2 | | | CH 11 | 2462MHz | | # 7, # 8 | # 5, # 6 |
| 3 | | 802.11g | CH 1 | 2412MHz | | # 3, # 4 | # 1, # 2 |
| 4 | | | CH 11 | 2462MHz | | # 7, # 8 | # 5, # 6 |
| 5 | | 802.11n-HT20 | CH 1 | 2412MHz | | # 3, # 4 | # 1, # 2 |
| 6 | | | CH 11 | 2462MHz | | # 7, # 8 | # 5, # 6 |

4.6.1. For 30-1000MHz Frequency Range Measurement Results

802.11b , Transmit, Frequency: 2412MHz

Site no. : Audix NO.1 Chamber
 Dis. / Ant. : 3m CBL6112D 33821
 Limit : 30M-1G
 Env. / Ins. : 23°C / 56% N9030A(140)
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11B(TX2412MHz)

Data no. : 4
 Ant. pol. : HORIZONTAL
 Engineer : Johnny_Hsueh

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 120.21 | 12.40 | 2.30 | 13.73 | 28.43 | 43.50 | 15.07 | Peak |
| 2 | 482.99 | 17.58 | 6.10 | 7.31 | 30.97 | 46.00 | 15.03 | Peak |
| 3 | 832.19 | 20.99 | 7.10 | 10.24 | 38.33 | 46.00 | 7.67 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported

Site no. : Audix NO.1 Chamber
 Dis. / Ant. : 3m CBL6112D 33821
 Limit : 30M-1G
 Env. / Ins. : 23°C / 56% N9030A(140)
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11B(TX2412MHz)

Data no. : 1
 Ant. pol. : VERTICAL
 Engineer : Johnny_Hsueh

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 139.61 | 11.70 | 2.50 | 19.04 | 33.24 | 43.50 | 10.26 | Peak |
| 2 | 484.93 | 17.58 | 6.20 | 6.43 | 30.21 | 46.00 | 15.79 | Peak |
| 3 | 830.25 | 20.96 | 7.10 | 7.77 | 35.83 | 46.00 | 10.17 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported

802.11g , Transmit, Frequency: 2412MHz

Site no. : Audix NO.1 Chamber
 Dis. / Ant. : 3m CBL6112D 33821
 Limit : 30M-1G
 Env. / Ins. : 23°C / 56% N9030A(140)
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11G(TX2412MHz)

Data no. : 5
 Ant. pol. : HORIZONTAL

HORIZONTAL

Engineer : Johnny_Hsueh

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 120.21 | 12.40 | 2.30 | 13.53 | 28.23 | 43.50 | 15.27 | Peak |
| 2 | 484.93 | 17.58 | 6.20 | 7.34 | 31.12 | 46.00 | 14.88 | Peak |
| 3 | 828.31 | 20.94 | 7.10 | 9.03 | 37.07 | 46.00 | 8.93 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported

Site no. : Audix NO.1 Chamber
 Dis. / Ant. : 3m CBL6112D 33821
 Limit : 30M-1G
 Env. / Ins. : 23°C / 56% N9030A(140)
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11G(TX2412MHz)

Data no. : 2
 Ant. pol. : VERTICAL

Engineer : Johnny_Hsueh

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 135.73 | 11.90 | 2.40 | 18.50 | 32.80 | 43.50 | 10.70 | Peak |
| 2 | 580.96 | 18.81 | 6.30 | 6.45 | 31.56 | 46.00 | 14.44 | Peak |
| 3 | 831.22 | 20.98 | 7.10 | 6.22 | 34.30 | 46.00 | 11.70 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported

802.11n-HT20 , Transmit, Frequency: 2412MHz

Site no. : Audix NO.1 Chamber
 Dis. / Ant. : 3m CBL6112D 33821
 Limit : 30M-1G
 Env. / Ins. : 23°C / 56% N9030A(140)
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11HT20(TX2412MHz)

Data no. : 6
 Ant. pol. : HORIZONTAL
 Engineer : Johnny_Hsueh

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 120.21 | 12.40 | 2.30 | 13.74 | 28.44 | 43.50 | 15.06 | Peak |
| 2 | 482.99 | 17.56 | 6.10 | 7.68 | 31.34 | 46.00 | 14.66 | Peak |
| 3 | 833.16 | 21.00 | 7.10 | 8.68 | 36.78 | 46.00 | 9.22 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber
 Dis. / Ant. : 3m CBL6112D 33821
 Limit : 30M-1G
 Env. / Ins. : 23°C / 56% N9030A(140)
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11HT20(TX2412MHz)

Data no. : 3
 Ant. pol. : VERTICAL
 Engineer : Johnny_Hsueh

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 104.69 | 11.75 | 2.15 | 18.25 | 32.15 | 43.50 | 11.35 | Peak |
| 2 | 502.39 | 17.83 | 6.60 | 7.42 | 31.85 | 46.00 | 14.15 | Peak |
| 3 | 831.22 | 20.98 | 7.10 | 7.46 | 35.54 | 46.00 | 10.46 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

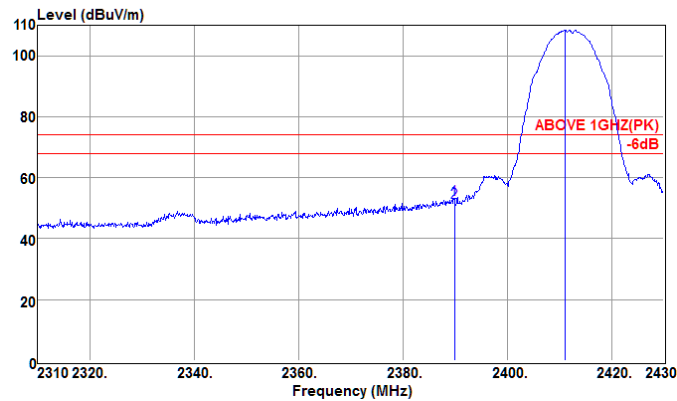
4.6.2. Restricted Bands Measurement Results

Date of Test : Dec. 06, 2013 Temperature: 23°C

EUT: 3G Mobile Wi-Fi Humidity: 56%

Test Mode: 802.11b , Transmit, Channel: 01, Frequency: 2412MHz

Data: 3 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Blout of band.EMI.EM6 (8)

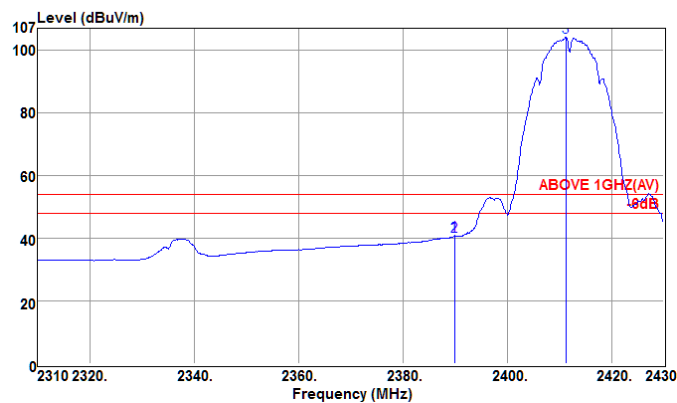


Site no. : Audix NO.1 Chamber Data no. : 3
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : ABOVE 1GHZ(PK)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11B(TX2412MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 2389.92 | 28.47 | 6.34 | 18.19 | 53.00 | 74.00 | 21.00 | Peak |
| 2 | 2390.04 | 28.47 | 6.34 | 17.00 | 51.81 | 74.00 | 22.19 | Peak |
| 3 | 2411.04 | 28.51 | 6.36 | 73.65 | 108.52 | 74.00 | -34.52 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Data: 4 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Blout of band.EMI.EM6 (8)



Site no. : Audix NO.1 Chamber Data no. : 4
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : ABOVE 1GHZ(AV)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11B(TX2412MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|---------|
| 1 | 2389.92 | 28.47 | 6.34 | 6.03 | 40.84 | 54.00 | 13.16 | Average |
| 2 | 2390.04 | 28.47 | 6.34 | 5.97 | 40.78 | 54.00 | 13.22 | Average |
| 3 | 2411.28 | 28.51 | 6.36 | 69.31 | 104.18 | 54.00 | -50.18 | Average |

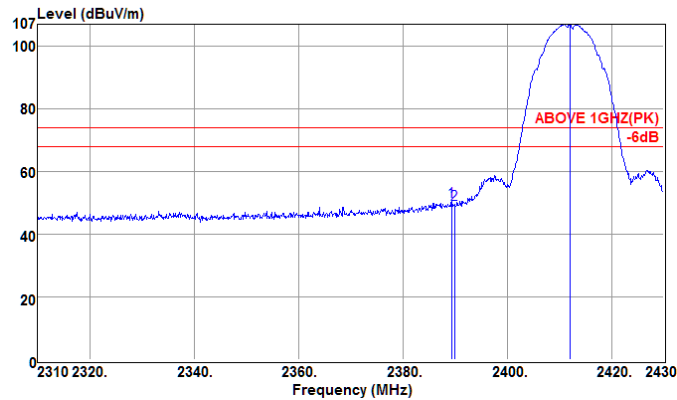
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Dec. 06, 2013 Temperature: 23°C

EUT: 3G Mobile Wi-Fi Humidity: 56%

Test Mode: 802.11b , Transmit, Channel: 01, Frequency: 2412MHz

Data: 1 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Blout of band.EMI.EM6 (8)

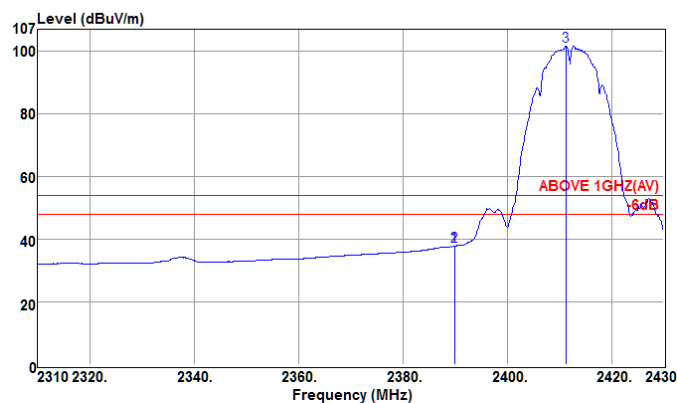


Site no. : Audix NO.1 Chamber Data no. : 1
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : ABOVE 1GHZ(PK)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11B(TX2412MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 2389.44 | 28.47 | 6.34 | 15.84 | 50.65 | 74.00 | 23.35 | Peak |
| 2 | 2390.04 | 28.47 | 6.34 | 14.84 | 48.45 | 74.00 | 24.55 | Peak |
| 3 | 2412.12 | 28.51 | 6.36 | 72.03 | 106.90 | 74.00 | -32.90 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Data: 2 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Blout of band.EMI.EM6 (8)



Site no. : Audix NO.1 Chamber Data no. : 2
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : ABOVE 1GHZ(AV)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11B(TX2412MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|---------|
| 1 | 2389.92 | 28.47 | 6.34 | 2.95 | 37.76 | 54.00 | 16.24 | Average |
| 2 | 2390.04 | 28.47 | 6.34 | 3.00 | 37.81 | 54.00 | 16.19 | Average |
| 3 | 2411.28 | 28.51 | 6.36 | 66.74 | 101.61 | 54.00 | -47.61 | Average |

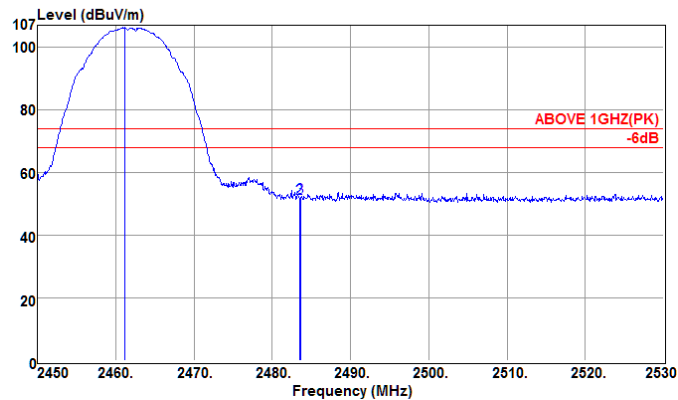
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Dec. 06, 2013 Temperature: 23°C

EUT: 3G Mobile Wi-Fi Humidity: 56%

Test Mode: 802.11b , Transmit, Channel: 11, Frequency: 2462MHz

Data: 7 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Blout of band.EMI.EM6 (8)

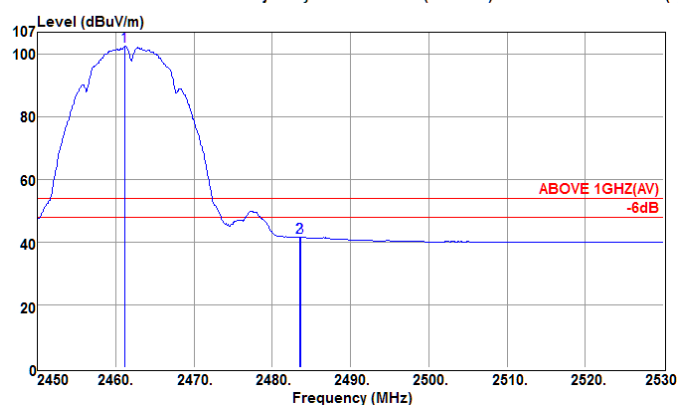


Site no. : Audix NO.1 Chamber Data no. : 7
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : ABOVE 1GHZ(PK)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11B(TX2462MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 2481.12 | 28.62 | 6.42 | 71.29 | 106.33 | 74.00 | -32.33 | Peak |
| 2 | 2483.52 | 28.66 | 6.45 | 16.79 | 51.90 | 74.00 | 22.10 | Peak |
| 3 | 2483.60 | 28.66 | 6.45 | 17.04 | 52.15 | 74.00 | 21.85 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Data: 8 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Blout of band.EMI.EM6 (8)



Site no. : Audix NO.1 Chamber Data no. : 8
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : ABOVE 1GHZ(AV)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11B(TX2462MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|---------|
| 1 | 2481.20 | 28.62 | 6.42 | 87.37 | 102.41 | 54.00 | -48.41 | Average |
| 2 | 2483.52 | 28.66 | 6.45 | 6.37 | 41.48 | 54.00 | 12.52 | Average |
| 3 | 2483.60 | 28.66 | 6.45 | 6.40 | 41.51 | 54.00 | 12.49 | Average |

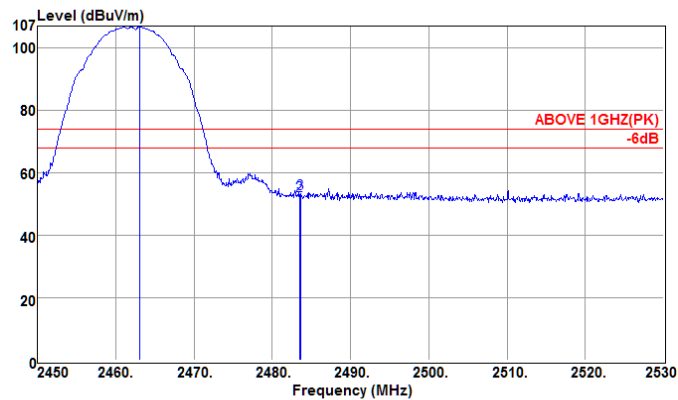
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Dec. 06, 2013 Temperature: 23°C

EUT: 3G Mobile Wi-Fi Humidity: 56%

Test Mode: 802.11b , Transmit, Channel: 11, Frequency: 2462MHz

Data: 5 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Blout of band.EMI.EM6 (8)

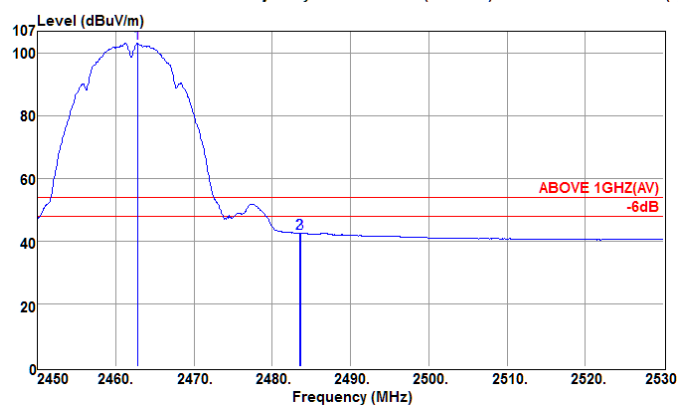


Site no. : Audix NO.1 Chamber Data no. : 5
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : ABOVE 1GHZ(PK)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11B(TX2462MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 2463.04 | 28.62 | 6.42 | 71.88 | 106.92 | 74.00 | -32.92 | Peak |
| 2 | 2483.52 | 28.66 | 6.45 | 17.61 | 52.72 | 74.00 | 21.28 | Peak |
| 3 | 2483.60 | 28.66 | 6.45 | 18.39 | 53.50 | 74.00 | 20.50 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Data: 6 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Blout of band.EMI.EM6 (8)



Site no. : Audix NO.1 Chamber Data no. : 6
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : ABOVE 1GHZ(AV)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11B(TX2462MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|---------|
| 1 | 2462.88 | 28.62 | 6.42 | 68.08 | 103.12 | 54.00 | -49.12 | Average |
| 2 | 2483.52 | 28.66 | 6.45 | 7.45 | 42.56 | 54.00 | 11.44 | Average |
| 3 | 2483.60 | 28.66 | 6.45 | 7.50 | 42.61 | 54.00 | 11.39 | Average |

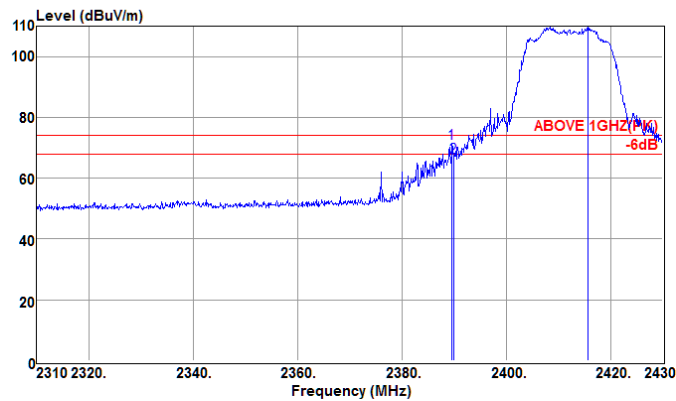
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Dec. 06, 2013 Temperature: 23°C

EUT: 3G Mobile Wi-Fi Humidity: 56%

Test Mode: 802.11g , Transmit, Channel: 01, Frequency: 2412MHz

Data: 3 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Glout of band.EMI.EM6 (8)

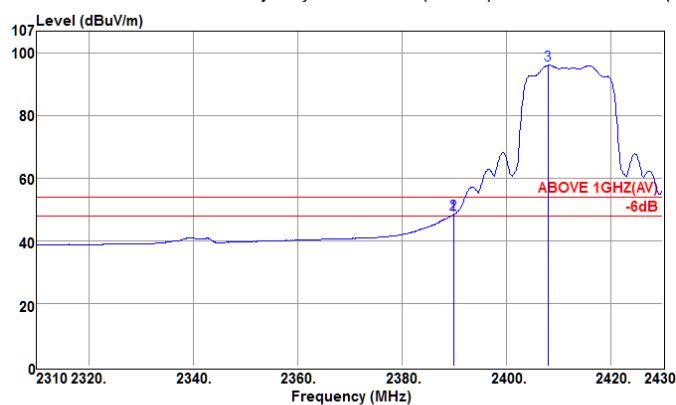


Site no. : Audix NO.1 Chamber Data no. : 3
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : ABOVE 1GHZ(PK)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11G(TX2412MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 2389.68 | 28.47 | 6.34 | 36.61 | 71.42 | 74.00 | 2.58 | Peak |
| 2 | 2390.04 | 28.47 | 6.34 | 32.10 | 66.91 | 74.00 | 7.09 | Peak |
| 3 | 2415.72 | 28.51 | 6.36 | 75.58 | 110.45 | 74.00 | -36.45 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Data: 4 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Glout of band.EMI.EM6 (8)



Site no. : Audix NO.1 Chamber Data no. : 4
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : ABOVE 1GHZ(AV)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11G(TX2412MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|---------|
| 1 | 2389.92 | 28.47 | 6.34 | 13.55 | 48.36 | 54.00 | 5.64 | Average |
| 2 | 2390.04 | 28.47 | 6.34 | 13.74 | 48.55 | 54.00 | 5.45 | Average |
| 3 | 2408.16 | 28.51 | 6.36 | 61.25 | 96.12 | 54.00 | -42.12 | Average |

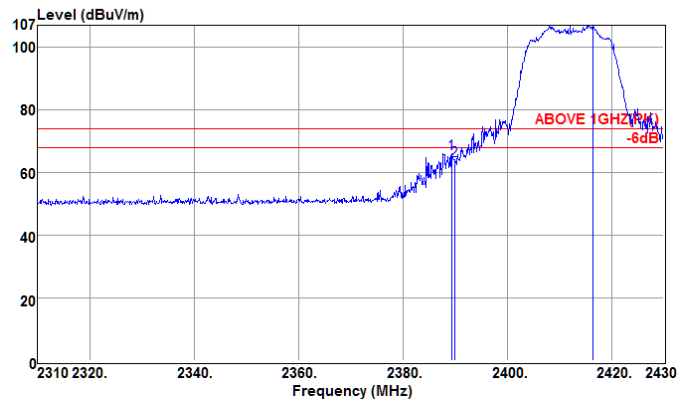
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Dec. 06, 2013 Temperature: 23°C

EUT: 3G Mobile Wi-Fi Humidity: 56%

Test Mode: 802.11g , Transmit, Channel: 01, Frequency: 2412MHz

Data: 1 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Glout of band.EMI.EM6 (8)

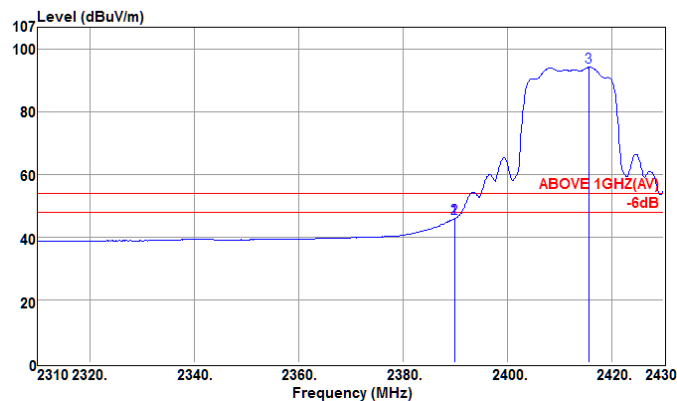


Site no. : Audix NO.1 Chamber Data no. : 1
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : ABOVE 1GHZ(PK)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11G(TX2412MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 2389.44 | 28.47 | 6.34 | 31.21 | 66.02 | 74.00 | 7.98 | Peak |
| 2 | 2390.04 | 28.47 | 6.34 | 29.01 | 63.82 | 74.00 | 10.18 | Peak |
| 3 | 2416.44 | 28.51 | 6.37 | 72.44 | 107.32 | 74.00 | -33.32 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Data: 2 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Glout of band.EMI.EM6 (8)



Site no. : Audix NO.1 Chamber Data no. : 2
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : ABOVE 1GHZ(AV)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11G(TX2412MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|---------|
| 1 | 2389.92 | 28.47 | 6.34 | 11.17 | 45.98 | 54.00 | 8.02 | Average |
| 2 | 2390.04 | 28.47 | 6.34 | 11.30 | 46.11 | 54.00 | 7.89 | Average |
| 3 | 2415.72 | 28.51 | 6.36 | 59.38 | 94.25 | 54.00 | -40.25 | Average |

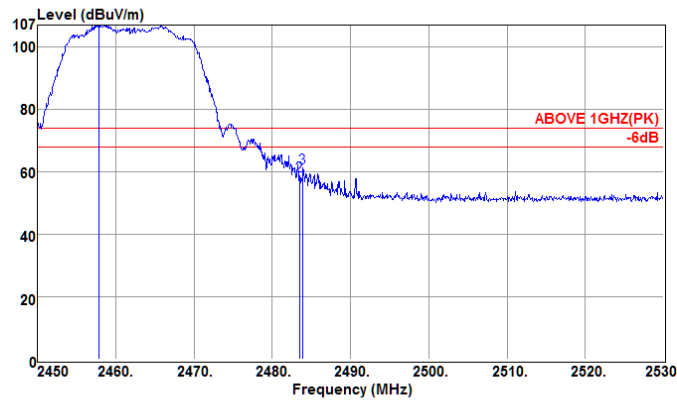
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Dec. 06, 2013 Temperature: 23°C

EUT: 3G Mobile Wi-Fi Humidity: 56%

Test Mode: 802.11g , Transmit, Channel: 11, Frequency: 2462MHz

Data: 7 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Glout of band.EMI.EM6 (8)

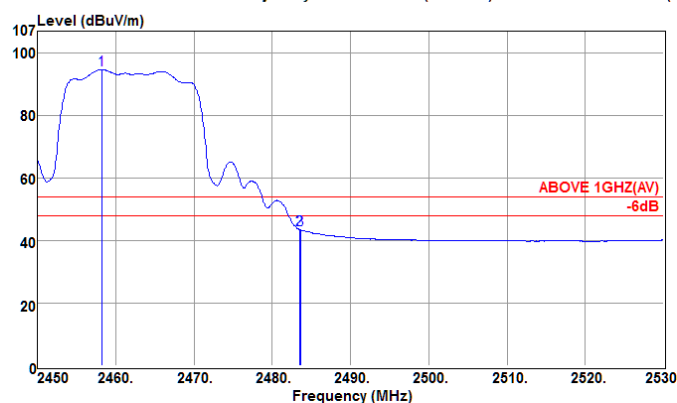


Site no. : Audix NO.1 Chamber Data no. : 7
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : ABOVE 1GHZ(PK)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11G(TX2462MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 2457.84 | 28.62 | 6.42 | 72.76 | 107.80 | 74.00 | -33.80 | Peak |
| 2 | 2483.52 | 28.66 | 6.45 | 23.53 | 58.64 | 74.00 | 15.36 | Peak |
| 3 | 2483.92 | 28.66 | 6.45 | 26.26 | 61.37 | 74.00 | 12.63 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Data: 8 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Glout of band.EMI.EM6 (8)



Site no. : Audix NO.1 Chamber Data no. : 8
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : ABOVE 1GHZ(AV)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11G(TX2462MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|---------|
| 1 | 2458.24 | 28.62 | 6.42 | 59.71 | 94.75 | 54.00 | -40.75 | Average |
| 2 | 2483.52 | 28.66 | 6.45 | 8.36 | 43.47 | 54.00 | 10.53 | Average |
| 3 | 2483.60 | 28.66 | 6.45 | 8.36 | 43.47 | 54.00 | 10.53 | Average |

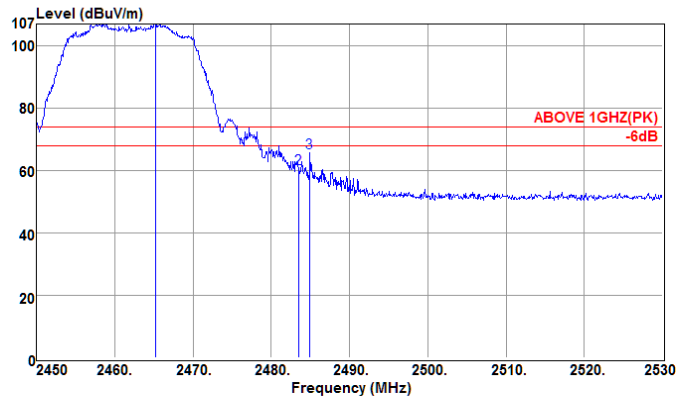
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Dec. 06, 2013 Temperature: 23°C

EUT: 3G Mobile Wi-Fi Humidity: 56%

Test Mode: 802.11g, Transmit, Channel: 11, Frequency: 2462MHz

Data: 5 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Glout of band.EMI.EM6 (8)

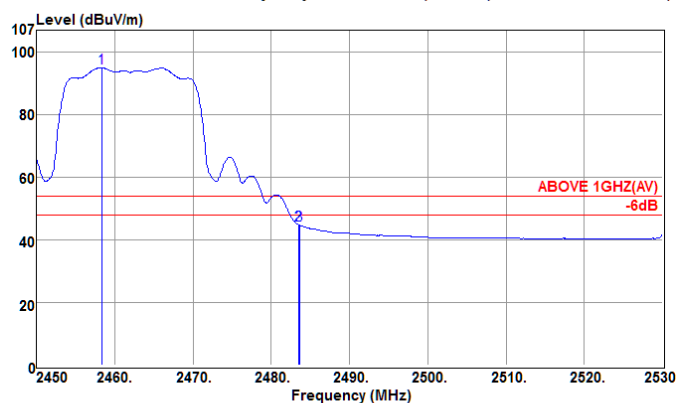


Site no. : Audix NO.1 Chamber Data no. : 5
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : ABOVE 1GHZ(PK)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11G(TX2462MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 2465.28 | 28.62 | 6.42 | 73.20 | 108.24 | 74.00 | -34.24 | Peak |
| 2 | 2483.52 | 28.66 | 6.45 | 25.46 | 60.57 | 74.00 | 13.43 | Peak |
| 3 | 2484.96 | 28.66 | 6.45 | 30.78 | 65.89 | 74.00 | 8.11 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Data: 6 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\Glout of band.EMI.EM6 (8)



Site no. : Audix NO.1 Chamber Data no. : 6
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : ABOVE 1GHZ(AV)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11G(TX2462MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|---------|
| 1 | 2458.32 | 28.62 | 6.42 | 59.94 | 94.98 | 54.00 | -40.98 | Average |
| 2 | 2483.52 | 28.66 | 6.45 | 9.76 | 44.87 | 54.00 | 9.13 | Average |
| 3 | 2483.60 | 28.66 | 6.45 | 9.59 | 44.70 | 54.00 | 9.30 | Average |

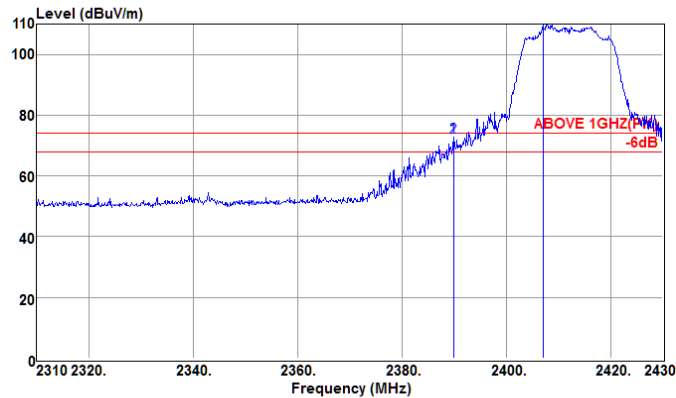
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Dec. 06, 2013 Temperature: 23°C

EUT: 3G Mobile Wi-Fi Humidity: 56%

Test Mode: 802.11n-HT20 , Transmit, Channel: 01, Frequency: 2412MHz

Data: 3 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\HT20\out of band.EMI.EM6 (8)

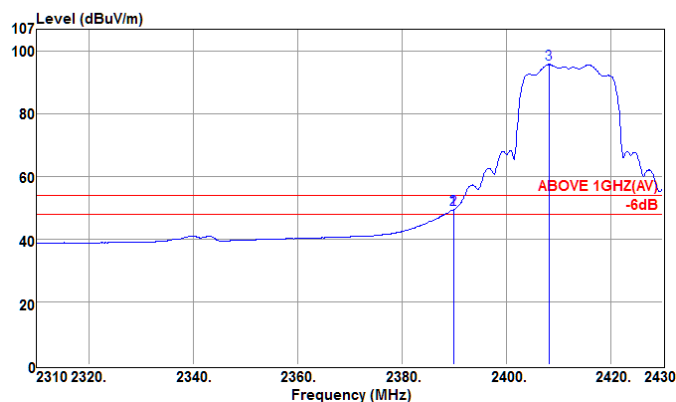


Site no. : Audix NO.1 Chamber Data no. : 3
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : ABOVE 1GHZ(PK)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11HT20(TX2412MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 2389.92 | 28.47 | 6.34 | 38.01 | 72.82 | 74.00 | 1.18 | Peak |
| 2 | 2390.04 | 28.47 | 6.34 | 38.11 | 72.92 | 74.00 | 1.08 | Peak |
| 3 | 2407.08 | 28.51 | 6.36 | 75.00 | 109.87 | 74.00 | -35.87 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Data: 4 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\HT20\out of band.EMI.EM6 (8)



Site no. : Audix NO.1 Chamber Data no. : 4
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : ABOVE 1GHZ(AV)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11HT20(TX2412MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|---------|
| 1 | 2389.92 | 28.47 | 6.34 | 14.73 | 49.54 | 54.00 | 4.46 | Average |
| 2 | 2390.04 | 28.47 | 6.34 | 14.79 | 49.60 | 54.00 | 4.40 | Average |
| 3 | 2408.28 | 28.51 | 6.36 | 60.89 | 95.76 | 54.00 | -41.76 | Average |

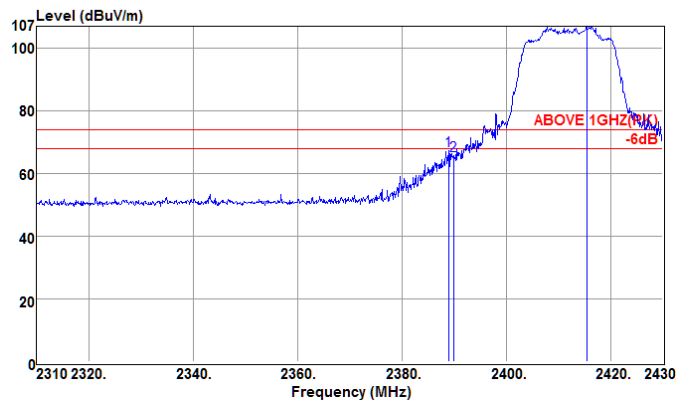
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Dec. 06, 2013 Temperature: 23°C

EUT: 3G Mobile Wi-Fi Humidity: 56%

Test Mode: 802.11n-HT20 , Transmit, Channel: 01, Frequency: 2412MHz

Data: 1 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\HT20\out of band.EMI.EM6 (8)

