

# FCC Test Report

|              |                                  |
|--------------|----------------------------------|
| Product Name | MOXA IEEE 802.11a/b/g/n Wireless |
| Model No     | WAPN005                          |
| FCC ID       | SLE-WAPN005L                     |

|           |                                                                              |
|-----------|------------------------------------------------------------------------------|
| Applicant | Moxa Inc.                                                                    |
| Address   | 4F, No. 135, Lane 235, BAOQIAO Rd. XINDIAN DIST., NEW<br>TAIPEI CITY, Taiwan |

|                 |                     |
|-----------------|---------------------|
| Date of Receipt | Mar. 05, 2014       |
| Issued Date     | Mar. 14, 2014       |
| Report No.      | 1430089R-RFUSP09V00 |
| Report Version  | V1.0                |



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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# Test Report

Issued Date: Mar. 14, 2014

Report No.: 1430089R-RFUSP09V00



|                     |                                                                               |
|---------------------|-------------------------------------------------------------------------------|
| Product Name        | MOXA IEEE 802.11a/b/g/n Wireless                                              |
| Applicant           | Moxa Inc.                                                                     |
| Address             | 4F, No.135, Lane 235, BAOQIAO Rd. XINDIAN DIST., NEW TAIPEI CITY, Taiwan      |
| Manufacturer        | Moxa Inc.                                                                     |
| Model No.           | WAPN005                                                                       |
| FCC ID.             | SLE-WAPN005L                                                                  |
| EUT Rated Voltage   | DC 3.3V                                                                       |
| EUT Test Voltage    | AC 120V/60Hz                                                                  |
| Trade Name          | MOXA                                                                          |
| Applicable Standard | FCC CFR Title 47 Part 15 Subpart E: 2012<br>ANSI C63.10: 2009, FCC KDB-789033 |
| Test Result         | Complied                                                                      |

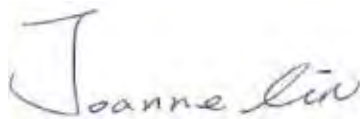
The test results relate only to the samples tested.

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Documented By :



( Senior Adm. Specialist / Joanne Lin )

Tested By :



( Engineer / Alan Chen )

Approved By :



( Director / Vincent Lin )

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## 1. GENERAL INFORMATION

### 1.1. EUT Description

|                    |                                                                                       |
|--------------------|---------------------------------------------------------------------------------------|
| Product Name       | MOXA IEEE 802.11a/b/g/n Wireless                                                      |
| Trade Name         | MOXA                                                                                  |
| FCC ID.            | SLE-WAPN005L                                                                          |
| Model No.          | WAPN005                                                                               |
| Frequency Range    | 802.11a/n-20MHz: 5180-5320MHz, 5500-5700MHz<br>802.11n-40MHz: 5190-5310, 5510-5670MHz |
| Number of Channels | 802.11a/n-20MHz: 16; 802.11n-40MHz: 7                                                 |
| Data Rate          | 802.11a: 6-54Mbps, 802.11n: up to 300Mbps                                             |
| Channel Control    | Auto                                                                                  |
| Type of Modulation | 802.11a/n: OFDM, BPSK, QPSK, 16QAM, 64QAM                                             |
| Antenna type       | Dipole Antenna                                                                        |
| Antenna Gain       | Refer to the table "Antenna List"                                                     |

#### Antenna List

| No. | Manufacturer | Part No.         | Antenna Type | Peak Gain                                             |
|-----|--------------|------------------|--------------|-------------------------------------------------------|
| 1   | KINSUN       | ANT-WDB-O-2 BK   | Dipole       | 2.34dBi For 5.15~5.35GHz<br>2.34dBi For 5.47~5.725GHz |
| 2   | KINSUN       | ANT-WDB-ANM-0502 | Dipole       | 1.41dBi For 5.15~5.35GHz<br>1.41dBi For 5.47~5.725GHz |

Note:

1. The antenna of EUT is conform to FCC 15.203
2. Only the higher gain antenna was tested and recorded in this report.

## 802.11a/n-20MHz Center Working Frequency of Each Channel:

| Channel      | Frequency | Channel      | Frequency | Channel      | Frequency | Channel      | Frequency |
|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|
| Channel 36:  | 5180 MHz  | Channel 40:  | 5200 MHz  | Channel 44:  | 5220 MHz  | Channel 48:  | 5240 MHz  |
| Channel 52:  | 5260 MHz  | Channel 56:  | 5280 MHz  | Channel 60:  | 5300 MHz  | Channel 64:  | 5320 MHz  |
| Channel 100: | 5500 MHz  | Channel 104: | 5520 MHz  | Channel 108: | 5540 MHz  | Channel 112: | 5560 MHz  |
| Channel 116: | 5580 MHz  | Channel 132: | 5660 MHz  | Channel 136: | 5680 MHz  | Channel 140: | 5700 MHz  |

## 802.11n-40MHz Center Working Frequency of Each Channel:

| Channel      | Frequency | Channel      | Frequency | Channel      | Frequency | Channel     | Frequency |
|--------------|-----------|--------------|-----------|--------------|-----------|-------------|-----------|
| Channel 38:  | 5190 MHz  | Channel 46:  | 5230 MHz  | Channel 54:  | 5270 MHz  | Channel 62: | 5310 MHz  |
| Channel 102: | 5510 MHz  | Channel 110: | 5550 MHz  | Channel 134: | 5670 MHz  |             |           |

## Note:

1. This device is a MOXA IEEE 802.11a/b/g/n Wireless with a built-in WLAN transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. At result of pretests, module supports dual-channel transmission, only the worst case is shown in the report. (802.11a is chain a)
4. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11a is 6Mbps, 802.11n-20BW is 14.4Mbps and 802.11n-40BW are 30Mbps)
5. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart E for Unlicensed National Information Infrastructure devices.
6. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

|           |                                                                                                                        |
|-----------|------------------------------------------------------------------------------------------------------------------------|
| Test Mode | Mode 1: Transmit (802.11a-6Mbps)<br>Mode 2: Transmit (802.11n-20BW 14.4Mbps)<br>Mode 3: Transmit (802.11n-40BW 30Mbps) |
|-----------|------------------------------------------------------------------------------------------------------------------------|

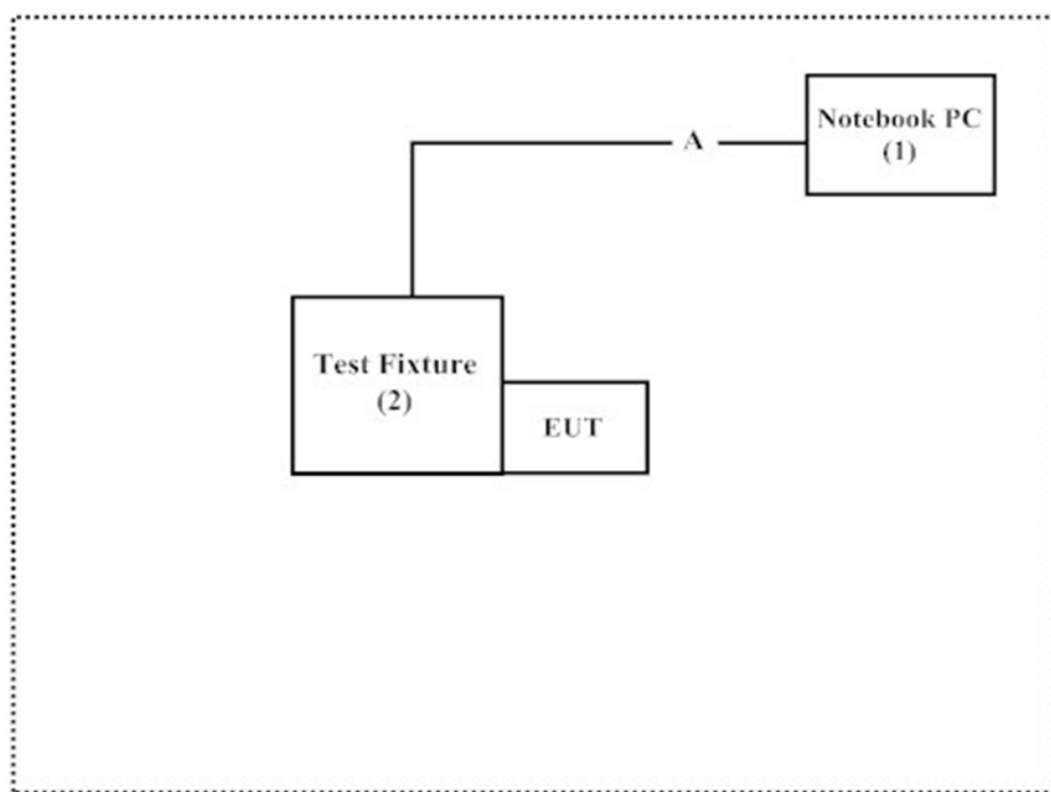
### 1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

| Product |              | Manufacturer | Model No. | Serial No. | Power Cord         |
|---------|--------------|--------------|-----------|------------|--------------------|
| 1       | Notebook PC  | DELL         | PPT       | N/A        | Non-Shielded, 0.8m |
| 2       | Test Fixture | MOXA         | N/A       | N/A        | N/A                |

| Signal Cable Type |           | Signal cable Description |
|-------------------|-----------|--------------------------|
| A                 | LAN Cable | Shielded, 1.8m           |

### 1.4. Configuration of tested System



### 1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4
- (2) Execute “ART-2 v2.3” program on the Notebook PC.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Start the continuous transmission.
- (5) Verify that the EUT works properly.

## 1.6. Test Facility

Ambient conditions in the laboratory:

| Items                      | Required (IEC 68-1) | Actual   |
|----------------------------|---------------------|----------|
| Temperature (°C)           | 15-35               | 20-35    |
| Humidity (%RH)             | 25-75               | 50-65    |
| Barometric pressure (mbar) | 860-1060            | 950-1000 |

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://tw.quietek.com/modules/myalbum/>

The address and introduction of Quietek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>

Site Description: File on  
Federal Communications Commission  
FCC Engineering Laboratory  
7435 Oakland Mills Road  
Columbia, MD 21046  
Registration Number: 92195

Site Name: Quietek Corporation  
Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,  
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Taiwan, R.O.C.  
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E-Mail : [service@quietek.com](mailto:service@quietek.com)

FCC Accreditation Number: TW1014

## 2. Conducted Emission

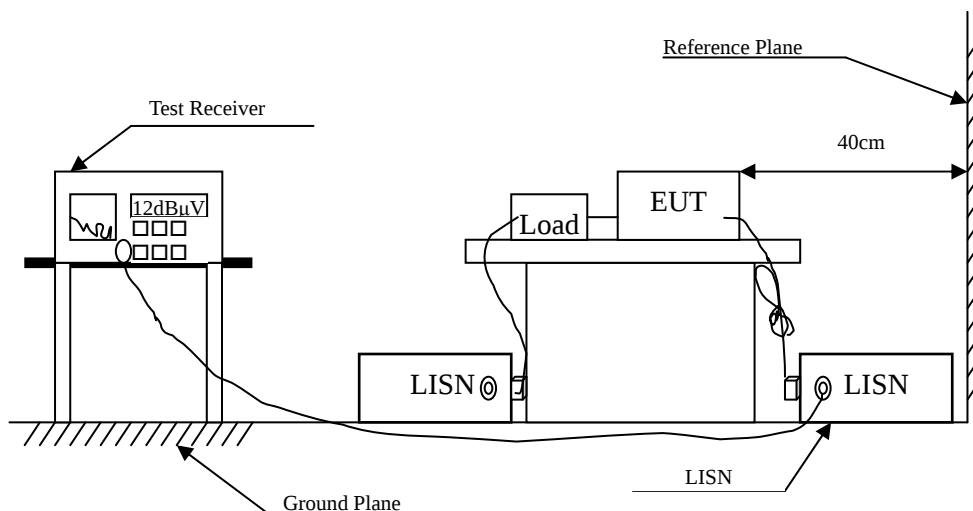
### 2.1. Test Equipment

|   | Equipment                | Manufacturer | Model No. / Serial No. | Last Cal.  | Remark      |
|---|--------------------------|--------------|------------------------|------------|-------------|
| X | Test Receiver            | R & S        | ESCS 30 / 825442/018   | Sep., 2013 |             |
| X | Artificial Mains Network | R & S        | ENV4200 / 848411/10    | Feb., 2014 | Peripherals |
| X | LISN                     | R & S        | ESH3-Z5 / 825562/002   | Feb., 2014 | EUT         |
|   | DC LISN                  | Schwarzbeck  | 8226 / 176             | Mar, 2013  | EUT         |
| X | Pulse Limiter            | R & S        | ESH3-Z2 / 357.8810.52  | Feb., 2014 |             |
|   | No.1 Shielded Room       |              |                        |            |             |

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

### 2.2. Test Setup



### 2.3. Limits

| FCC Part 15 Subpart C Paragraph 15.207 (dBμV) Limit |        |       |
|-----------------------------------------------------|--------|-------|
| Frequency<br>MHz                                    | Limits |       |
|                                                     | QP     | AV    |
| 0.15 - 0.50                                         | 66-56  | 56-46 |
| 0.50-5.0                                            | 56     | 46    |
| 5.0 - 30                                            | 60     | 50    |

Remarks : In the above table, the tighter limit applies at the band edges.

### 2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2009 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

The EUT was setup to ANSI C63.10, 2009; tested to DTS test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

### 2.5. Uncertainty

± 2.26 dB

## 2.6. Test Result of Conducted Emission

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5190MHz)

| Frequency<br>MHz  | Correct<br>Factor<br>dB | Reading<br>Level<br>dBμV | Measurement<br>Level<br>dBμV | Margin<br>dB | Limit<br>dBμV |
|-------------------|-------------------------|--------------------------|------------------------------|--------------|---------------|
| <b>LINE 1</b>     |                         |                          |                              |              |               |
| <b>Quasi-Peak</b> |                         |                          |                              |              |               |
| 0.158             | 9.747                   | 34.680                   | 44.427                       | -21.344      | 65.771        |
| 0.170             | 9.743                   | 32.900                   | 42.644                       | -22.785      | 65.429        |
| 0.212             | 9.739                   | 28.440                   | 38.179                       | -26.050      | 64.229        |
| 0.341             | 9.745                   | 26.150                   | 35.895                       | -24.648      | 60.543        |
| 0.505             | 9.753                   | 33.100                   | 42.853                       | -13.147      | 56.000        |
| 0.654             | 9.759                   | 26.900                   | 36.659                       | -19.341      | 56.000        |
| <b>Average</b>    |                         |                          |                              |              |               |
| 0.158             | 9.747                   | 26.160                   | 35.907                       | -19.864      | 55.771        |
| 0.170             | 9.743                   | 13.810                   | 23.554                       | -31.875      | 55.429        |
| 0.212             | 9.739                   | 20.420                   | 30.159                       | -24.070      | 54.229        |
| 0.341             | 9.745                   | 10.480                   | 20.225                       | -30.318      | 50.543        |
| 0.505             | 9.753                   | 21.420                   | 31.173                       | -14.827      | 46.000        |
| 0.654             | 9.759                   | 19.760                   | 29.519                       | -16.481      | 46.000        |

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5190MHz)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 2</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.166             | 9.747   | 33.830  | 43.577      | -21.966 | 65.543 |
| 0.212             | 9.749   | 28.580  | 38.329      | -25.900 | 64.229 |
| 0.373             | 9.747   | 28.450  | 38.197      | -21.432 | 59.629 |
| 0.498             | 9.752   | 32.750  | 42.502      | -13.555 | 56.057 |
| 7.912             | 9.920   | 27.580  | 37.500      | -22.500 | 60.000 |
| 21.162            | 10.105  | 25.840  | 35.945      | -24.055 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.166             | 9.747   | 28.500  | 38.247      | -17.296 | 55.543 |
| 0.212             | 9.749   | 24.300  | 34.049      | -20.180 | 54.229 |
| 0.373             | 9.747   | 15.410  | 25.157      | -24.472 | 49.629 |
| 0.498             | 9.752   | 28.740  | 38.492      | -7.565  | 46.057 |
| 7.912             | 9.920   | 22.630  | 32.550      | -17.450 | 50.000 |
| 21.162            | 10.105  | 20.160  | 30.265      | -19.735 | 50.000 |

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5270MHz)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 1</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.170             | 9.743   | 31.770  | 41.514      | -23.915 | 65.429 |
| 0.216             | 9.739   | 29.070  | 38.809      | -25.305 | 64.114 |
| 0.377             | 9.747   | 28.700  | 38.447      | -21.067 | 59.514 |
| 0.525             | 9.753   | 32.540  | 42.293      | -13.707 | 56.000 |
| 1.263             | 9.795   | 25.850  | 35.645      | -20.355 | 56.000 |
| 21.170            | 10.065  | 26.590  | 36.655      | -23.345 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.170             | 9.743   | 19.210  | 28.954      | -26.475 | 55.429 |
| 0.216             | 9.739   | 21.590  | 31.329      | -22.785 | 54.114 |
| 0.377             | 9.747   | 24.340  | 34.087      | -15.427 | 49.514 |
| 0.525             | 9.753   | 24.320  | 34.073      | -11.927 | 46.000 |
| 1.263             | 9.795   | 17.130  | 26.925      | -19.075 | 46.000 |
| 21.170            | 10.065  | 19.700  | 29.765      | -20.235 | 50.000 |

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5270MHz)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 2</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.162             | 9.747   | 34.780  | 44.527      | -21.130 | 65.657 |
| 0.314             | 9.744   | 26.650  | 36.394      | -24.920 | 61.314 |
| 0.377             | 9.747   | 28.840  | 38.587      | -20.927 | 59.514 |
| 0.529             | 9.754   | 32.420  | 42.174      | -13.826 | 56.000 |
| 7.931             | 9.920   | 27.330  | 37.250      | -22.750 | 60.000 |
| 21.205            | 10.105  | 25.610  | 35.715      | -24.285 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.162             | 9.747   | 20.840  | 30.587      | -25.070 | 55.657 |
| 0.314             | 9.744   | 20.460  | 30.204      | -21.110 | 51.314 |
| 0.377             | 9.747   | 18.490  | 28.237      | -21.277 | 49.514 |
| 0.529             | 9.754   | 24.910  | 34.664      | -11.336 | 46.000 |
| 7.931             | 9.920   | 21.940  | 31.860      | -18.140 | 50.000 |
| 21.205            | 10.105  | 20.650  | 30.755      | -19.245 | 50.000 |

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5550MHz)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 1</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.154             | 9.749   | 33.630  | 43.378      | -22.508 | 65.886 |
| 0.205             | 9.739   | 27.460  | 37.199      | -27.230 | 64.429 |
| 0.267             | 9.742   | 25.920  | 35.662      | -26.995 | 62.657 |
| 0.490             | 9.752   | 32.790  | 42.542      | -13.744 | 56.286 |
| 8.056             | 9.910   | 27.490  | 37.400      | -22.600 | 60.000 |
| 21.369            | 10.068  | 27.010  | 37.078      | -22.922 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.154             | 9.749   | 19.990  | 29.738      | -26.148 | 55.886 |
| 0.205             | 9.739   | 15.970  | 25.709      | -28.720 | 54.429 |
| 0.267             | 9.742   | 20.280  | 30.022      | -22.635 | 52.657 |
| 0.490             | 9.752   | 27.340  | 37.092      | -9.194  | 46.286 |
| 8.056             | 9.910   | 22.110  | 32.020      | -17.980 | 50.000 |
| 21.369            | 10.068  | 20.660  | 30.728      | -19.272 | 50.000 |

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5550MHz)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 2</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.220             | 9.750   | 28.520  | 38.270      | -25.730 | 64.000 |
| 0.267             | 9.752   | 25.860  | 35.612      | -27.045 | 62.657 |
| 0.509             | 9.753   | 33.100  | 42.853      | -13.147 | 56.000 |
| 1.283             | 9.798   | 26.680  | 36.478      | -19.522 | 56.000 |
| 8.021             | 9.920   | 27.580  | 37.500      | -22.500 | 60.000 |
| 20.986            | 10.101  | 26.380  | 36.481      | -23.519 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.220             | 9.750   | 20.710  | 30.460      | -23.540 | 54.000 |
| 0.267             | 9.752   | 18.890  | 28.642      | -24.015 | 52.657 |
| 0.509             | 9.753   | 21.730  | 31.483      | -14.517 | 46.000 |
| 1.283             | 9.798   | 17.030  | 26.828      | -19.172 | 46.000 |
| 8.021             | 9.920   | 22.510  | 32.430      | -17.570 | 50.000 |
| 20.986            | 10.101  | 23.120  | 33.221      | -16.779 | 50.000 |

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

### 3. Maximun conducted output power

#### 3.1. Test Equipment

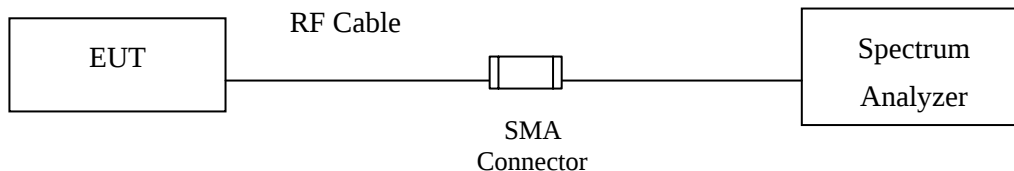
|   | Equipment         | Manufacturer | Model No./Serial No. | Last Cal.  |
|---|-------------------|--------------|----------------------|------------|
| X | Power Meter       | Anritsu      | ML2495A/6K00003357   | May, 2013  |
| X | Power Sensor      | Anritsu      | MA2411B/0738448      | Jun., 2013 |
| X | Spectrum Analyzer | Agilent      | N9010A / MY48030495  | Apr., 2013 |

Note:

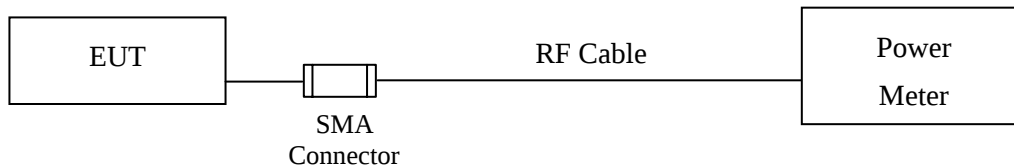
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

#### 3.2. Test Setup

##### 26dBc Occupied Bandwidth



##### Conduction Power Measurement



### 3.3. Limits

- (1) For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or  $4 \text{ dBm} + 10\log B$ , where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
- (2) For the band 5.25-5.35 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or  $11 \text{ dBm} + 10\log B$ , where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
- (3) For the band 5.725-5.825 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1W or  $17 \text{ dBm} + 10\log B$ , where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

### 3.4. Test Procedur

As an alternative to FCC KDB-789033, the EUT maximum conducted output power was measured with an average power meter employing a video bandwidth greater than 6dB BW of the emission under test. Maximum conducted output power was read directly from the meter across all data rates, and across three channels within each sub-band. Special care was used to make sure that the EUT was transmitting in continuous mode. This method exceeds the limitations of FCC KDB-789033, and provides more accurate measurements.

The Maximum conducted output power using KDB 789033 section E)3)b) Method PM-G (Measurement using a gated RF average power meter).