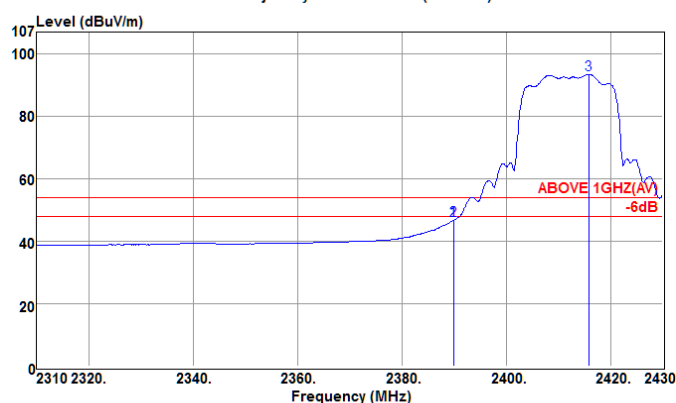


Site no. : Audix NO.1 Chamber Data no. : 1
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : ABOVE 1GHZ(PK)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11HT20(TX2412MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 2388.96 | 28.47 | 6.34 | 32.55 | 67.36 | 74.00 | 6.64 | Peak |
| 2 | 2390.04 | 28.47 | 6.34 | 30.88 | 65.67 | 74.00 | 8.33 | Peak |
| 3 | 2415.48 | 28.51 | 6.36 | 72.76 | 107.63 | 74.00 | -33.63 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Data: 2 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\HT20\out of band.EMI.EM6 (8)



Site no. : Audix NO.1 Chamber Data no. : 2
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : ABOVE 1GHZ(AV)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11HT20(TX2412MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|---------|
| 1 | 2389.92 | 28.47 | 6.34 | 11.84 | 46.65 | 54.00 | 7.35 | Average |
| 2 | 2390.04 | 28.47 | 6.34 | 11.98 | 46.79 | 54.00 | 7.21 | Average |
| 3 | 2415.84 | 28.51 | 6.36 | 58.80 | 93.47 | 54.00 | -39.47 | Average |

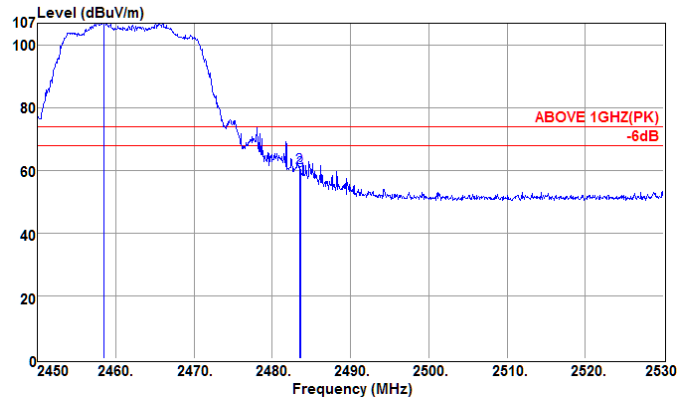
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Dec. 06, 2013 Temperature: 23°C

EUT: 3G Mobile Wi-Fi Humidity: 56%

Test Mode: 802.11n-HT20 , Transmit, Channel: 11, Frequency: 2462MHz

Data: 7 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\HT20\out of band.EMI.EM6 (8)

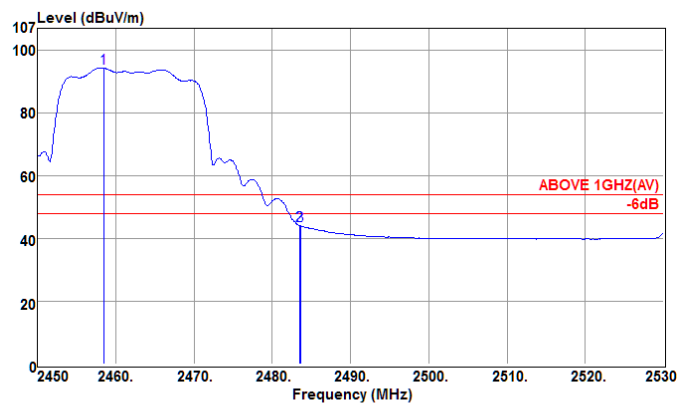


Site no. : Audix NO.1 Chamber Data no. : 7
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : ABOVE 1GHZ(PK)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11HT20(TX2462MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 2458.56 | 28.62 | 6.42 | 72.37 | 107.41 | 74.00 | -33.41 | Peak |
| 2 | 2483.52 | 28.66 | 6.45 | 25.86 | 80.97 | 74.00 | 13.03 | Peak |
| 3 | 2483.60 | 28.66 | 6.45 | 24.86 | 59.97 | 74.00 | 14.03 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Data: 8 File: D:\share DOC\johnny-e3\C1M1312001(TP-LINK)\HT20\out of band.EMI.EM6 (8)



Site no. : Audix NO.1 Chamber Data no. : 8
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
 Limit : ABOVE 1GHZ(AV)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11HT20(TX2462MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|---------|
| 1 | 2458.48 | 28.62 | 6.42 | 59.33 | 94.37 | 54.00 | -40.37 | Average |
| 2 | 2483.52 | 28.66 | 6.45 | 9.09 | 44.20 | 54.00 | 9.30 | Average |
| 3 | 2483.60 | 28.66 | 6.45 | 9.00 | 44.11 | 54.00 | 9.39 | Average |

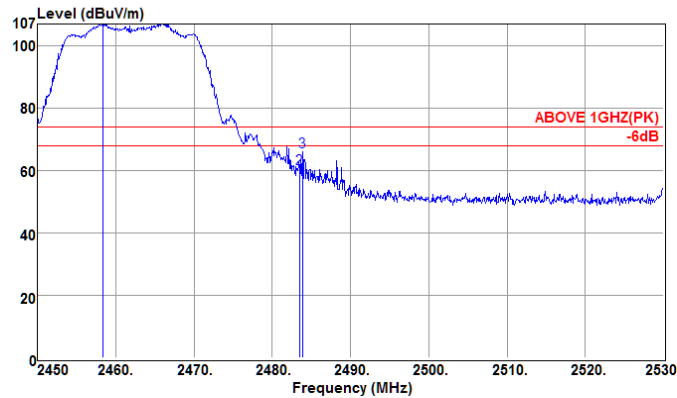
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : Dec. 06, 2013 Temperature: 23°C

EUT: 3G Mobile Wi-Fi Humidity: 56%

Test Mode: 802.11n-HT20 , Transmit, Channel: 11, Frequency: 2462MHz

Data: 5 File: D:\share DOC\johnny-e3\1M1312001(TP-LINK)\HT20\out of band.EMI.EM6 (8)

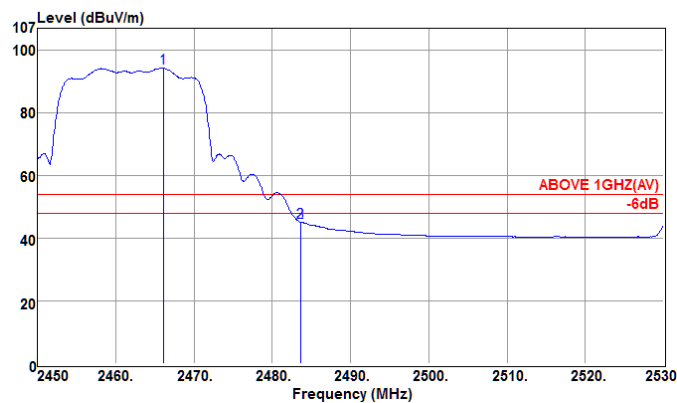


Site no. : Audix NO.1 Chamber Data no. : 5
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : ABOVE 1GHZ(PK)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11HT20(TX2462MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|--------|
| 1 | 2458.40 | 28.62 | 6.42 | 73.04 | 108.08 | 74.00 | -34.08 | Peak |
| 2 | 2483.52 | 28.66 | 6.45 | 25.47 | 60.58 | 74.00 | 13.42 | Peak |
| 3 | 2483.84 | 28.66 | 6.45 | 30.80 | 65.91 | 74.00 | 8.09 | Peak |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Data: 6 File: D:\share DOC\johnny-e3\1M1312001(TP-LINK)\HT20\out of band.EMI.EM6 (8)



Site no. : Audix NO.1 Chamber Data no. : 6
 Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
 Limit : ABOVE 1GHZ(AV)
 Env. / Ins. : 23°C / 56% N9030A(140) Engineer : Johnny_Hsueh
 EUT : M5250
 Power Rating : DC 5.0V (Via USB)
 Test Mode : 802.11HT20(TX2462MHz)

| | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dB μ V) | Emission Level (dB μ V/m) | Limits (dB μ V/m) | Margin (dB) | Remark |
|---|----------------|--------------------------|-----------------------|-------------------------|-------------------------------------|--------------------------|----------------|---------|
| 1 | 2466.08 | 28.62 | 6.42 | 59.21 | 94.25 | 54.00 | -40.25 | Average |
| 2 | 2483.60 | 28.66 | 6.45 | 10.06 | 45.17 | 54.00 | 8.83 | Average |
| 3 | 2483.68 | 28.66 | 6.45 | 10.03 | 45.14 | 54.00 | 8.86 | Average |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

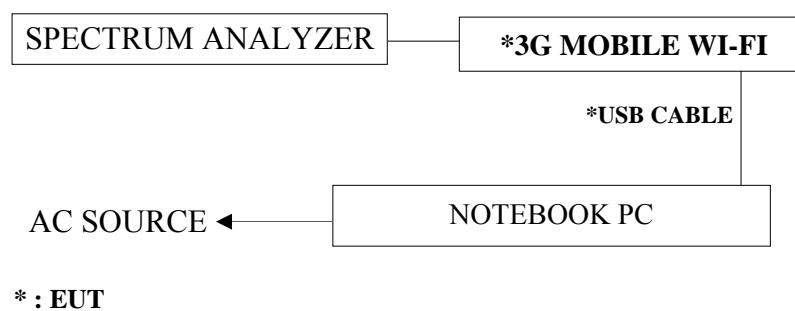
5. 6dB BANDWIDTH MEASUREMENT

5.1. Test Equipment

The following test equipment was used during the Emission Bandwidth measurement:

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|-------------------|--------------|------------|------------|--------------|--------------|
| 1. | Spectrum Analyzer | Agilent | N9030A-544 | US51350140 | Jul. 30, 13' | Oct. 29, 14' |

5.2. Block Diagram of Test Setup



5.3. Specification Limits [§15.247(a)(2)]

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

5.4. Operating Condition of EUT

The test program “QPST” and “QRCT” was used to enable the EUT to transmit data at different channel frequency individually.

5.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with 1.5% EBW, $VBW \geq 3 \times RBW$. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

The measurement guideline was according to KDB 558074 D01 V03.

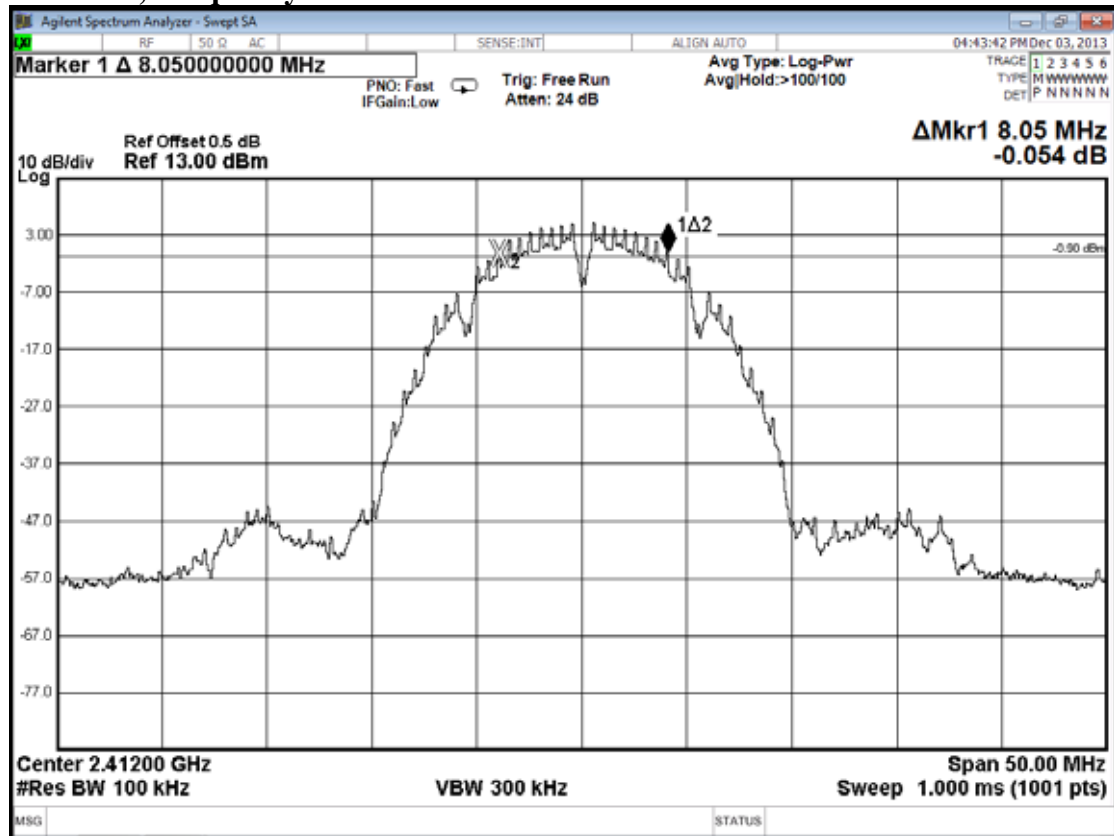
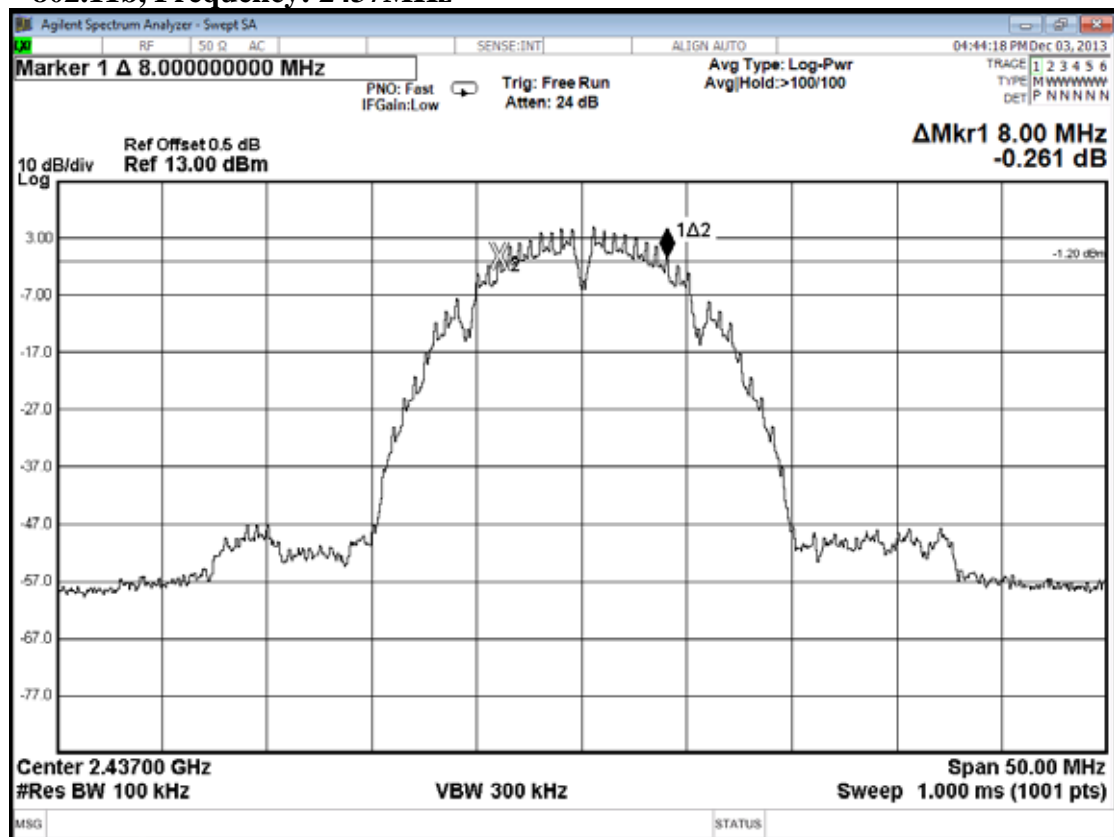
5.6. Test Results

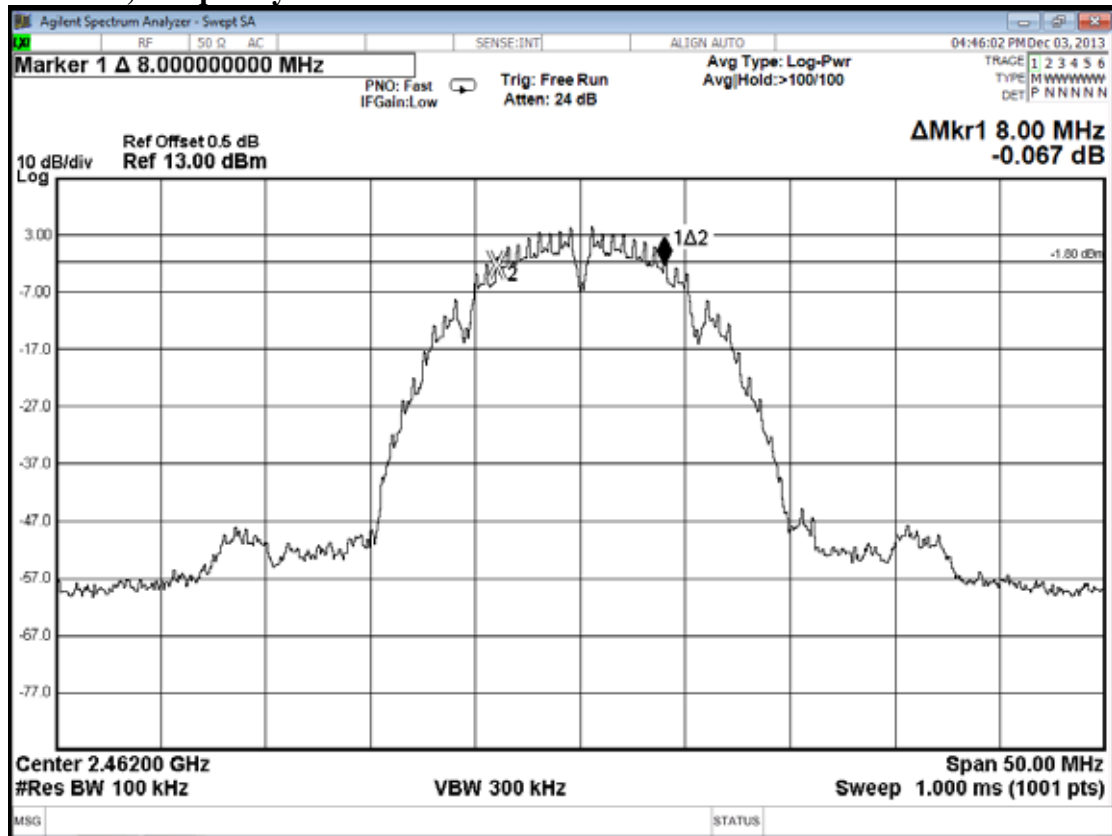
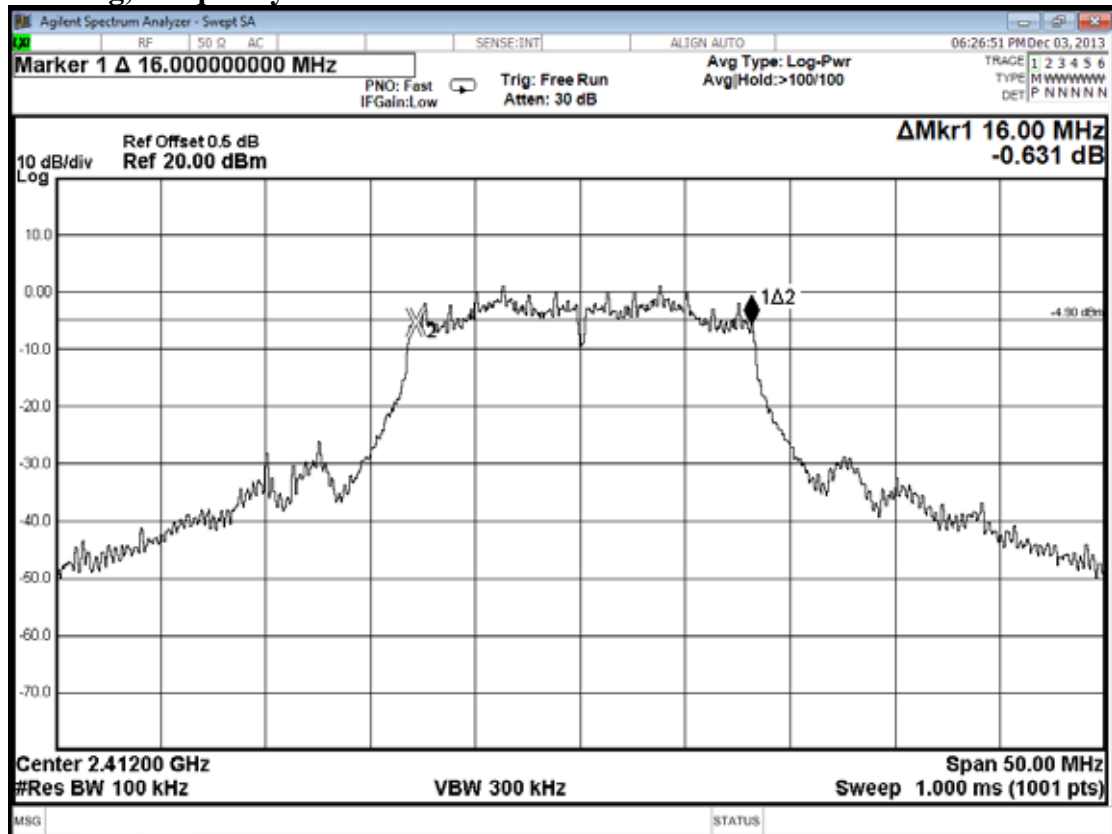
PASSED. All the test results are attached in next pages.

Test Date: Dec. 03, 2013 Temperature: 25°C Humidity: 50%

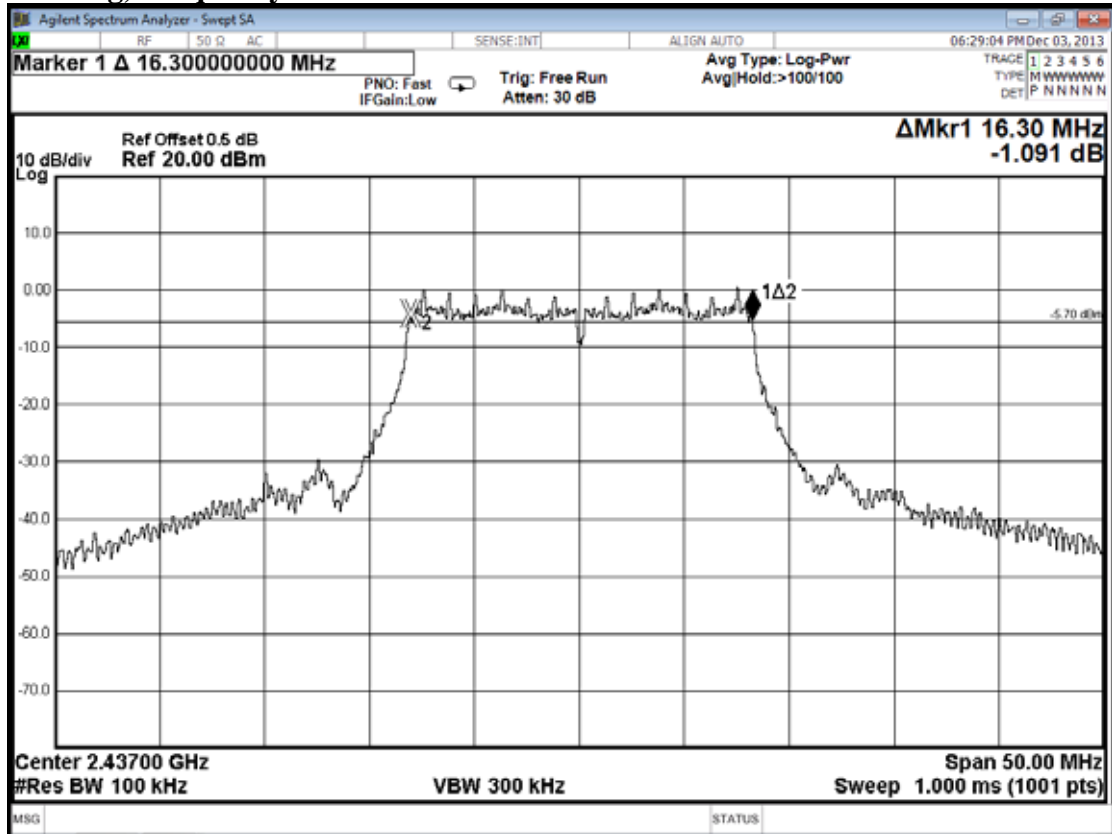
| Mode | Type of Network | Channel | Frequency | 6dB Bandwidth |
|------|-----------------|---------|-----------|---------------|
| 1 | 802.11b | CH 1 | 2412MHz | 8.00 MHz |
| 2 | | CH 6 | 2437MHz | 8.00 MHz |
| 3 | | CH 11 | 2462MHz | 8.00 MHz |
| 4 | 802.11g | CH 1 | 2412MHz | 16.00 MHz |
| 5 | | CH 6 | 2437MHz | 16.30 MHz |
| 6 | | CH 11 | 2462MHz | 16.00 MHz |
| 7 | 802.11n-HT20 | CH 1 | 2412MHz | 17.00 MHz |
| 8 | | CH 6 | 2437MHz | 17.30 MHz |
| 9 | | CH 11 | 2462MHz | 17.00 MHz |

[Limit: least 500kHz]

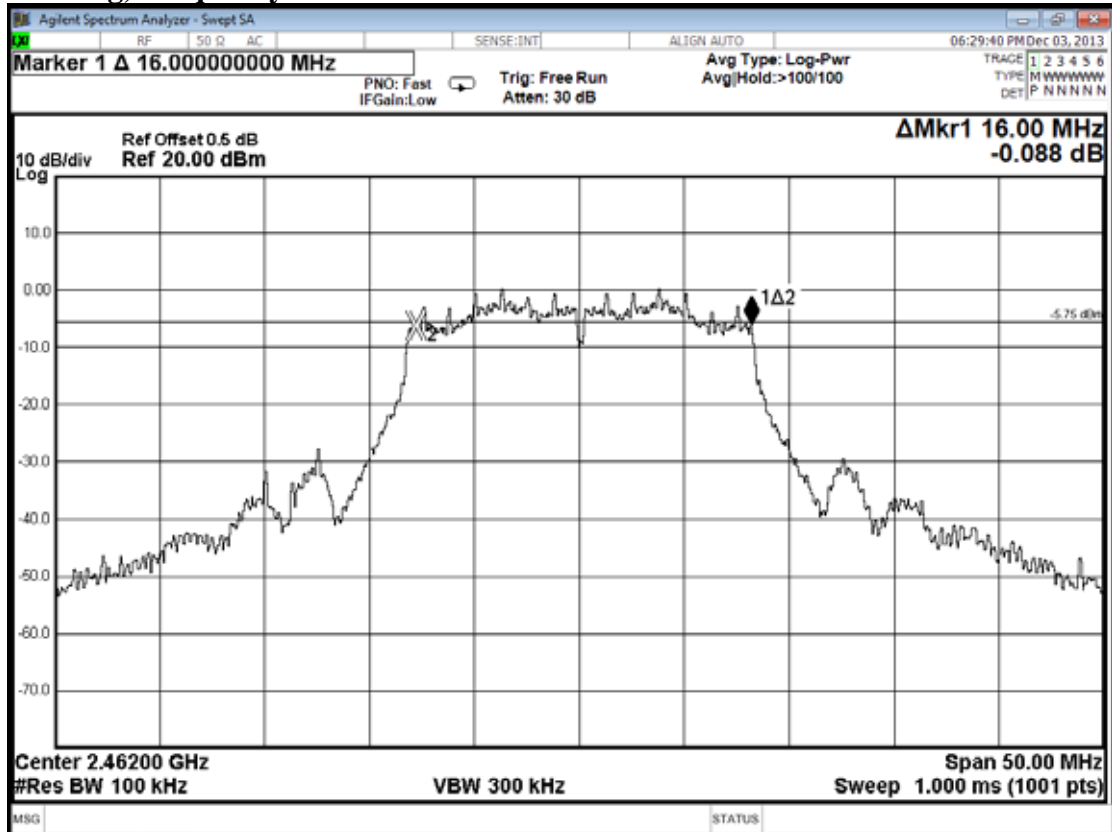
802.11b, Frequency: 2412MHz**802.11b, Frequency: 2437MHz**

802.11b, Frequency: 2462MHz**802.11g, Frequency: 2412MHz**

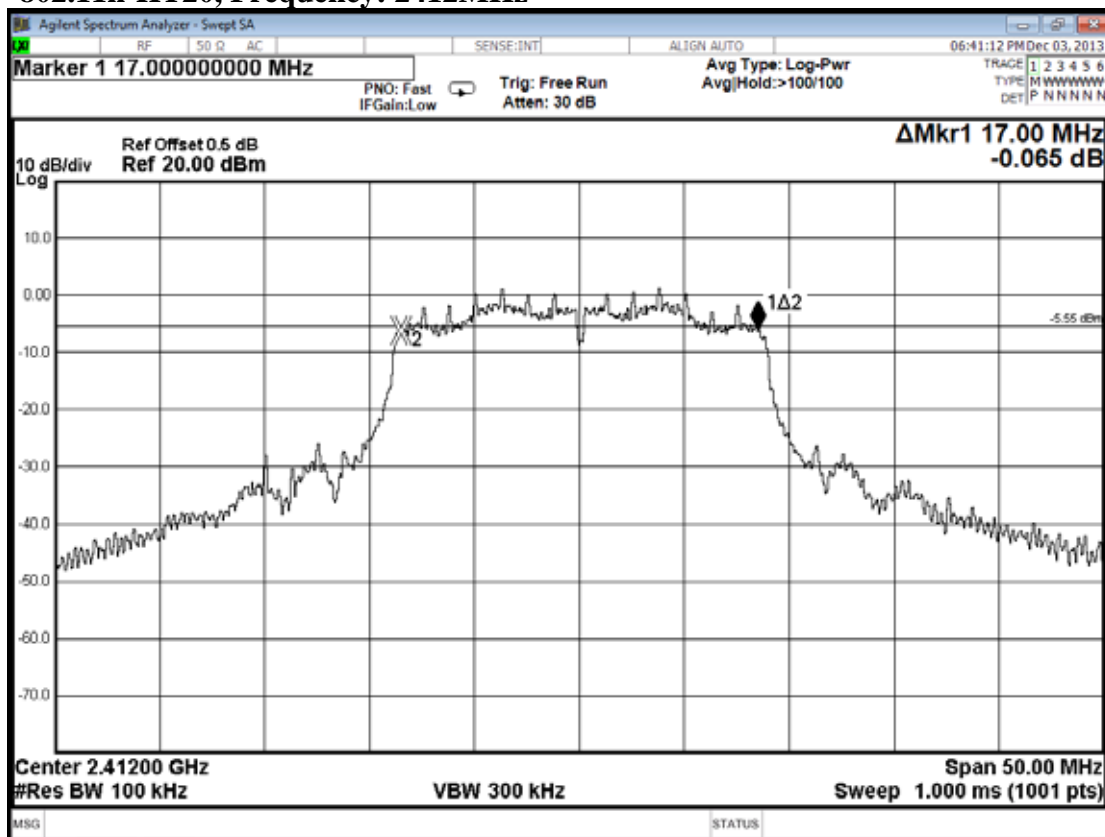
802.11g, Frequency: 2437MHz



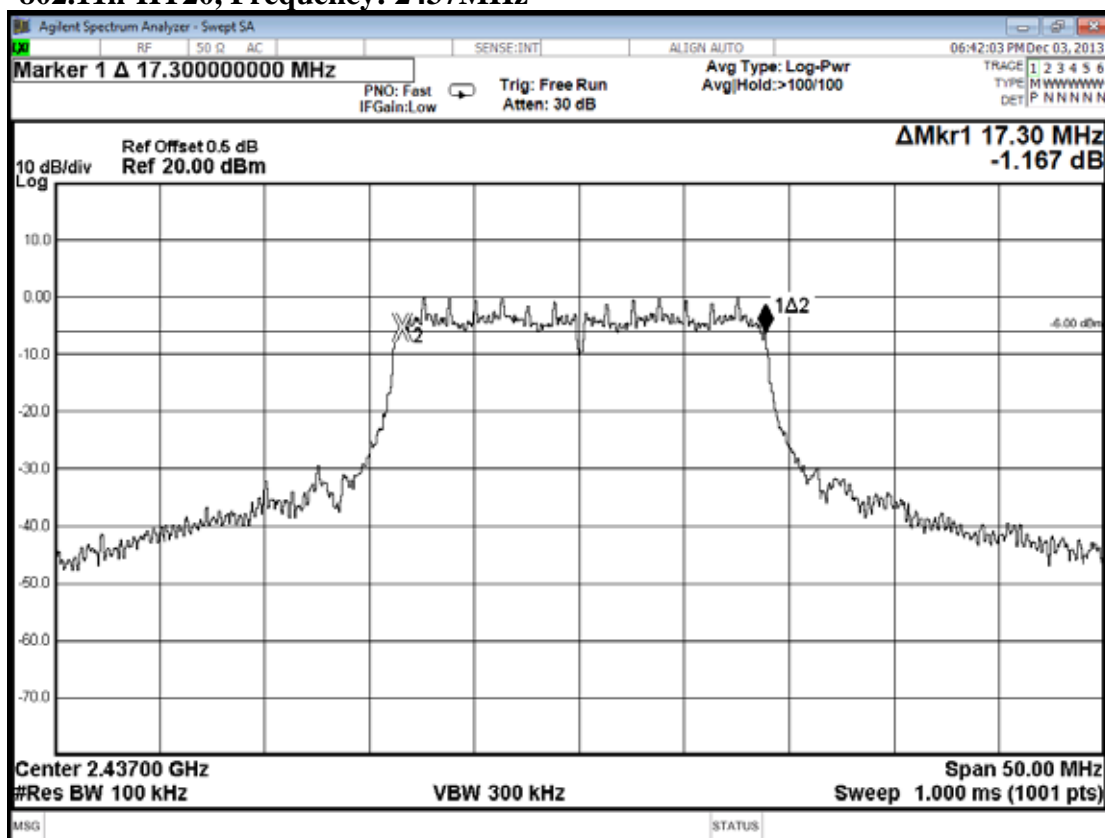
802.11g, Frequency: 2462MHz

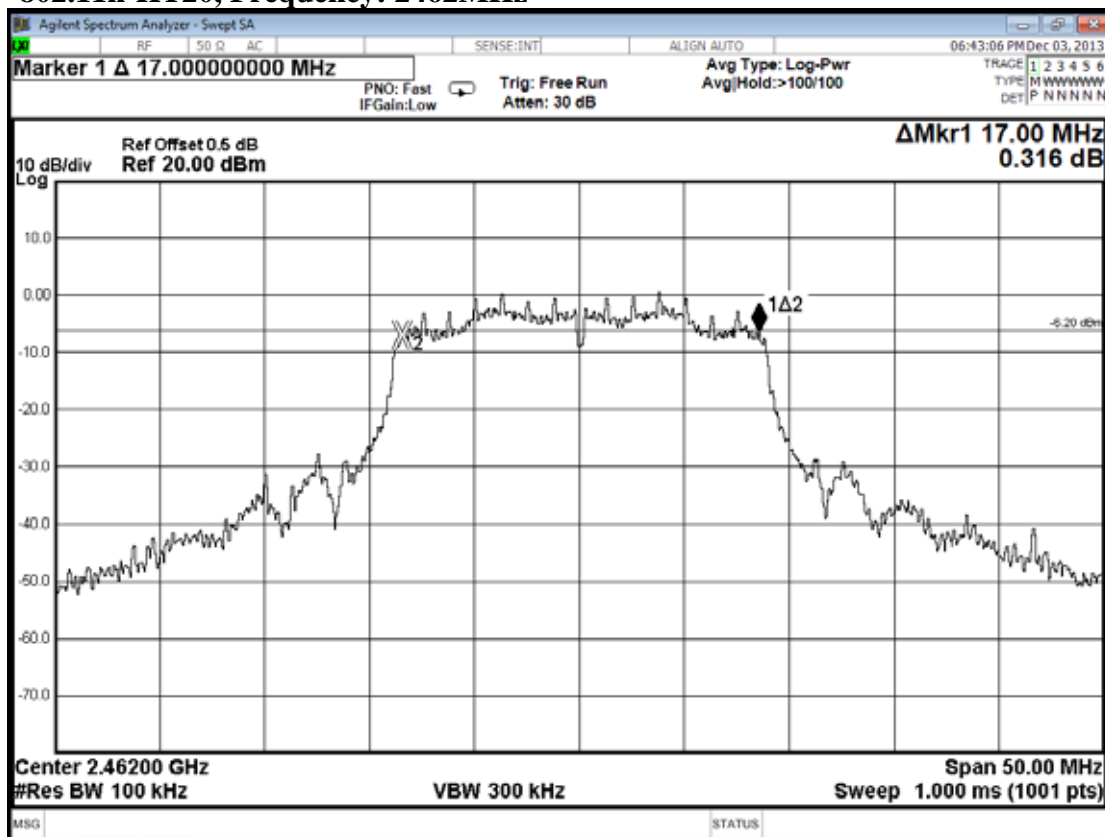


802.11n-HT20, Frequency: 2412MHz



802.11n-HT20, Frequency: 2437MHz



802.11n-HT20, Frequency: 2462MHz

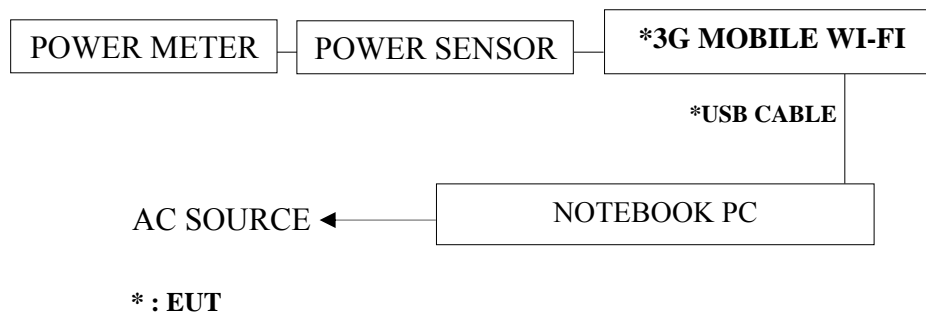
6. MAXIMUM PEAK OUTPUT POWER MEASUREMENT

6.1. Test Equipment

The following test equipment was used during the maximum peak output power measurement:

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|--------------|--------------|-----------|------------|--------------|--------------|
| 1. | Power Meter | Anritsu | ML2495A | 1145008 | Oct. 23, 13' | Oct. 22, 14' |
| 2. | Power Sensor | Anritsu | MA2411B | 1126096 | Oct. 23, 13' | Oct. 22, 14' |

6.2. Block Diagram of Test Setup



6.3. Specification Limits [§15.247(b)-(3)]

The Limits of maximum Peak Output Power for digital modulation in 2400-2483.5MHz is: 1Watt. (30dBm)

6.4. Operating Condition of EUT

The test program “QPST” and “QRCT” was used to enable the EUT to transmit data at different channel frequency individually.

6.5. Test Procedure

The transmitter output was connected to the power sensor and record the reading of power meter.

The measurement guideline was according to KDB 558074 D01 V03.

6.6. Test Results

PASSED. All the test results are listed below.

Test Date: Dec. 03, 2013 Temperature: 25°C Humidity: 50%

| Test Mode | Channel | Frequency (MHz) | Output Power(dBm) | |
|--------------|---------|--------------------|-------------------|--------------|
| | | | Peak | Average |
| 802.11b | CH 1 | 2412 | 15.90 | 12.99 |
| | CH 6 | 2437 | 15.50 | 12.68 |
| | CH 11 | 2462 | 15.28 | 12.01 |
| 802.11g | CH 1 | 2412 | 21.17 | 10.82 |
| | CH 6 | 2437 | 21.01 | 10.37 |
| | CH 11 | 2462 | 20.17 | 9.78 |
| 802.11n-HT20 | CH 1 | 2412 | 21.17 | 10.72 |
| | CH 6 | 2437 | 21.11 | 10.26 |
| | CH 11 | 2462 | 20.46 | 9.73 |

[Limit: 1Watt. (30dBm)]

7. EMISSION LIMITATIONS MEASUREMENT

7.1. Test Equipment

The following test equipment was used during the emission limitations test :

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|------------------|--------------|------------|------------|--------------|--------------|
| 1. | Spectrum Monitor | Agilent | N9030A-544 | US51350140 | Jul. 30, 13' | Jul. 29, 14' |

7.2. Block Diagram of Test Setup

The same as section.5.2

7.3. Specification Limits (§15.247(c), RSS-210 A8.5)

7.3.1. 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. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (See Section 15.205(c)).(This test result attaching to §4.6.3)

7.3.2. The reference level for determining limit of emission limitations is according to the value measured indicated in plots at section 9.6.

7.4. Operating Condition of EUT

The test program “QPST” and “QRCT” was used to enable the EUT to transmit data at different channel frequency individually.

7.5. Test Procedure

The RF output of EUT was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with 100kHz RBW and 300kHz VBW.

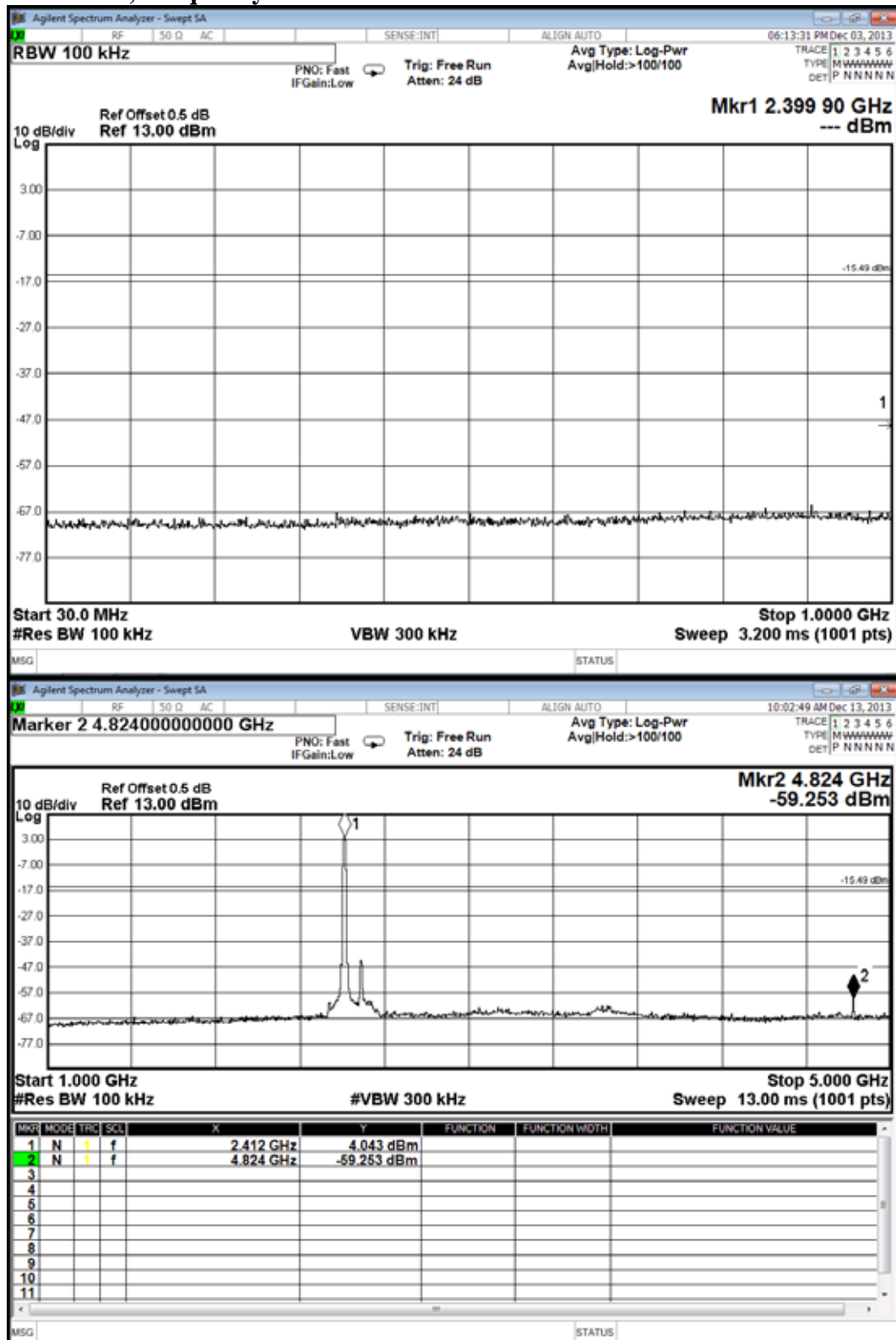
The measurement guideline was according to KDB 558074 D01 V03.

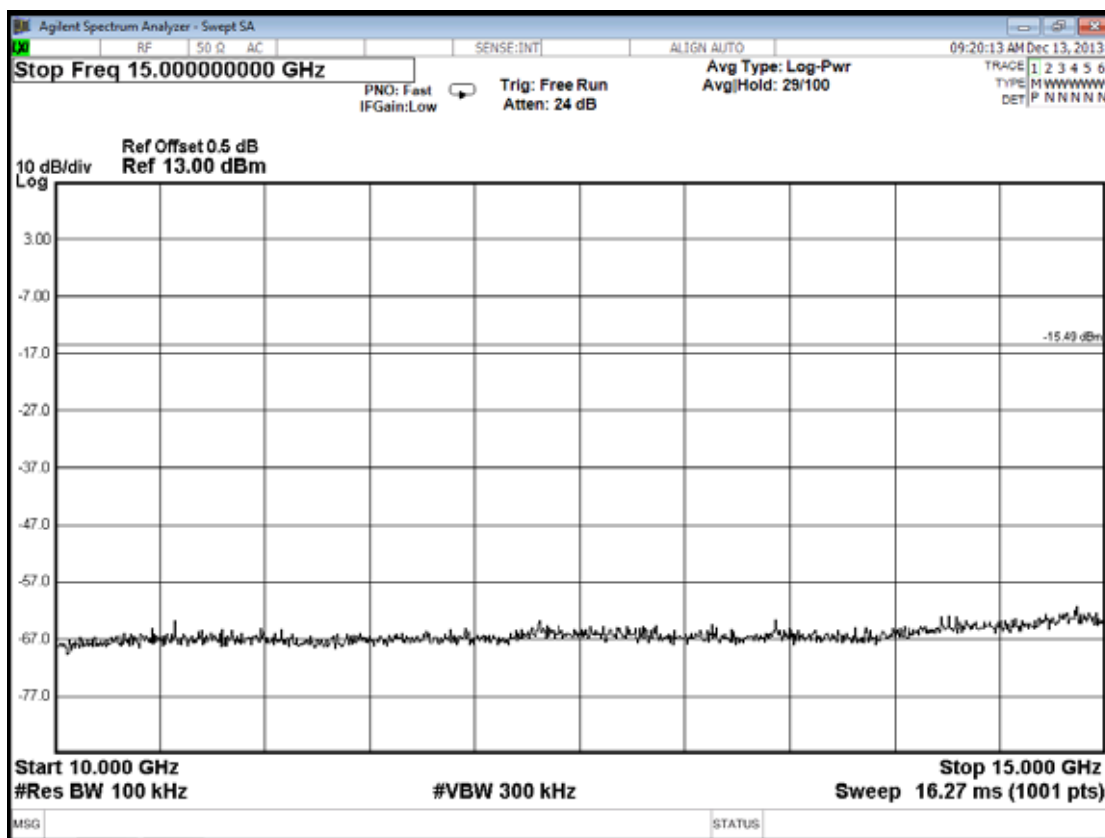
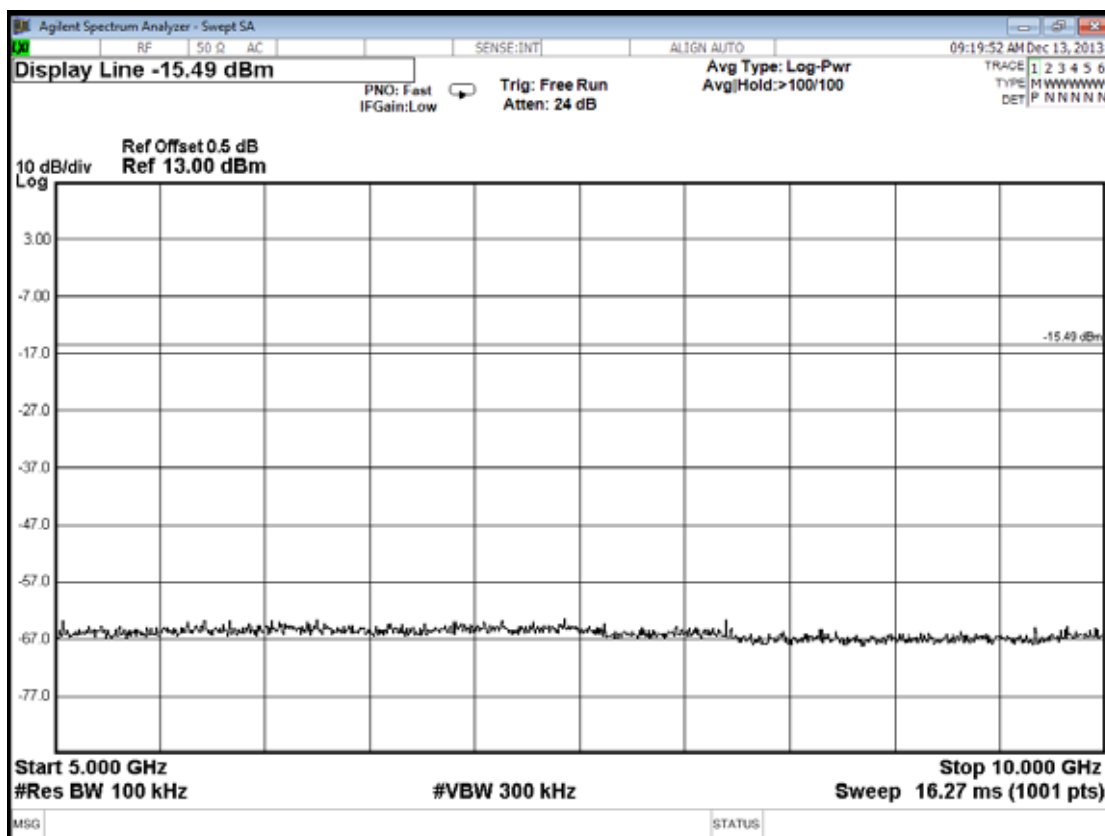
7.6. Test Results

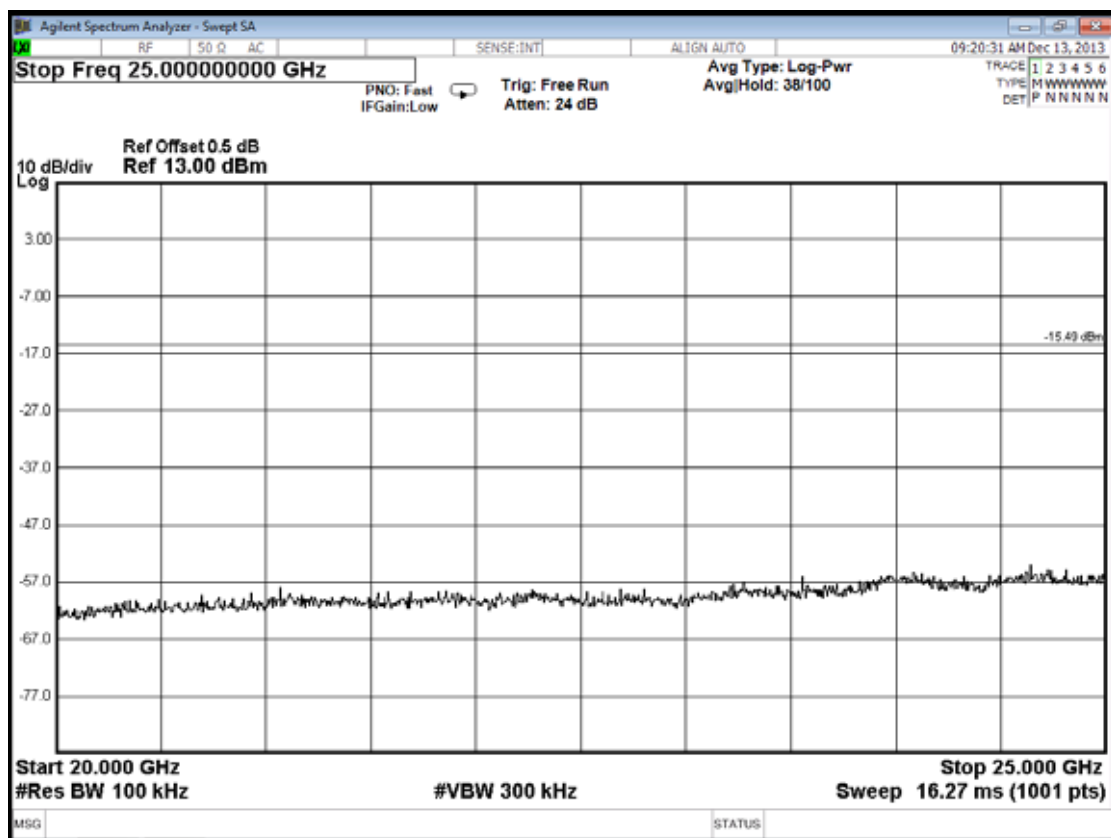
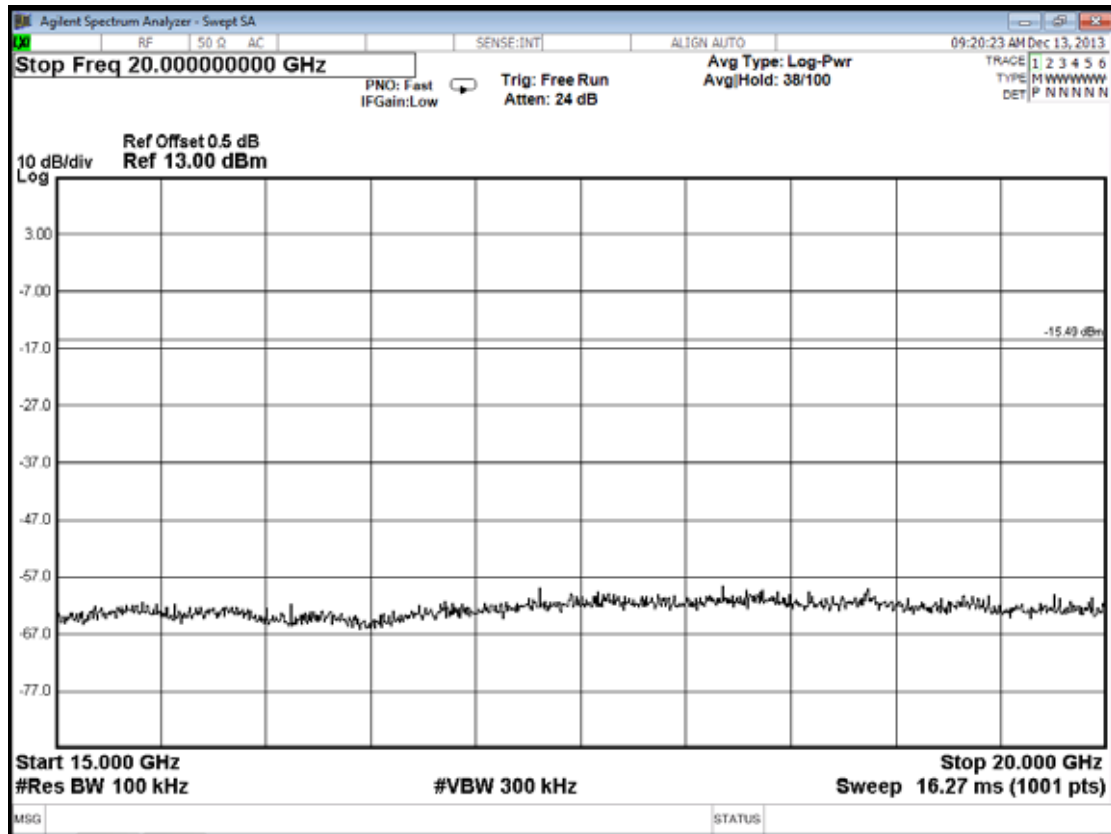
PASSED. The testing data was attached in the next pages.

(Test Date : Dec. 13, 2013 Temperature : 24°C Humidity : 60%)

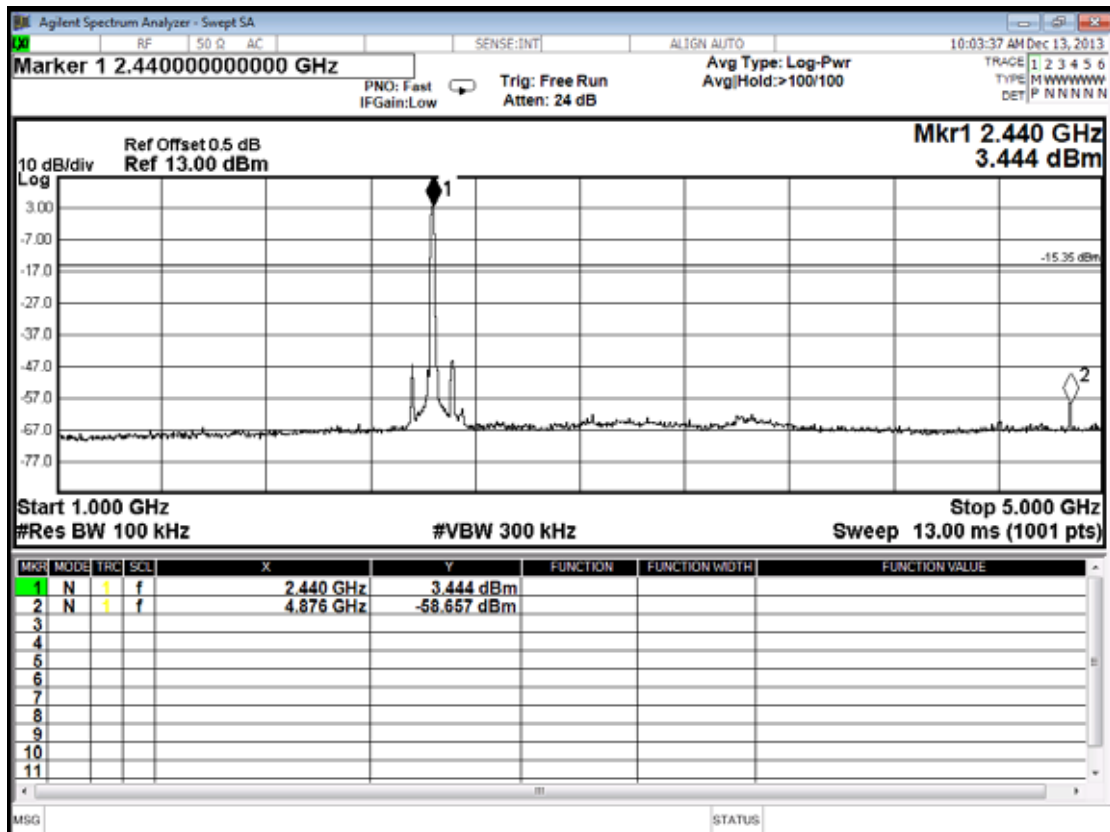
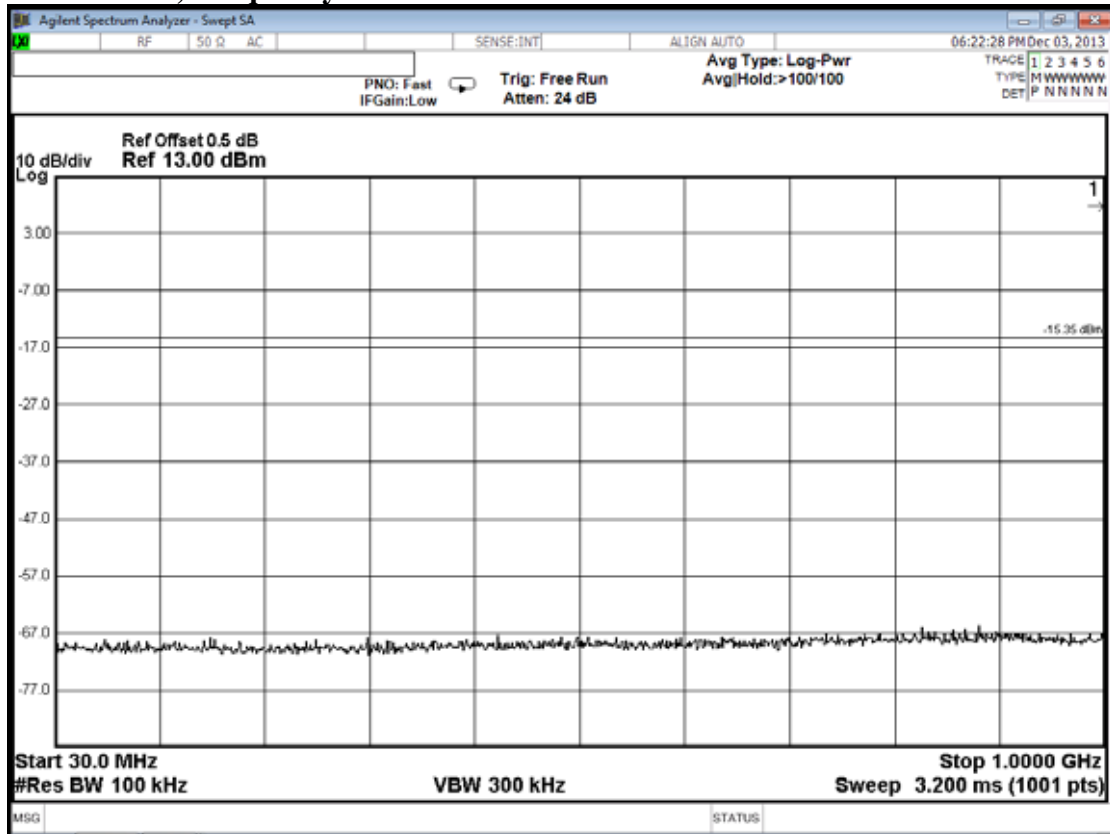
802.11b, Frequency: 2412MHz

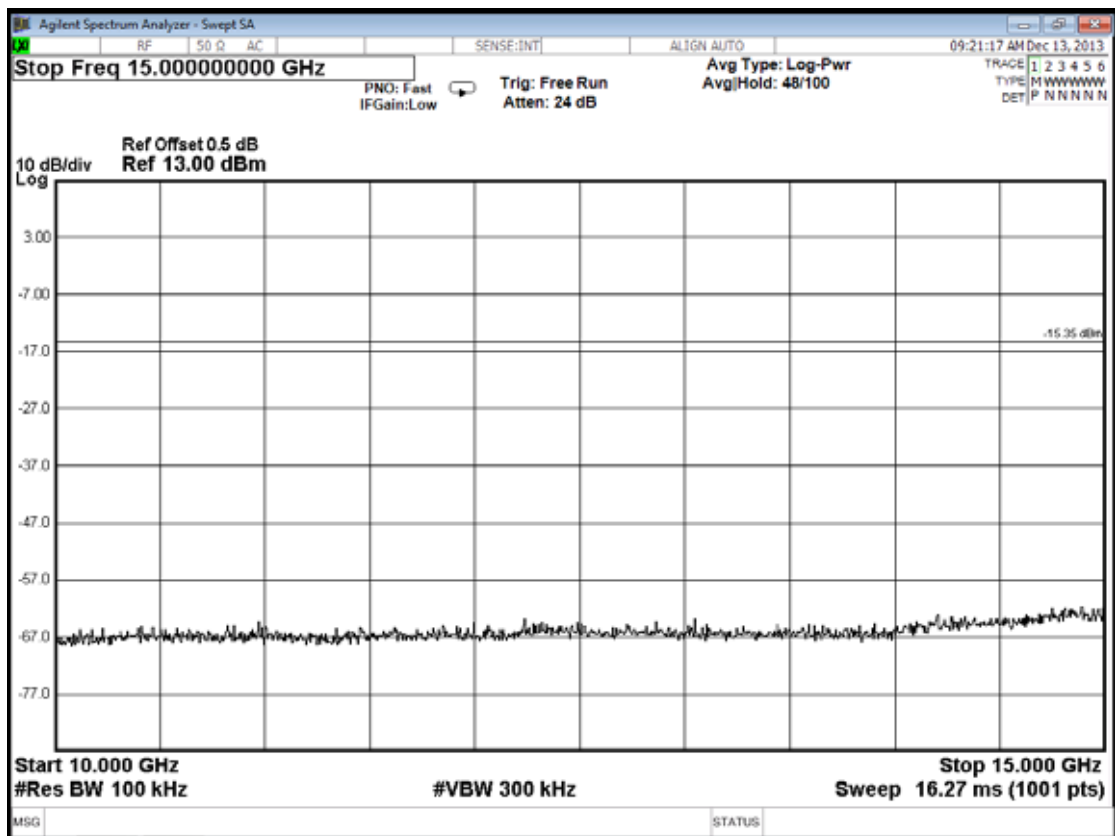
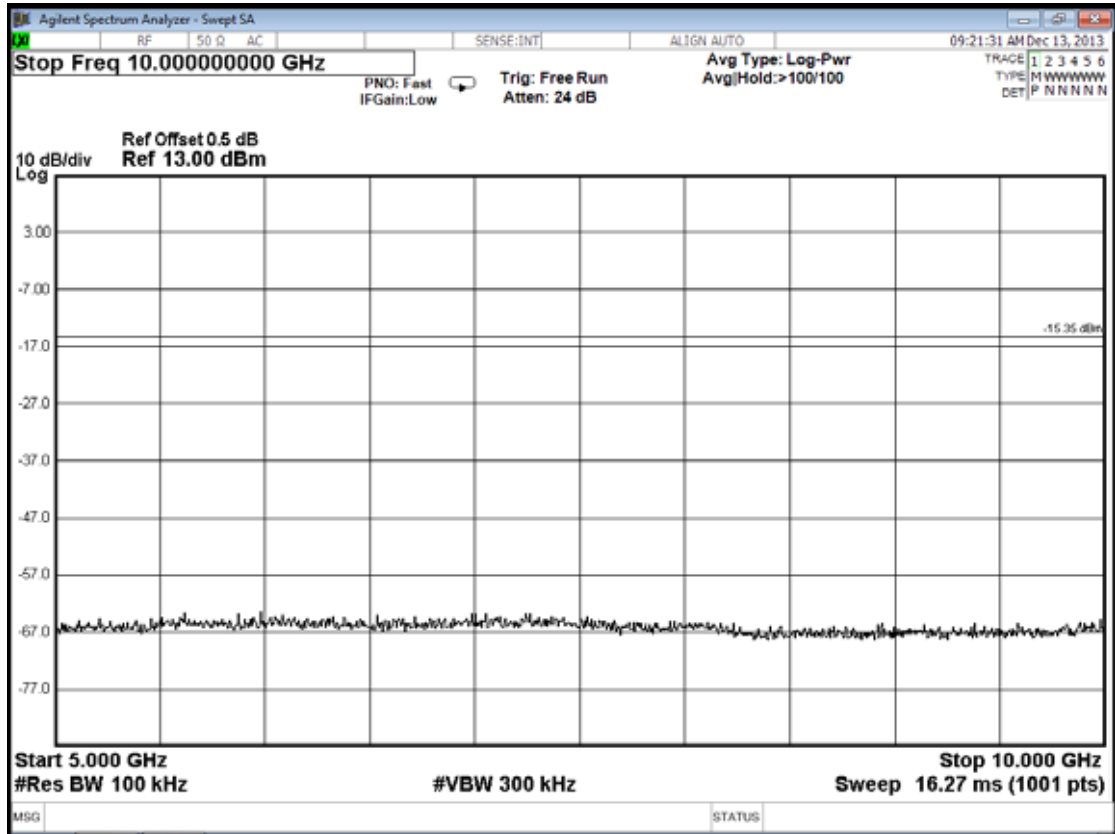