### 3.5. Uncertainty

$\pm 1.27 \text{ dB}$

### 3.6. Test Result of Maximum conducted output power

Product : MOXA IEEE 802.11a/b/g/n Wireless  
Test Item : Maximum conducted output power  
Test Site : No.3 OATS  
Test Mode : Mode 1: Transmit (802.11a-6Mbps)

#### CHAIN A

| Cable loss=1dB |                 | Maximum conducted output power |       |       |       |       |       |       |       |                |
|----------------|-----------------|--------------------------------|-------|-------|-------|-------|-------|-------|-------|----------------|
| Channel No.    | Frequency (MHz) | Data Rate (Mbps)               |       |       |       |       |       |       |       | Required Limit |
|                |                 | 6                              | 9     | 12    | 18    | 24    | 36    | 48    | 54    |                |
|                |                 | Measurement Level (dBm)        |       |       |       |       |       |       |       |                |
| 36             | 5180            | 10.55                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 44             | 5220            | 10.83                          | 10.79 | 10.68 | 10.57 | 10.46 | 10.35 | 10.34 | 10.23 | <17dBm         |
| 48             | 5240            | 11.47                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 52             | 5260            | 11.56                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 60             | 5300            | 11.31                          | 11.03 | 10.91 | 10.88 | 10.84 | 10.76 | 10.69 | 10.61 | <24dBm         |
| 64             | 5320            | 11.67                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 100            | 5500            | 10.73                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 116            | 5580            | 10.99                          | 10.94 | 10.89 | 10.81 | 10.79 | 10.71 | 10.65 | 10.59 | <24dBm         |
| 140            | 5700            | 10.52                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

#### CHAIN B

| Cable loss=1dB |                 | Maximum conducted output power |       |       |       |       |       |       |       |                |
|----------------|-----------------|--------------------------------|-------|-------|-------|-------|-------|-------|-------|----------------|
| Channel No.    | Frequency (MHz) | Data Rate (Mbps)               |       |       |       |       |       |       |       | Required Limit |
|                |                 | 6                              | 9     | 12    | 18    | 24    | 36    | 48    | 54    |                |
|                |                 | Measurement Level (dBm)        |       |       |       |       |       |       |       |                |
| 36             | 5180            | 10.48                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 44             | 5220            | 10.79                          | 10.72 | 10.65 | 10.58 | 10.51 | 10.44 | 10.37 | 10.3  | <17dBm         |
| 48             | 5240            | 11.41                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 52             | 5260            | 11.47                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 60             | 5300            | 11.28                          | 11.24 | 11.2  | 11.16 | 11.12 | 11.08 | 11.04 | 11    | <24dBm         |
| 64             | 5320            | 11.57                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 100            | 5500            | 10.62                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 116            | 5580            | 10.87                          | 10.82 | 10.77 | 10.72 | 10.67 | 10.62 | 10.57 | 10.52 | <24dBm         |
| 140            | 5700            | 10.23                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

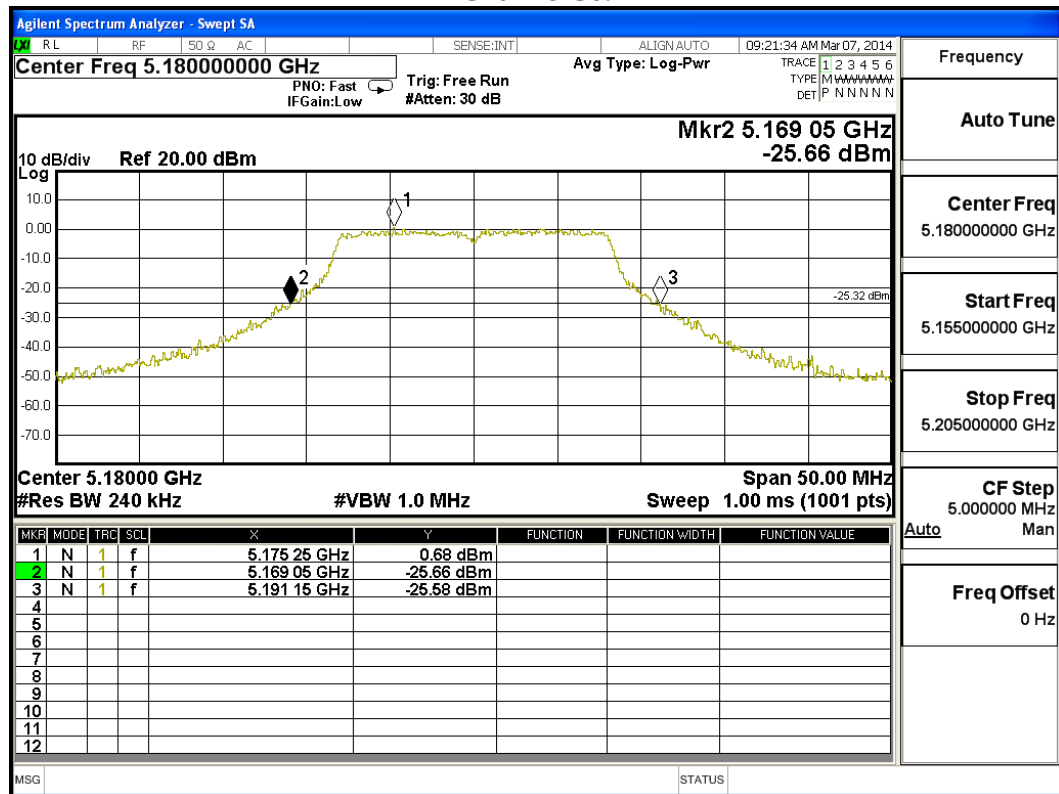
## Maximum conducted output power Measurement:

### CHAIN A

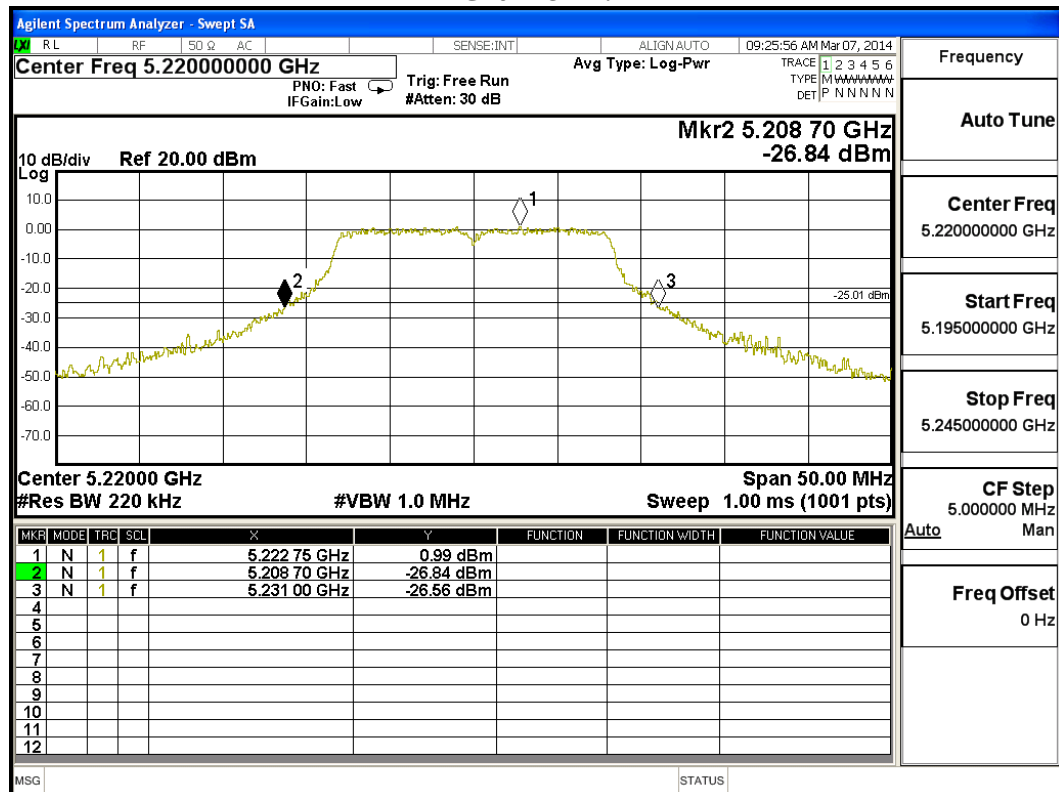
| Channel No | Frequency Range<br>(MHz) | 26dB Bandwidth<br>(MHz) | Output Power<br>(dBm) | Output Power Limit |               |
|------------|--------------------------|-------------------------|-----------------------|--------------------|---------------|
|            |                          |                         |                       | (dBm)              | dBm+10log(BW) |
| 36         | 5180                     | 22.100                  | 10.55                 | 17                 | 17.44         |
| 44         | 5220                     | 22.300                  | 10.83                 | 17                 | 17.48         |
| 48         | 5240                     | 22.400                  | 11.47                 | 17                 | 17.50         |
| 52         | 5260                     | 22.300                  | 11.56                 | 24                 | 24.48         |
| 60         | 5300                     | 22.550                  | 11.31                 | 24                 | 24.53         |
| 64         | 5320                     | 21.900                  | 11.67                 | 24                 | 24.40         |
| 100        | 5500                     | 21.550                  | 10.73                 | 24                 | 24.33         |
| 116        | 5580                     | 22.050                  | 10.99                 | 24                 | 24.43         |
| 140        | 5700                     | 23.100                  | 10.52                 | 24                 | 24.64         |

Note:

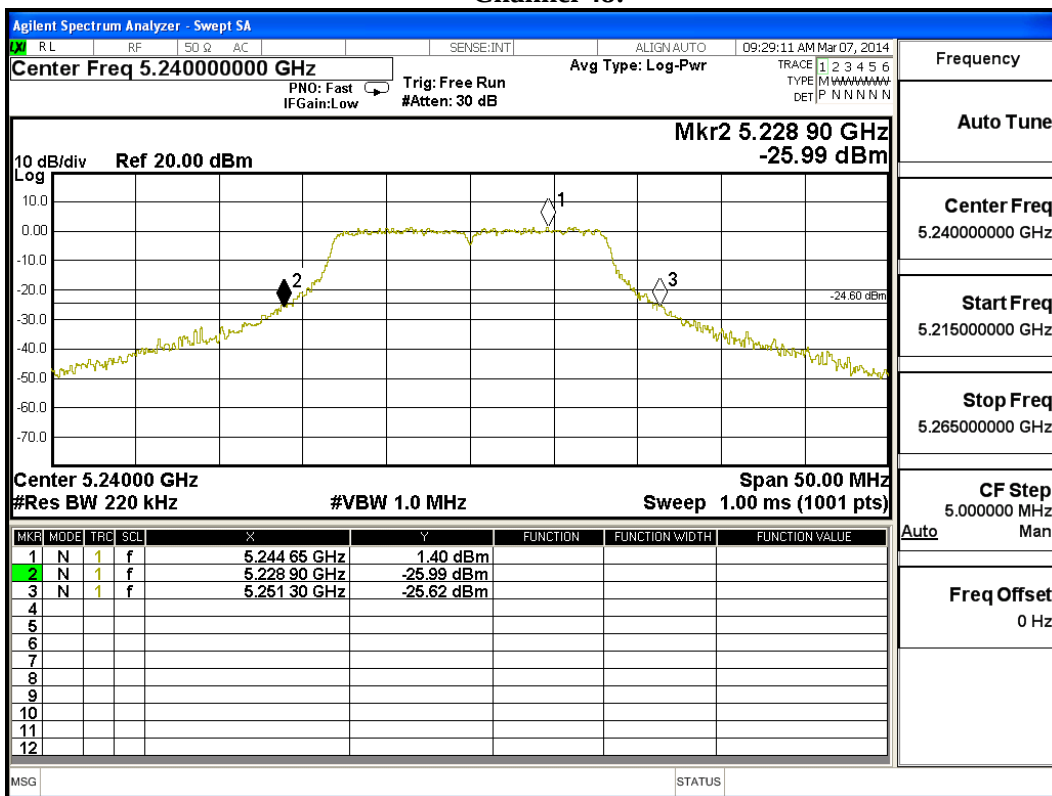
1. Power Output Value =Reading value on average power meter + cable loss
2. 26 dB Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.

26dBc Occupied Bandwidth:  
Channel 36:

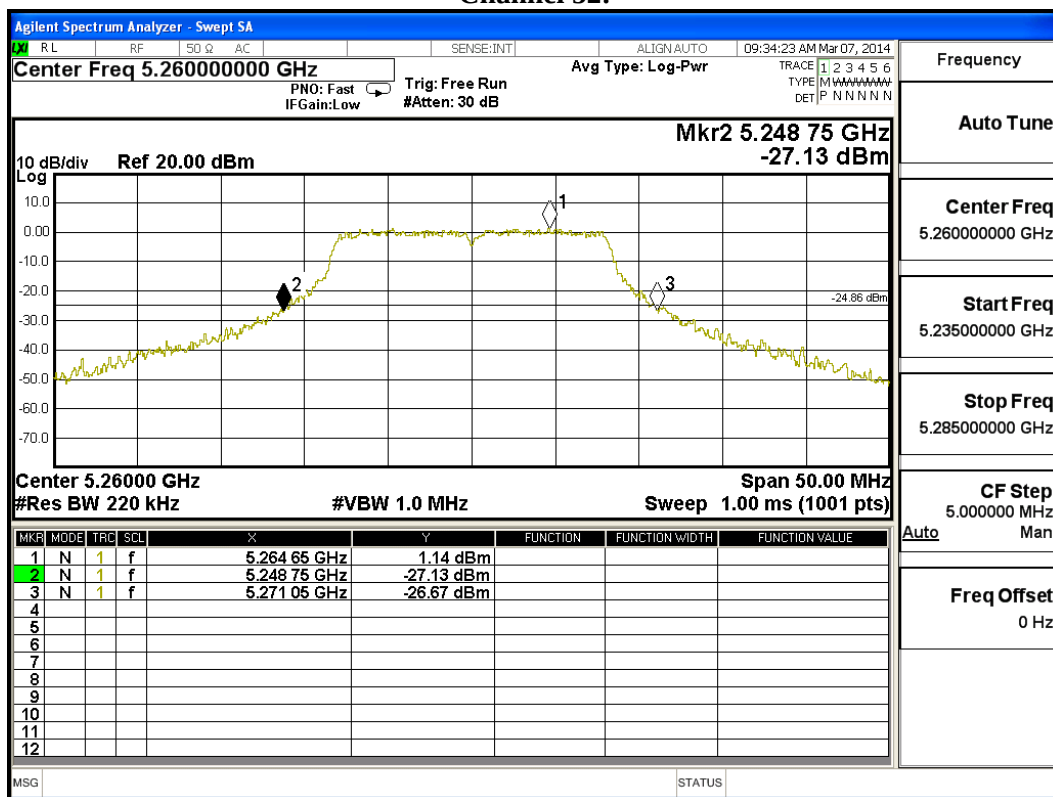
## Channel 44:



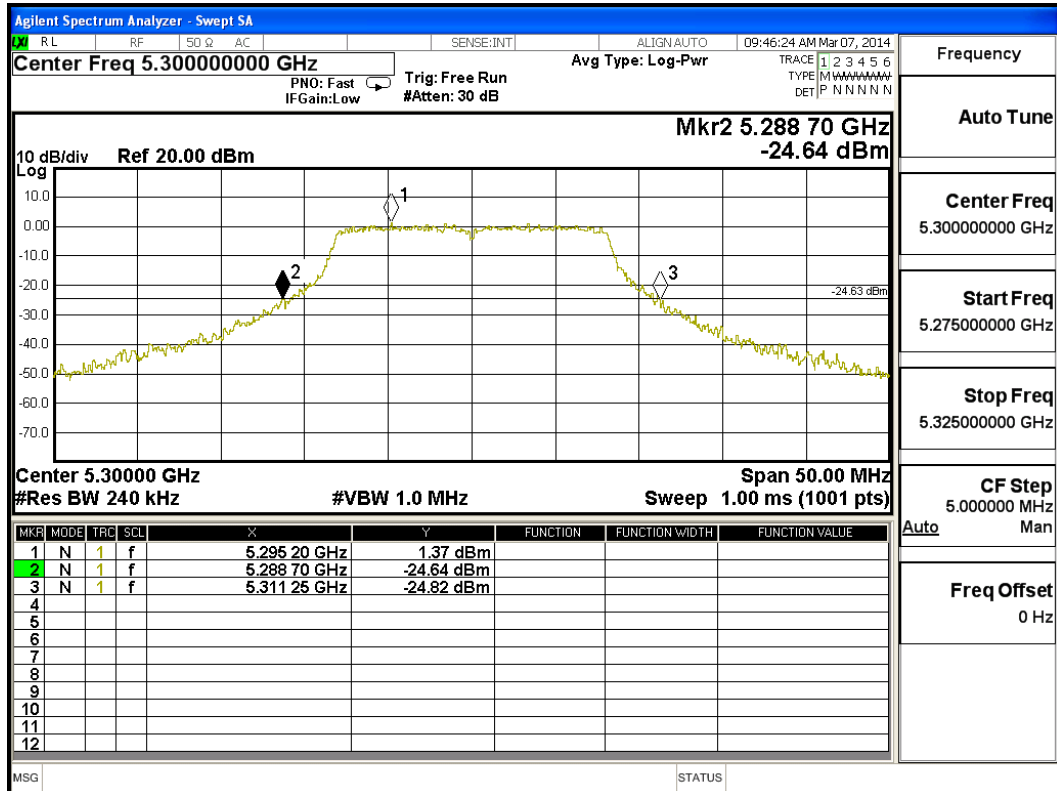
### Channel 48:



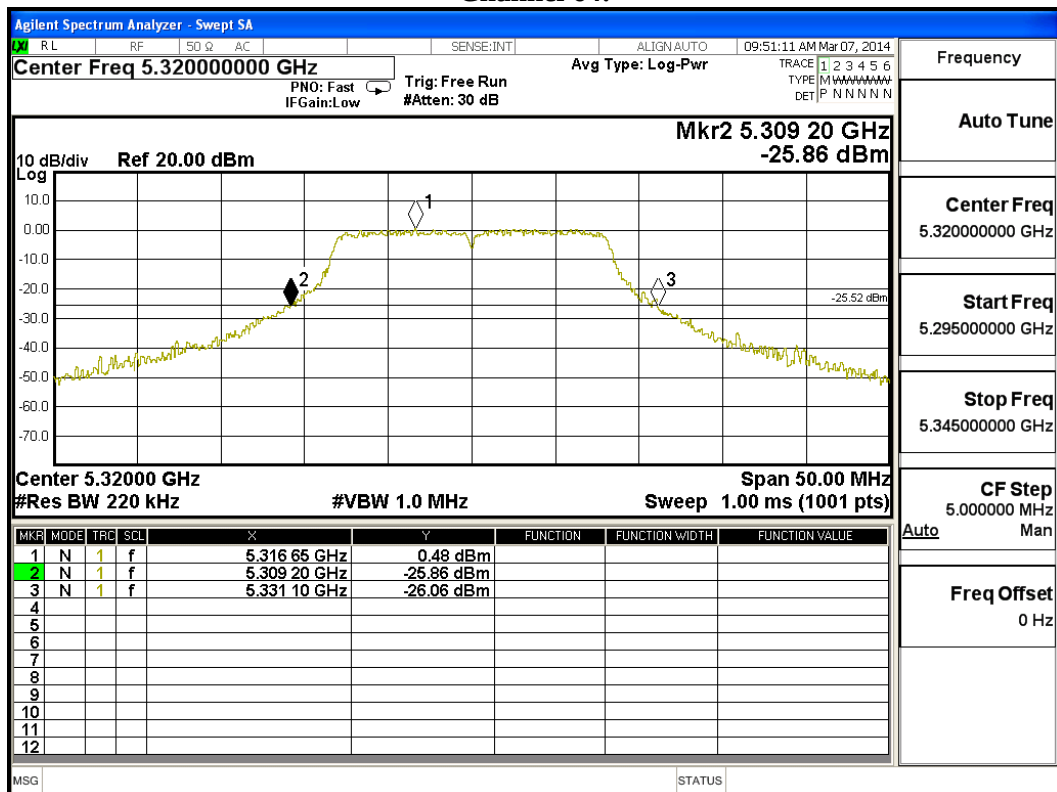
### Channel 52:



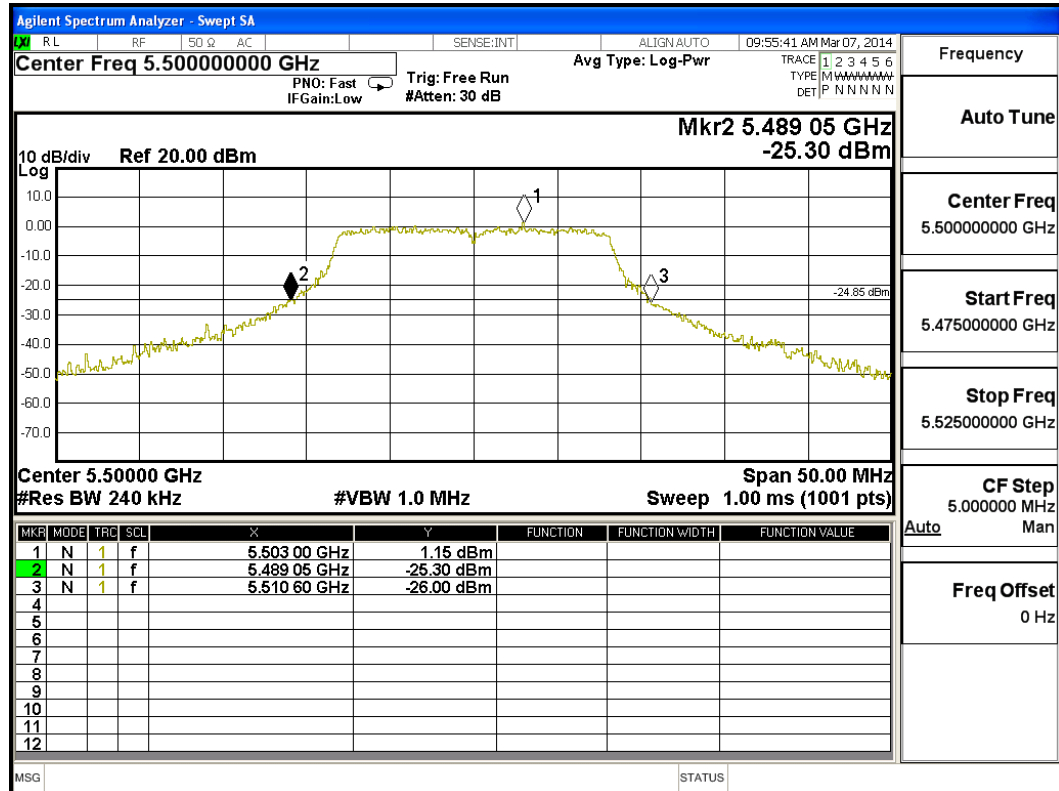
### Channel 60:



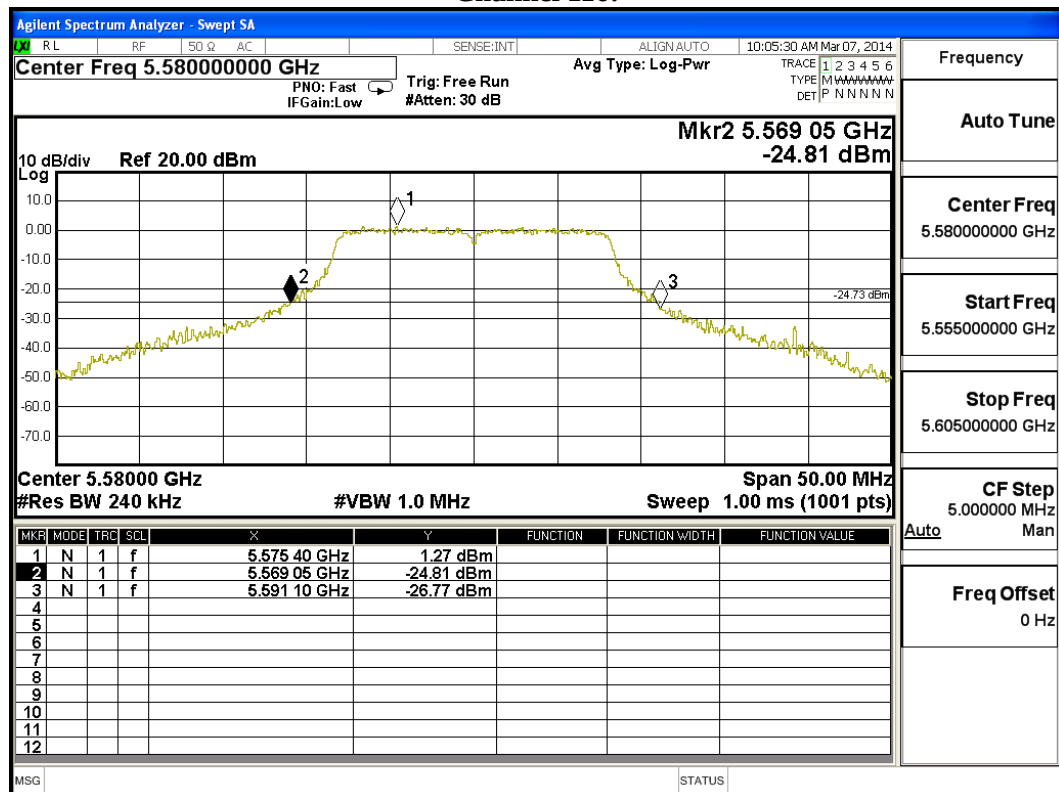
### Channel 64:



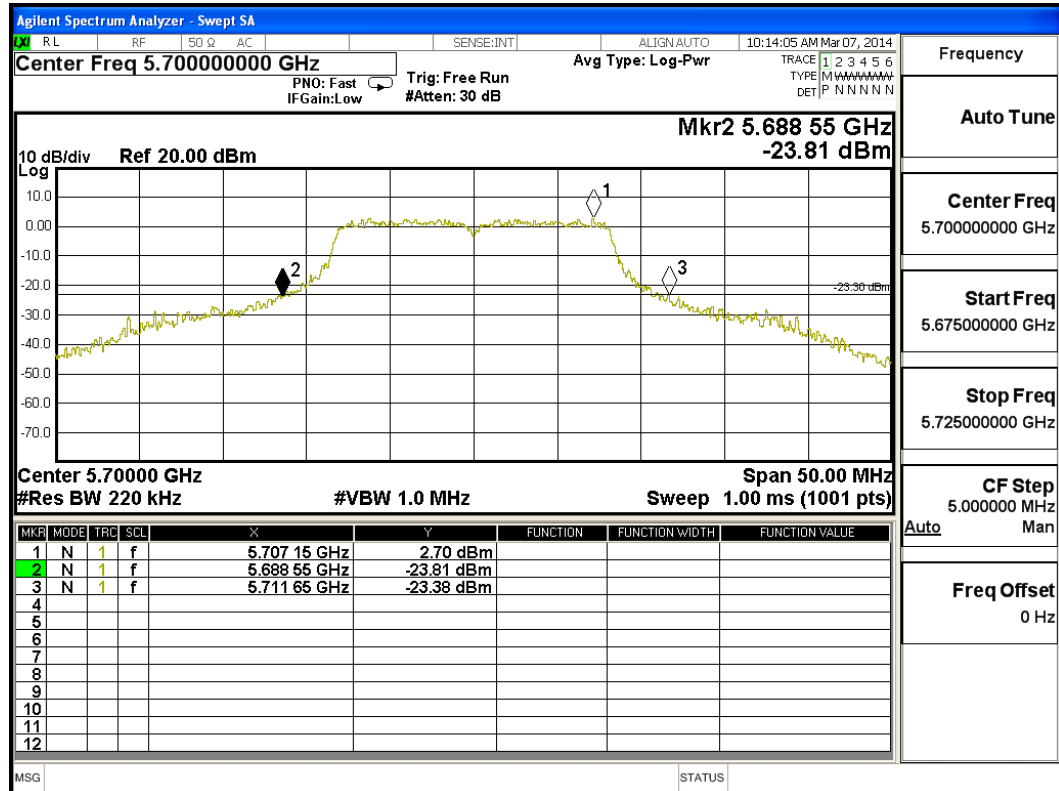
## Channel 100:



## Channel 116:



**Channel 140:**



Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Maximum conducted output power  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)

#### CHAIN A

| Cable loss=1dB |                 | Maximum conducted output power |       |       |       |       |       |       |       |                |
|----------------|-----------------|--------------------------------|-------|-------|-------|-------|-------|-------|-------|----------------|
| Channel No.    | Frequency (MHz) | Data Rate (Mbps)               |       |       |       |       |       |       |       | Required Limit |
|                |                 | 14.4                           | 28.9  | 43.3  | 57.8  | 86.7  | 115.6 | 130   | 144.4 |                |
|                |                 | Measurement Level (dBm)        |       |       |       |       |       |       |       |                |
| 36             | 5180            | 10.43                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 44             | 5220            | 10.69                          | 10.62 | 10.55 | 10.48 | 10.41 | 10.34 | 10.27 | 10.2  | <17dBm         |
| 48             | 5240            | 11.29                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 52             | 5260            | 11.09                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 60             | 5300            | 10.53                          | 10.51 | 10.49 | 10.47 | 10.45 | 10.43 | 10.41 | 10.39 | <24dBm         |
| 64             | 5320            | 10.71                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 100            | 5500            | 10.96                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 116            | 5580            | 11.36                          | 10.33 | 10.3  | 10.27 | 10.24 | 10.21 | 10.18 | 10.15 | <24dBm         |
| 140            | 5700            | 10.21                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

#### CHAIN B

| Cable loss=1dB |                 | Maximum conducted output power |       |       |       |       |       |       |       |                |
|----------------|-----------------|--------------------------------|-------|-------|-------|-------|-------|-------|-------|----------------|
| Channel No.    | Frequency (MHz) | Data Rate (Mbps)               |       |       |       |       |       |       |       | Required Limit |
|                |                 | 14.4                           | 28.9  | 43.3  | 57.8  | 86.7  | 115.6 | 130   | 144.4 |                |
|                |                 | Measurement Level (dBm)        |       |       |       |       |       |       |       |                |
| 36             | 5180            | 10.35                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 44             | 5220            | 10.13                          | 10.09 | 10.05 | 10.01 | 9.97  | 9.93  | 9.89  | 9.85  | <17dBm         |
| 48             | 5240            | 10.33                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 52             | 5260            | 10.21                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 60             | 5300            | 10.24                          | 10.21 | 10.18 | 10.15 | 10.12 | 10.09 | 10.06 | 10.03 | <24dBm         |
| 64             | 5320            | 10.18                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 100            | 5500            | 10.86                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 116            | 5580            | 10.49                          | 11.46 | 11.43 | 11.4  | 11.37 | 11.34 | 11.31 | 11.28 | <24dBm         |
| 140            | 5700            | 10.04                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

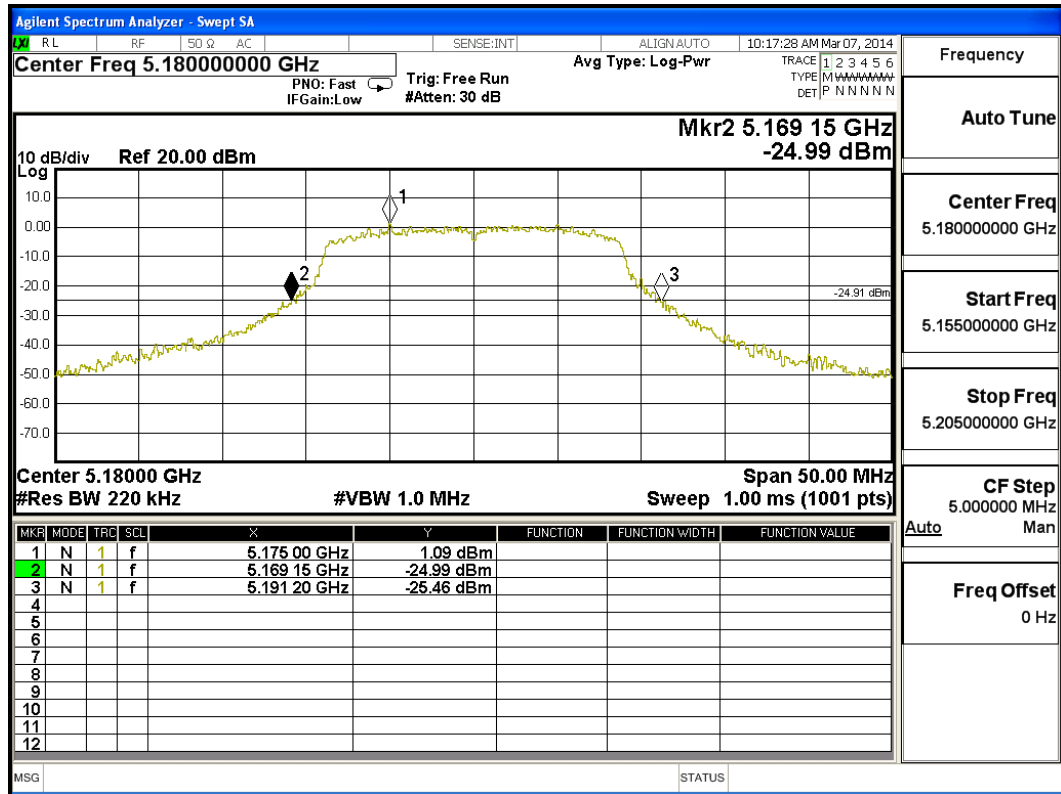
## Maximum conducted output power Measurement:

### (CHAIN A+ B)

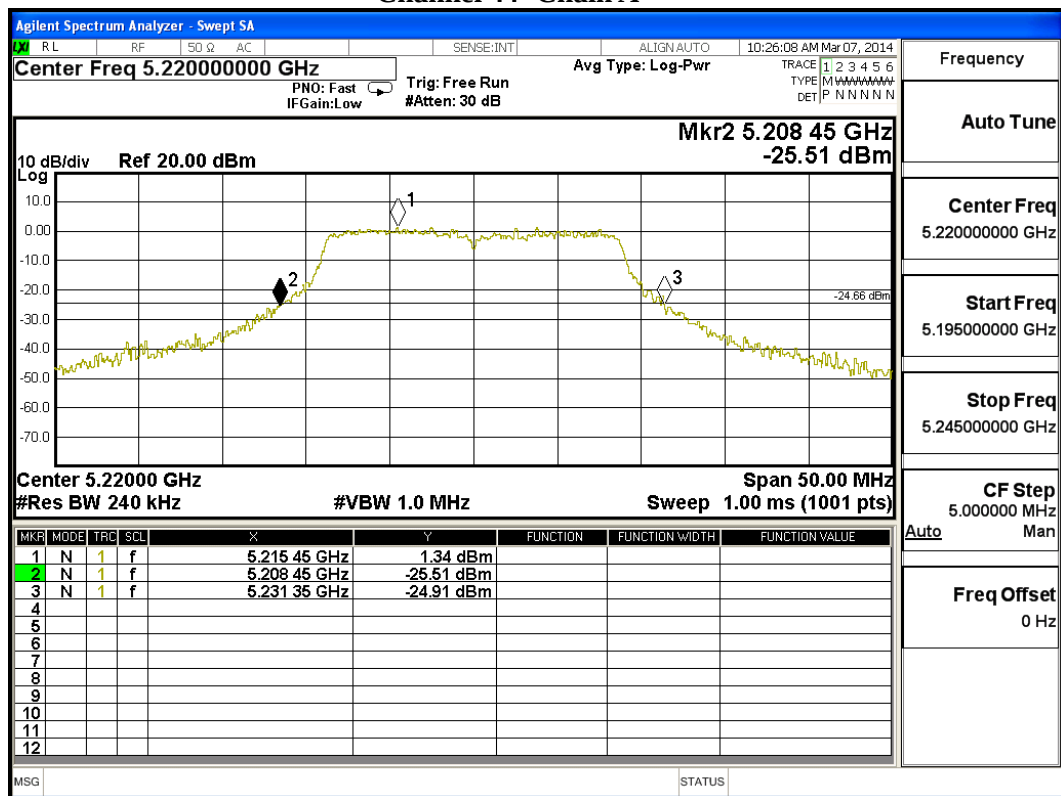
| Channel Number | Frequency (MHz) | 26dB Bandwidth (MHz) | Chain A Power (dBm) | Chain B Power (dBm) | Output Power (dBm) | Output Power Limit |               |
|----------------|-----------------|----------------------|---------------------|---------------------|--------------------|--------------------|---------------|
|                |                 |                      |                     |                     |                    | (dBm)              | dBm+10log(BW) |
| 36             | 5180            | 22.050               | 10.43               | 10.35               | 13.40              | 17                 | 17.43         |
| 44             | 5220            | 22.300               | 10.69               | 10.13               | 13.43              | 17                 | 17.48         |
| 48             | 5240            | 21.850               | 11.29               | 10.33               | 13.85              | 17                 | 17.39         |
| 52             | 5260            | 22.800               | 11.09               | 10.21               | 13.68              | 24                 | 24.58         |
| 60             | 5300            | 21.750               | 10.53               | 10.24               | 13.40              | 24                 | 24.37         |
| 64             | 5320            | 22.250               | 10.71               | 10.18               | 13.46              | 24                 | 24.47         |
| 100            | 5500            | 21.700               | 10.96               | 10.86               | 13.92              | 24                 | 24.36         |
| 116            | 5580            | 21.300               | 11.36               | 11.46               | 14.42              | 24                 | 24.28         |
| 140            | 5700            | 21.600               | 10.21               | 10.04               | 13.14              | 24                 | 24.34         |

Note:

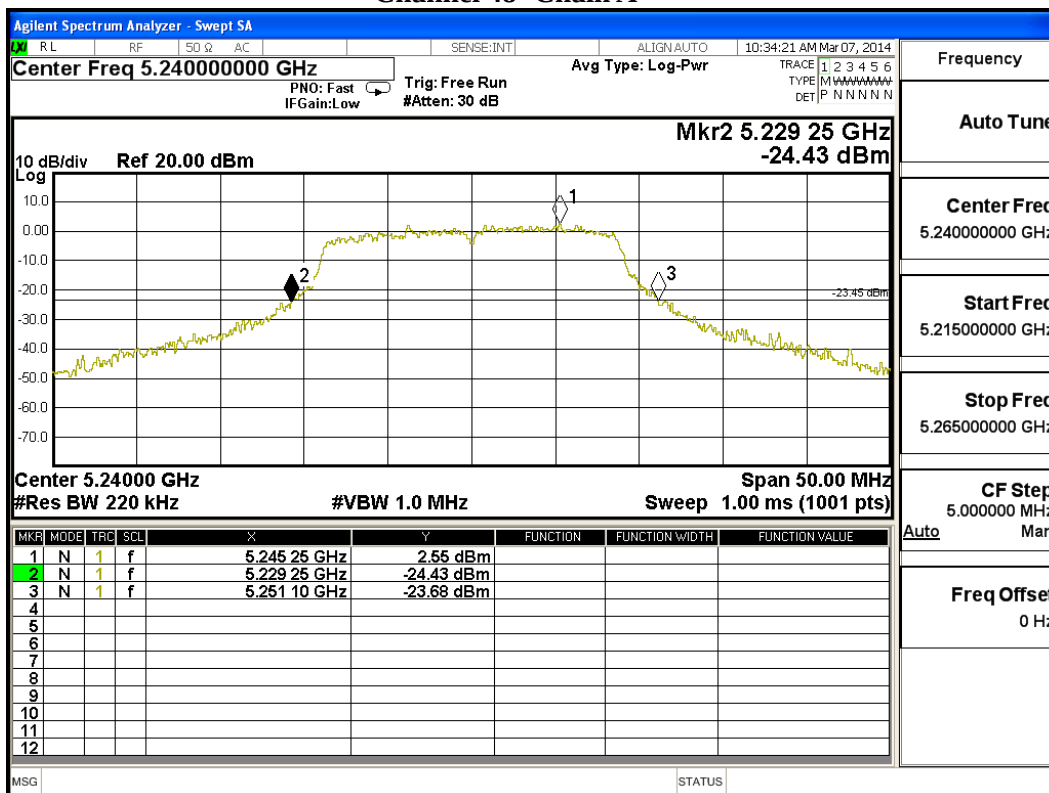
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW))
3. 26 dB Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.