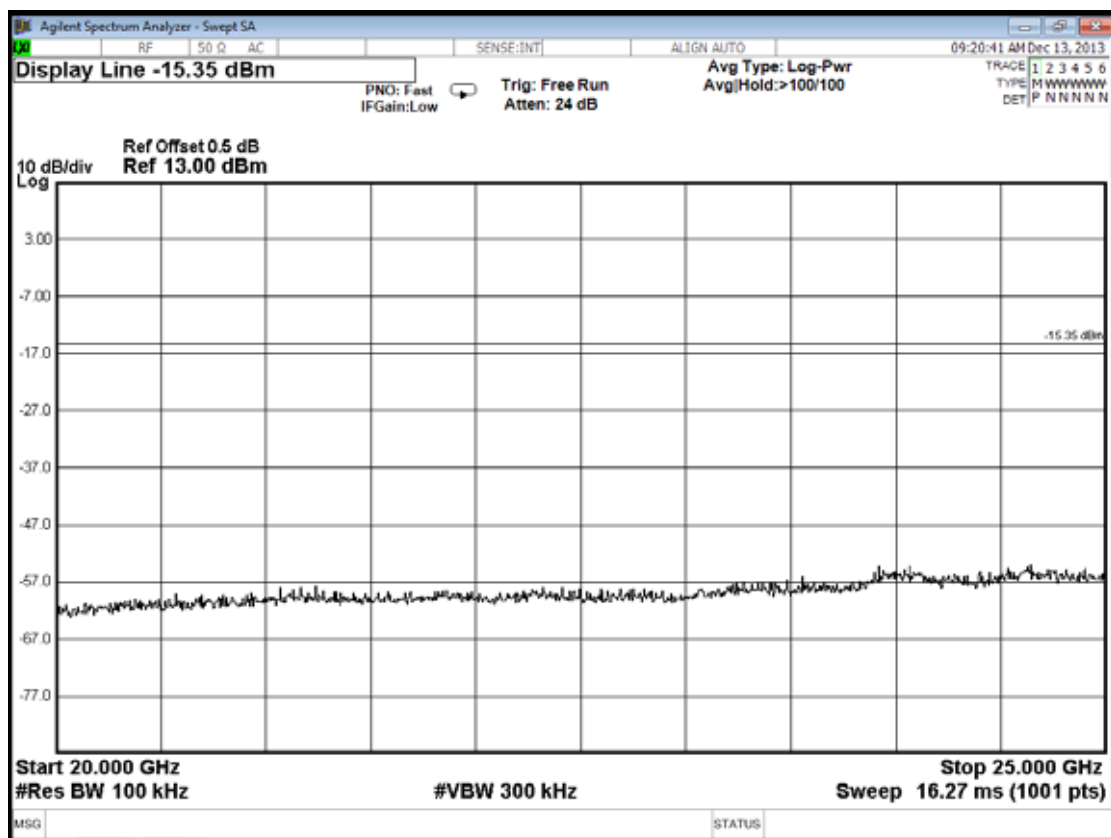
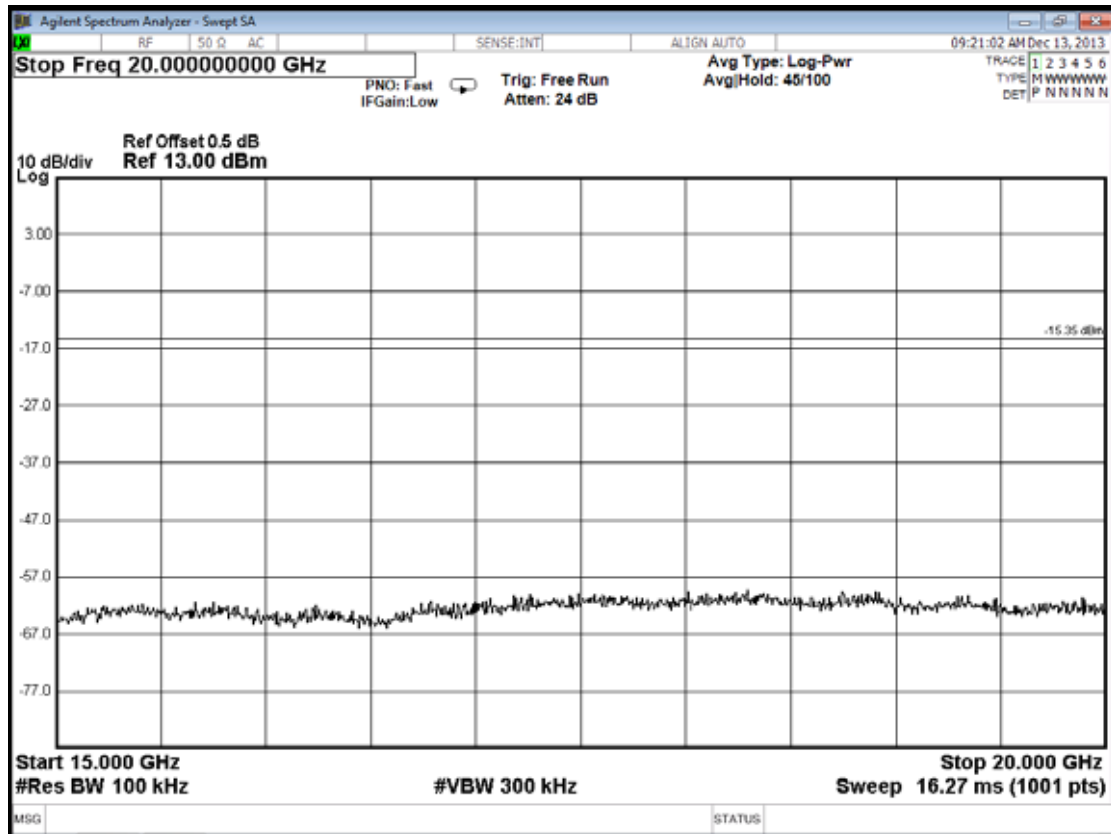




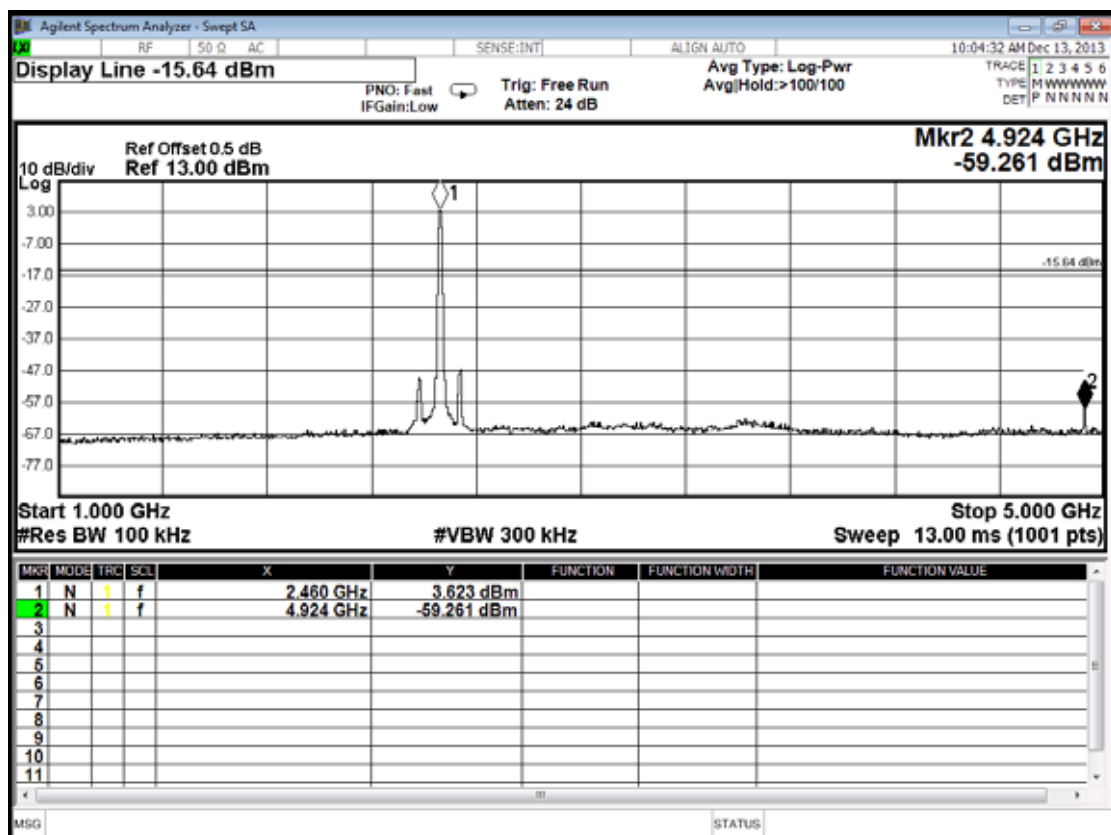
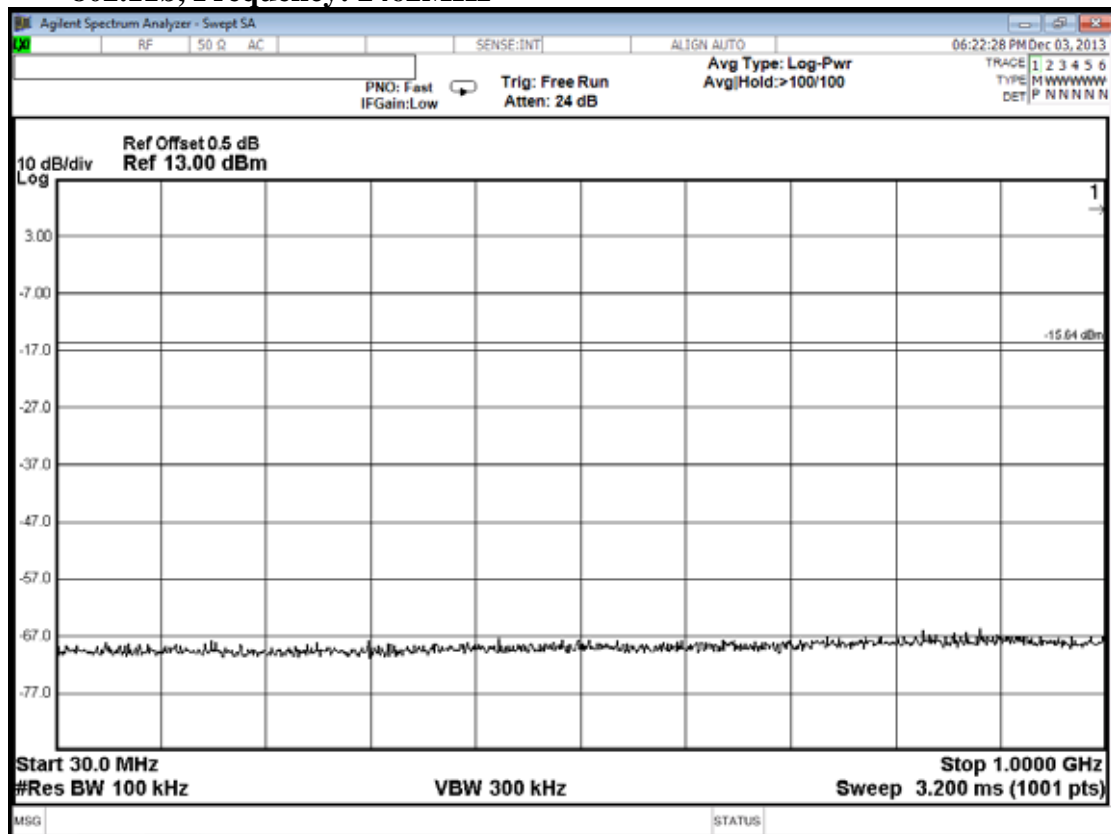
802.11b, Frequency: 2437MHz

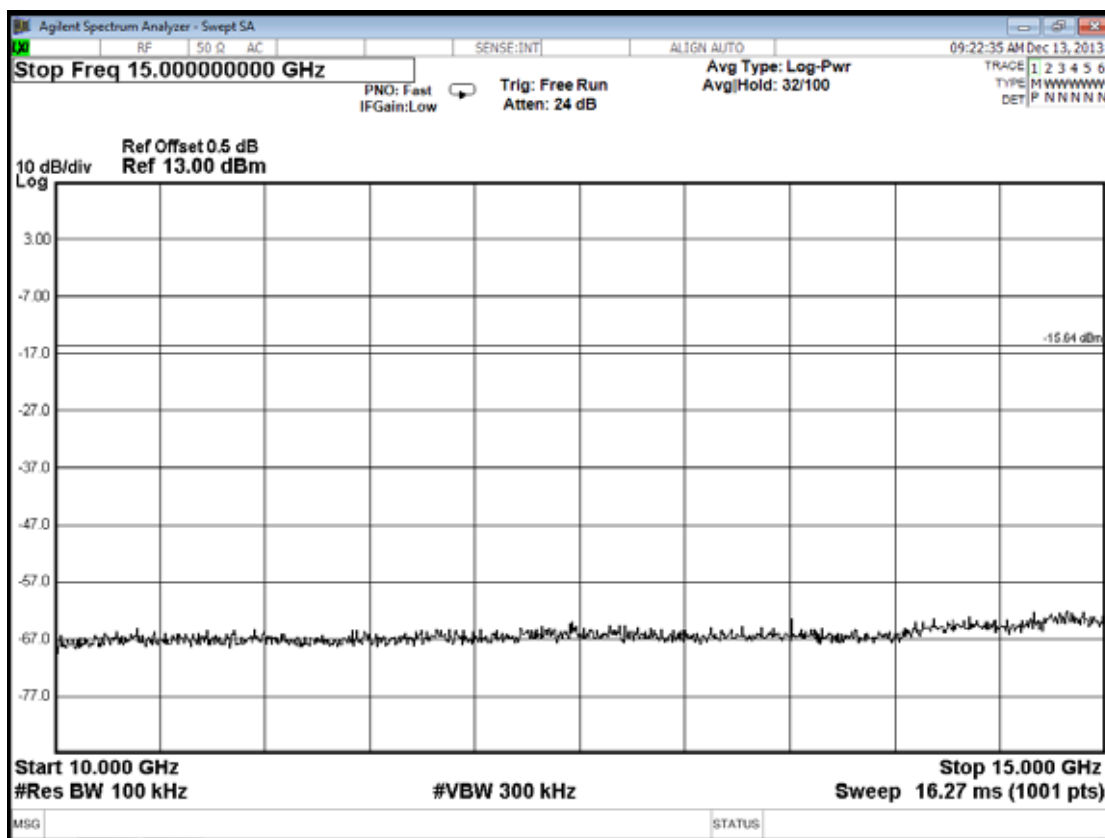
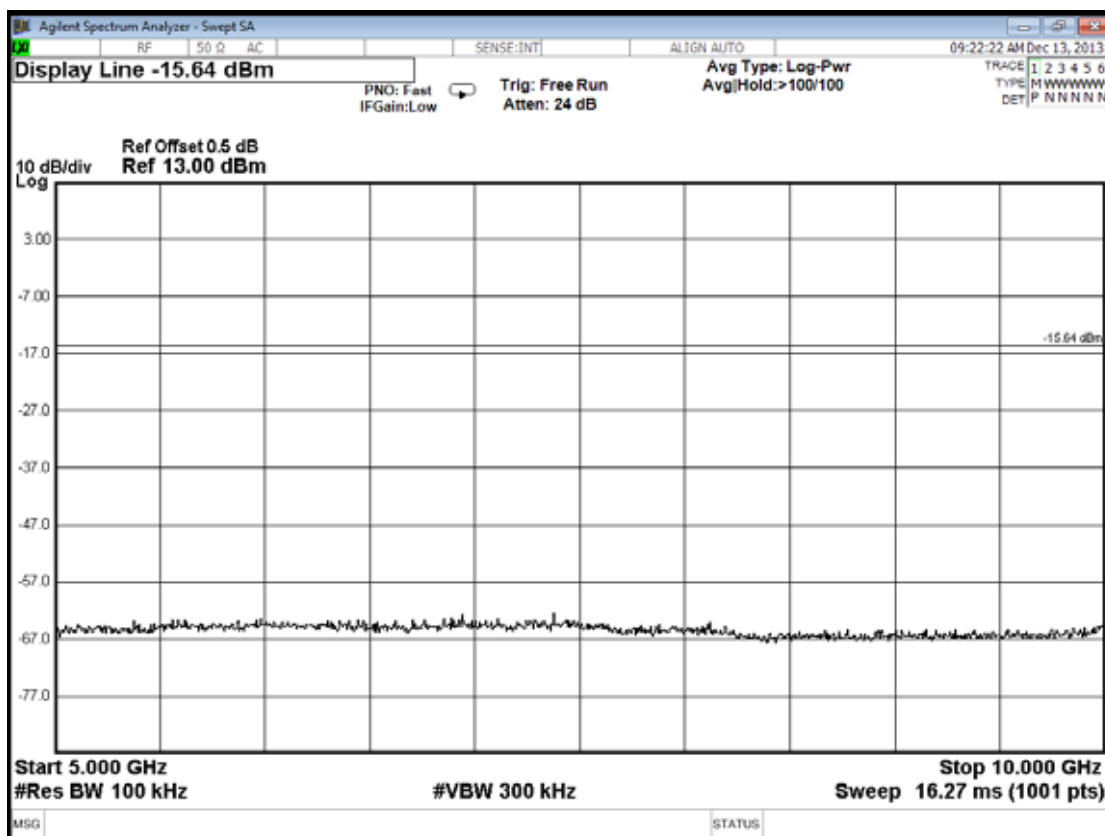


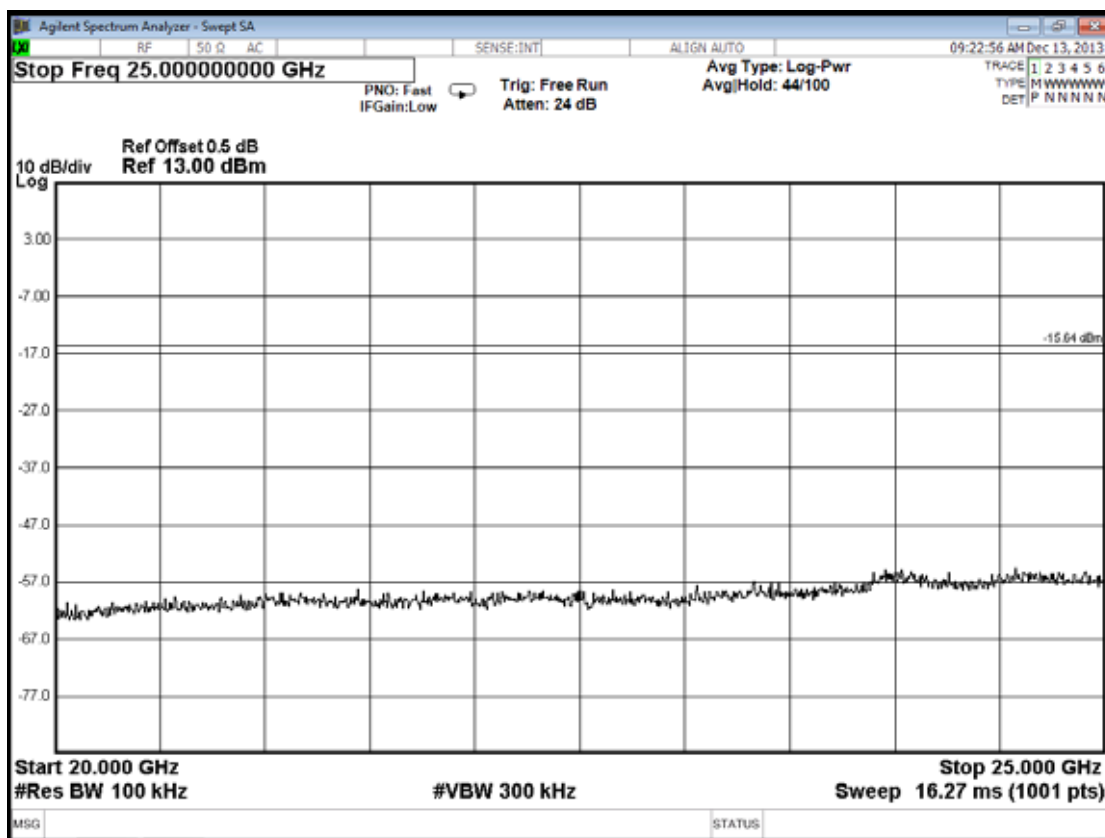
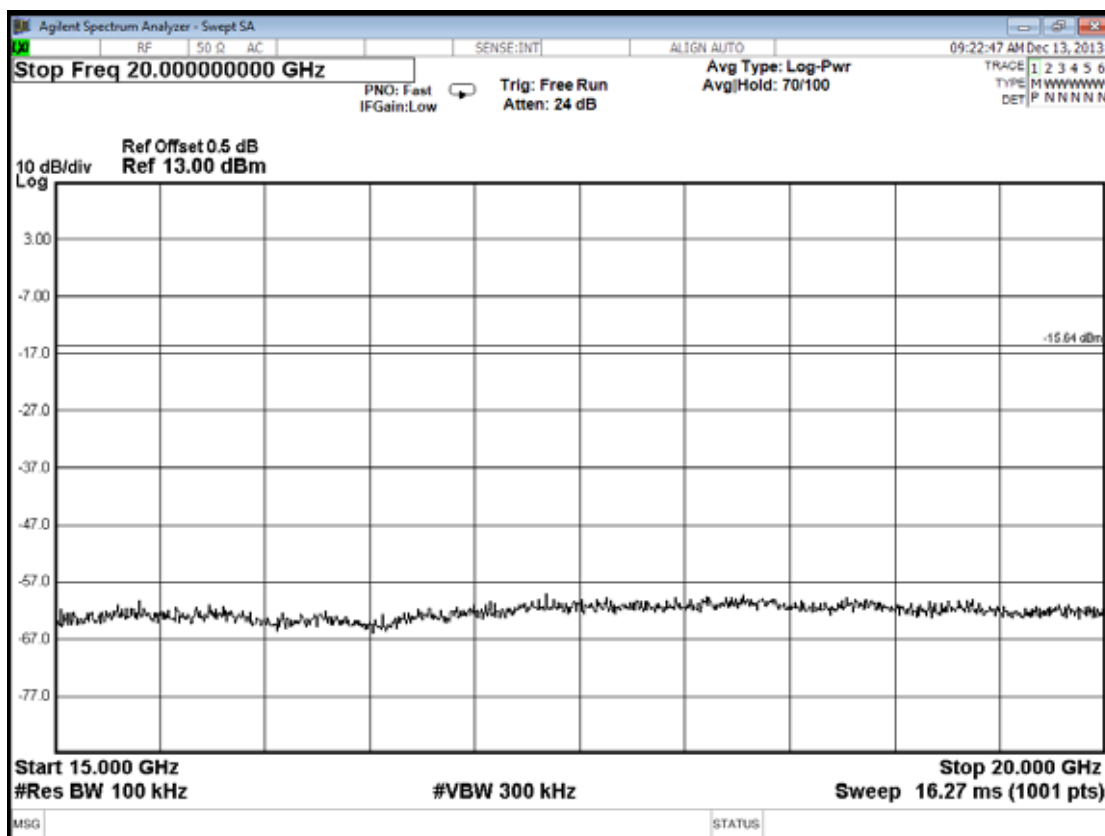




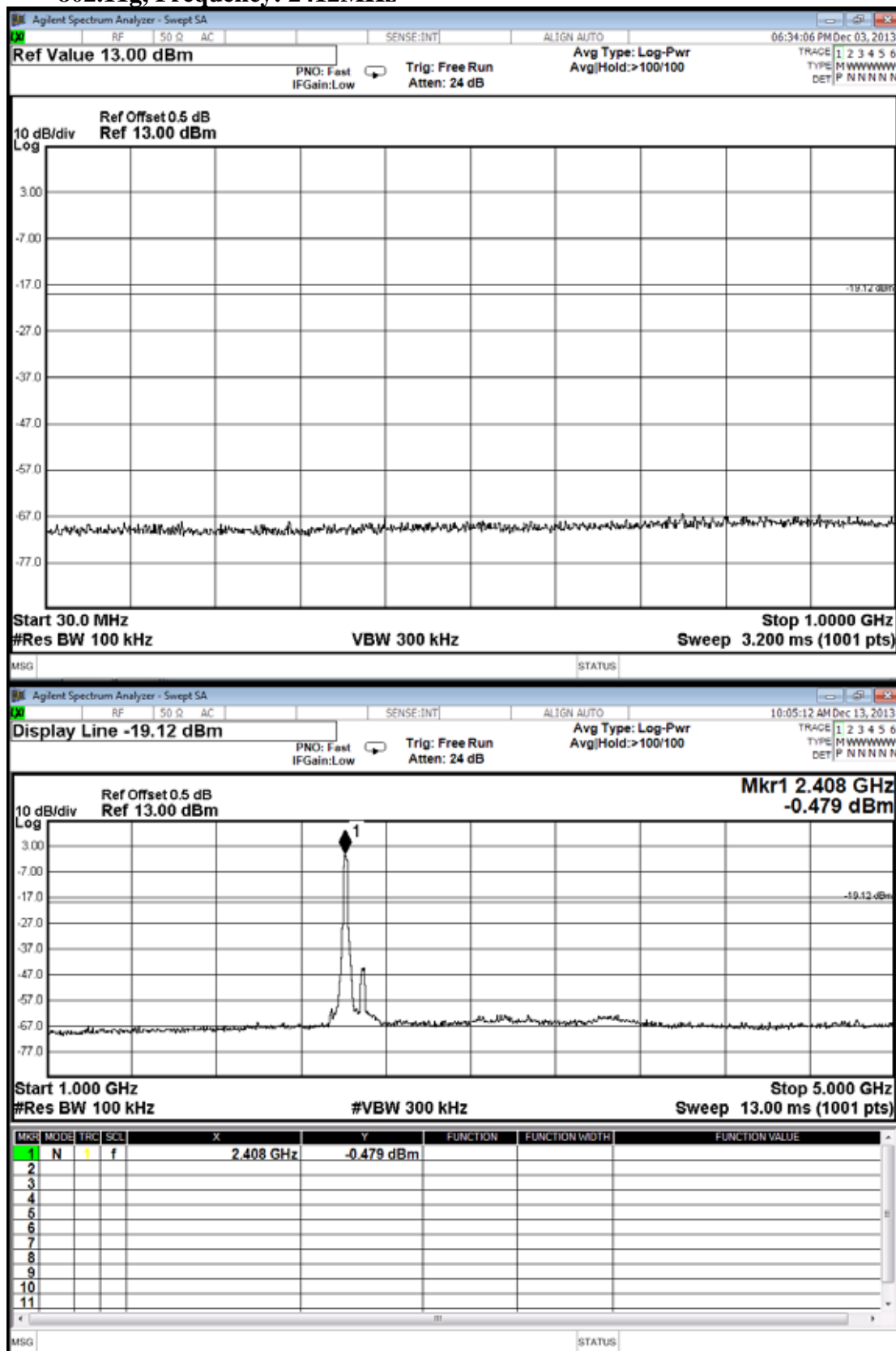
802.11b, Frequency: 2462MHz

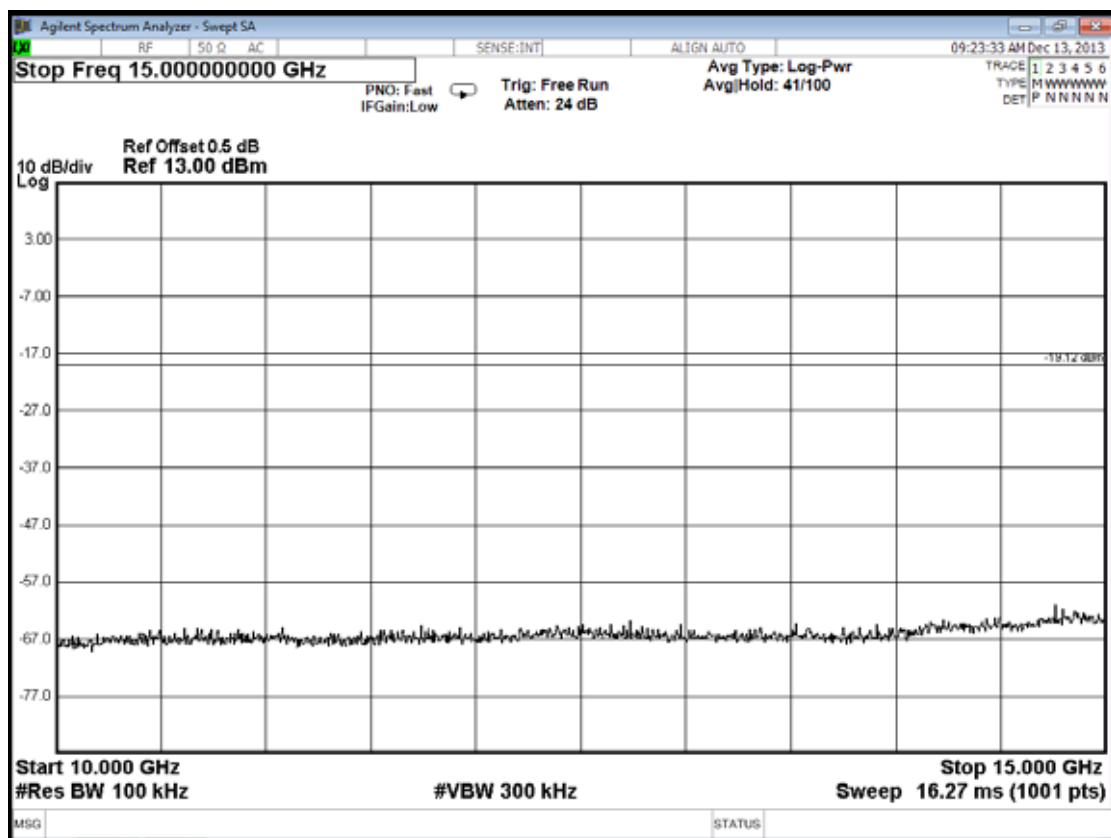
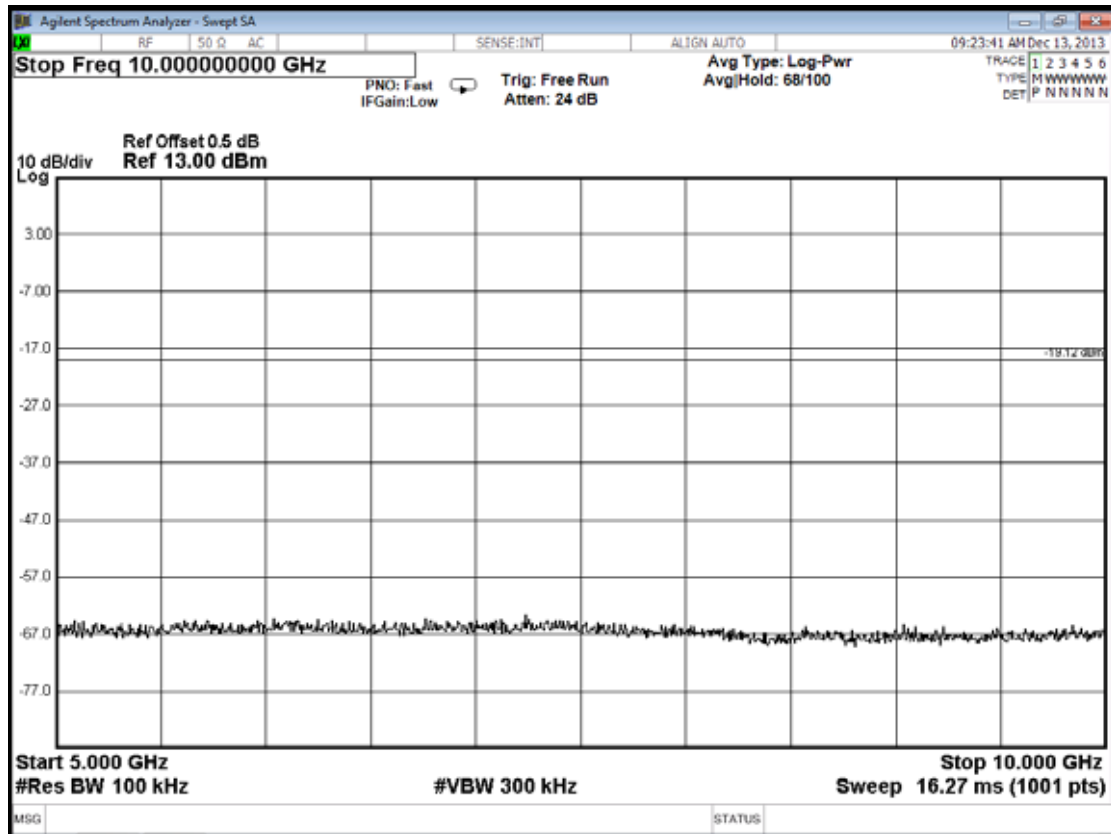


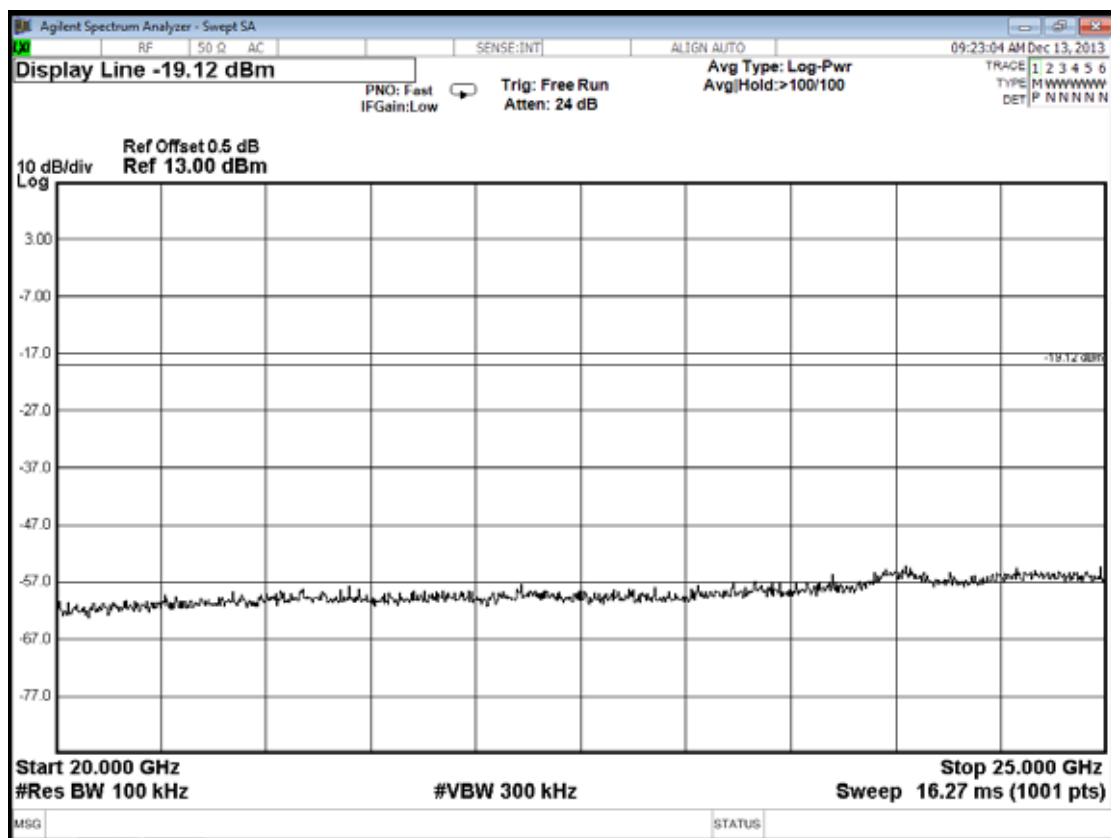
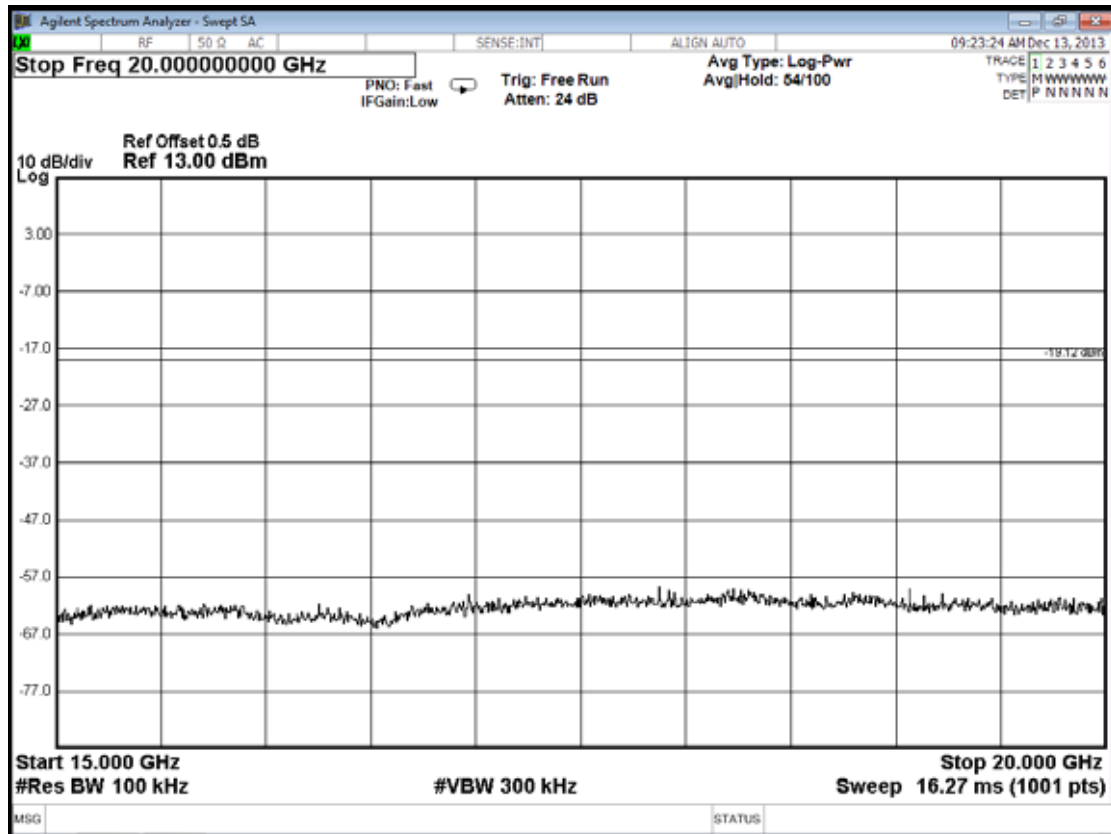




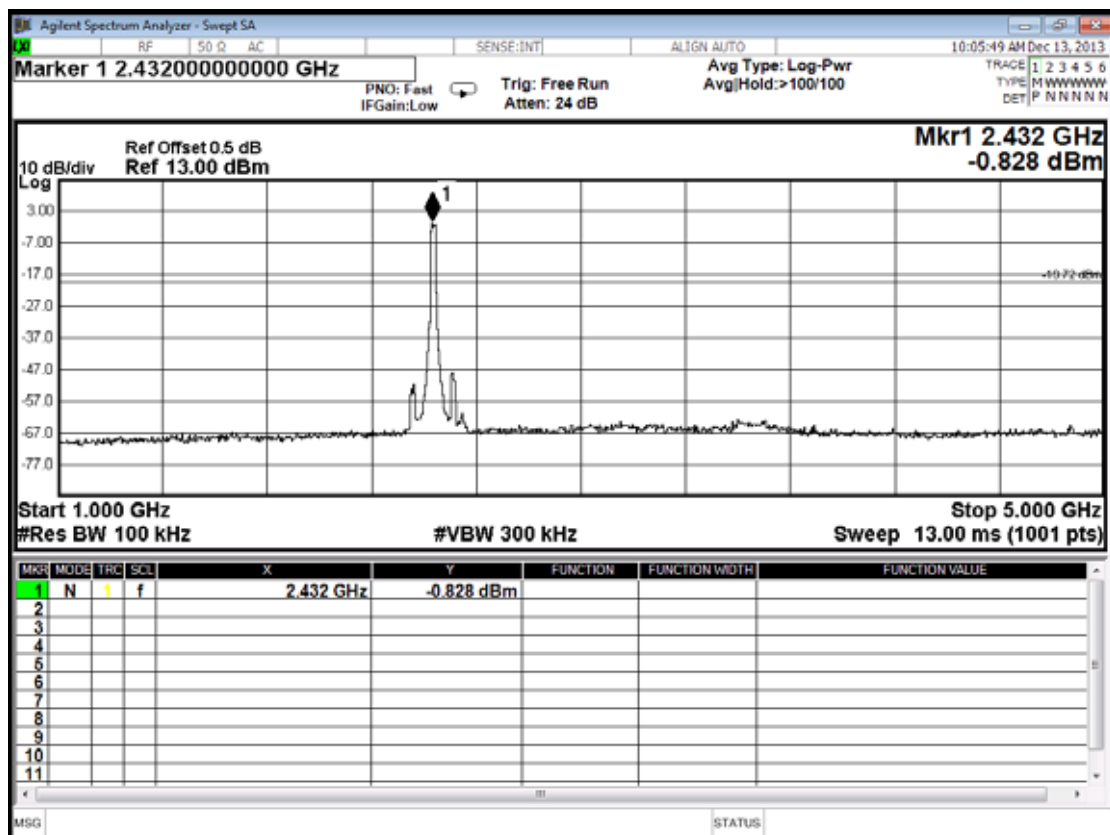
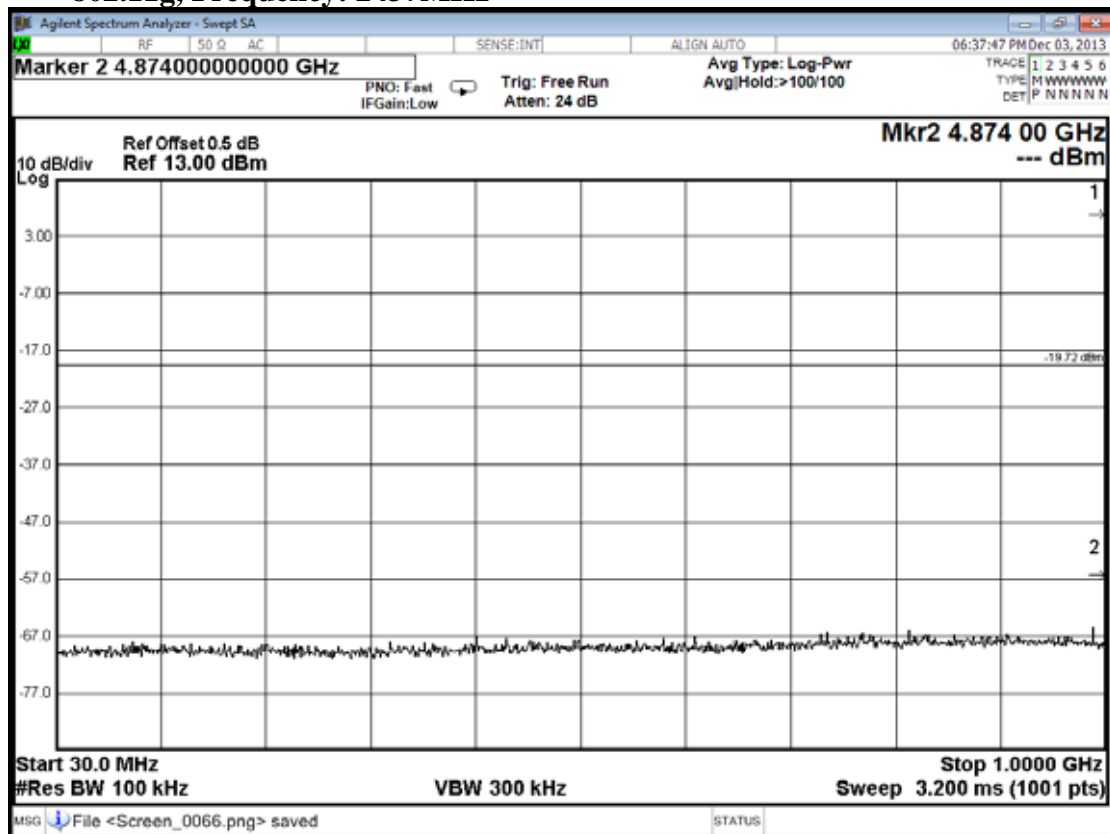
802.11g, Frequency: 2412MHz

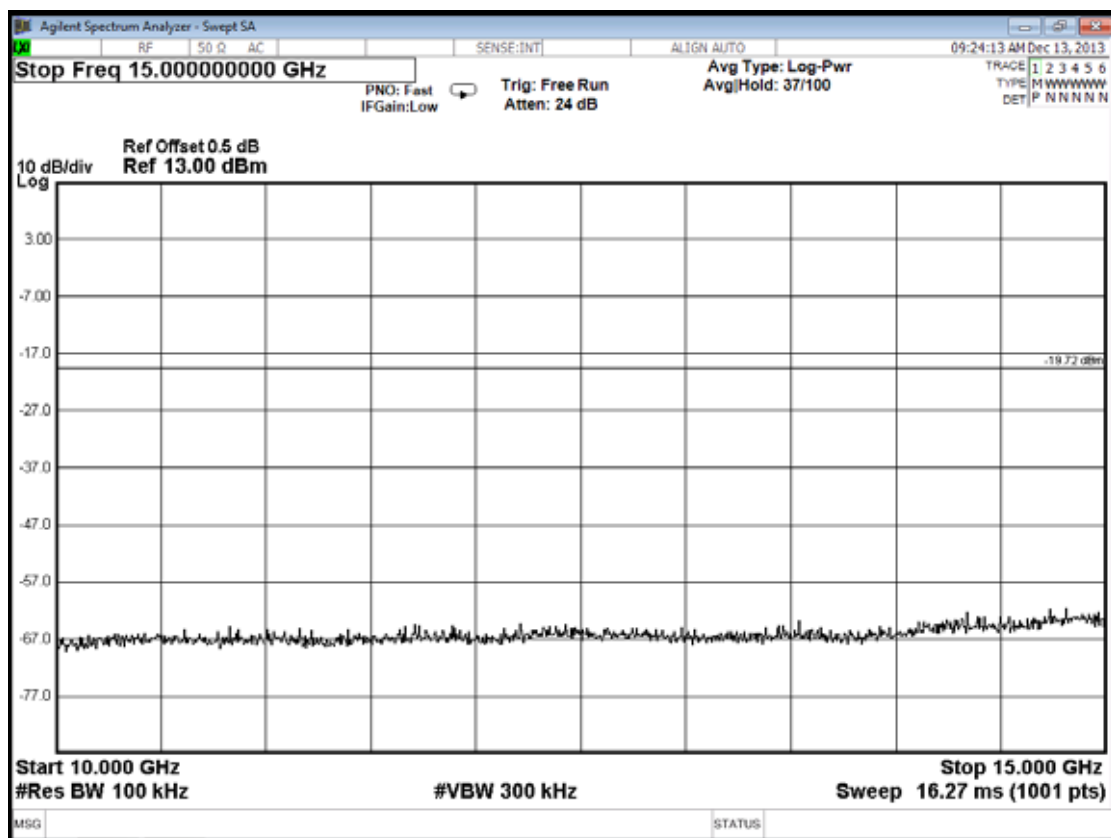
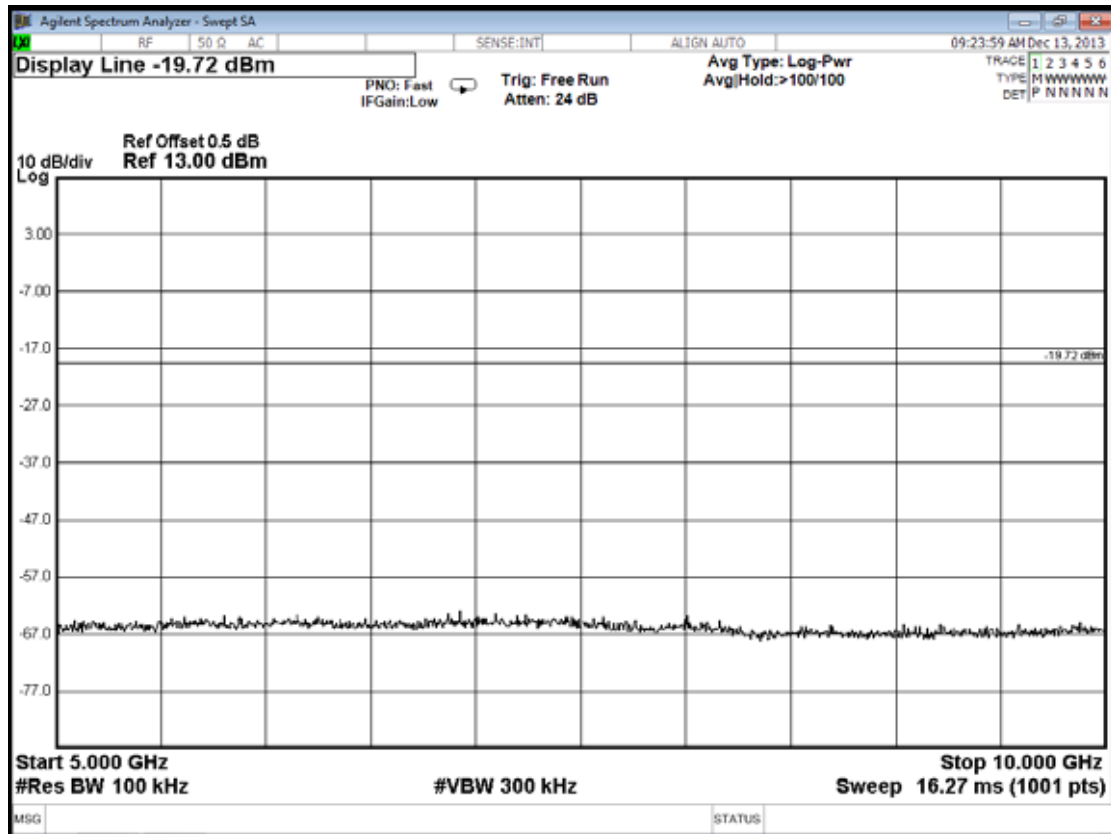


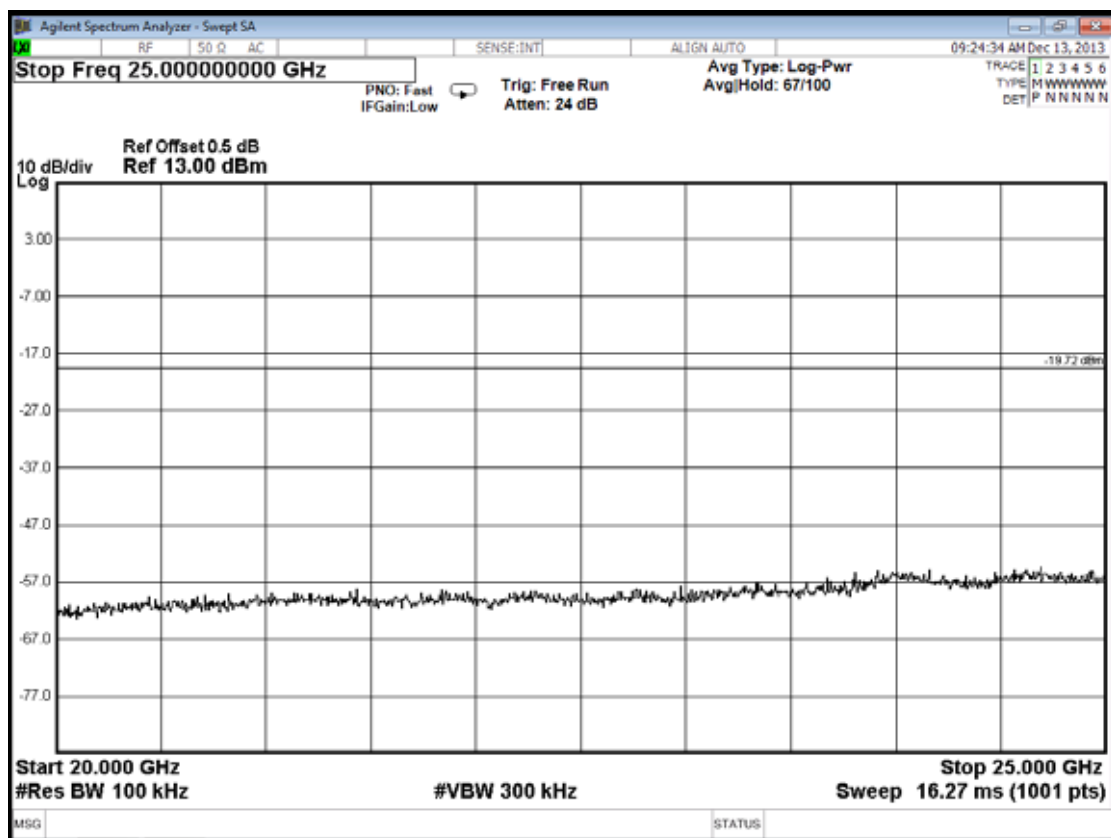
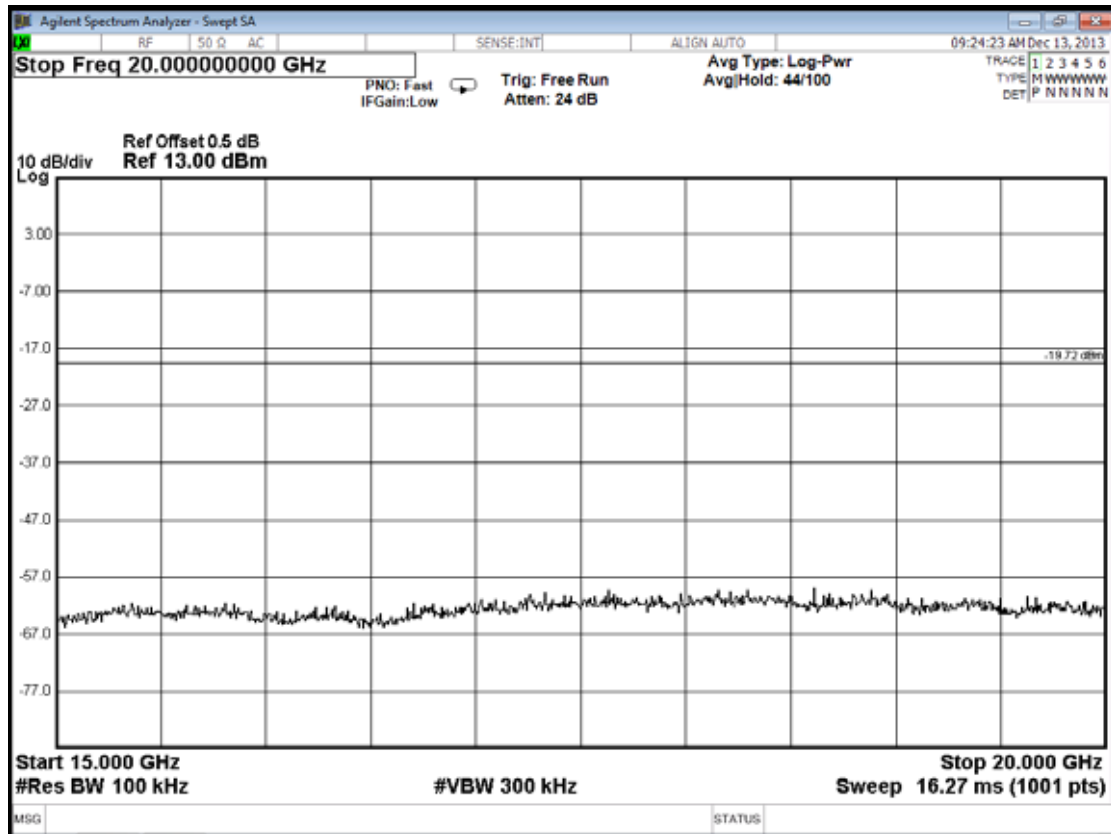




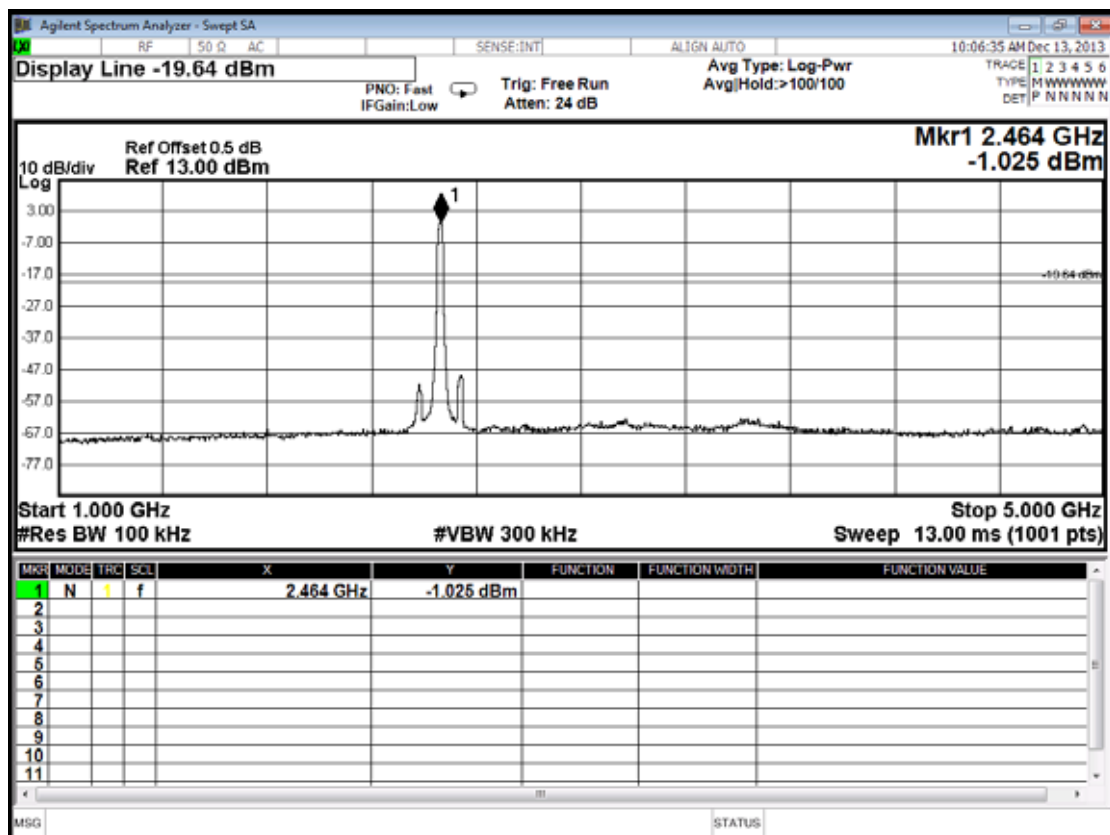
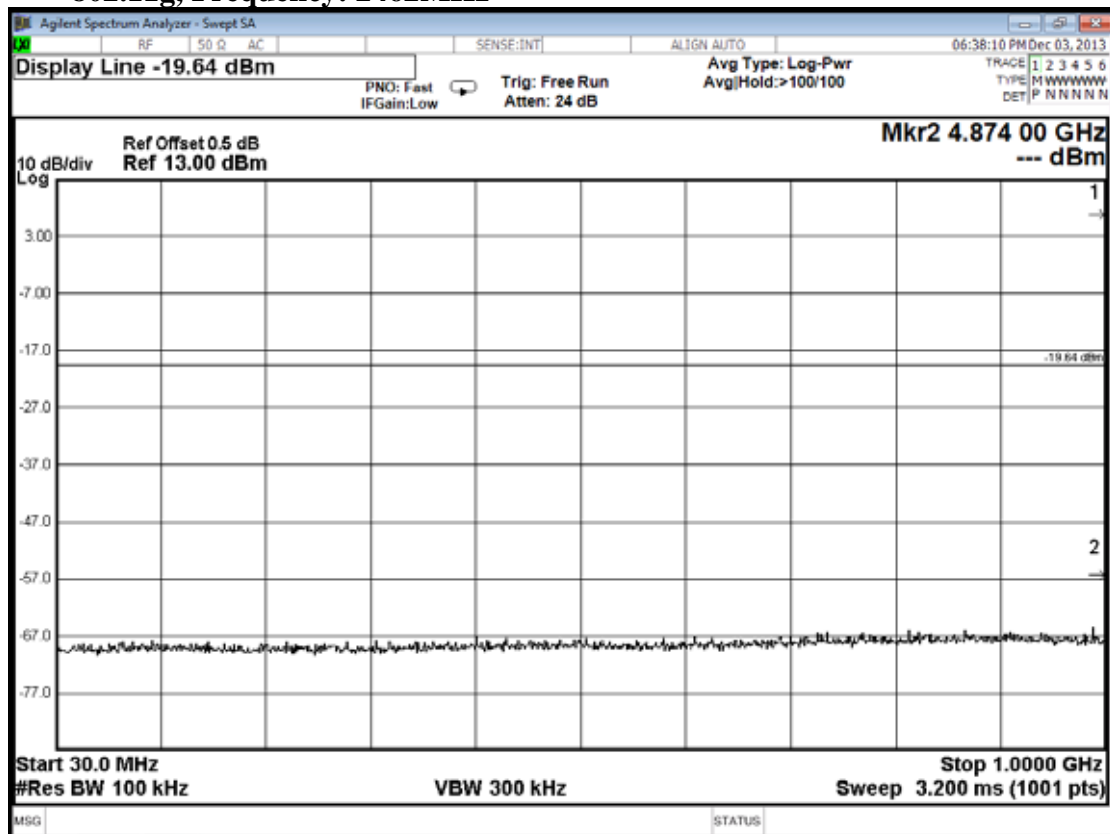
802.11g, Frequency: 2437MHz

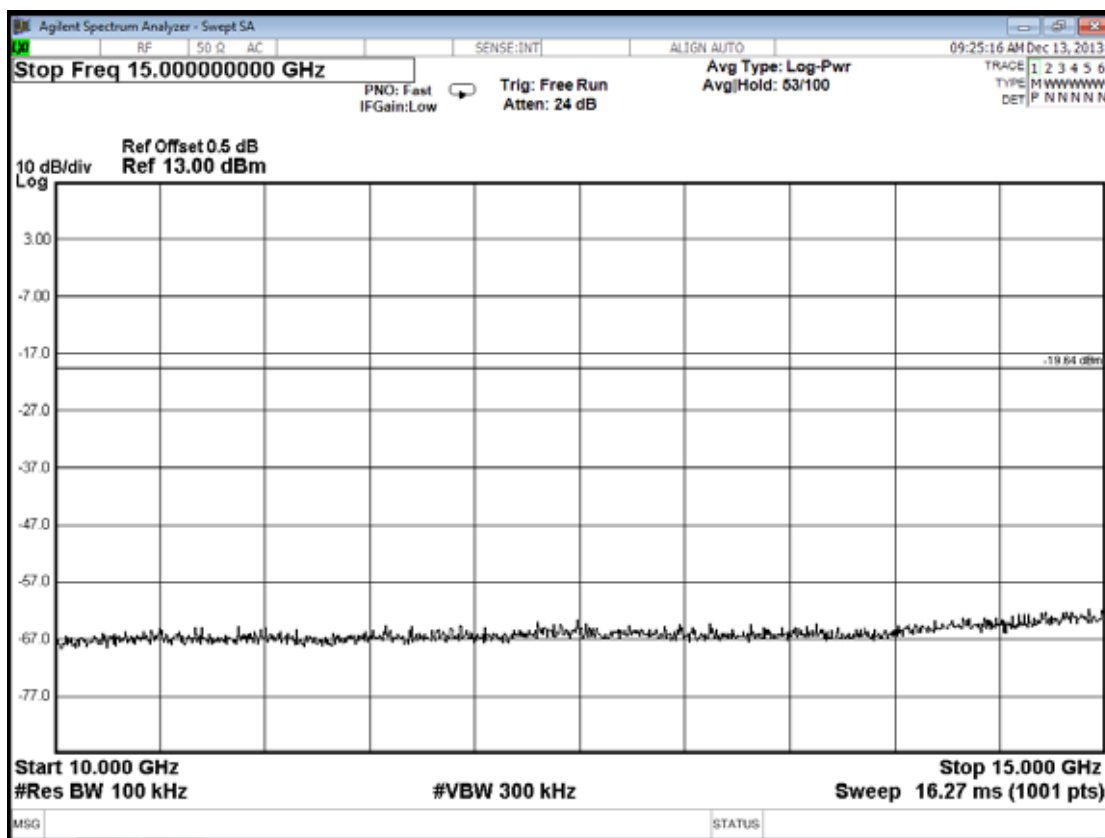
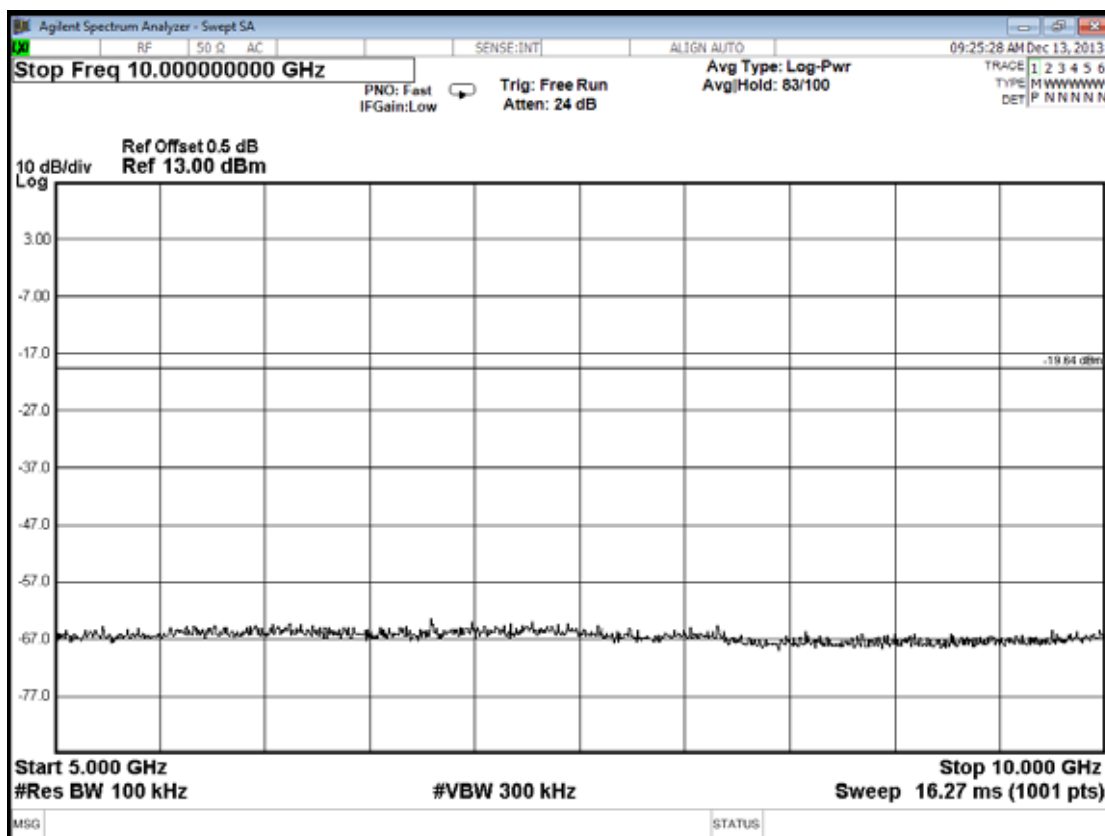