26dBc Occupied Bandwidth:  
Channel 36 -Chain A

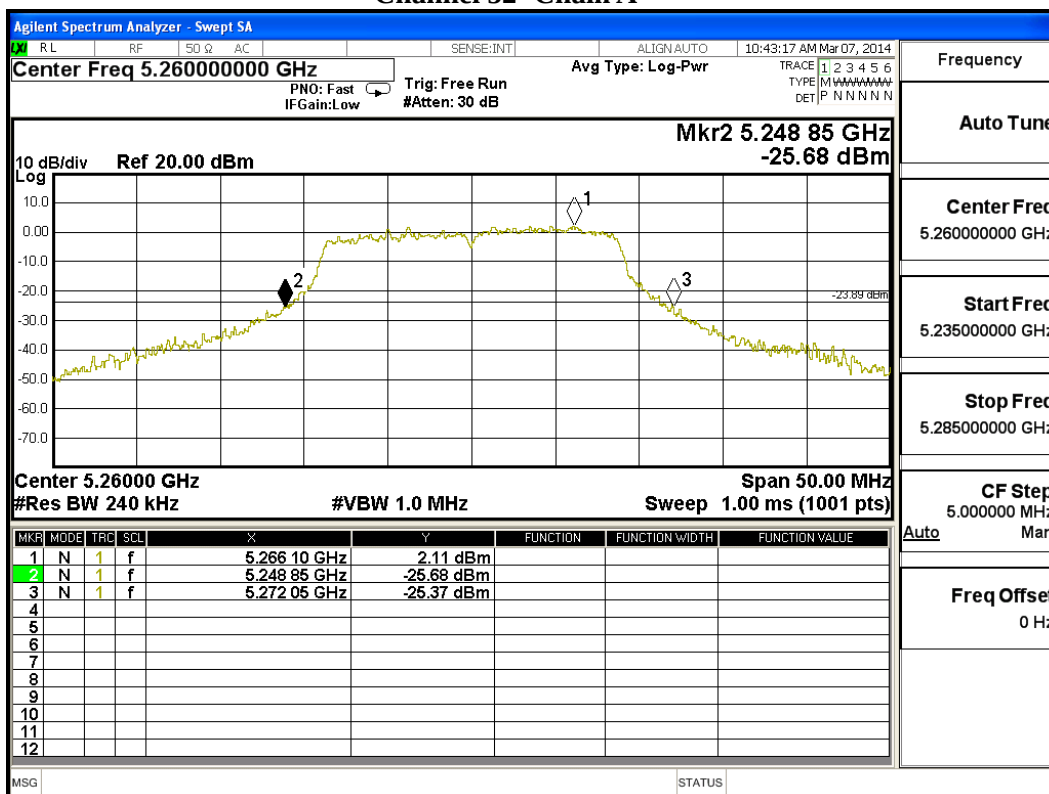
## Channel 44 -Chain A



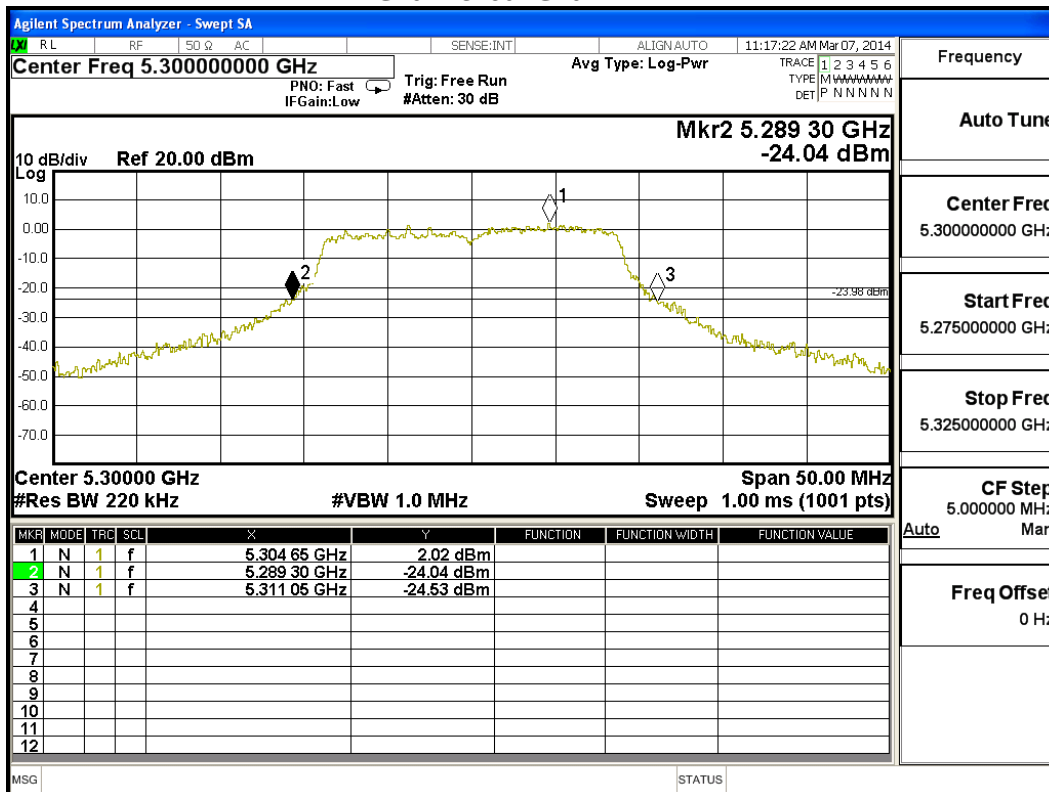
### Channel 48 -Chain A



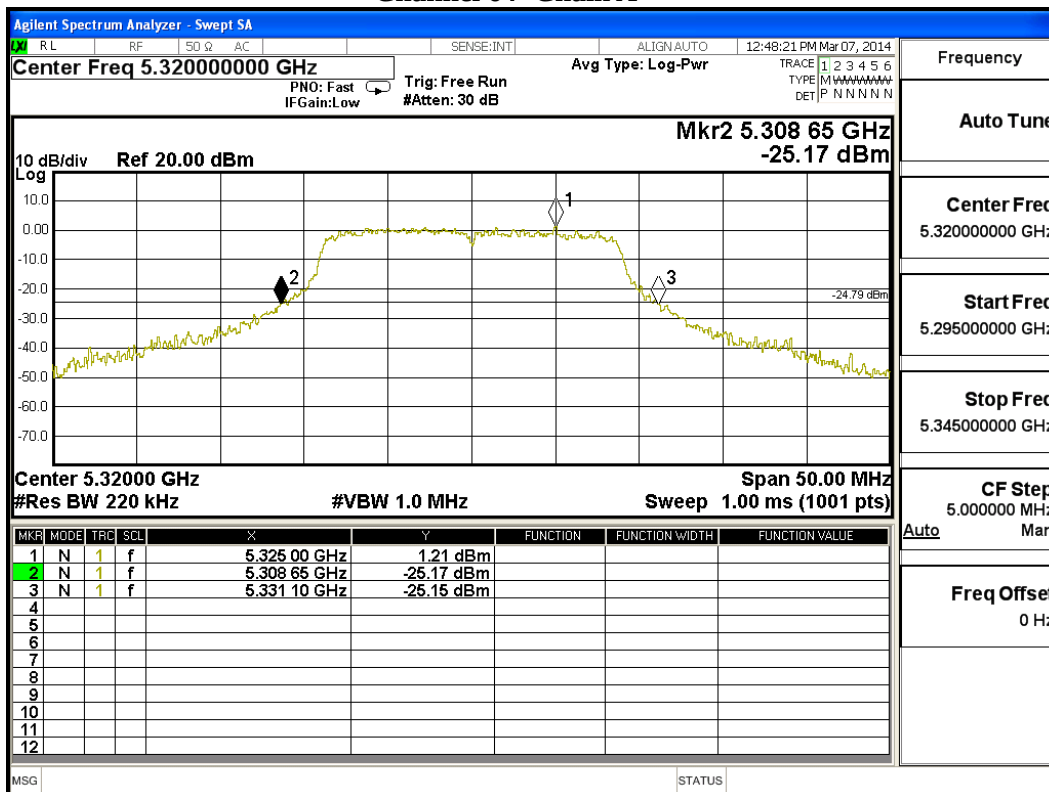
### Channel 52 -Chain A



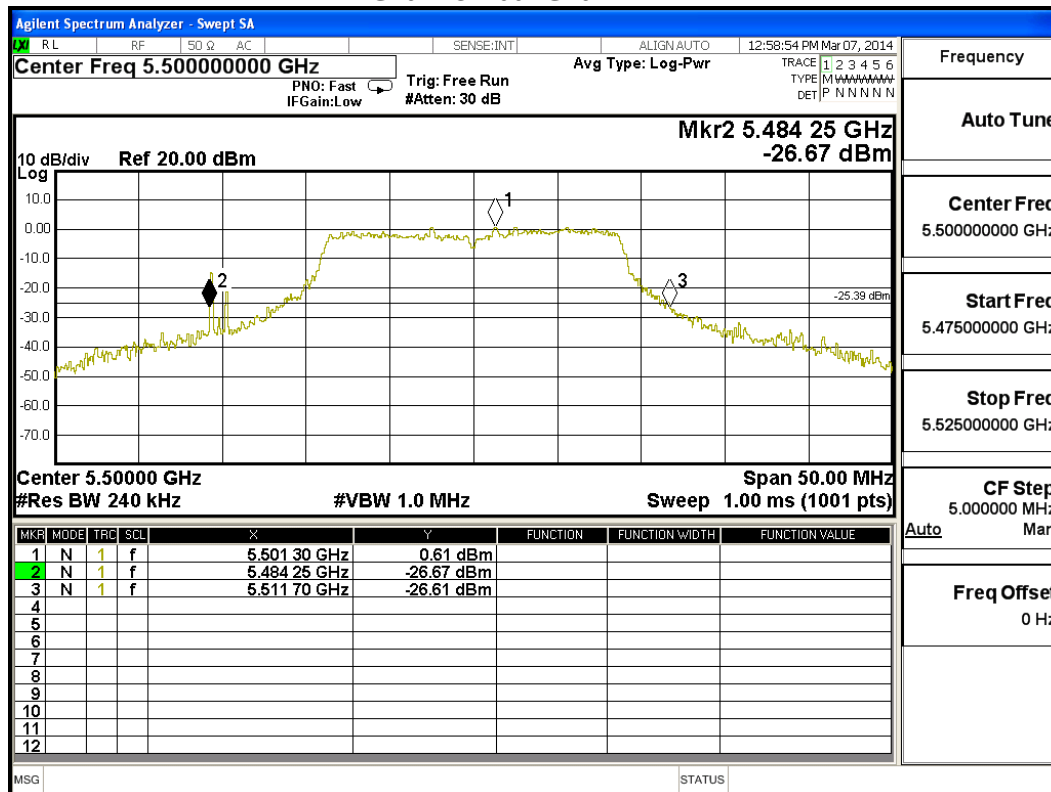
### Channel 60 -Chain A



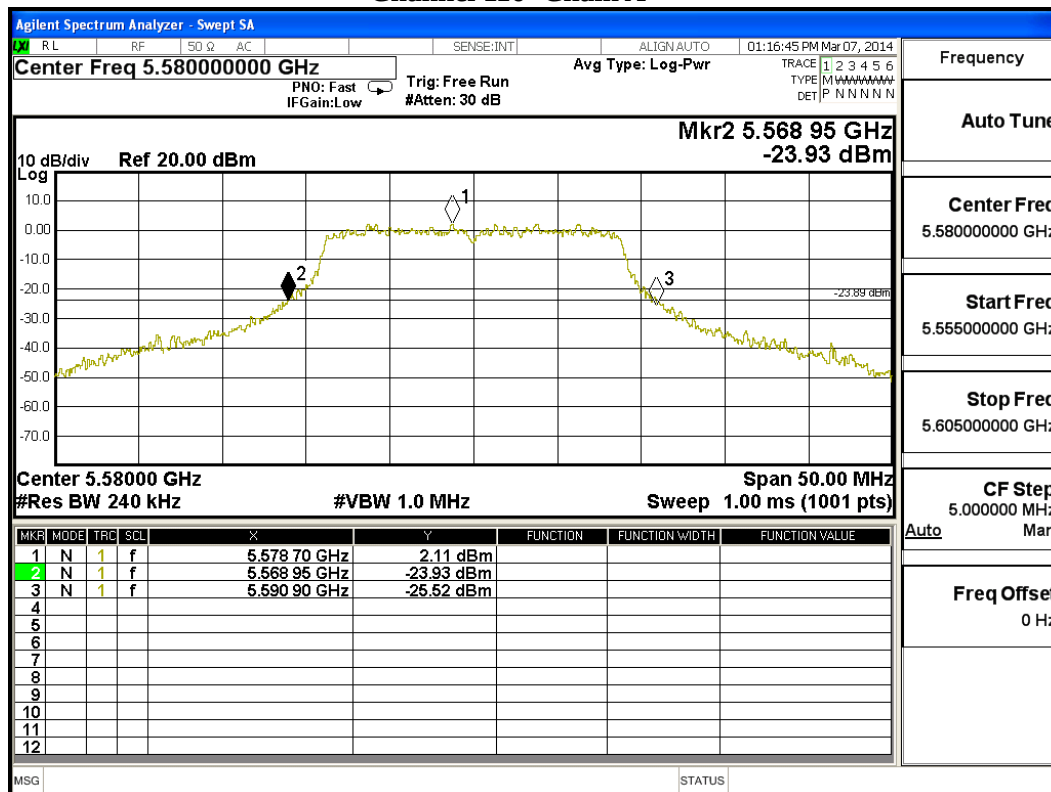
### Channel 64 -Chain A



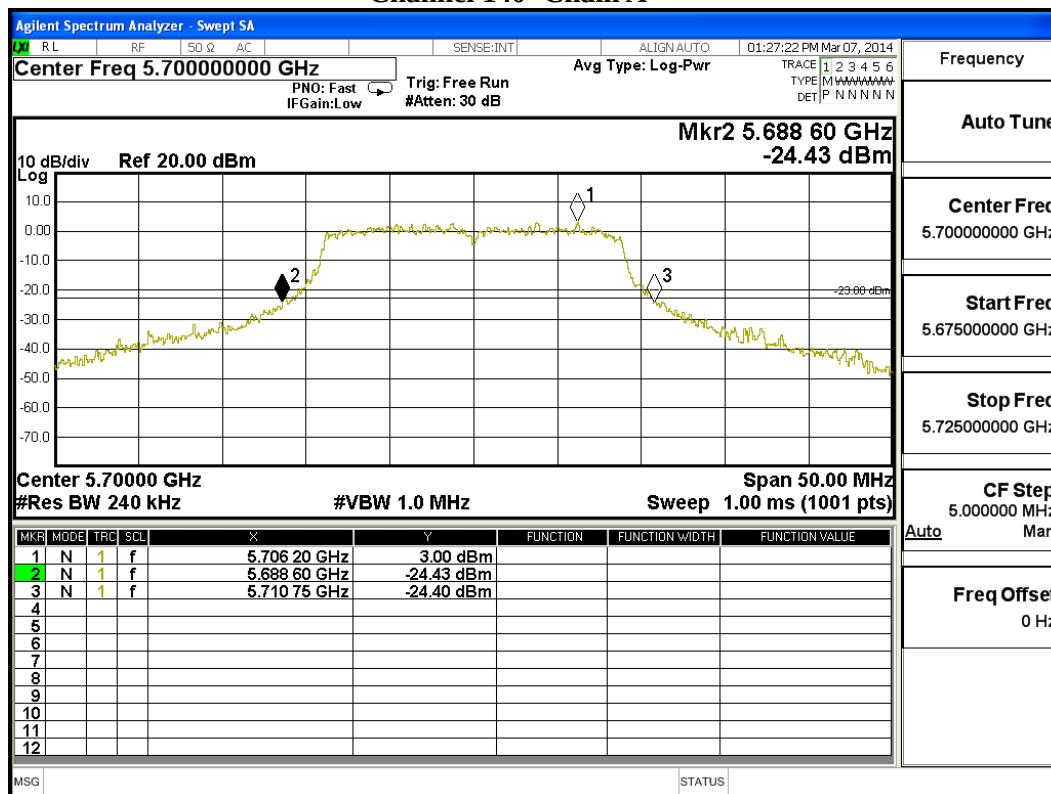
## Channel 100 -Chain A



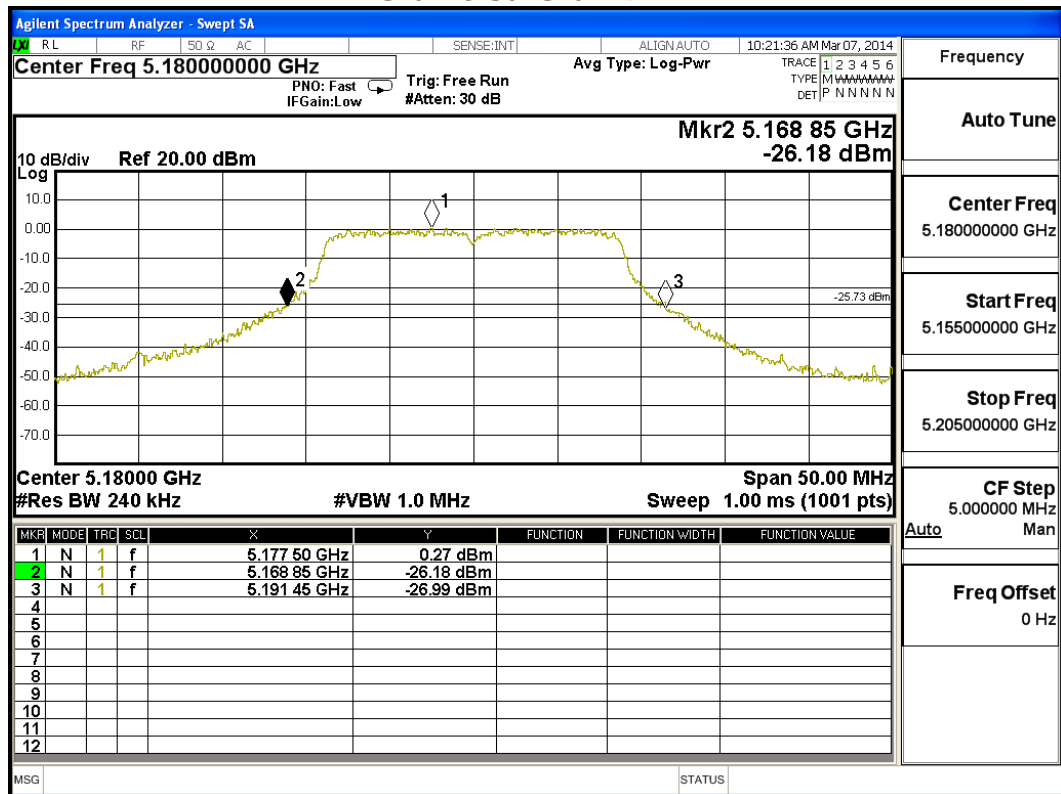
## Channel 116 -Chain A



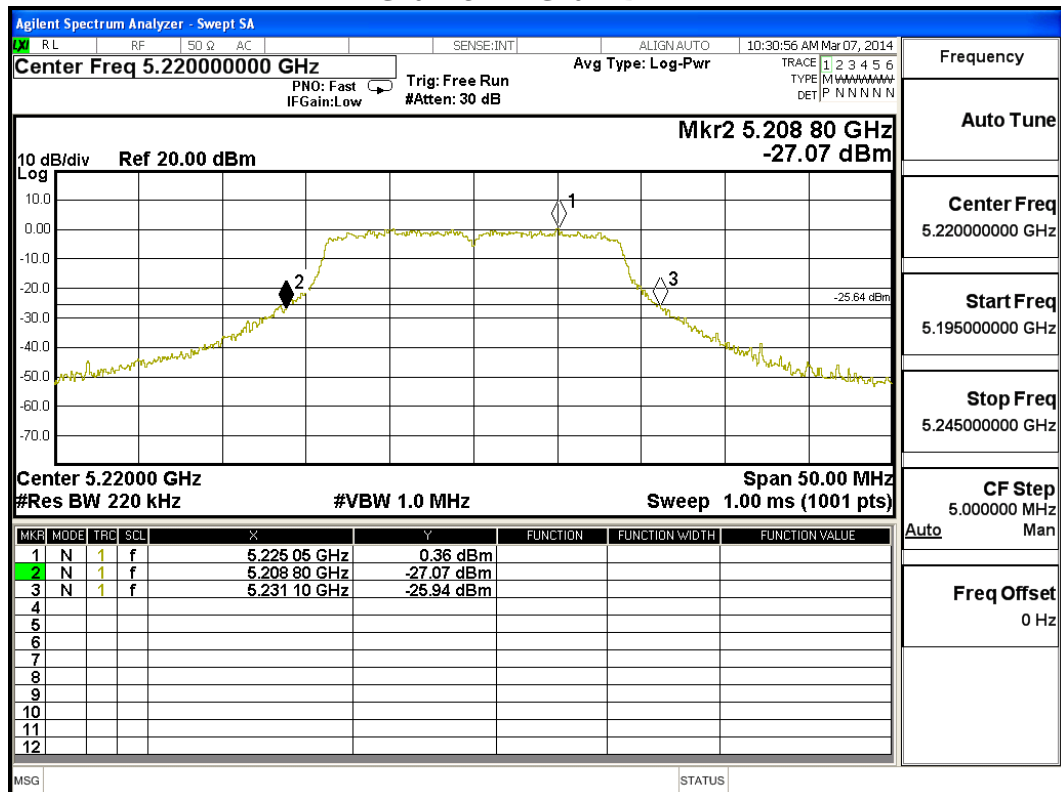
### Channel 140 -Chain A



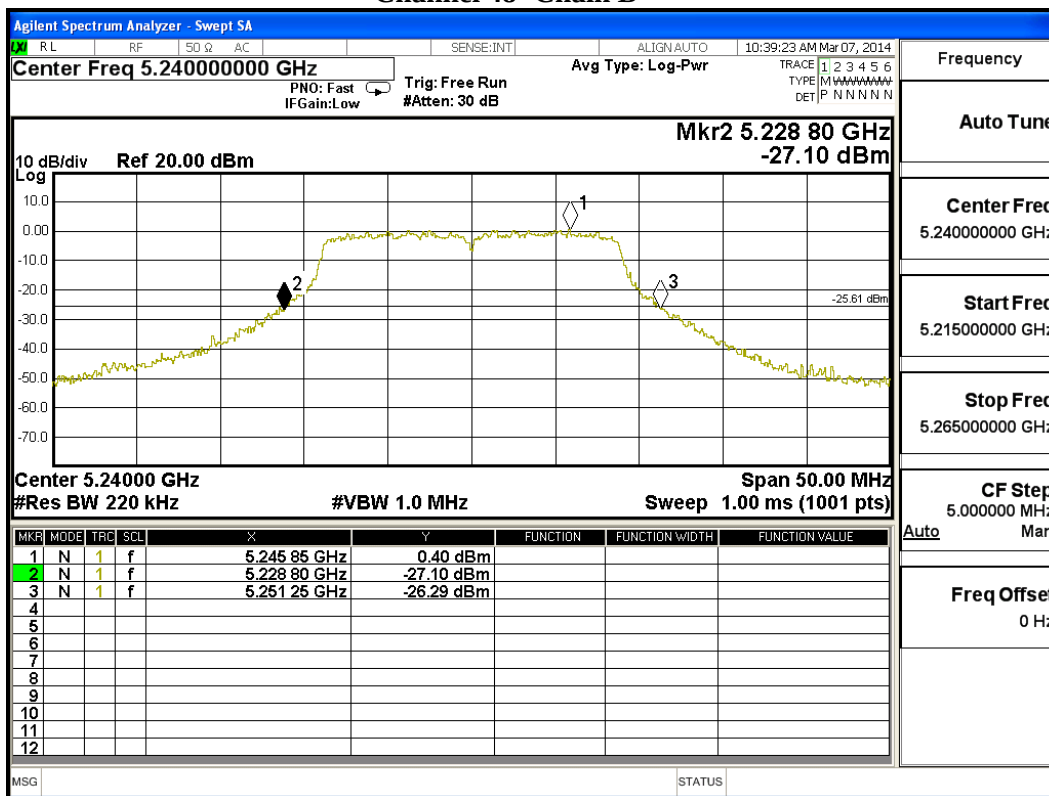
### 26dBc Occupied Bandwidth: Channel 36 -Chain B