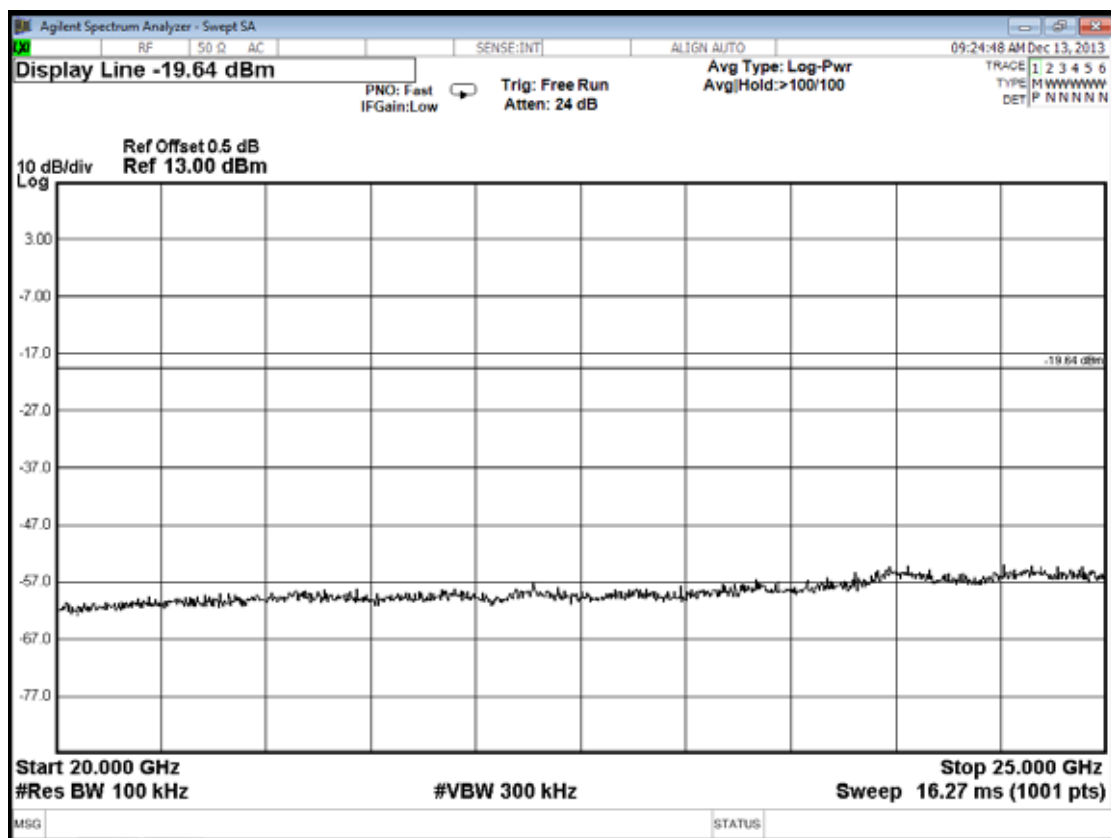
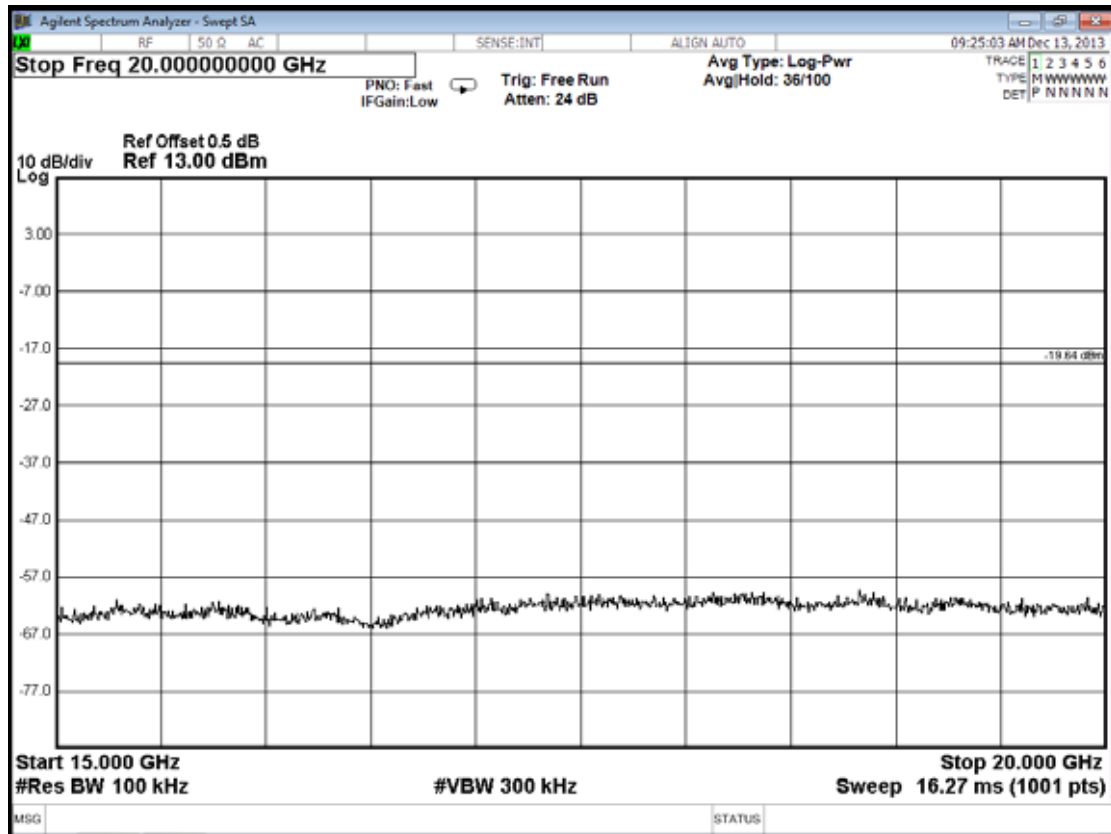




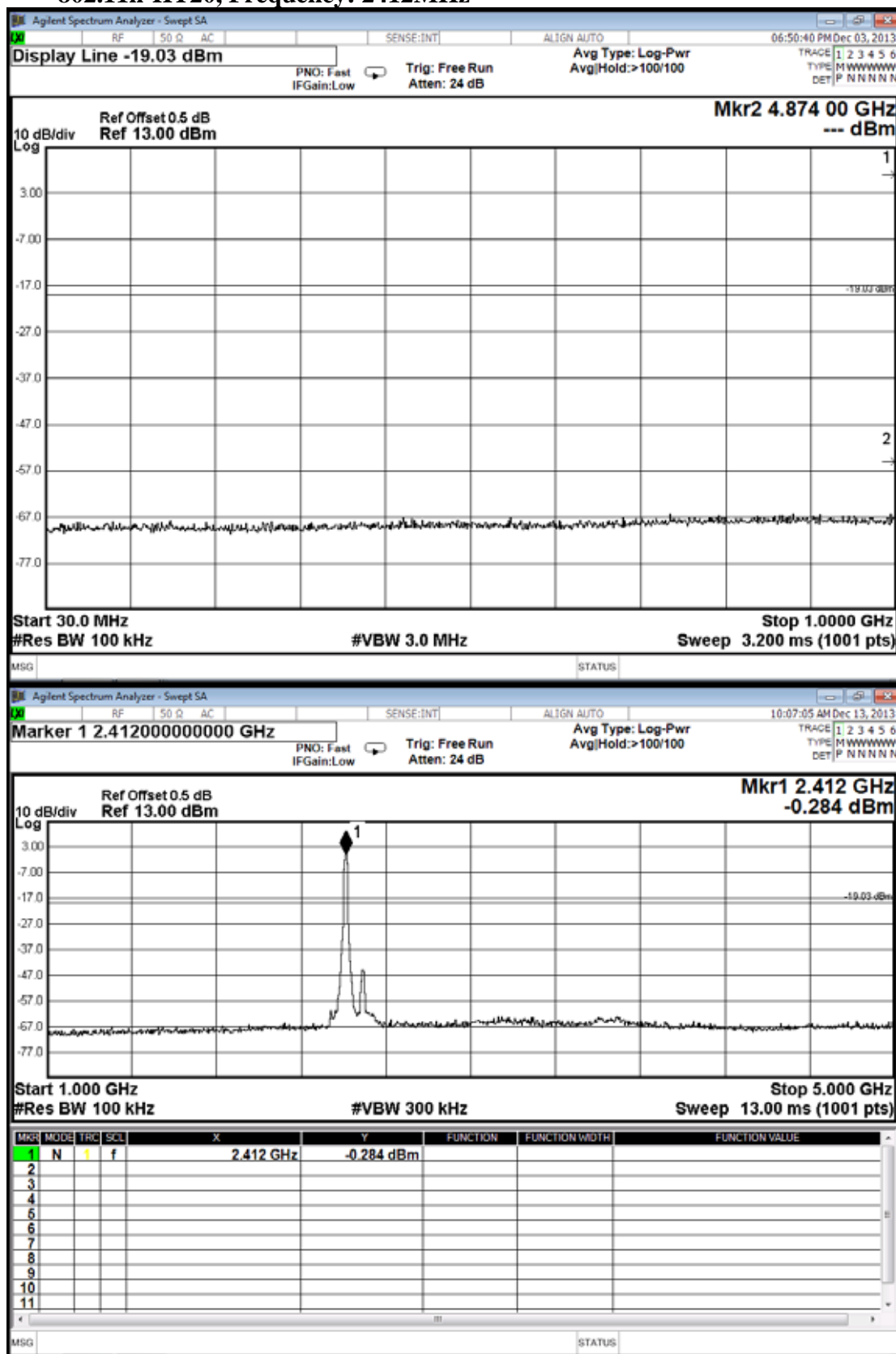
802.11g, Frequency: 2462MHz

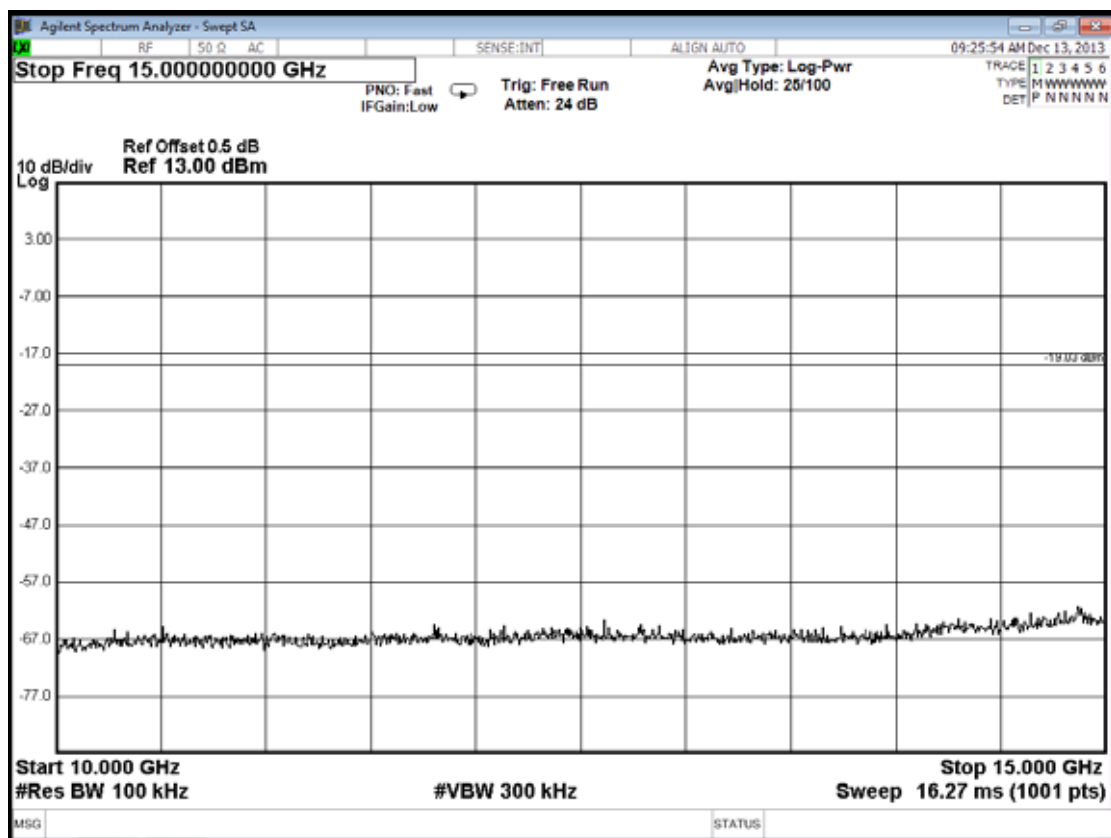
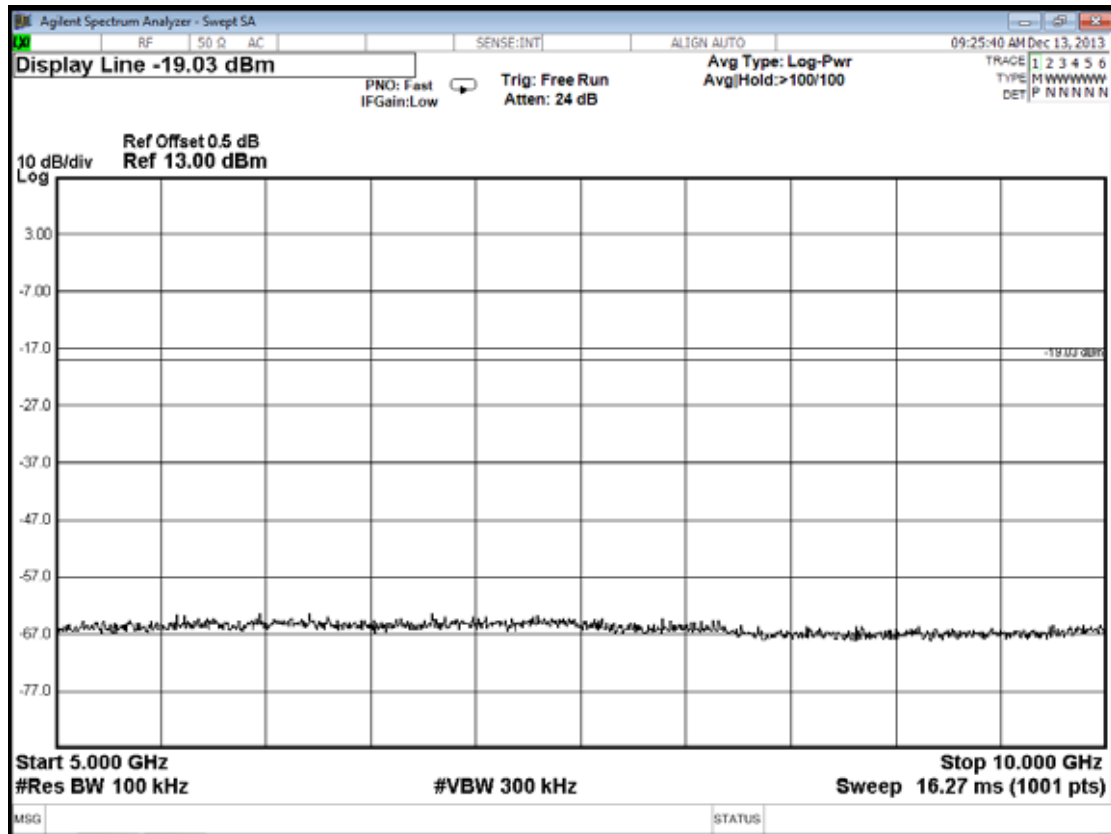


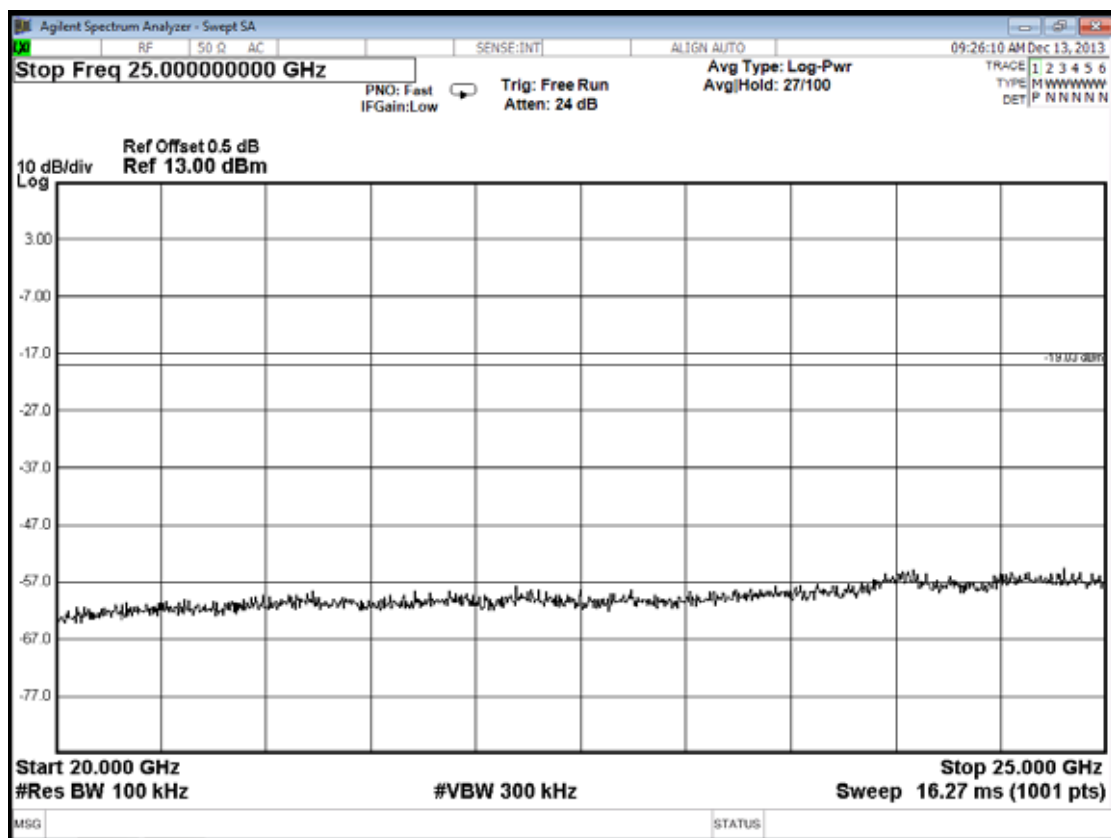
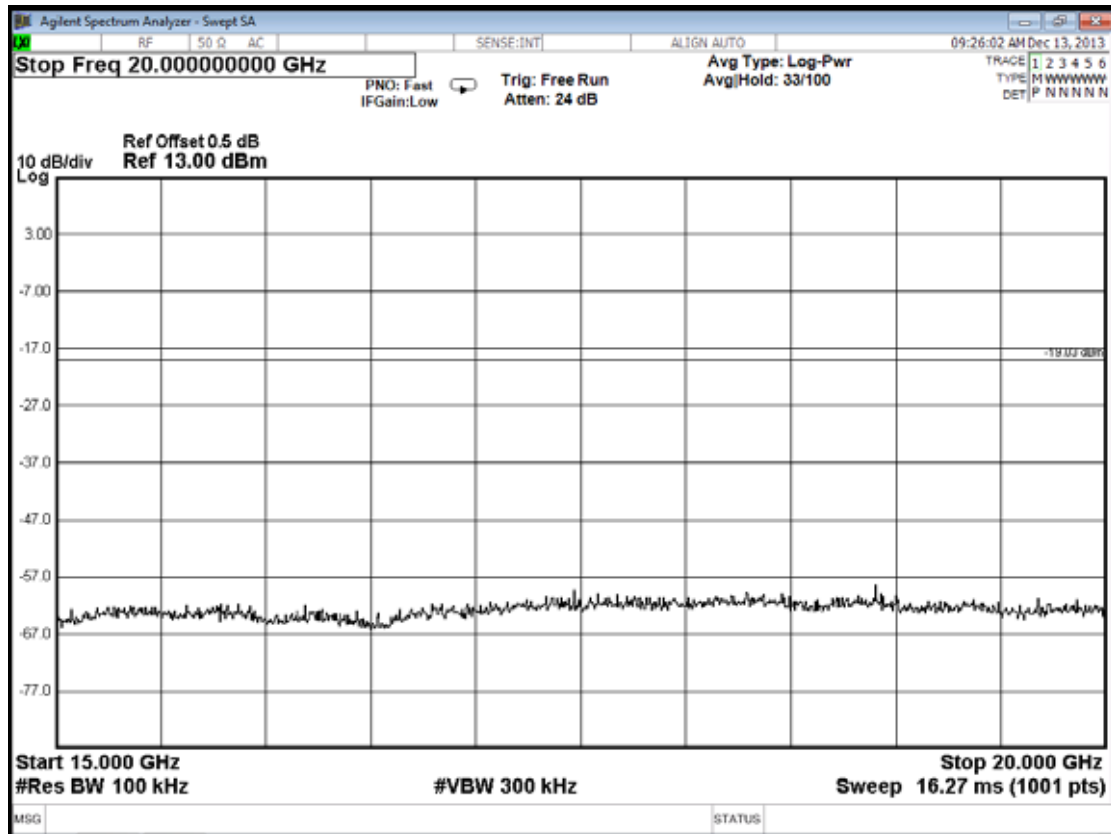




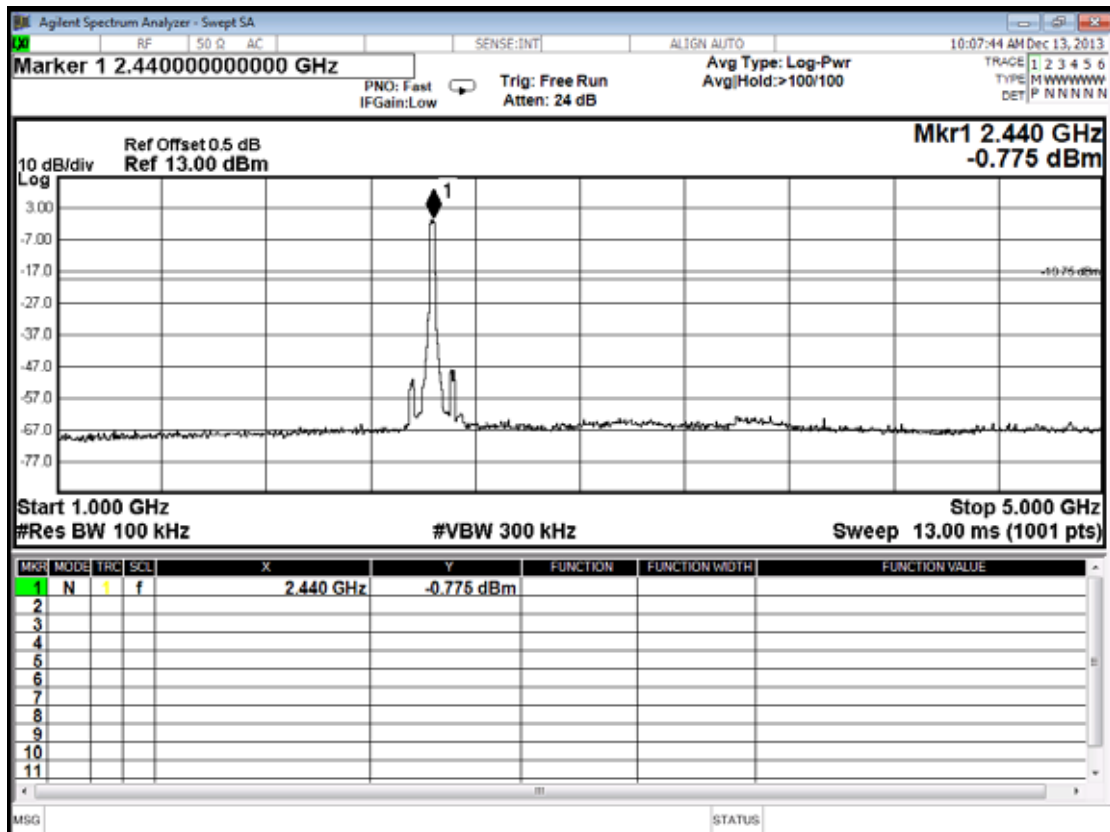
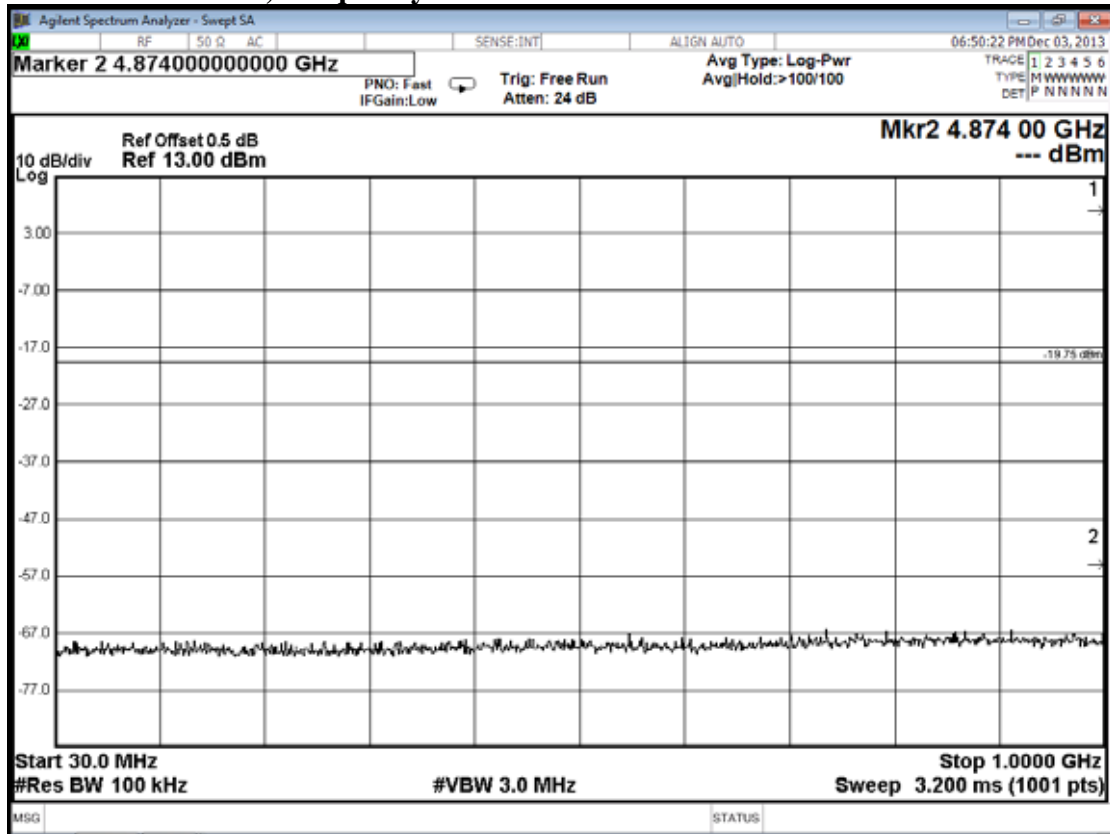
802.11n-HT20, Frequency: 2412MHz

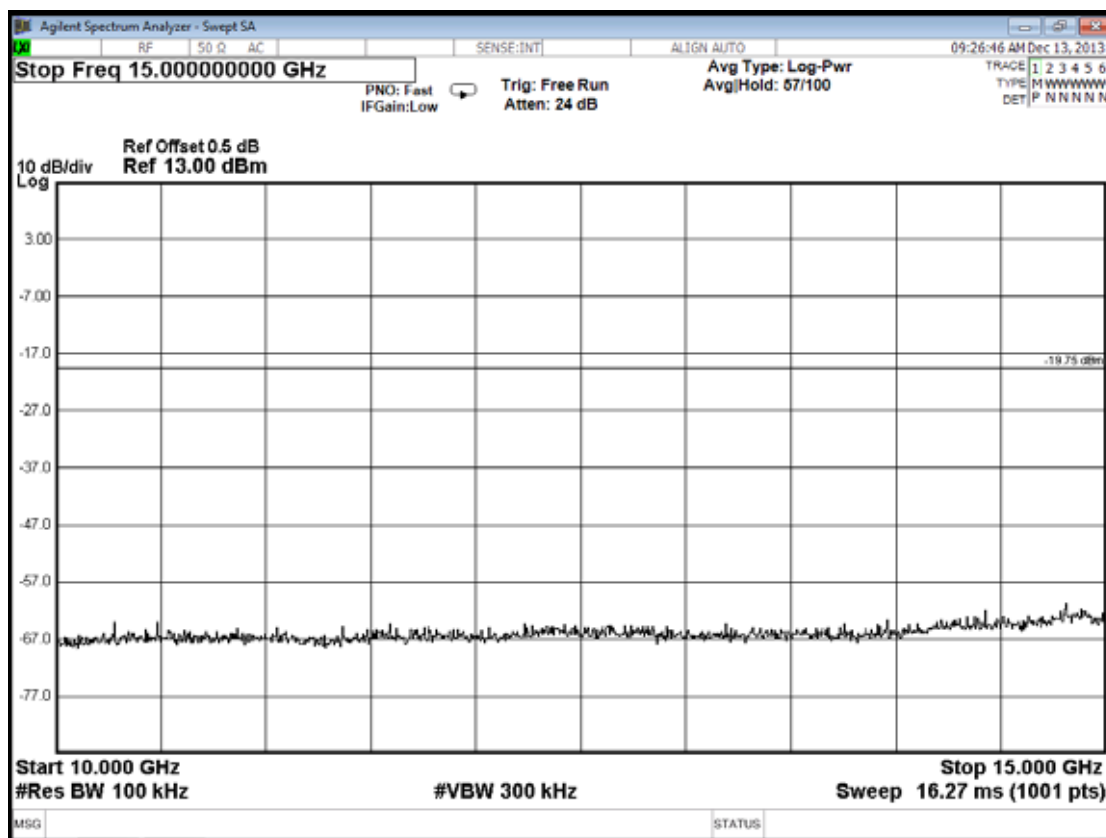
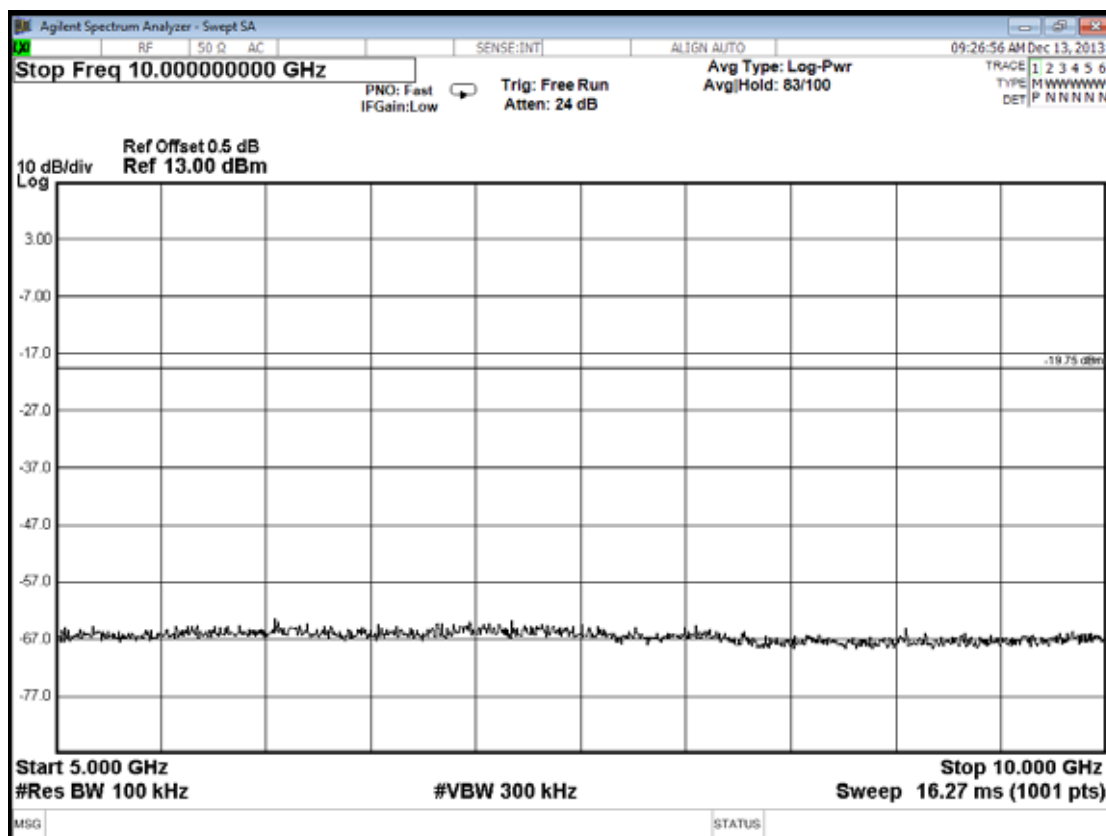


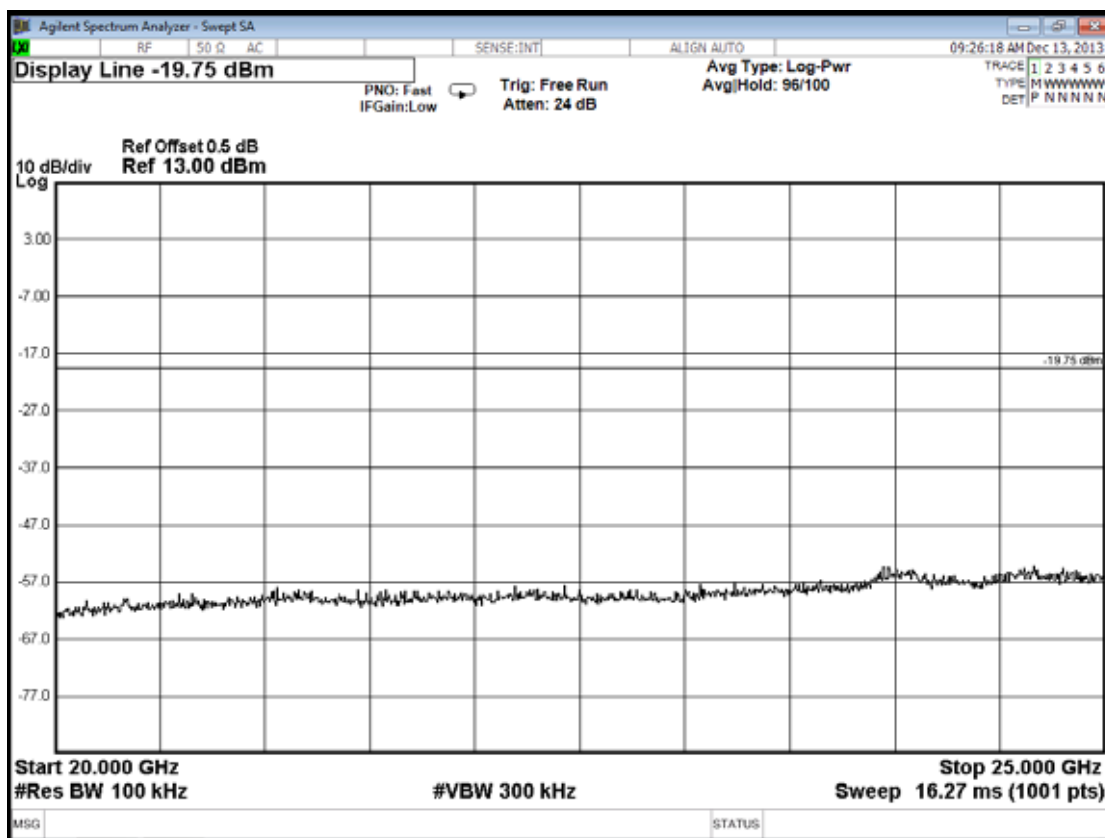
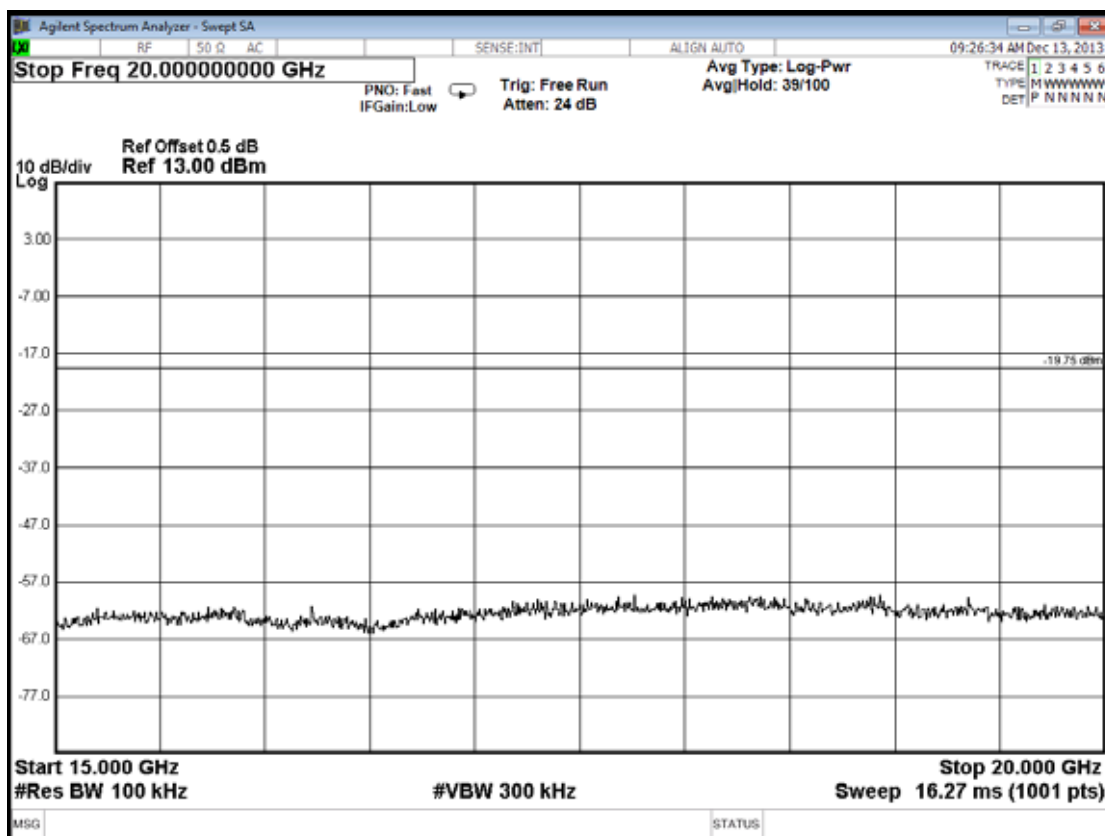




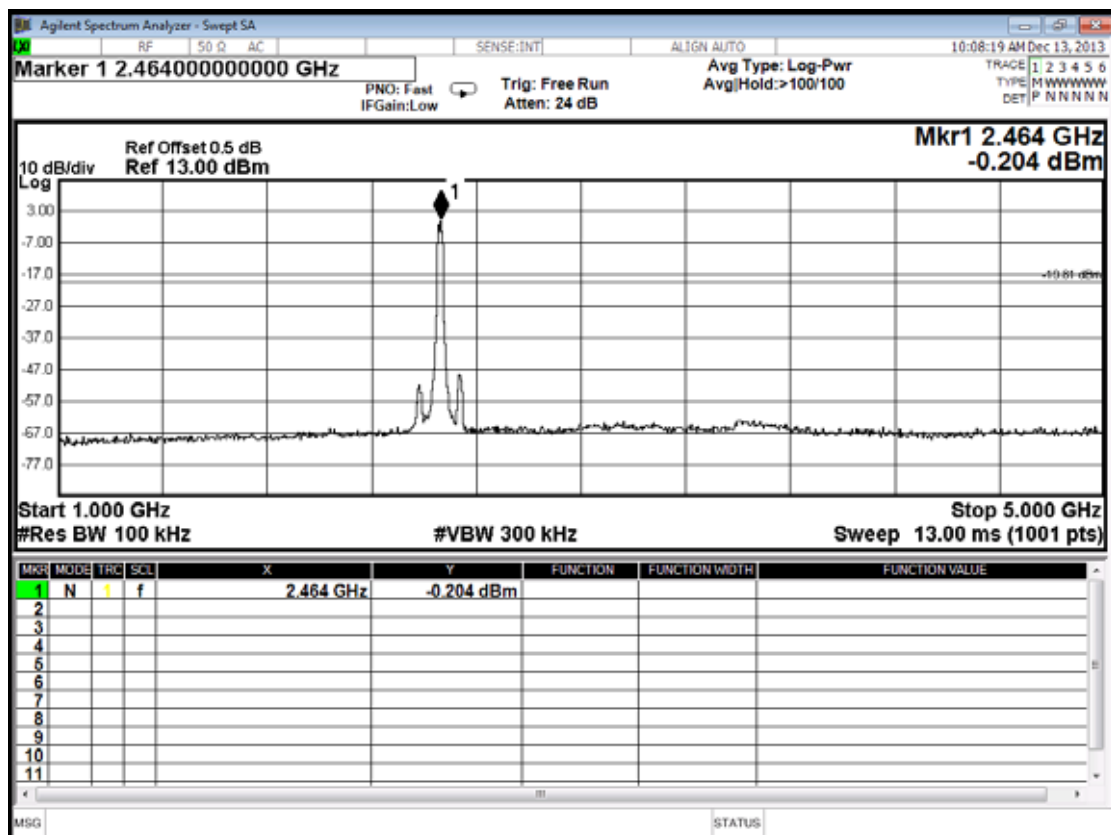
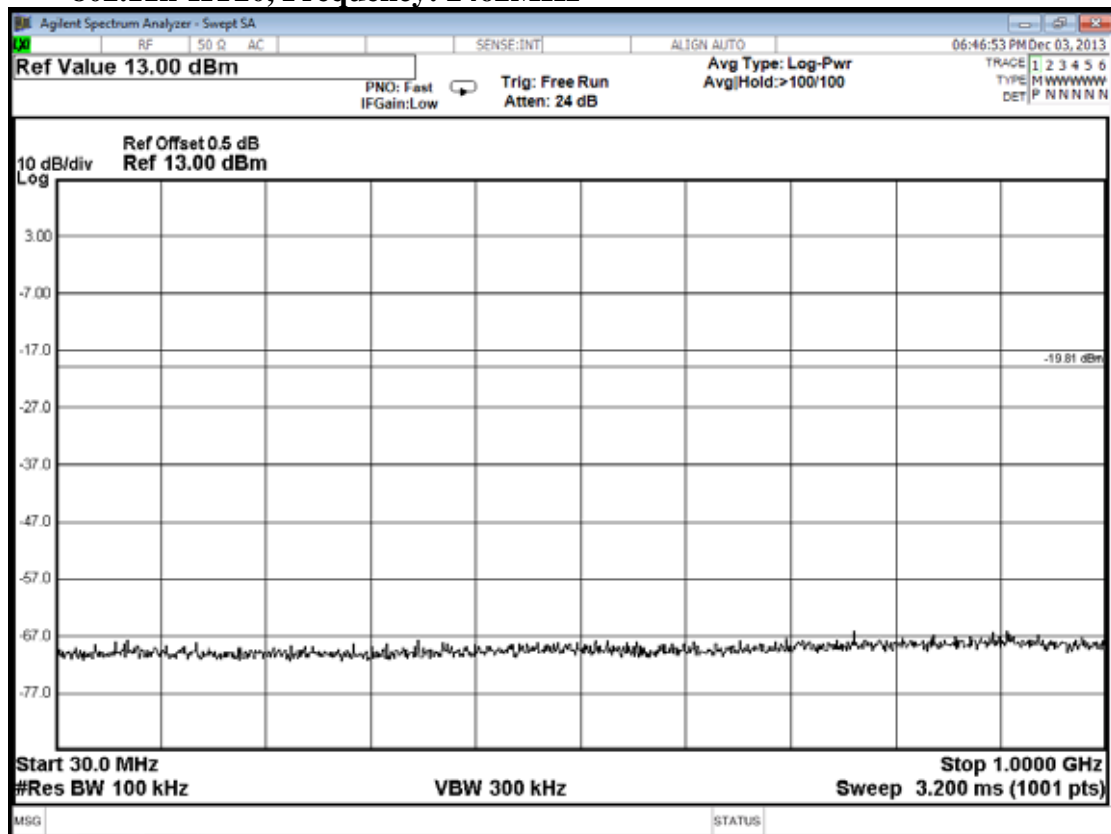
802.11n-HT20, Frequency: 2437MHz

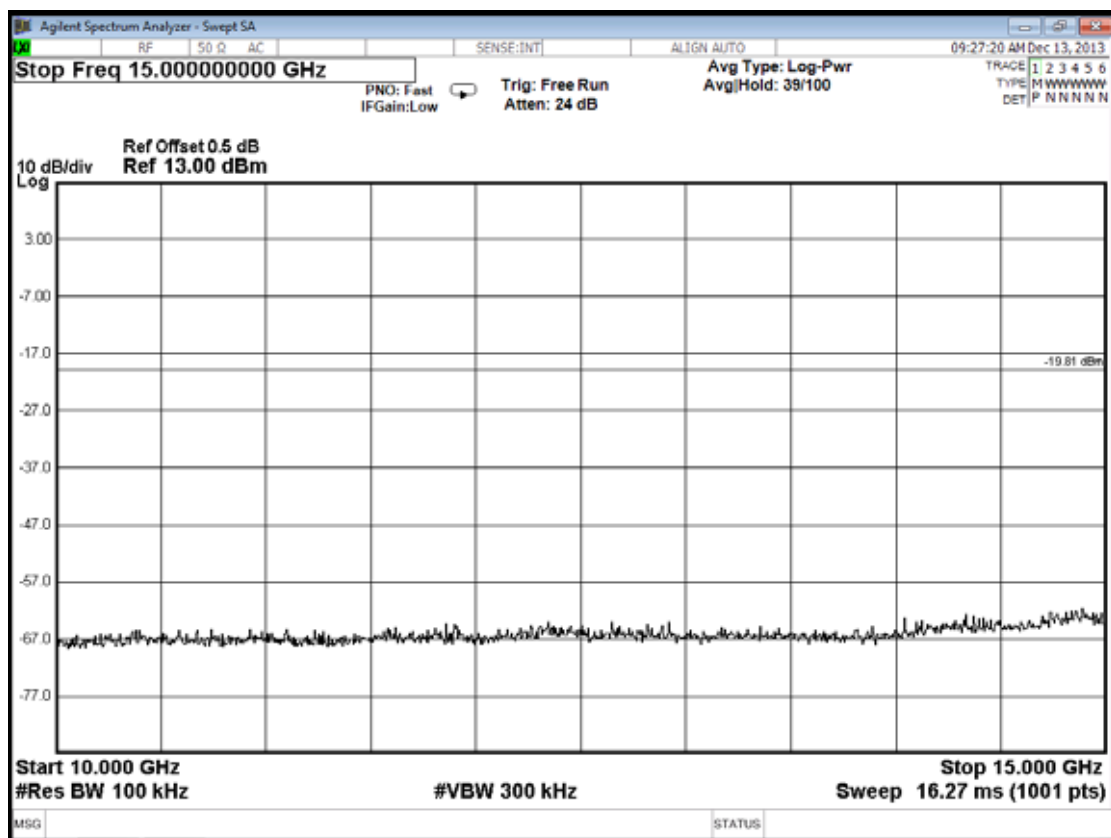
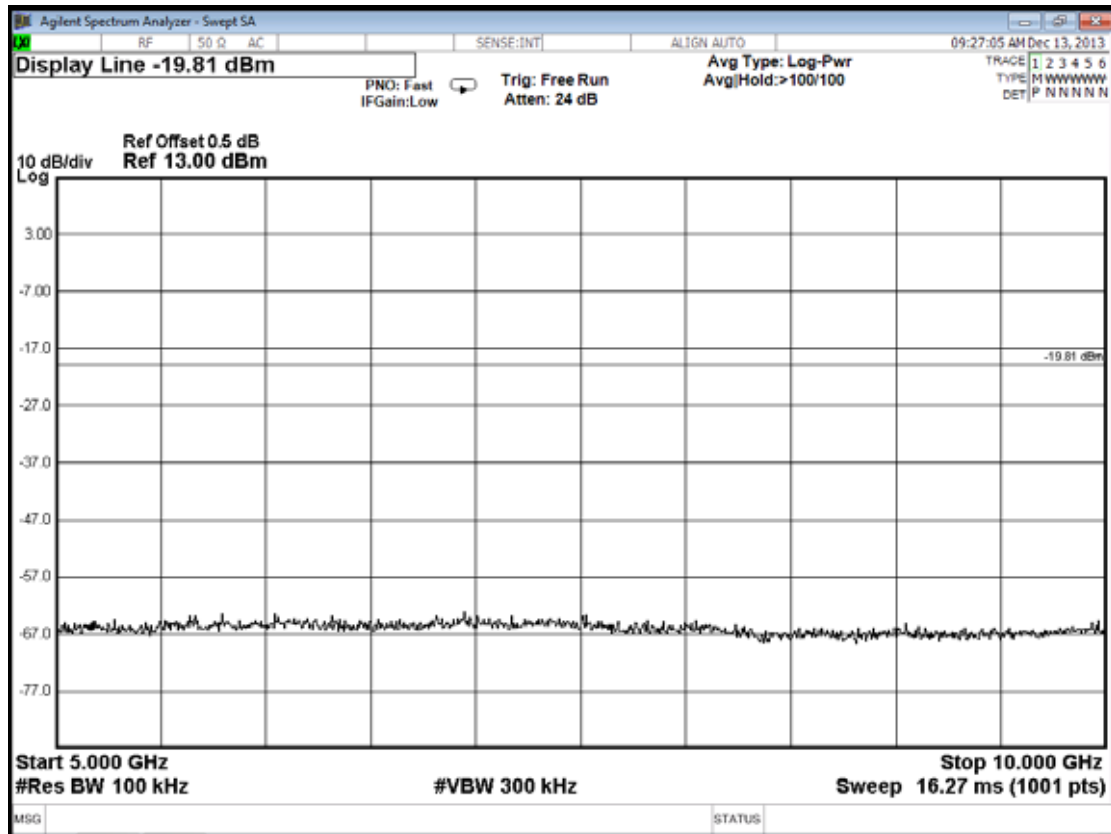


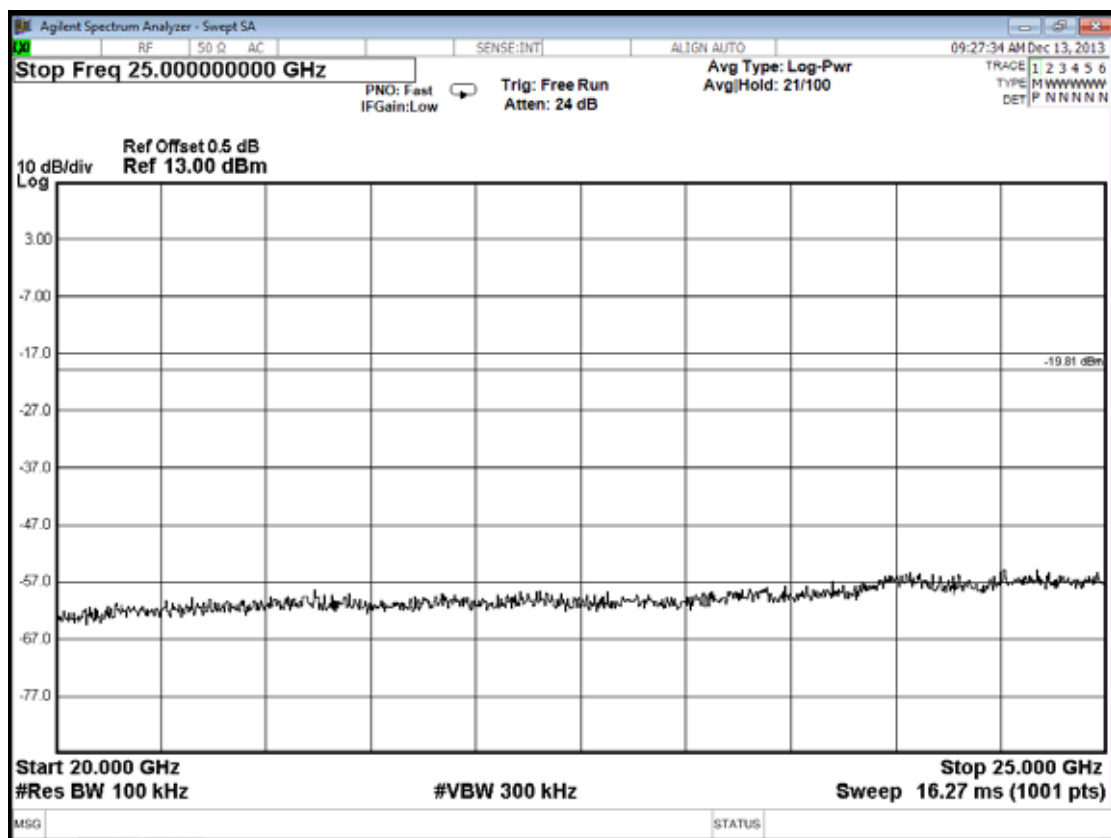
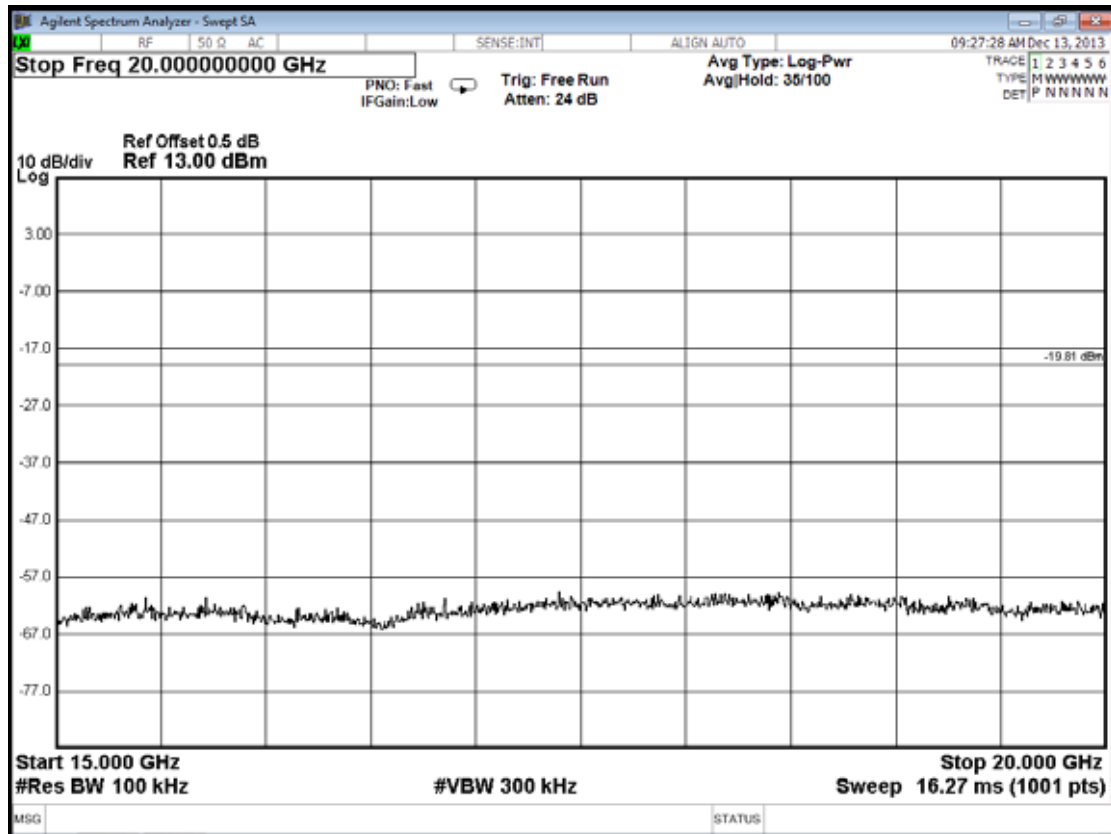




802.11n-HT20, Frequency: 2462MHz







8. BAND EDGES MEASUREMENT

8.1. Test Equipment

The following test equipment was used during the band edges measurement:

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|-------------------|--------------|------------|------------|--------------|--------------|
| 1. | Spectrum Analyzer | Agilent | N9030A-544 | US51350140 | Jul. 30, 13' | Jul. 29, 14' |

8.2. Block Diagram of Test Setup

The same as section.5.2.

8.3. Specification Limits [§15.247(c)]

8.3.1. 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. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (See Section 15.205(c)).(This test result attaching to §4.6.3)

8.3.2. The reference level for determining limit of emission limitations is according to the value measured indicated in plots at section 9.6.

8.4. Operating Condition of EUT

The test program “QPST” and “QRCT” was used to enable the EUT to transmit data at different channel frequency individually.

8.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. Set both RBW=100 kHz and VBW to 300kHz with suitable frequency span including 100kHz bandwidth from band edge.

The measurement guideline was according to KDB 558074 D01 V03.

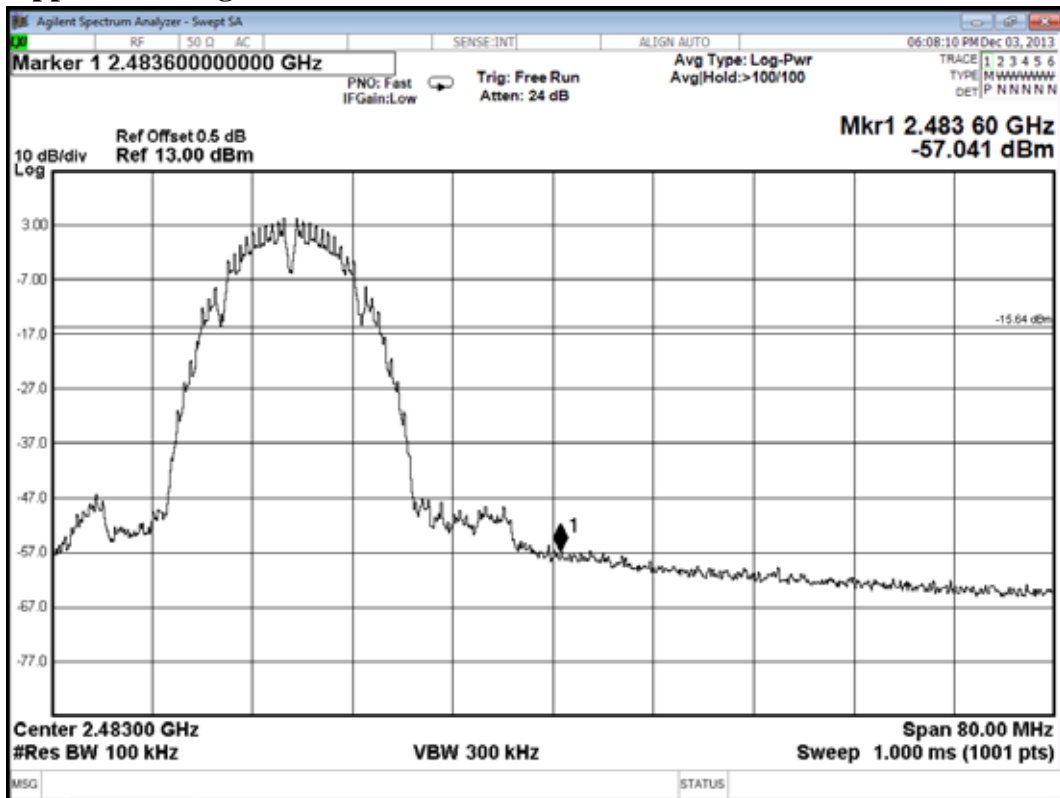
8.6. Test Results

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

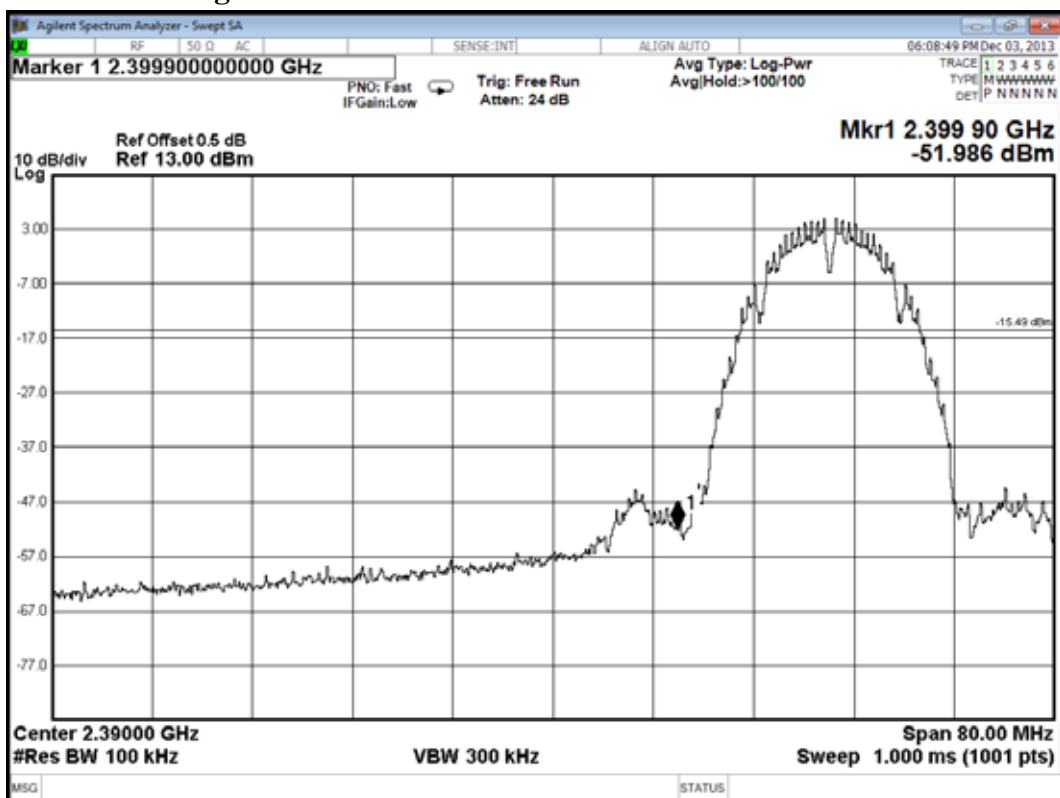
Test Date: Dec. 03, 2013 Temperature: 25°C Humidity: 50%

802.11b

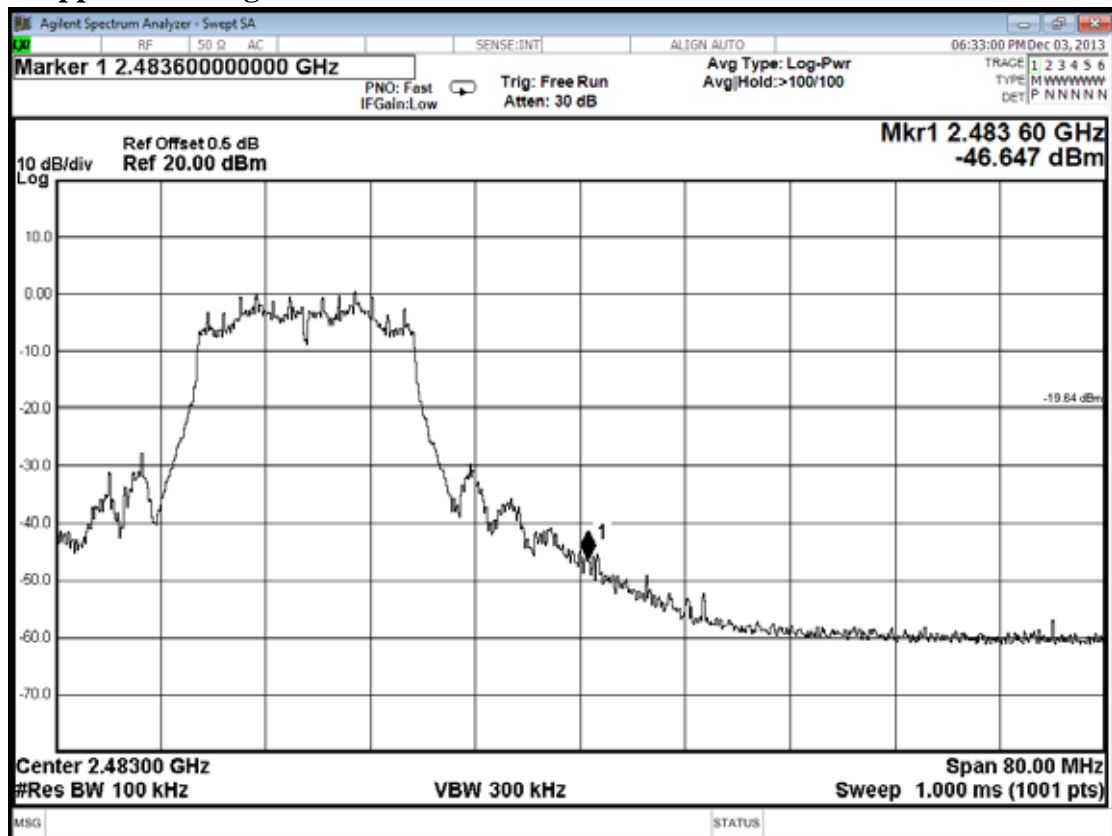
Upper Band edge



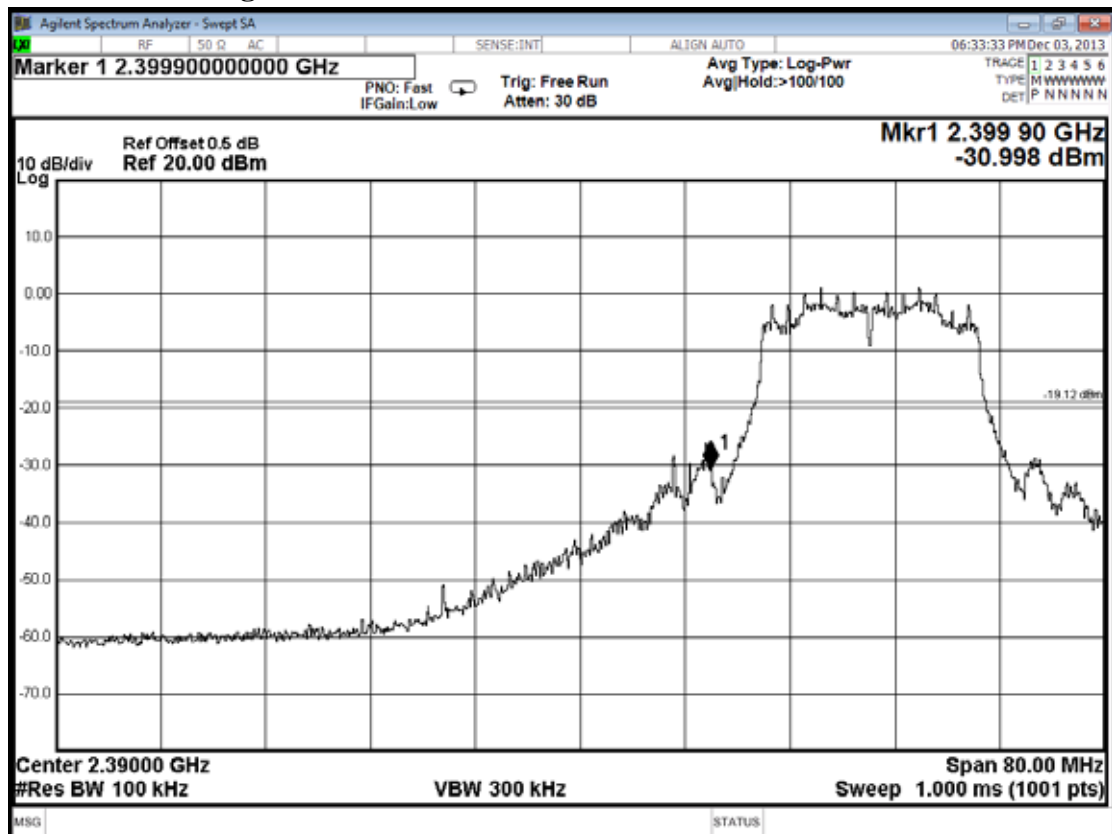
Below Band edge



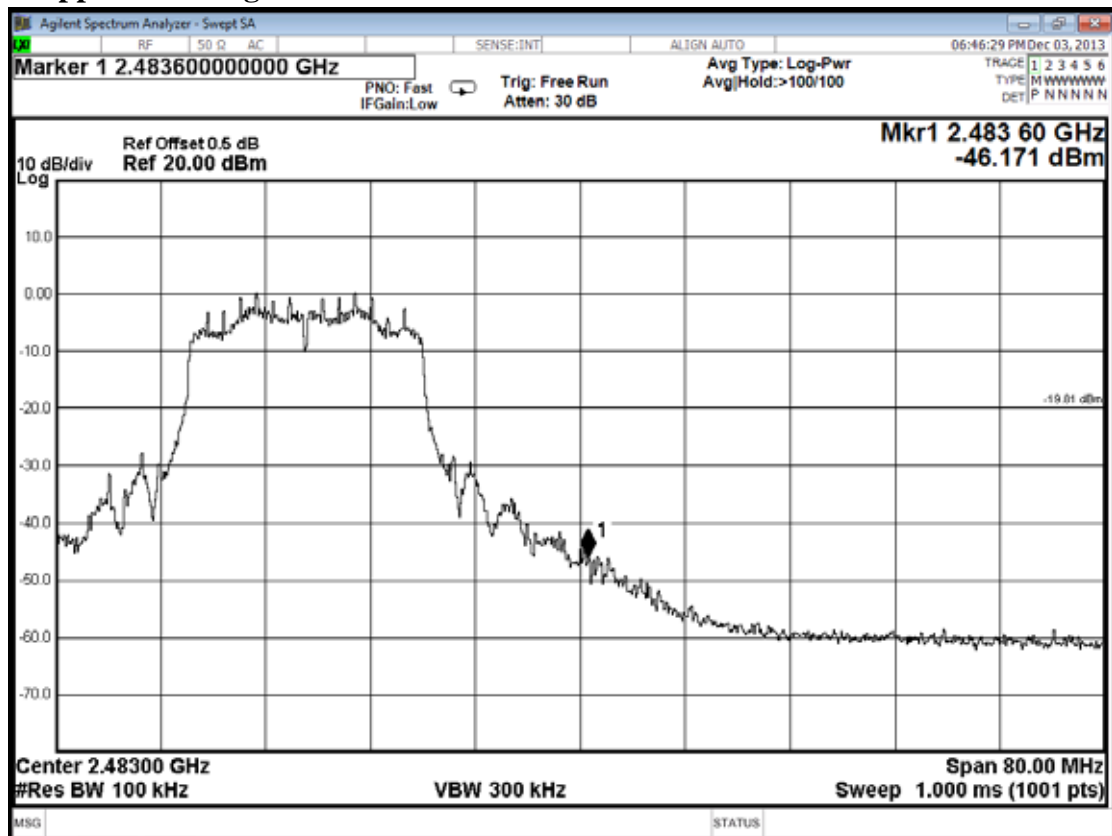
802.11g Upper Band edge



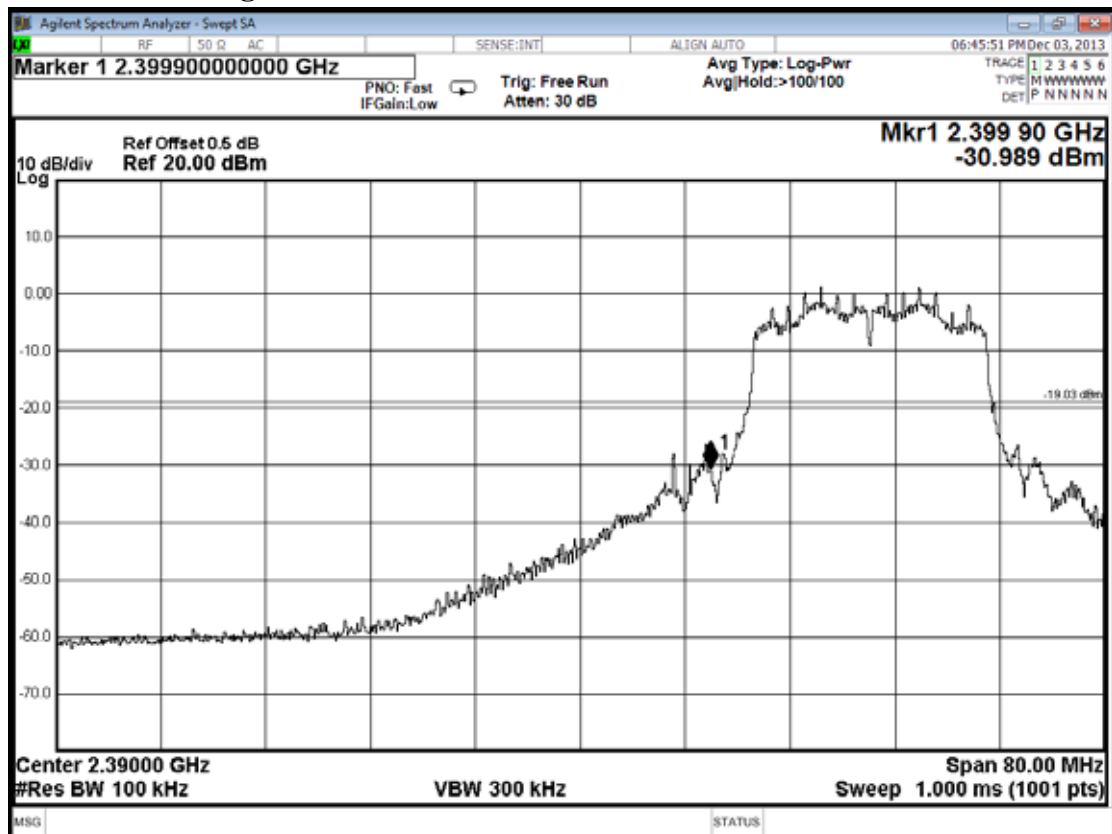
Below Band edge



802.11n-HT20 Upper Band edge



Below Band edge



9. POWER SPECTRAL DENSITY MEASUREMENT

9.1. Test Equipment

The following test equipment was used during the power spectral density measurement:

| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|-------------------|--------------|------------|------------|--------------|--------------|
| 1. | Spectrum Analyzer | Agilent | N9030A-544 | US51350140 | Jul. 30, 13' | Jul. 29, 14' |

9.2. Block Diagram of Test Setup

The same as section.5.2.