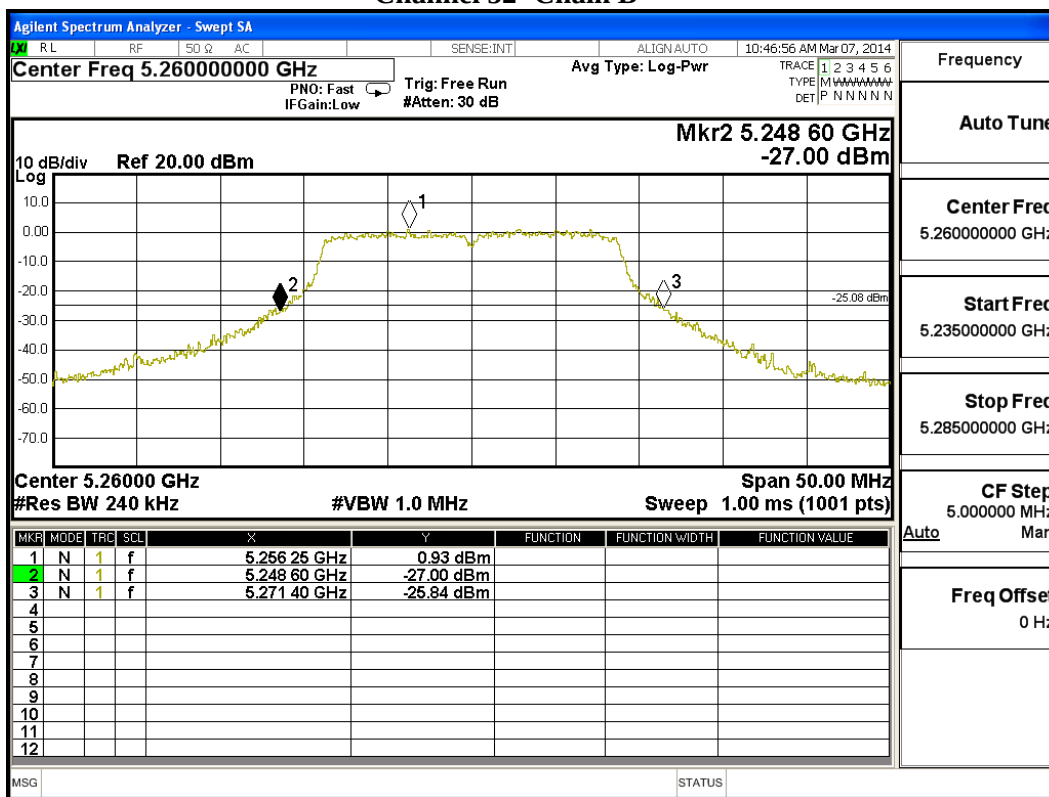
### Channel 44 -Chain B



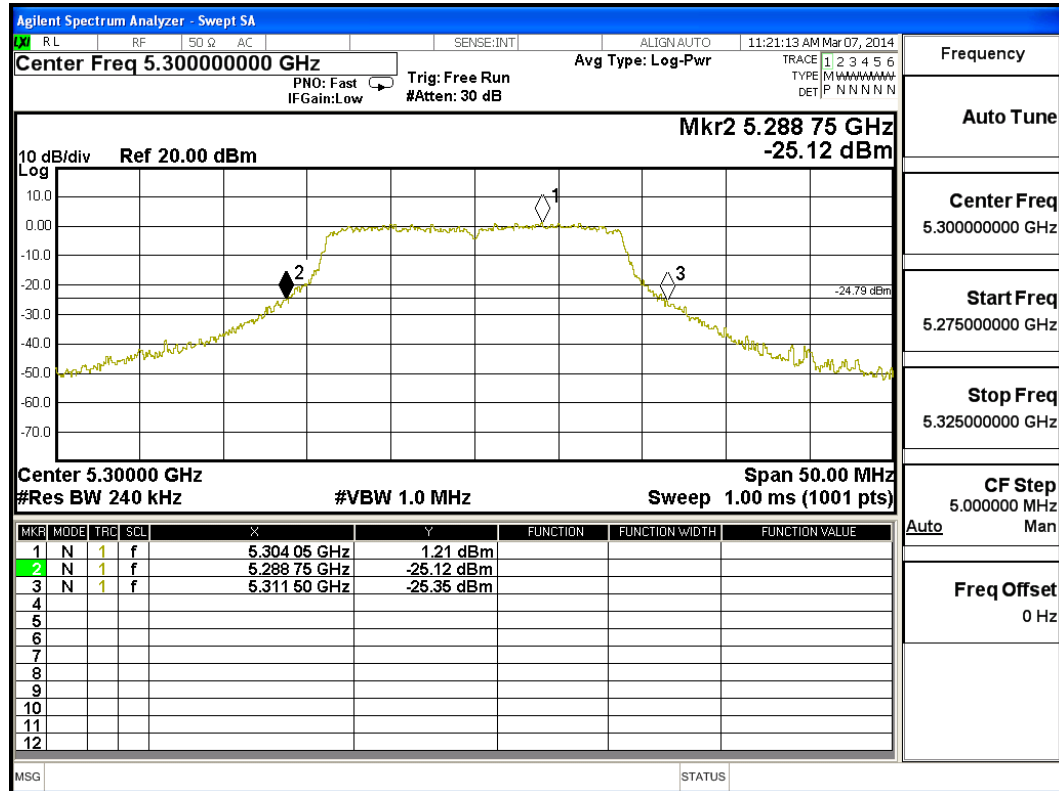
### Channel 48 -Chain B



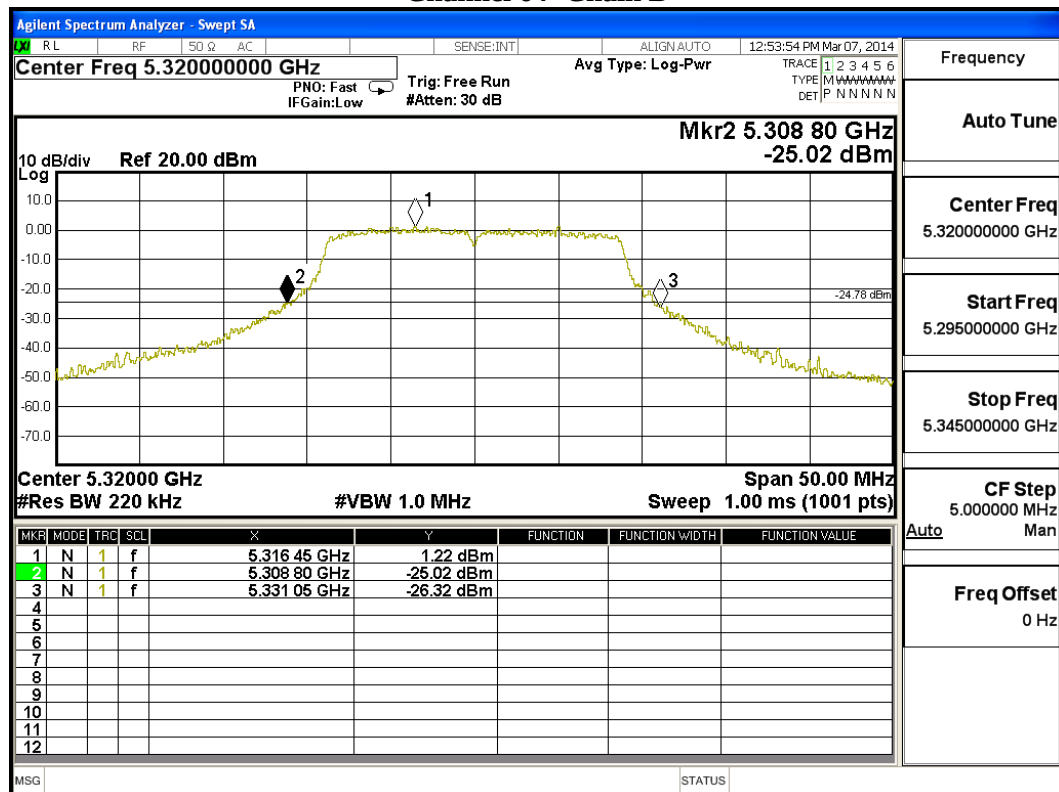
### Channel 52 -Chain B



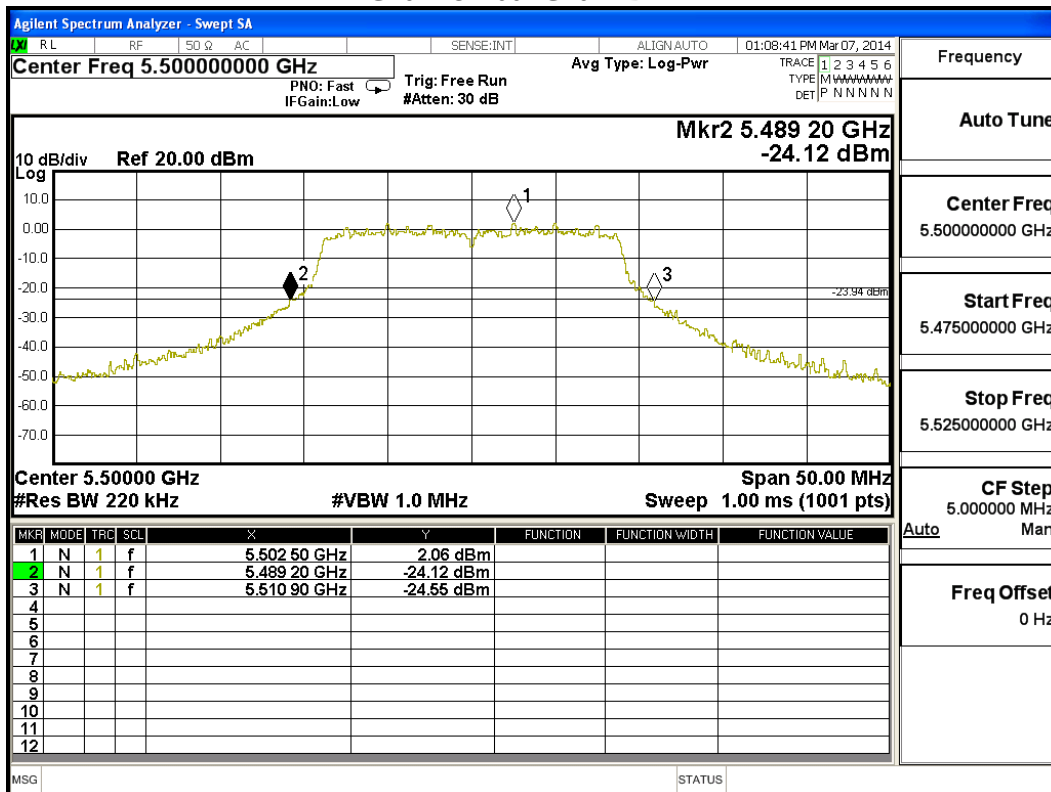
## Channel 60 -Chain B



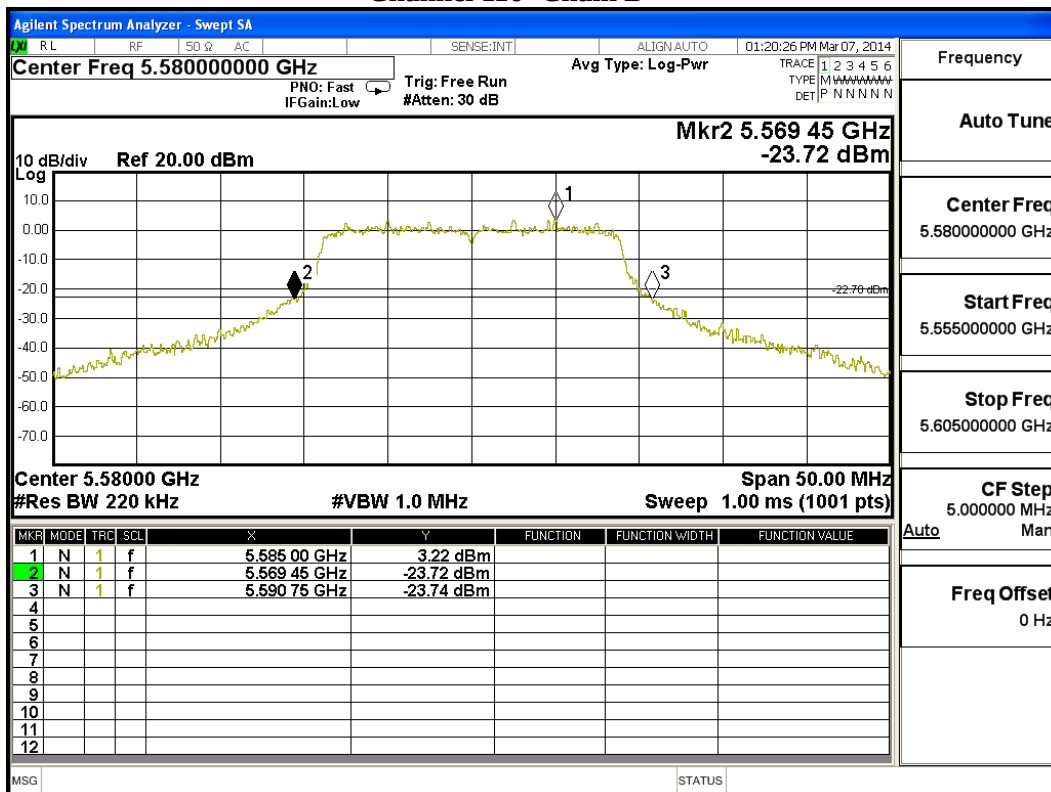
## Channel 64 -Chain B



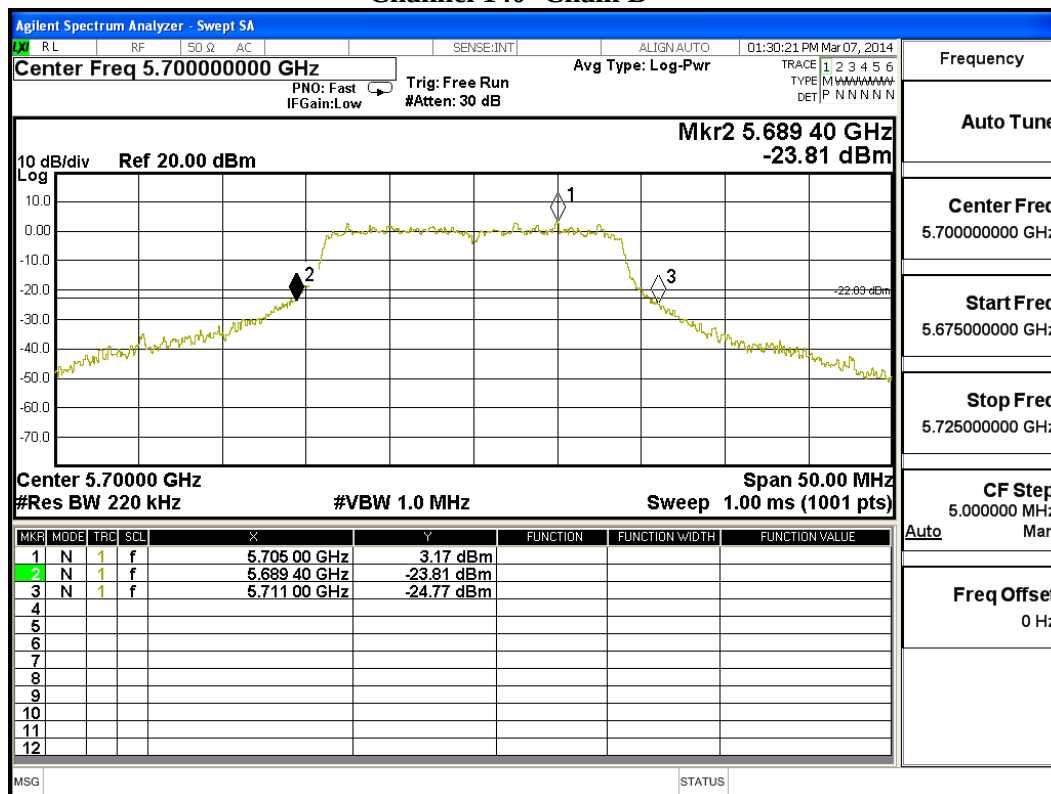
### Channel 100 -Chain B



### Channel 116 -Chain B



### Channel 140 -Chain B



Product : MOXA IEEE 802.11a/b/g/n Wireless  
Test Item : Maximum conducted output power  
Test Site : No.3 OATS  
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)

#### CHAIN A

| Cable loss=1dB |                 | Maximum conducted output power |       |       |       |       |      |       |       |                |
|----------------|-----------------|--------------------------------|-------|-------|-------|-------|------|-------|-------|----------------|
| Channel No.    | Frequency (MHz) | Data Rate (Mbps)               |       |       |       |       |      |       |       | Required Limit |
|                |                 | 30                             | 60    | 90    | 120   | 180   | 240  | 270   | 300   |                |
|                |                 | Measurement Level (dBm)        |       |       |       |       |      |       |       |                |
| 38             | 5190            | 10.68                          | --    | --    | --    | --    | --   | --    | --    | <17dBm         |
| 46             | 5230            | 10.62                          | 9.81  | 9.77  | 9.73  | 9.69  | 9.65 | 9.61  | 9.57  | <17dBm         |
| 54             | 5270            | 10.89                          | --    | --    | --    | --    | --   | --    | --    | <24dBm         |
| 62             | 5310            | 10.87                          | 9.68  | 9.64  | 9.6   | 9.56  | 9.52 | 9.48  | 9.44  | <24dBm         |
| 102            | 5510            | 10.81                          | --    | --    | --    | --    | --   | --    | --    | <24dBm         |
| 110            | 5550            | 11.05                          | 11.02 | 10.99 | 10.96 | 10.93 | 10.9 | 10.87 | 10.84 | <24dBm         |
| 134            | 5670            | 11.48                          | --    | --    | --    | --    | --   | --    | --    | <24dBm         |

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

#### CHAIN B

| Cable loss=1dB |                 | Maximum conducted output power |       |       |       |      |       |       |       |                |
|----------------|-----------------|--------------------------------|-------|-------|-------|------|-------|-------|-------|----------------|
| Channel No.    | Frequency (MHz) | Data Rate (Mbps)               |       |       |       |      |       |       |       | Required Limit |
|                |                 | 30                             | 60    | 90    | 120   | 180  | 240   | 270   | 300   |                |
|                |                 | Measurement Level (dBm)        |       |       |       |      |       |       |       |                |
| 38             | 5190            | 10.47                          | --    | --    | --    | --   | --    | --    | --    | <17dBm         |
| 46             | 5230            | 10.60                          | 10.59 | 10.56 | 10.53 | 10.5 | 10.47 | 10.44 | 10.41 | <17dBm         |
| 54             | 5270            | 10.79                          | --    | --    | --    | --   | --    | --    | --    | <24dBm         |
| 62             | 5310            | 10.68                          | 10.66 | 10.64 | 10.62 | 10.6 | 10.58 | 10.56 | 10.54 | <24dBm         |
| 102            | 5510            | 9.67                           | --    | --    | --    | --   | --    | --    | --    | <24dBm         |
| 110            | 5550            | 9.89                           | 9.85  | 9.81  | 9.77  | 9.73 | 9.69  | 9.65  | 9.61  | <24dBm         |
| 134            | 5670            | 9.96                           | --    | --    | --    | --   | --    | --    | --    | <24dBm         |

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

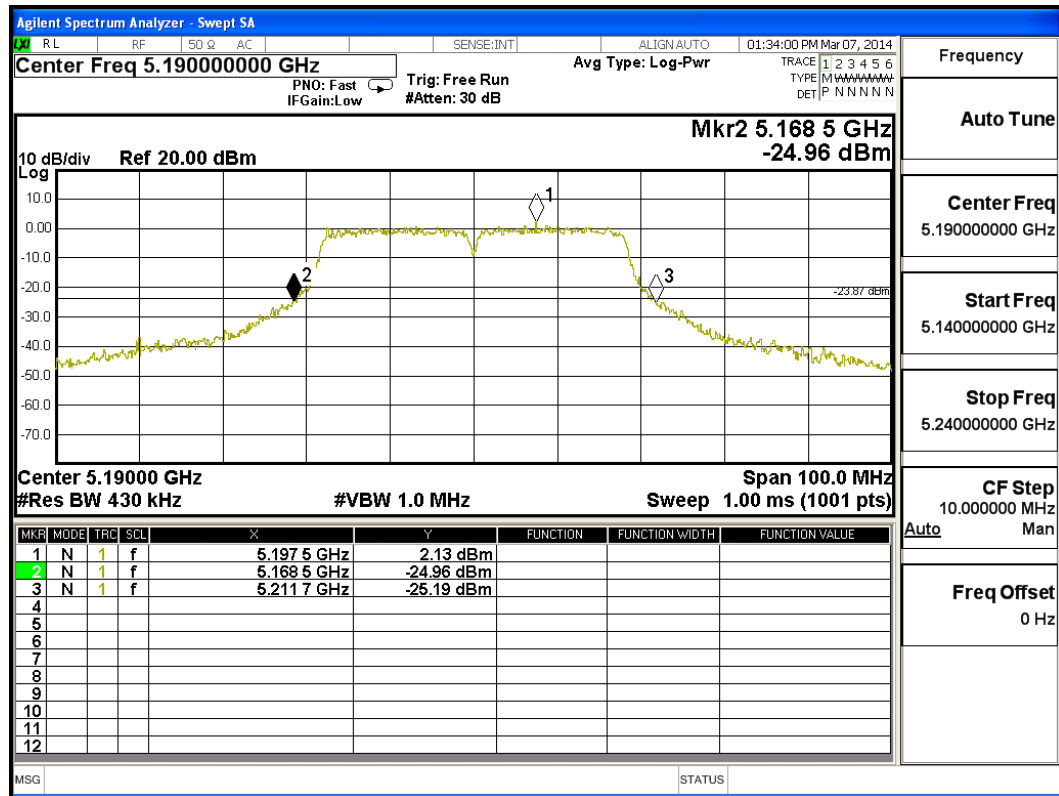
## Maximum conducted output power Measurement:

### (CHAIN A+ B)

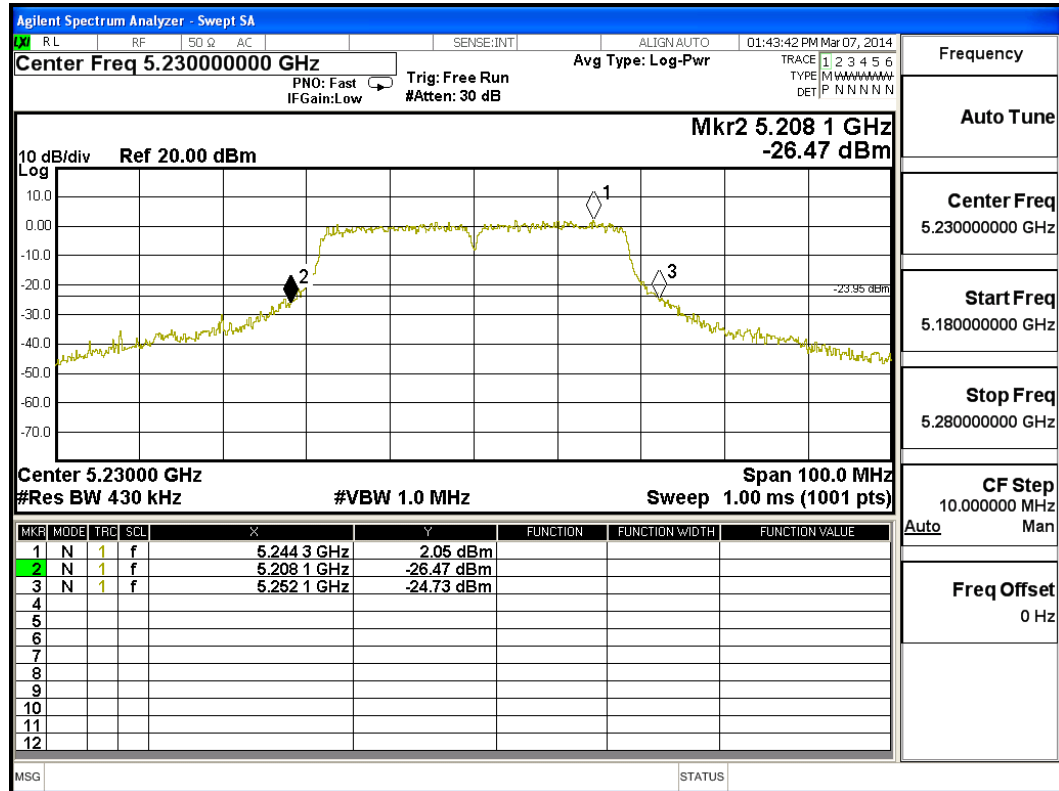
| Channel Number | Frequency (MHz) | 26dB Bandwidth (MHz) | Chain A Power (dBm) | Chain B Power (dBm) | Output Power (dBm) | Output Power Limit |               |
|----------------|-----------------|----------------------|---------------------|---------------------|--------------------|--------------------|---------------|
|                |                 |                      |                     |                     |                    | (dBm)              | dBm+10log(BW) |
| 38             | 5190            | 43.200               | 10.68               | 10.47               | 13.59              | 17                 | 20.35         |
| 46             | 5230            | 42.700               | 10.62               | 10.60               | 13.62              | 17                 | 20.30         |
| 54             | 5270            | 43.100               | 10.89               | 10.79               | 13.85              | 24                 | 27.34         |
| 62             | 5310            | 44.100               | 10.87               | 10.68               | 13.79              | 24                 | 27.44         |
| 102            | 5510            | 43.400               | 10.81               | 9.67                | 13.29              | 24                 | 27.37         |
| 110            | 5550            | 43.100               | 11.05               | 9.89                | 13.52              | 24                 | 27.34         |
| 134            | 5670            | 42.900               | 11.48               | 9.96                | 13.80              | 24                 | 27.32         |

Note:

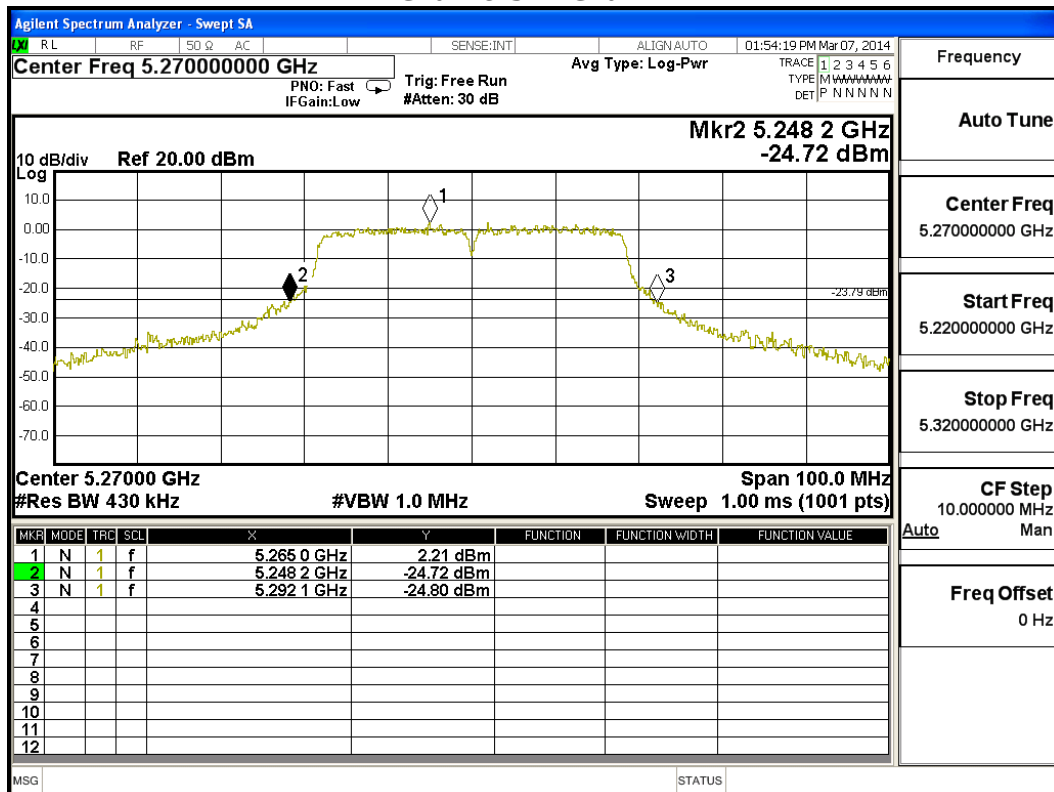
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW))
3. 26 dB Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.

26dBc Occupied Bandwidth:  
Channel 38 – Chain A

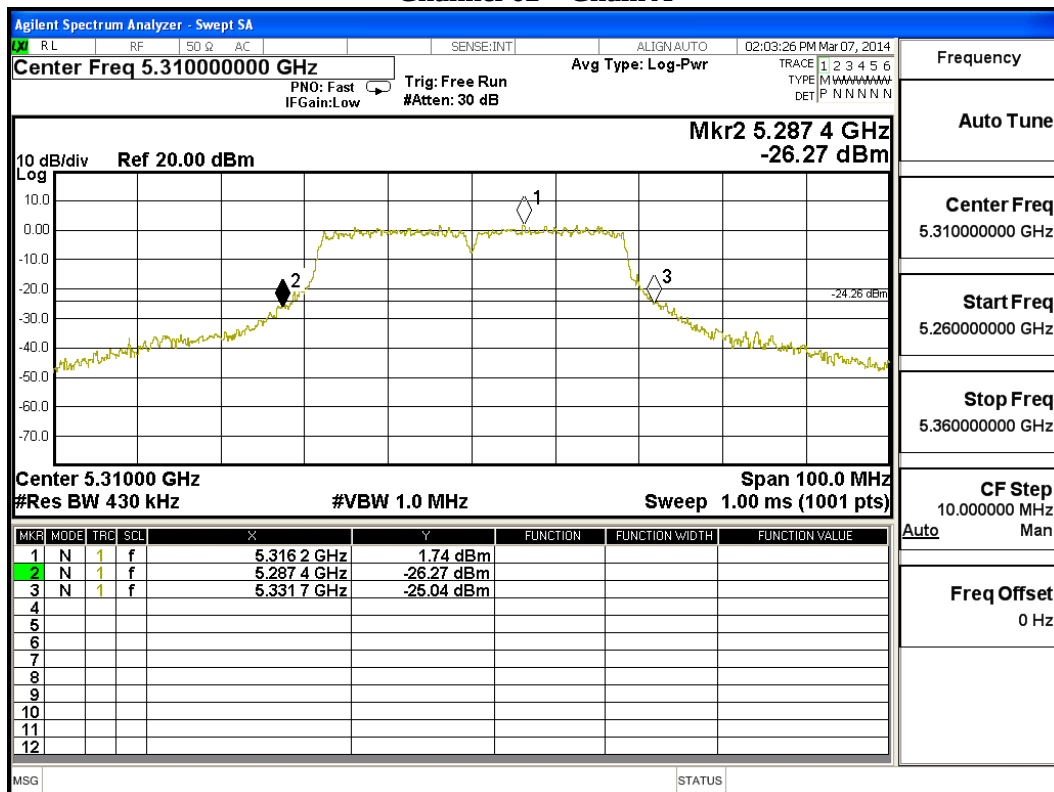
## Channel 46 – Chain A



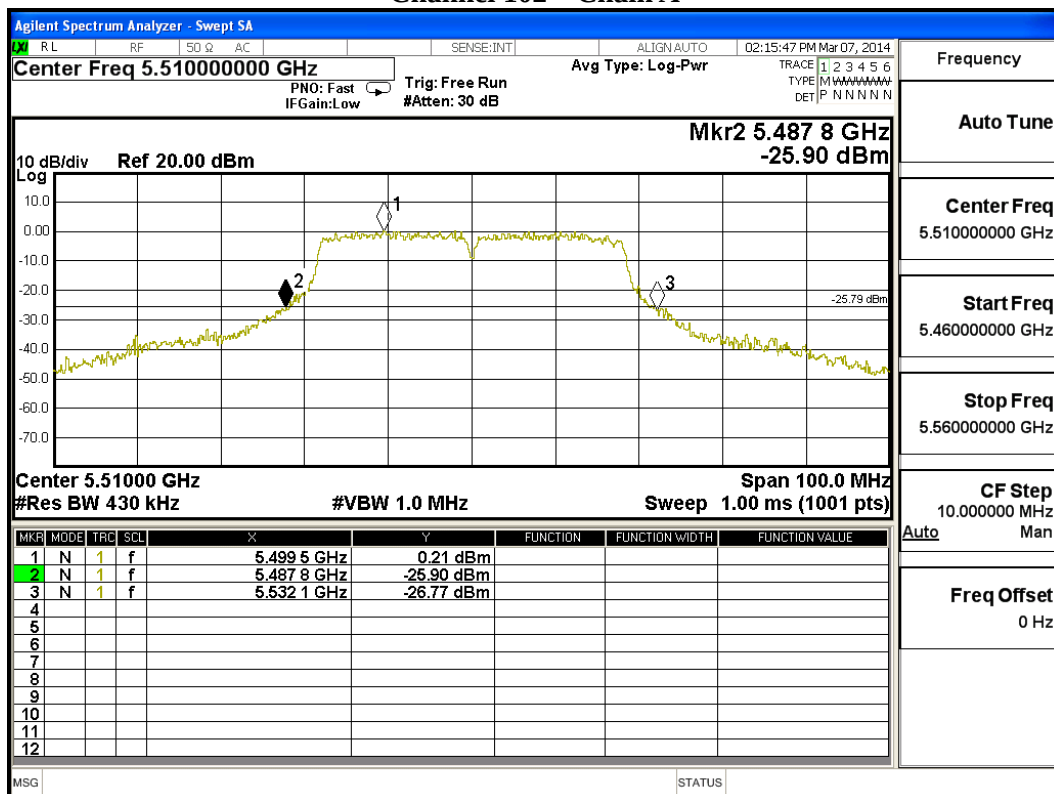
### Channel 54 – Chain A



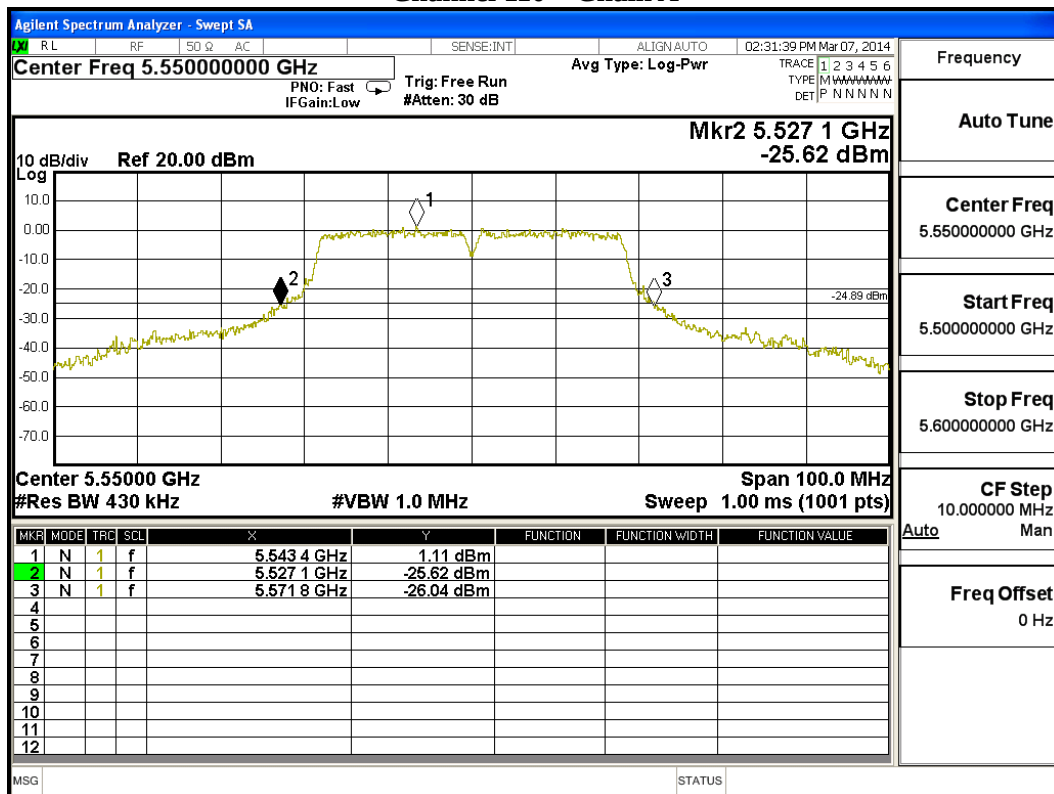
### Channel 62 – Chain A



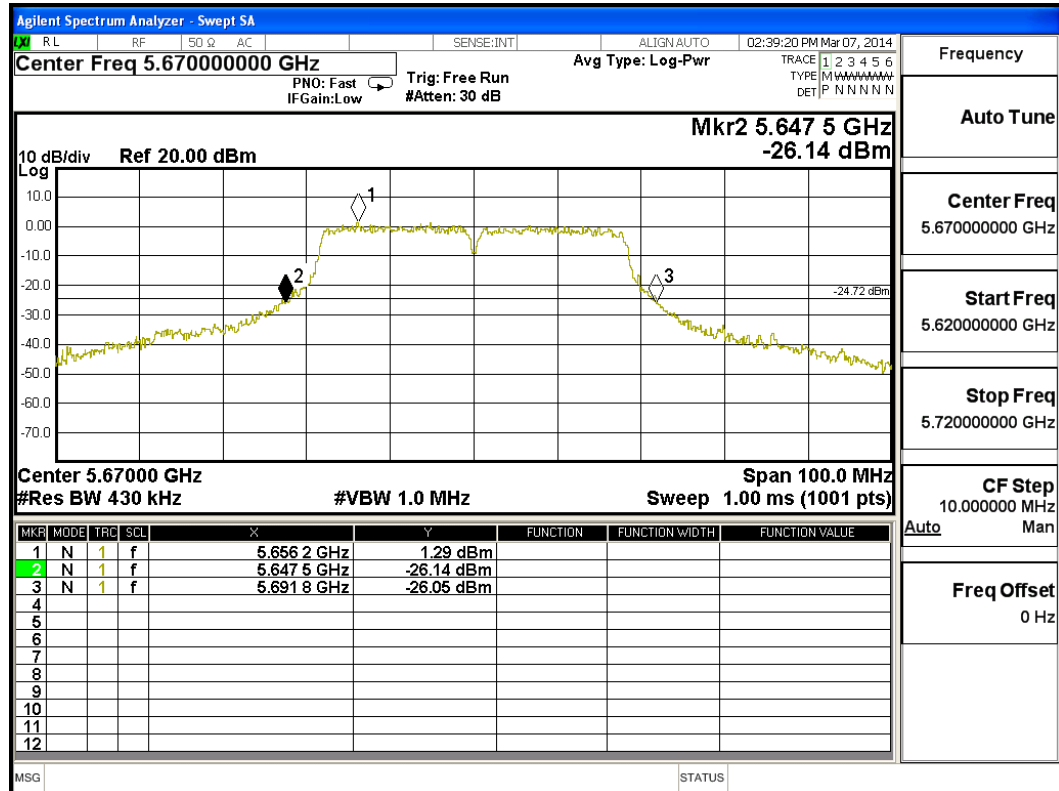
### Channel 102 – Chain A



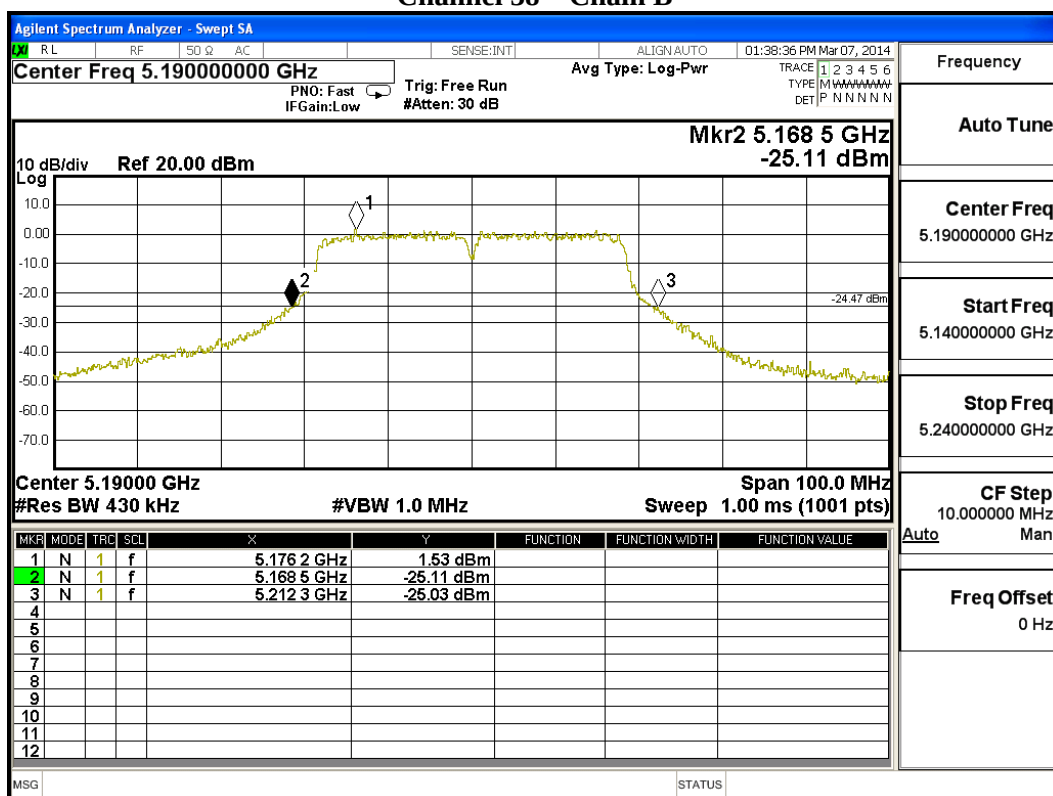
### Channel 110 – Chain A



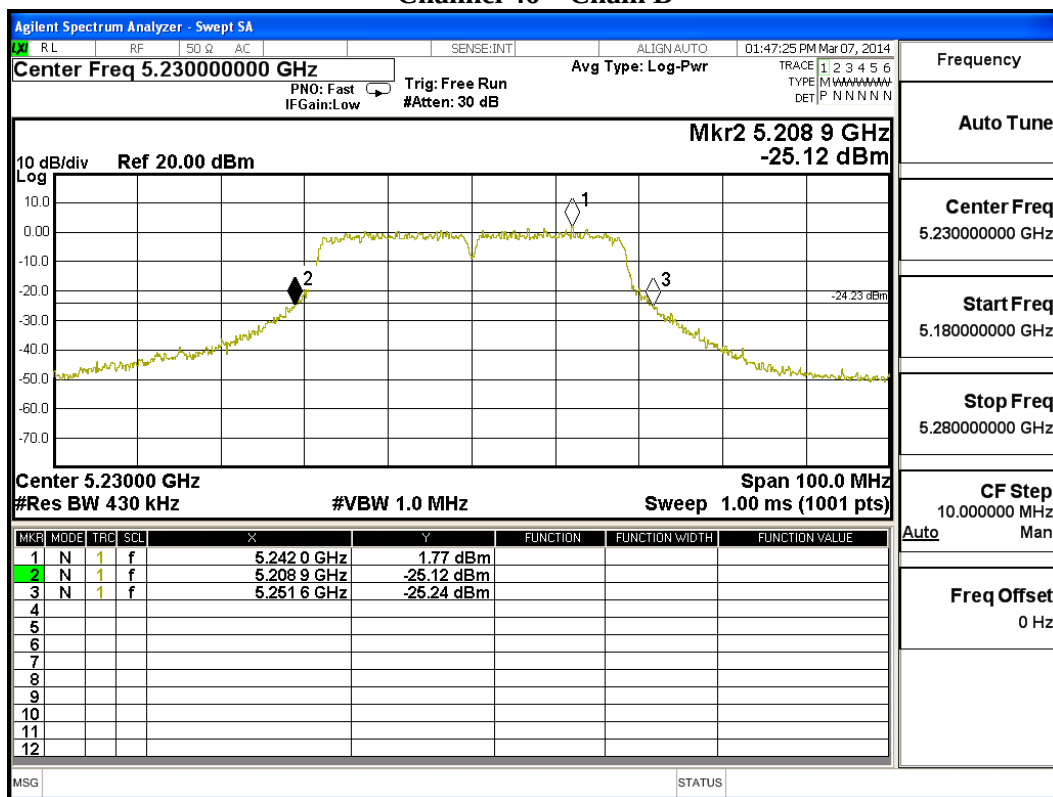
### Channel 134 – Chain A



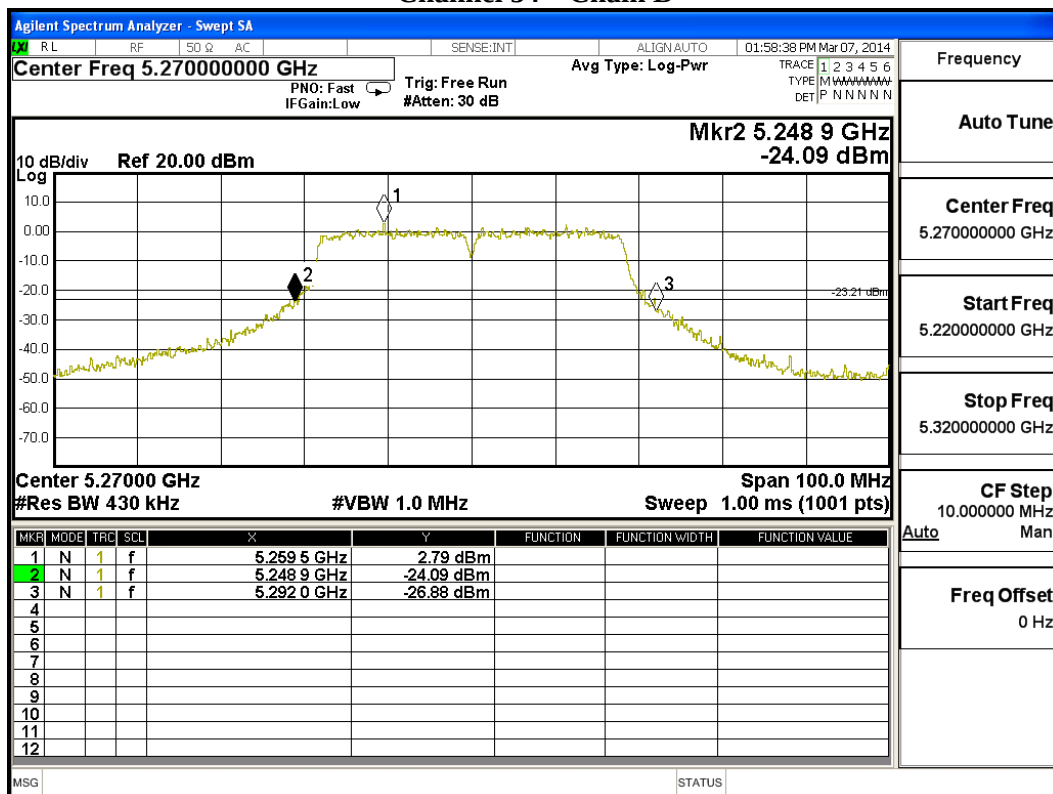
### 26dBc Occupied Bandwidth: Channel 38 – Chain B