9.3. Specification Limits [§15.247(d)]

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

9.4. Operating Condition of EUT

The test program “QPST” and “QRCT” was used to enable the EUT to transmit data at different channel frequency individually.

9.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measured with the spectrum analyzer using 100kHz RBW and ≥ 300 kHz VBW, set sweep time = Auto.

The measurement guideline was according to KDB 558074 D01 V03.

9.6. Test Results

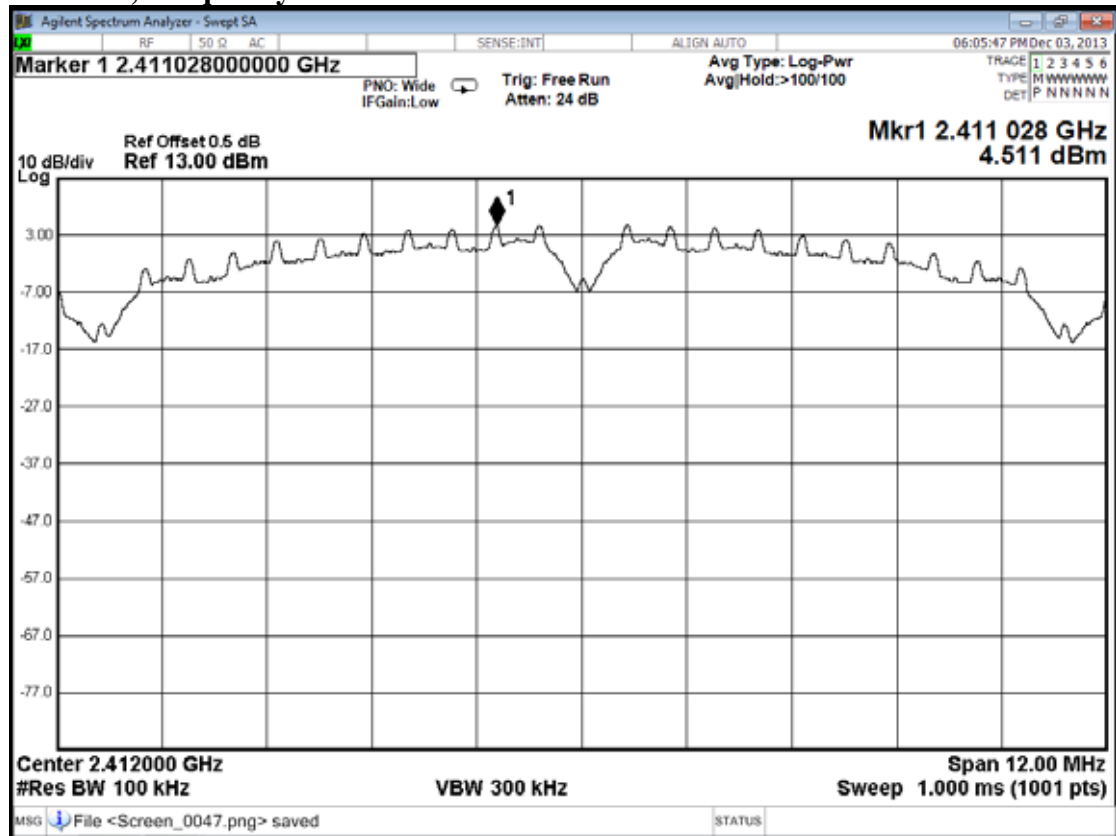
PASSED. All the test results are attached in next pages.

Test Date: Dec. 03, 2013 Temperature: 25°C Humidity: 50%

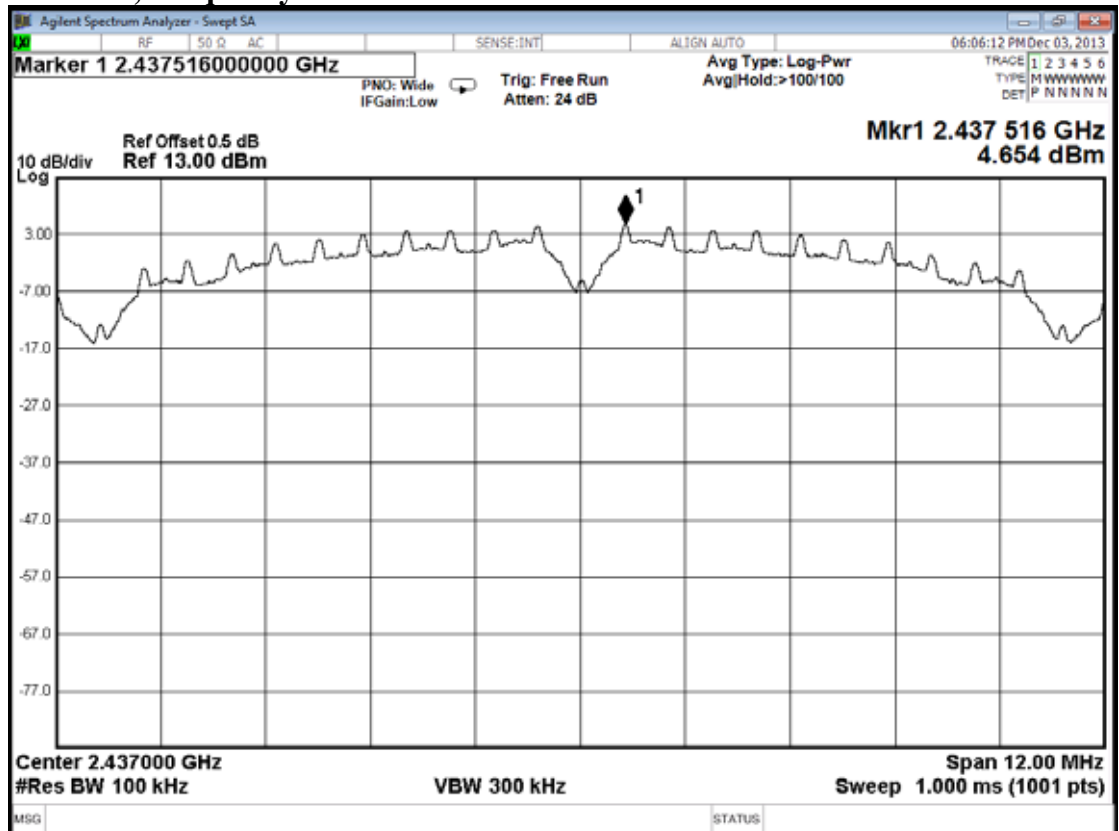
| Mode | Type of Network | Channel | Frequency | Power Spectral Density |
|------|-----------------|---------|-----------|------------------------|
| 1 | 802.11b | CH 1 | 2412MHz | 4.511 dBm |
| 2 | | CH 6 | 2437MHz | 4.654 dBm |
| 3 | | CH 11 | 2462MHz | 4.363 dBm |
| 4 | 802.11g | CH 1 | 2412MHz | 0.881 dBm |
| 5 | | CH 6 | 2437MHz | 0.280 dBm |
| 6 | | CH 11 | 2462MHz | 0.358 dBm |
| 7 | 802.11n-HT20 | CH 1 | 2412MHz | 0.968 dBm |
| 8 | | CH 6 | 2437MHz | 0.249 dBm |
| 9 | | CH 11 | 2462MHz | 0.190 dBm |

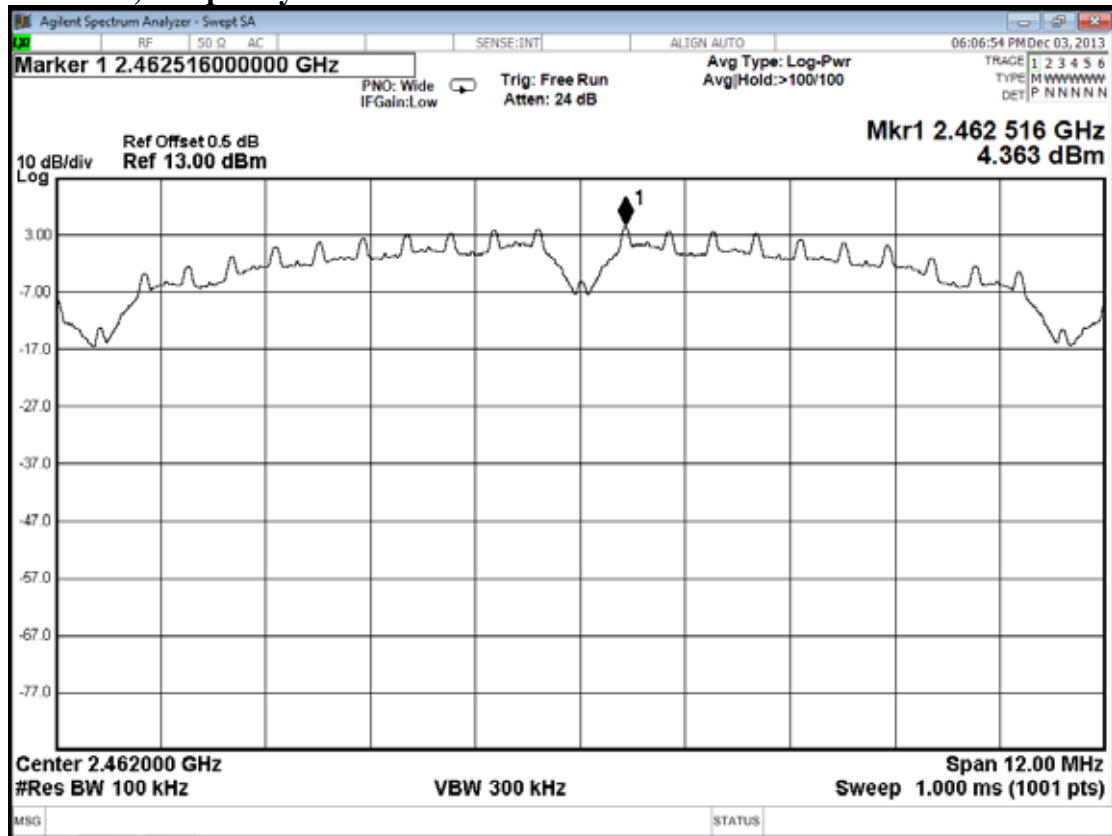
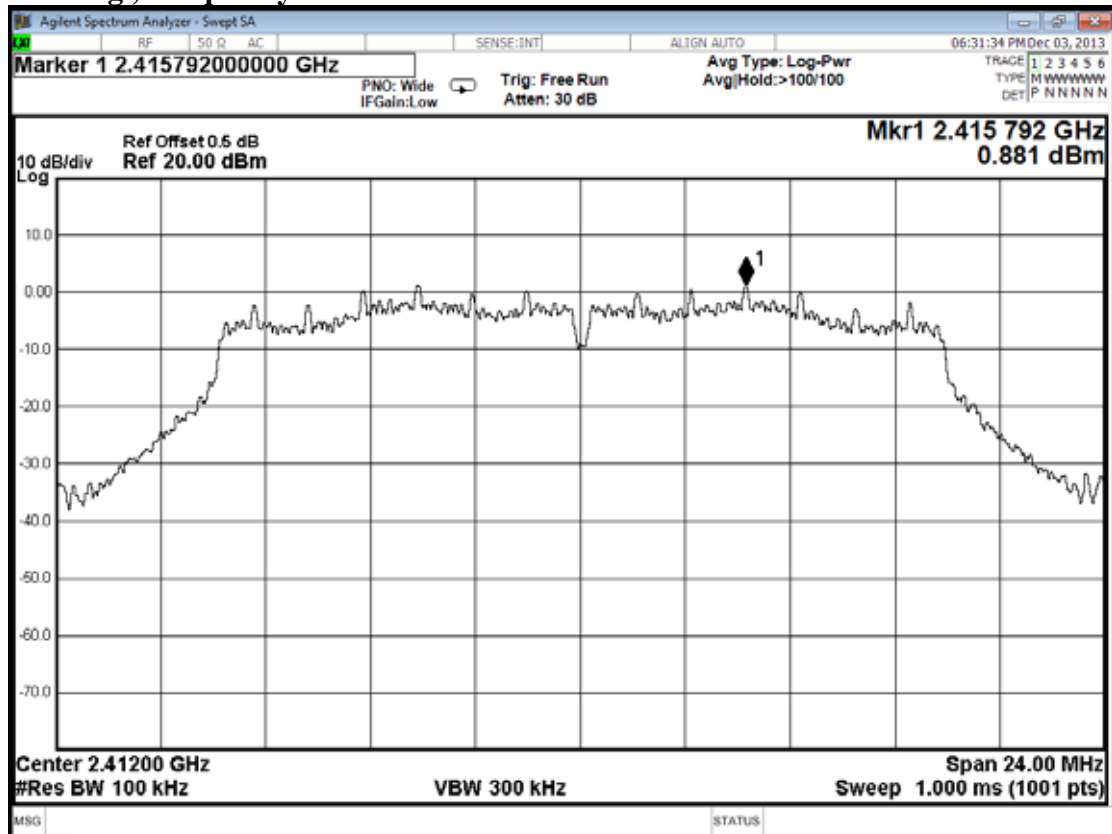
[Limit: 8dBm]

802.11b , Frequency: 2412MHz

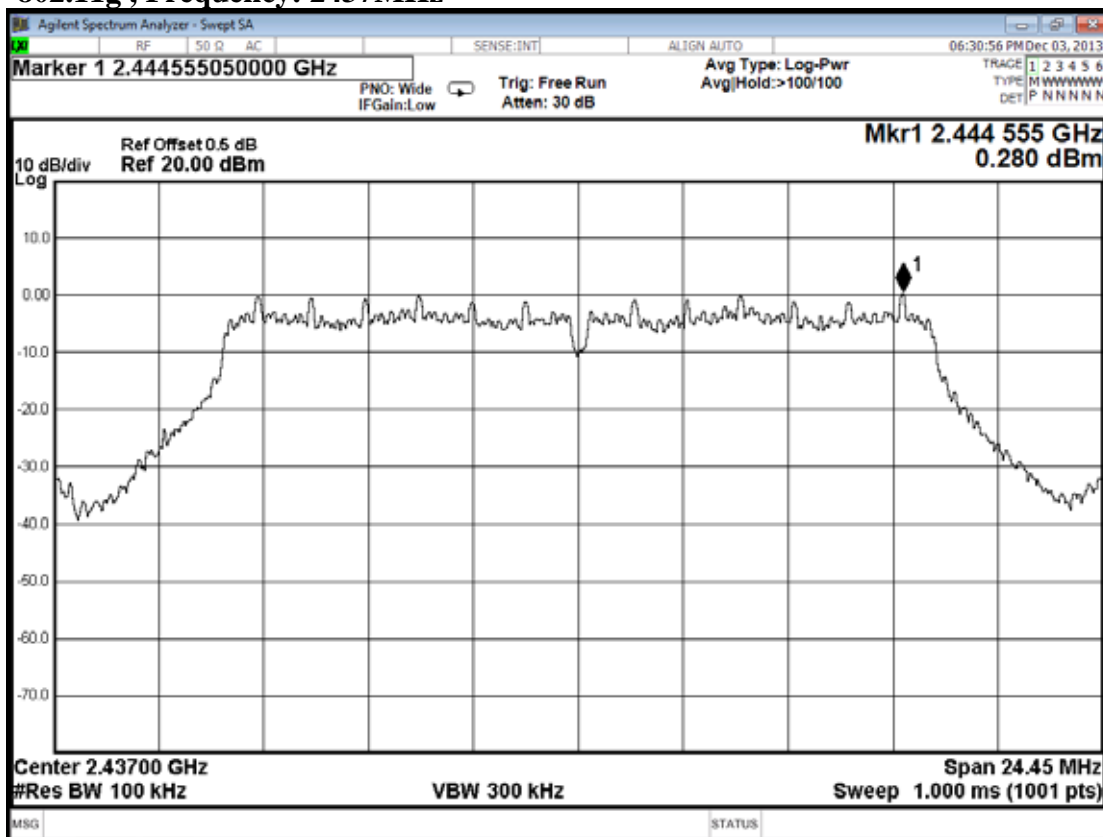


802.11b , Frequency: 2437MHz

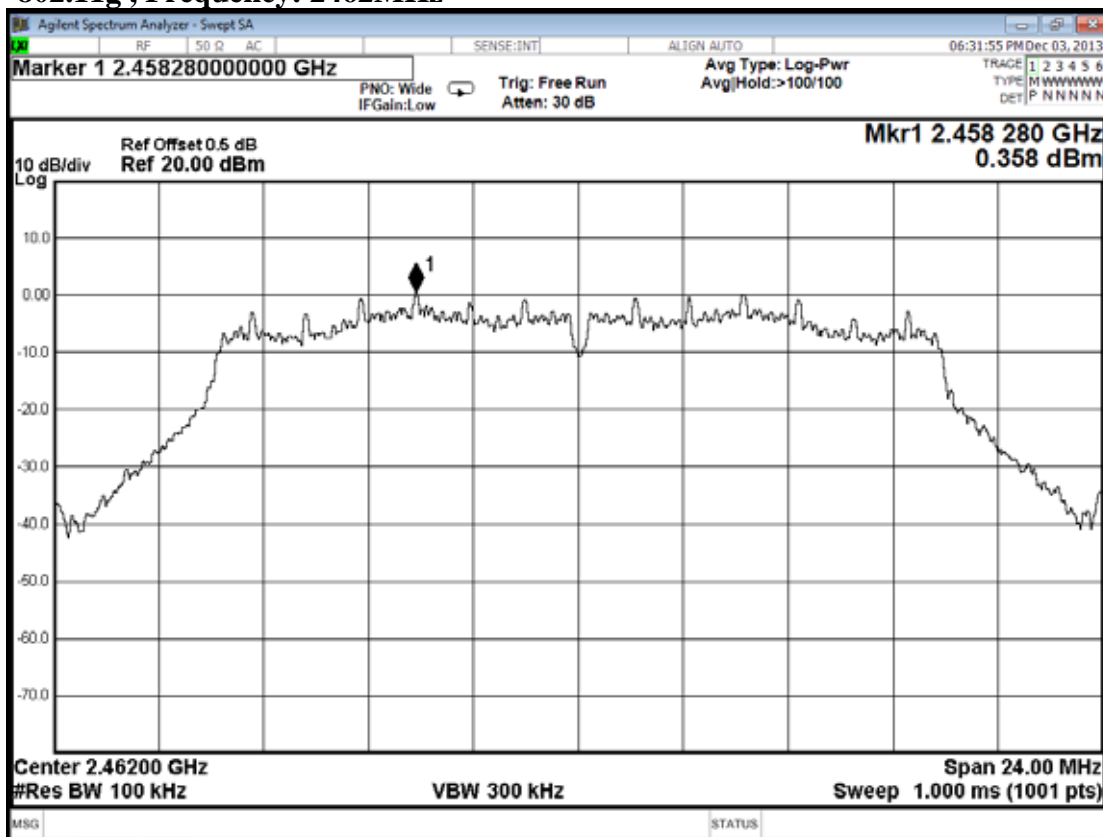


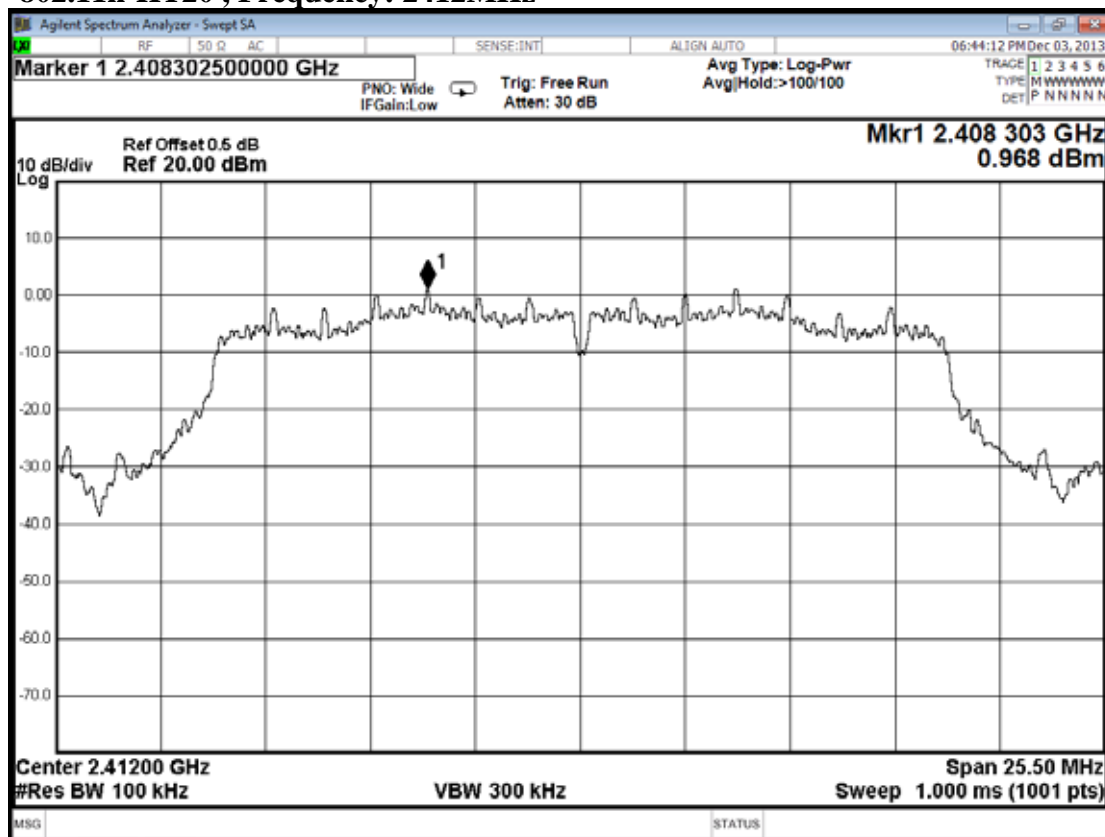
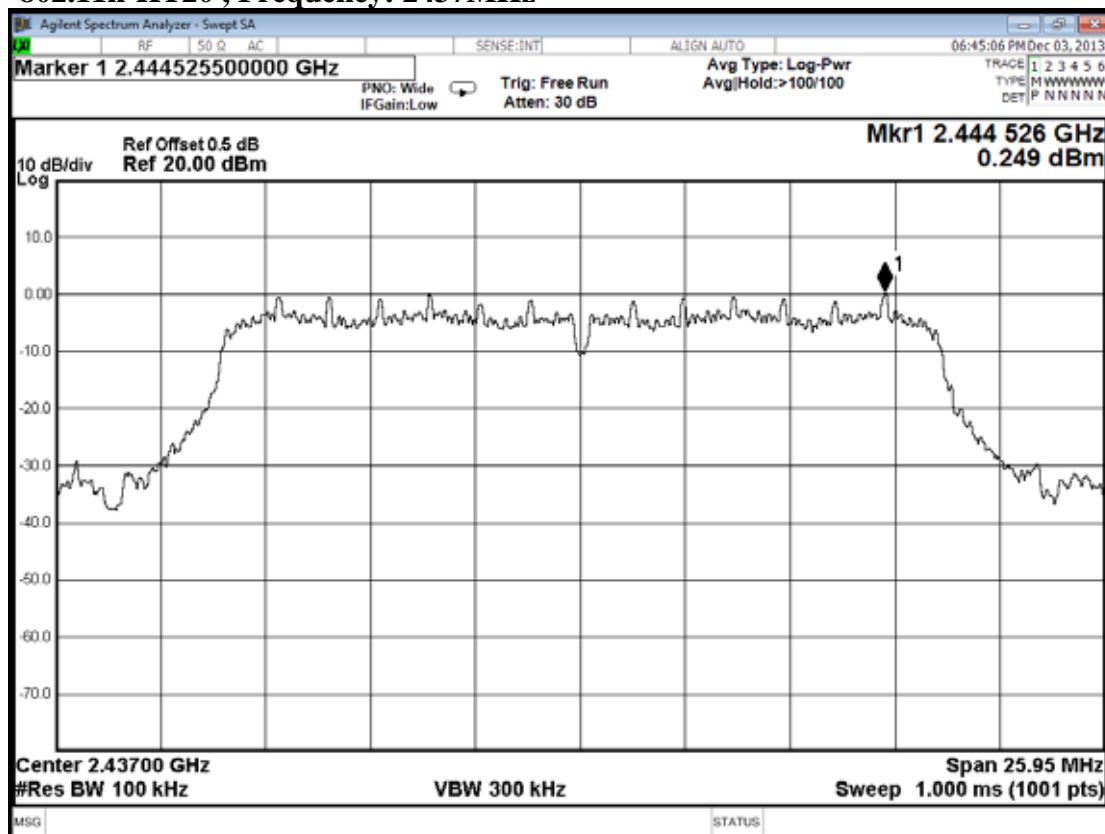
802.11b , Frequency: 2462MHz**802.11g , Frequency: 2412MHz**

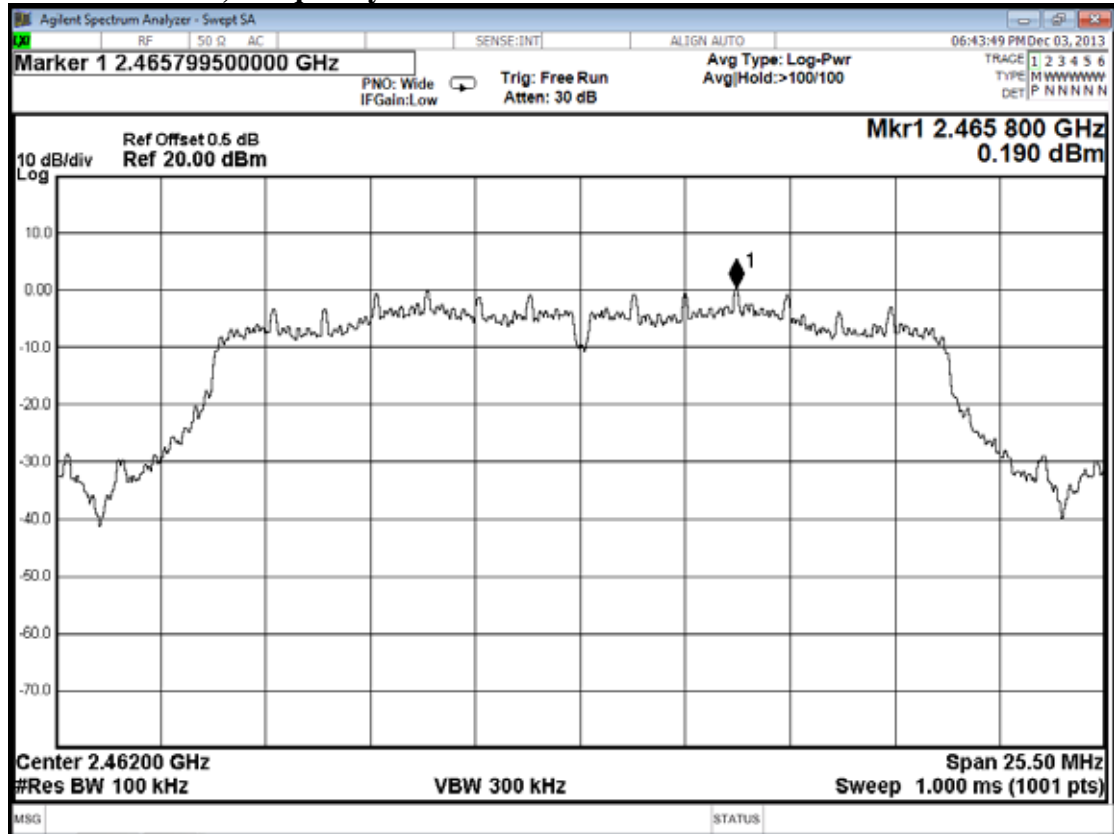
802.11g , Frequency: 2437MHz



802.11g , Frequency: 2462MHz



802.11n-HT20 , Frequency: 2412MHz**802.11n-HT20 , Frequency: 2437MHz**

802.11n-HT20 , Frequency: 2462MHz

10.DEVIATION TO TEST SPECIFICATIONS

【NONE】

11.PHOTOGRAPHS

11.1.Photos of Conducted Disturbance Measurement



FRONT VIEW OF CONDUCTED MEASUREMENT



BACK VIEW OF CONDUCTED MEASUREMENT

11.2.Photos of Radiated Measurement at Semi-Anechoic Chamber

11.2.1.Frequency Below 1GHz

TX Mode



Battery Mode (Position: Side)



Battery Mode (Position: Lie)



Battery Mode (Position: Stand)

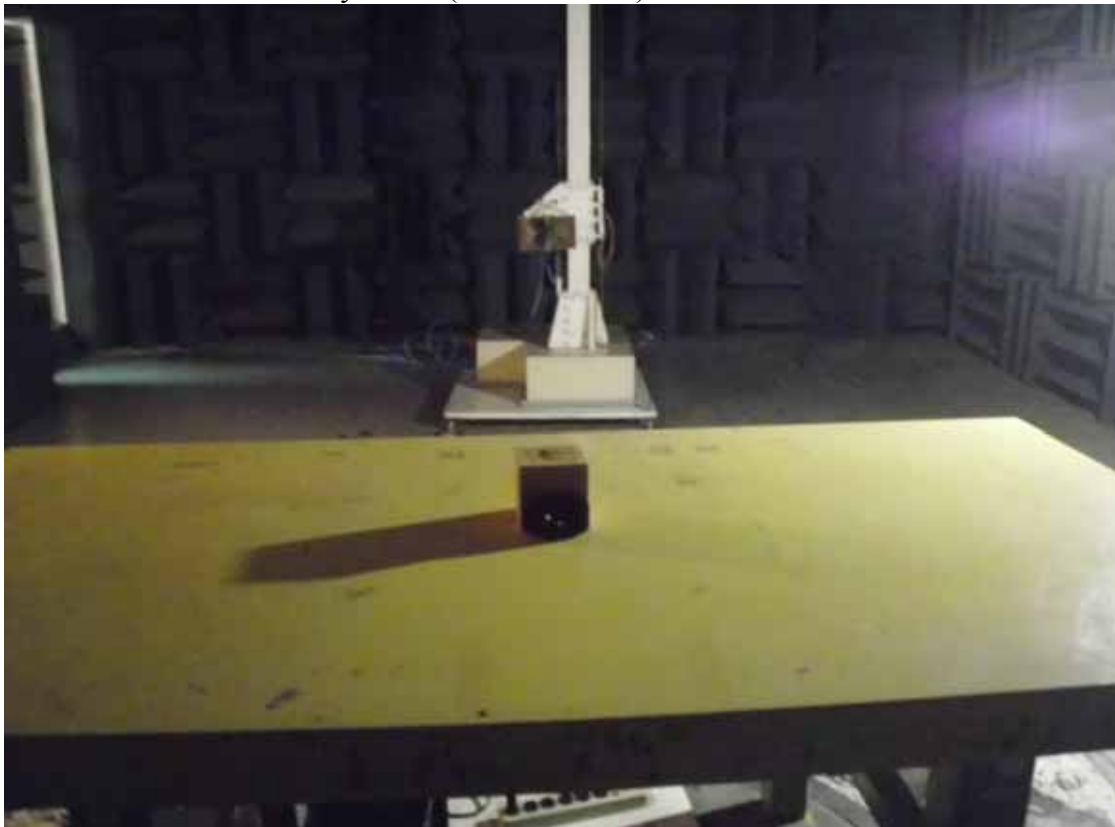


11.2.2.Frequency Above 1GHz

TX Mode



Battery Mode (Position: Side)



Battery Mode (Position: Lie)



Battery Mode (Position: Stand)



11.3.Photo of Section RF Conducted Measurement