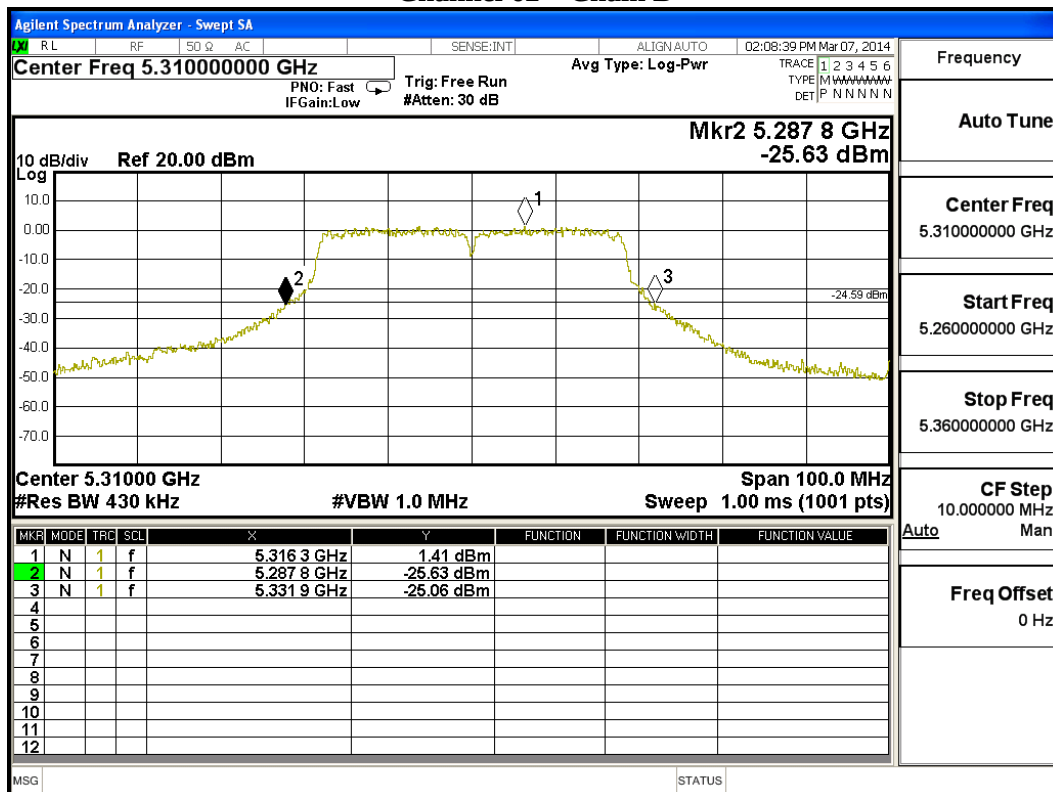
### Channel 46 – Chain B



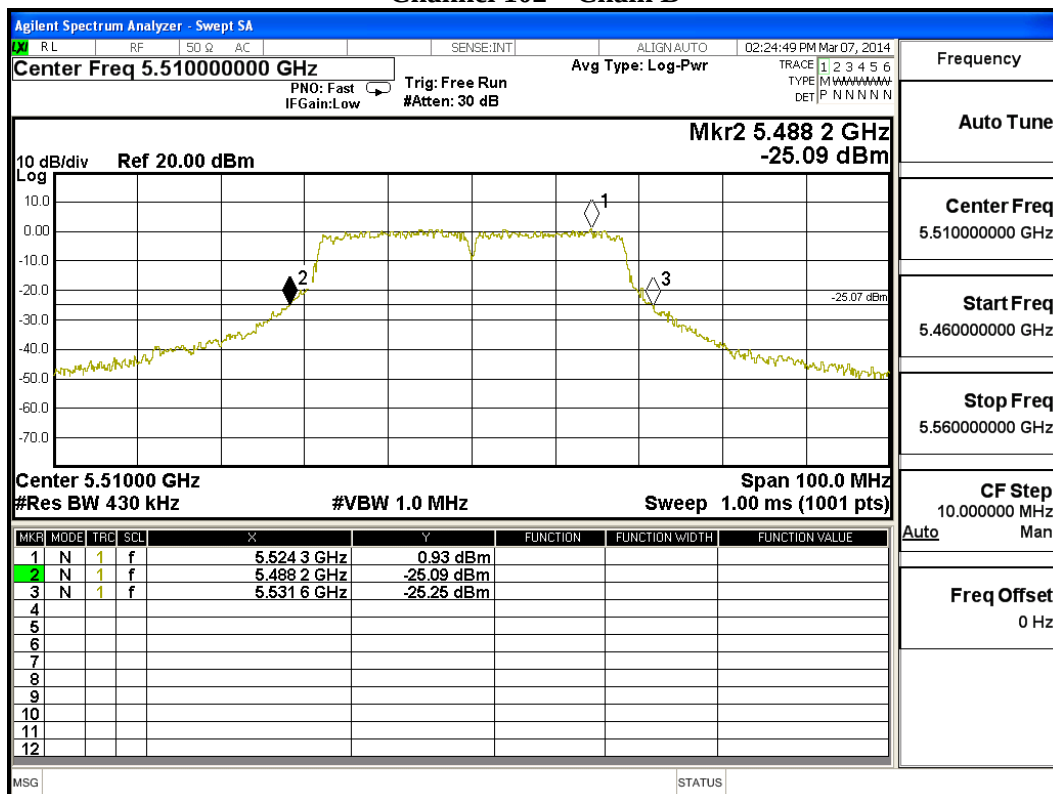
### Channel 54 – Chain B



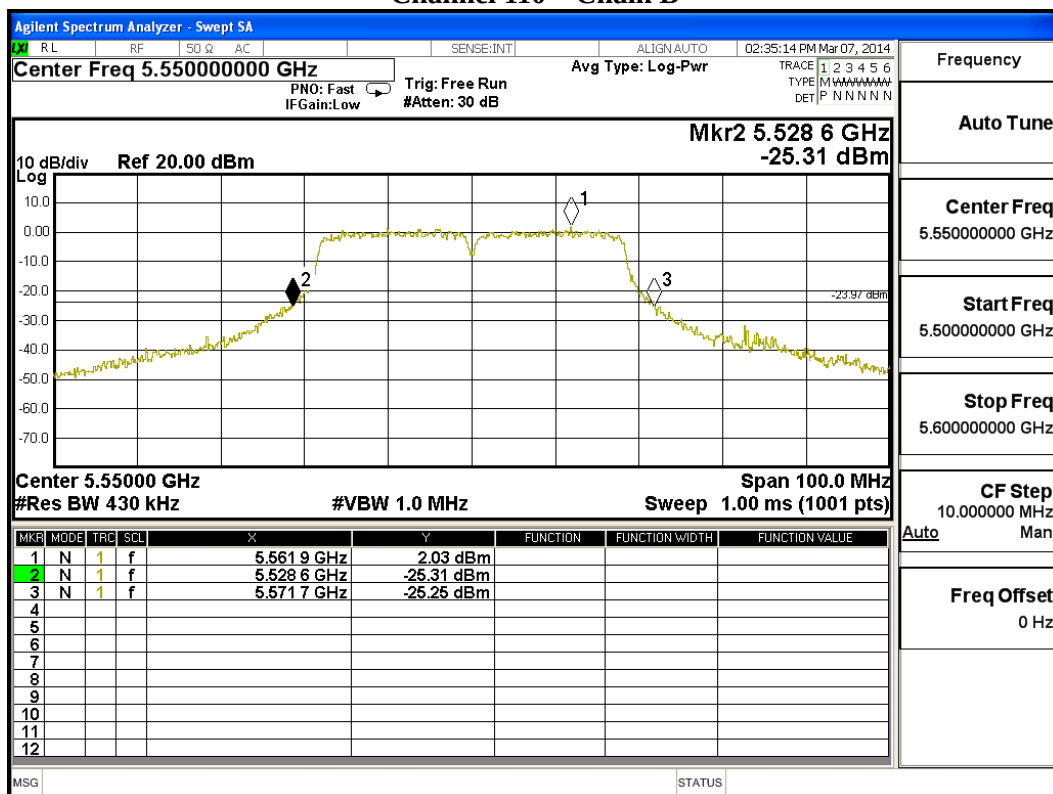
### Channel 62 – Chain B



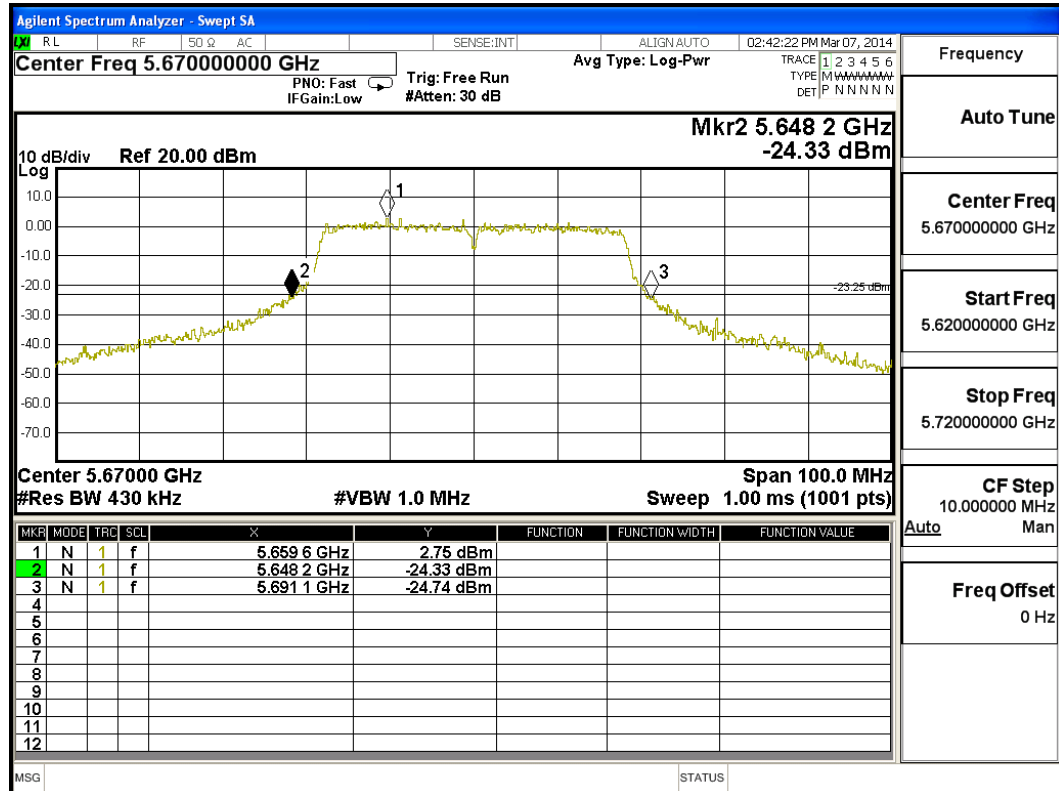
### Channel 102 – Chain B



### Channel 110 – Chain B



### Channel 134 – Chain B



## 4. Peak Power Spectral Density

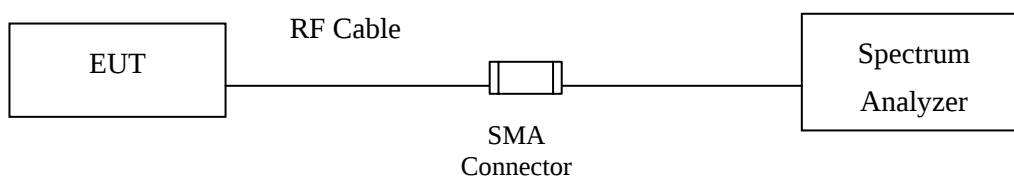
### 4.1. Test Equipment

|   | Equipment         | Manufacturer | Model No./Serial No. | Last Cal.  |
|---|-------------------|--------------|----------------------|------------|
|   | Spectrum Analyzer | R&S          | FSP40 / 100170       | Jun., 2013 |
|   | Spectrum Analyzer | Agilent      | E4407B / US39440758  | Jun., 2013 |
| X | Spectrum Analyzer | Agilent      | N9010A / MY48030495  | Apr, 2013  |

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

### 4.2. Test Setup



### 4.3. Limits

- (1) For the band 5.15-5.25 GHz, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
- (2) For the band 5.25-5.35 GHz, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
- (3) For the band 5.725-5.825 GHz, the peak power spectral density shall not exceed 17 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

#### **4.4. Test Procedure**

The EUT was setup to ANSI C63.10, 2009; tested to DTS test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

The Peak Power Spectral Density using KDB 789033 section F) procedure, Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer. SA-1 method is selected to run the test.

#### **4.5. Uncertainty**

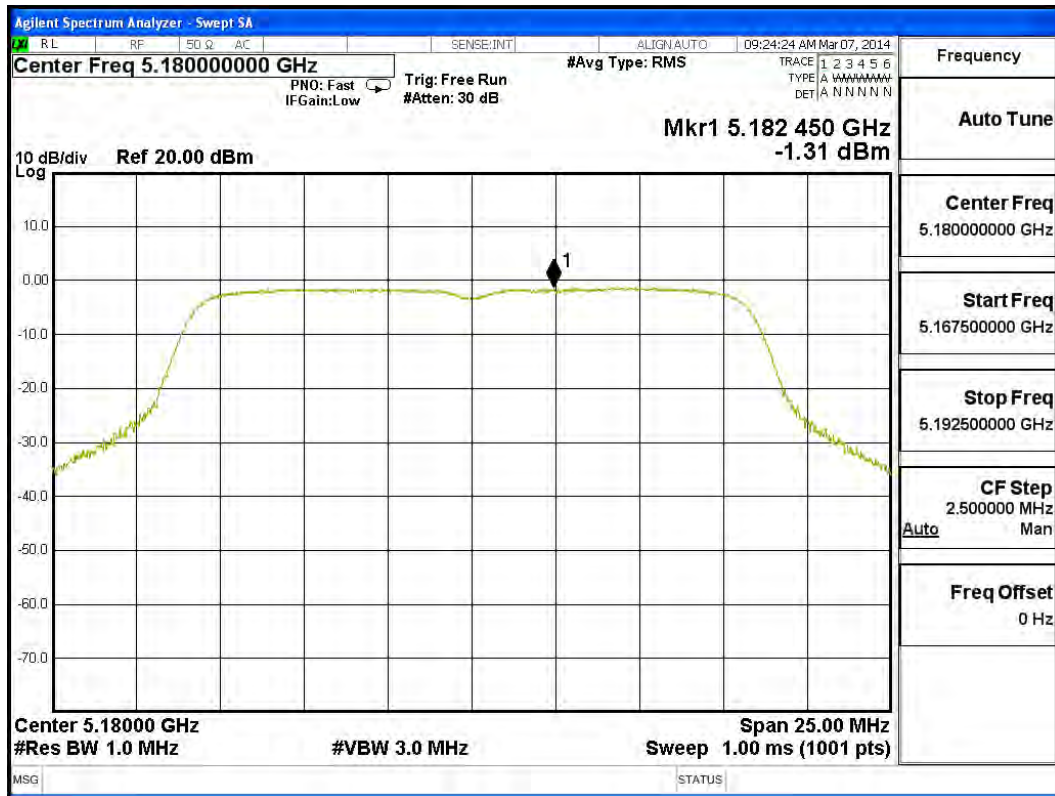
$\pm 1.27$  dB

#### 4.6. Test Result of Peak Power Spectral Density

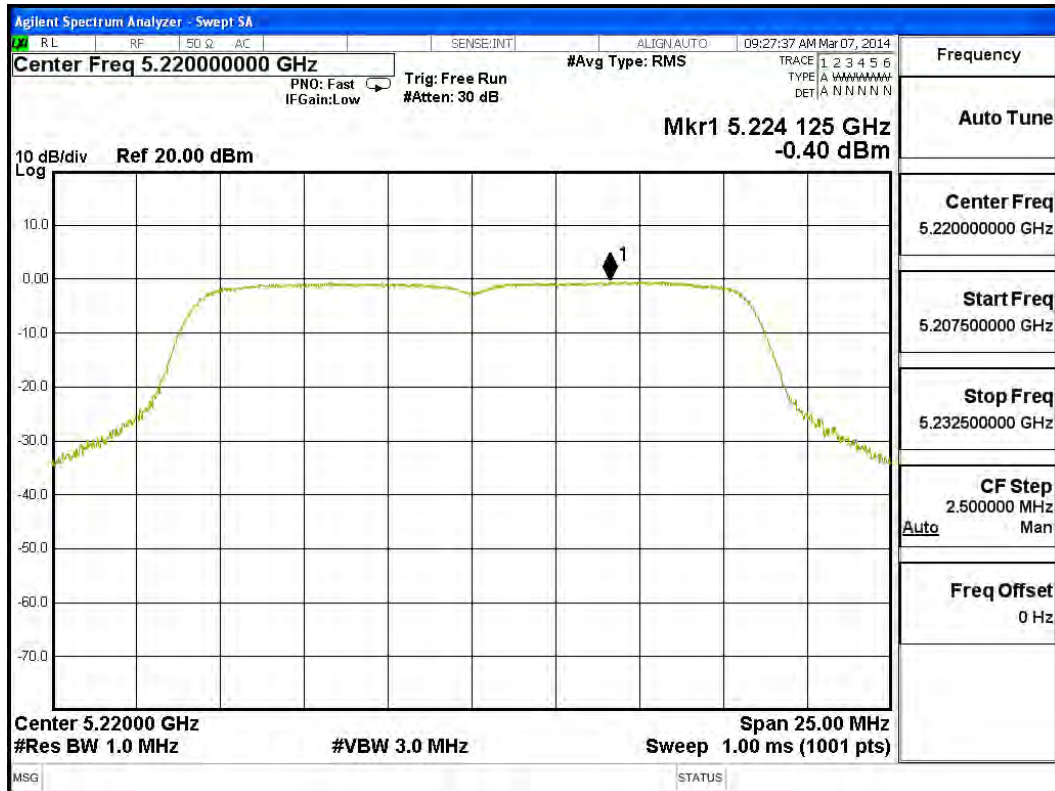
Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Peak Power Spectral Density  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)

| Channel Number | Frequency (MHz) | Data Rate (Mbps) | Measurement Level (dBm) | Required Limit (dBm) | Result |
|----------------|-----------------|------------------|-------------------------|----------------------|--------|
| 36             | 5180            | 6                | -1.310                  | 4                    | Pass   |
| 44             | 5220            | 6                | -0.400                  | 4                    | Pass   |
| 48             | 5240            | 6                | 0.260                   | 4                    | Pass   |
| 52             | 5260            | 6                | -0.060                  | 11                   | Pass   |
| 60             | 5300            | 6                | -0.630                  | 11                   | Pass   |
| 64             | 5320            | 6                | -0.650                  | 11                   | Pass   |
| 100            | 5500            | 6                | -1.910                  | 11                   | Pass   |
| 116            | 5580            | 6                | -0.750                  | 11                   | Pass   |
| 140            | 5700            | 6                | 1.530                   | 11                   | Pass   |

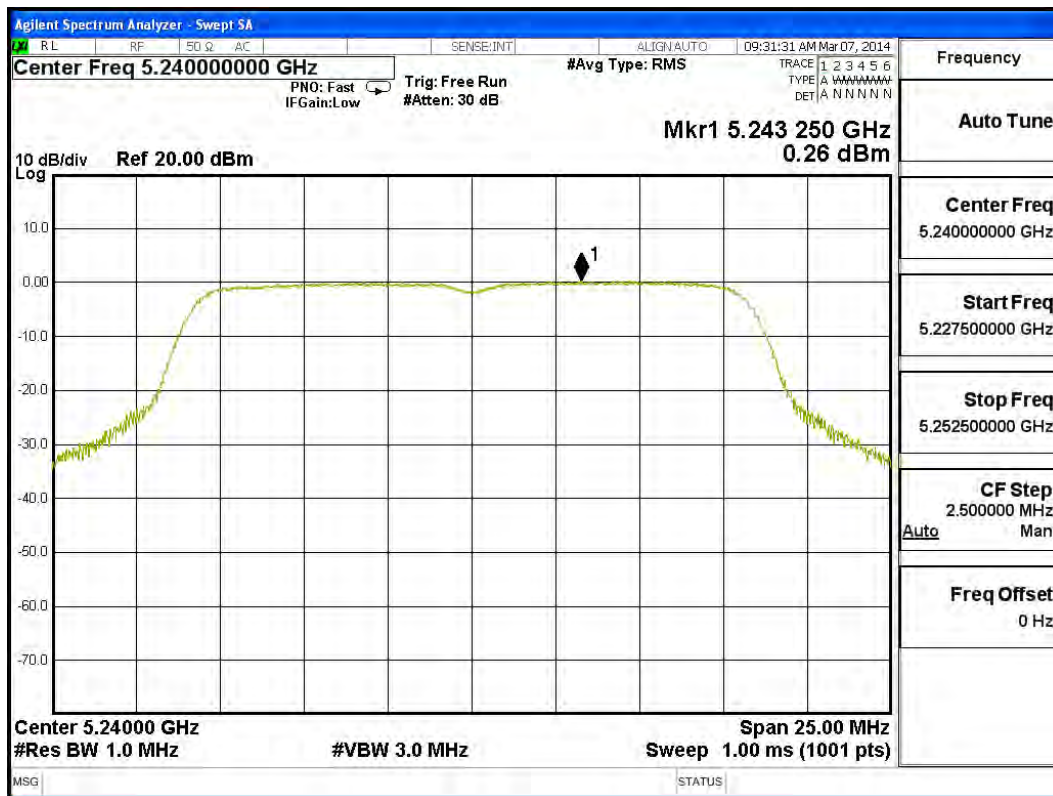
### Channel 36:



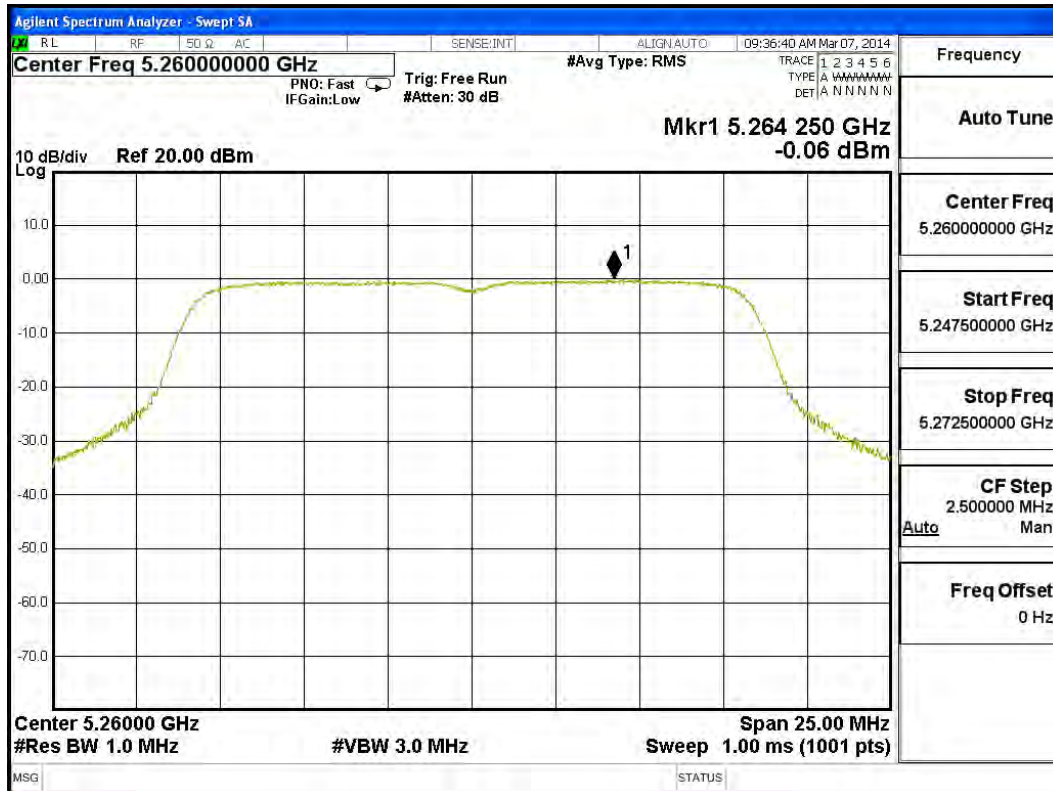
### Channel 44:



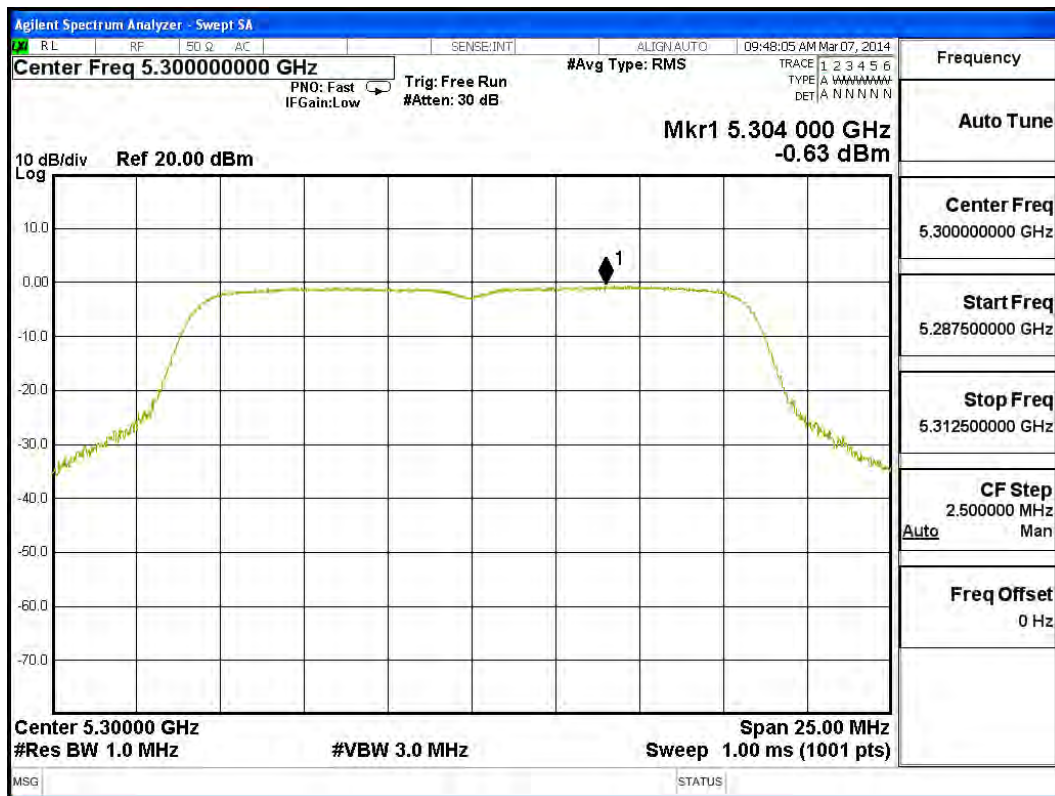
### Channel 48:



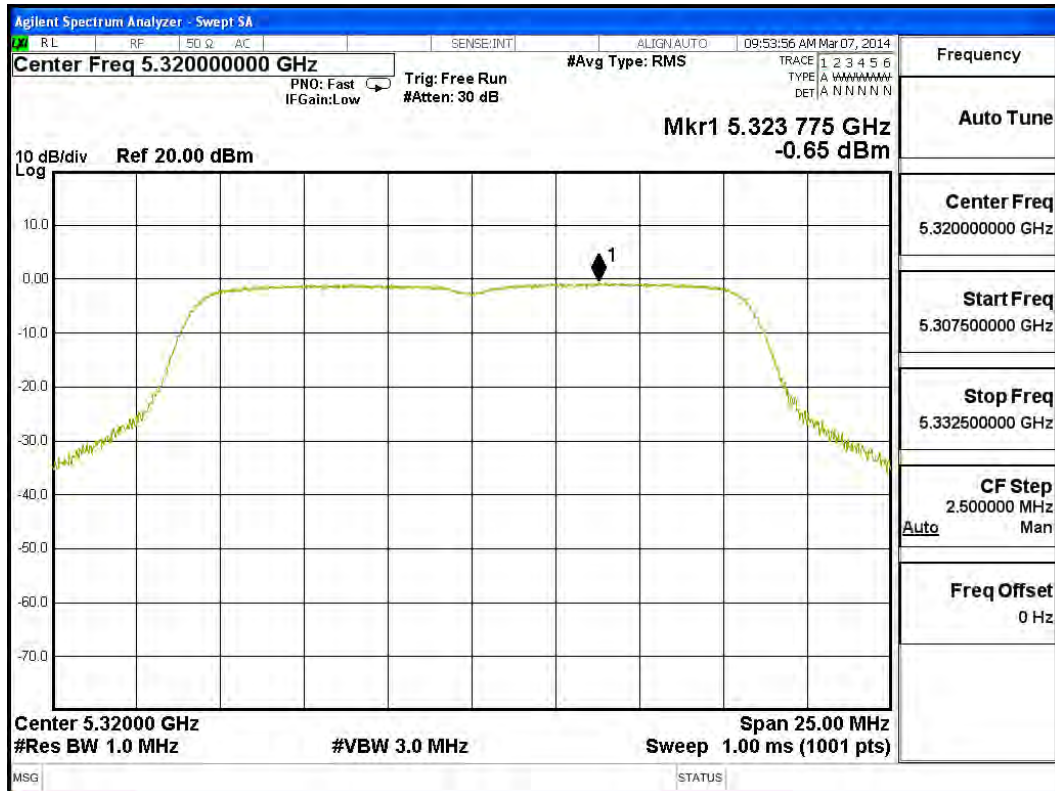
### Channel 52:



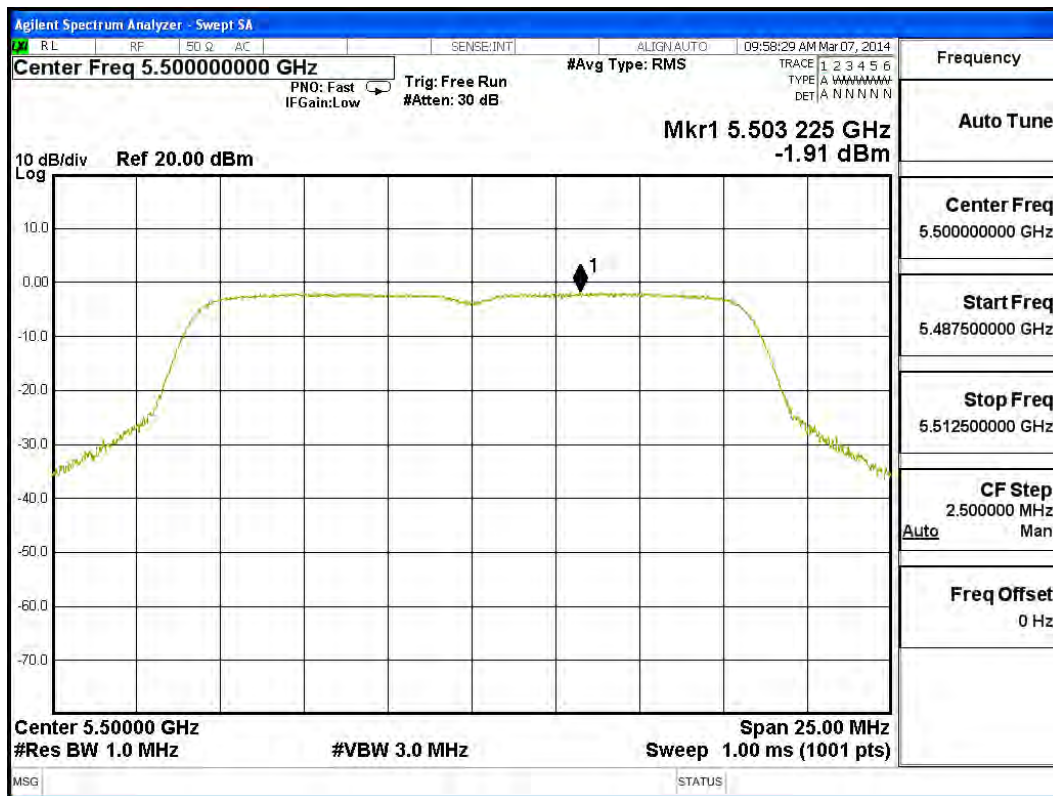
### Channel 60:



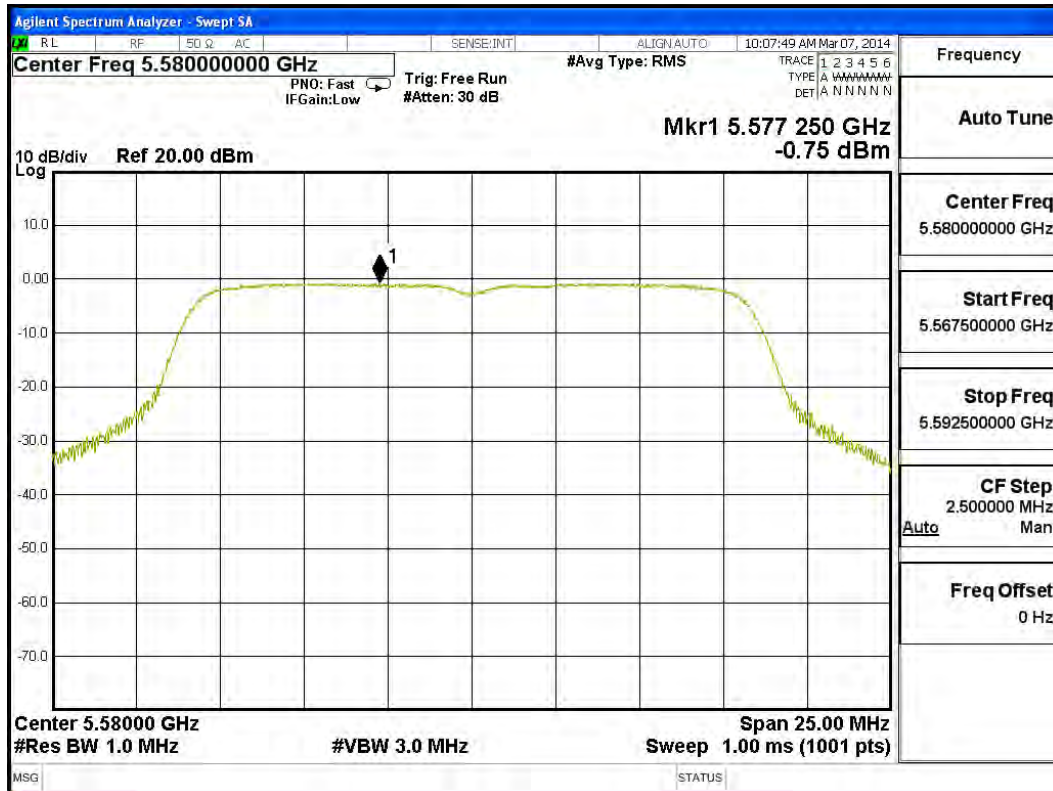
### Channel 64:



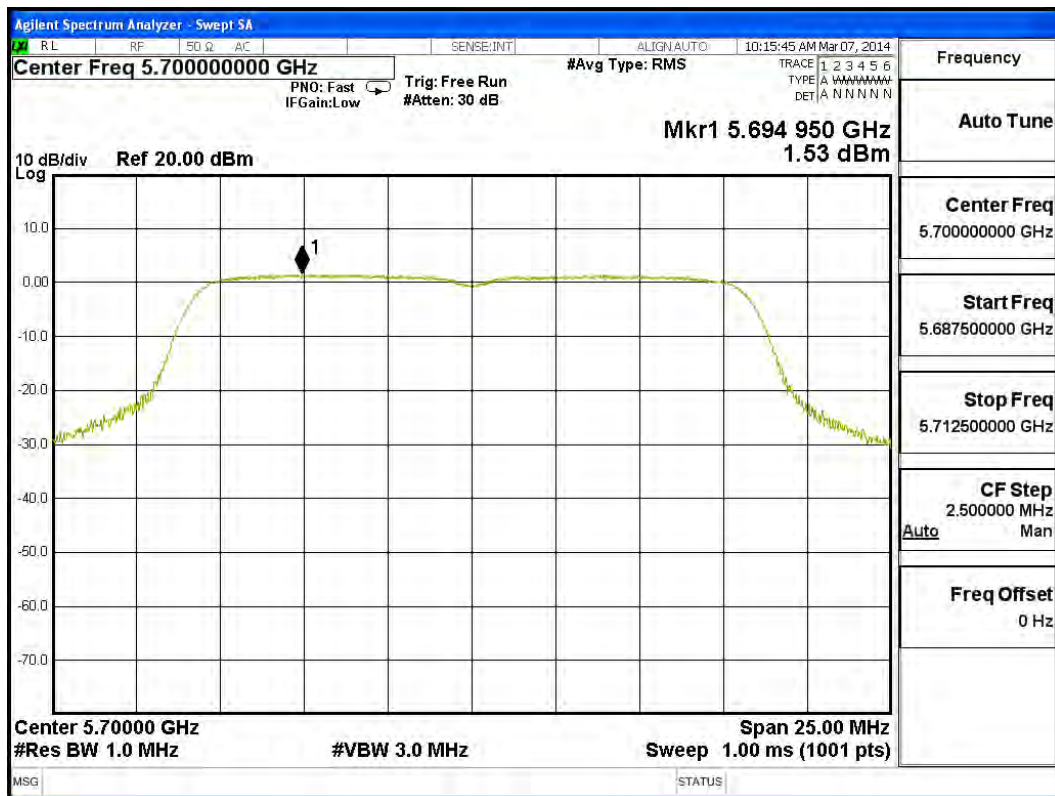
### Channel 100:



### Channel 116:



**Channel 140:**

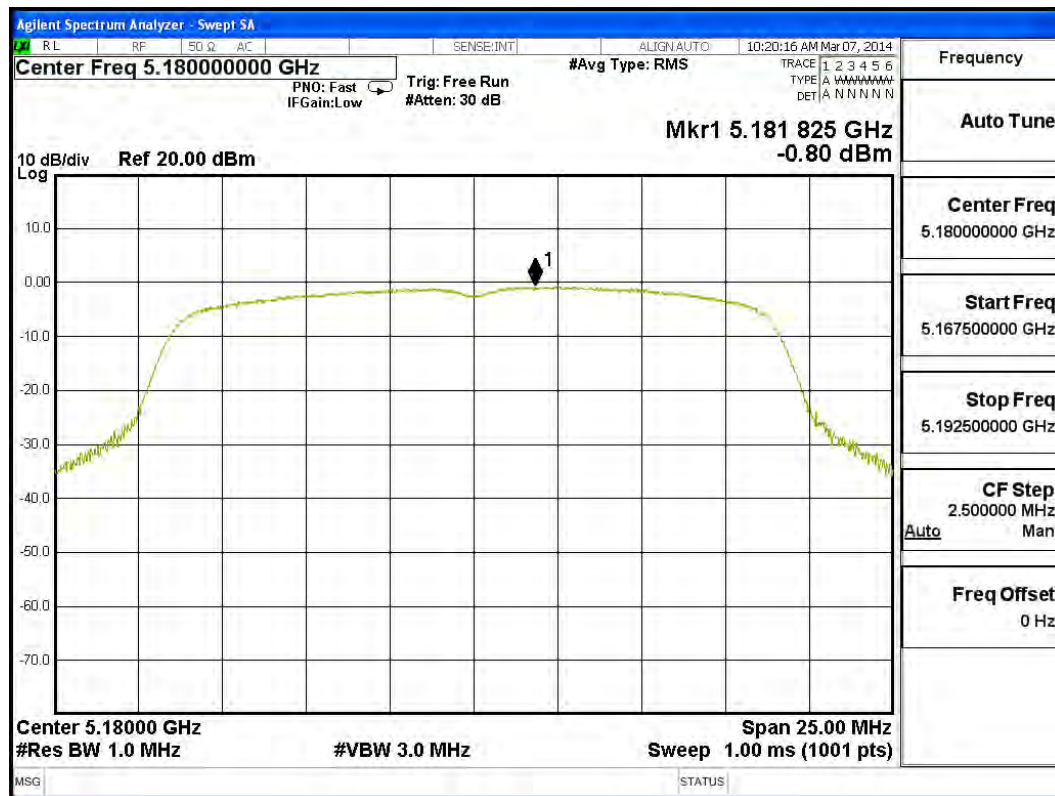


Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Peak Power Spectral Density  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)

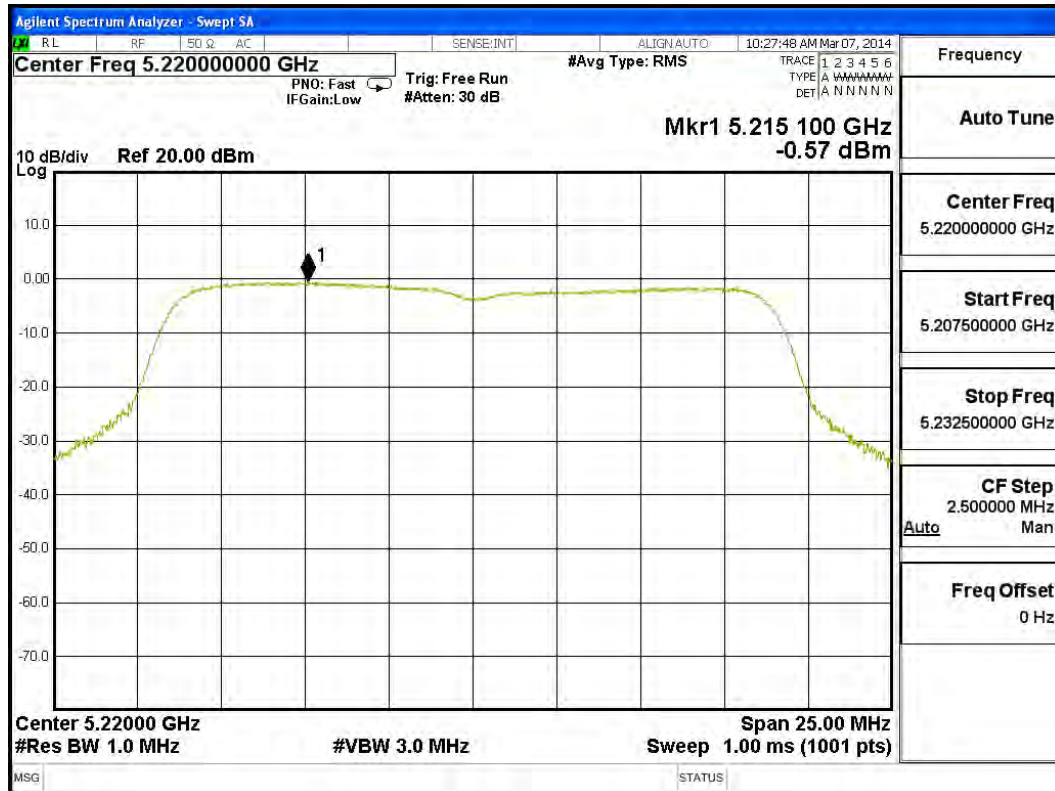
| Channel Number | Frequency (MHz) | Chain | PPSD/MHz (dBm) | Total PPSD/MHz (dBm) <sup>1</sup> | Required Limit (dBm) | Result |
|----------------|-----------------|-------|----------------|-----------------------------------|----------------------|--------|
| 36             | 5180            | A     | -0.800         | 2.210                             | 4                    | Pass   |
|                |                 | B     | -1.120         | 1.890                             | 4                    | Pass   |
| 44             | 5220            | A     | -0.570         | 2.440                             | 4                    | Pass   |
|                |                 | B     | -1.290         | 1.720                             | 4                    | Pass   |
| 48             | 5240            | A     | 0.690          | 3.700                             | 4                    | Pass   |
|                |                 | B     | -0.930         | 2.080                             | 4                    | Pass   |
| 52             | 5260            | A     | 0.460          | 3.470                             | 11                   | Pass   |
|                |                 | B     | -0.910         | 2.100                             | 11                   | Pass   |
| 60             | 5300            | A     | -0.020         | 2.990                             | 11                   | Pass   |
|                |                 | B     | -0.270         | 2.740                             | 11                   | Pass   |
| 64             | 5320            | A     | 0.070          | 3.080                             | 11                   | Pass   |
|                |                 | B     | -0.470         | 2.540                             | 11                   | Pass   |
| 100            | 5500            | A     | -1.000         | 2.010                             | 11                   | Pass   |
|                |                 | B     | -1.990         | 1.020                             | 11                   | Pass   |
| 116            | 5580            | A     | -1.260         | 1.750                             | 11                   | Pass   |
|                |                 | B     | -0.360         | 2.650                             | 11                   | Pass   |
| 140            | 5700            | A     | -0.510         | 2.500                             | 11                   | Pass   |
|                |                 | B     | -0.080         | 2.930                             | 11                   | Pass   |

Note 1: The quantity  $10 \cdot \log 2$  (two antennas) is added to the spectrum peak value according to document 662911 D01.

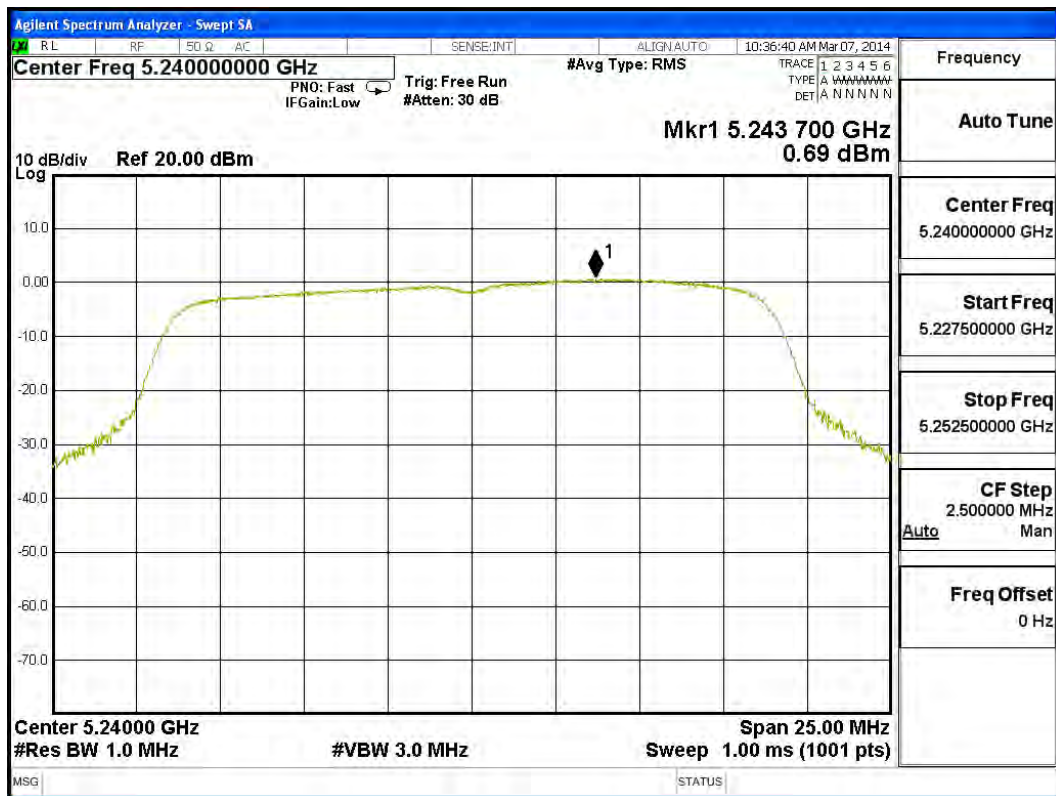
### Channel 36 – Chain A



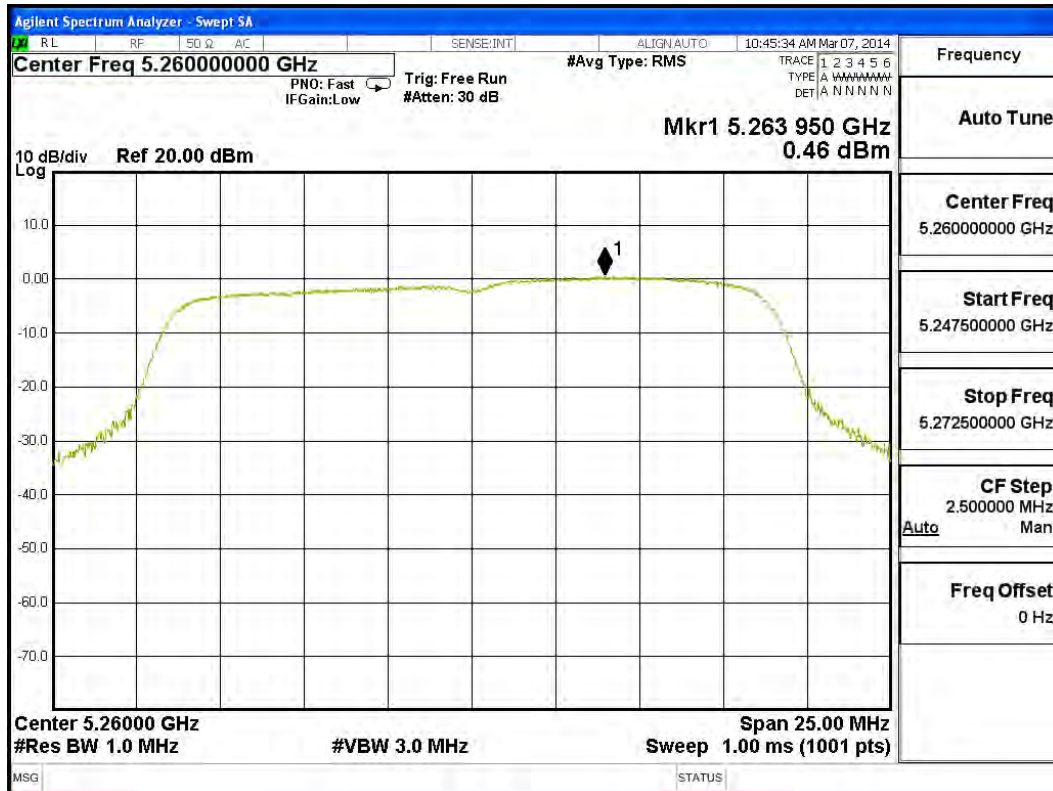
### Channel 44 – Chain A



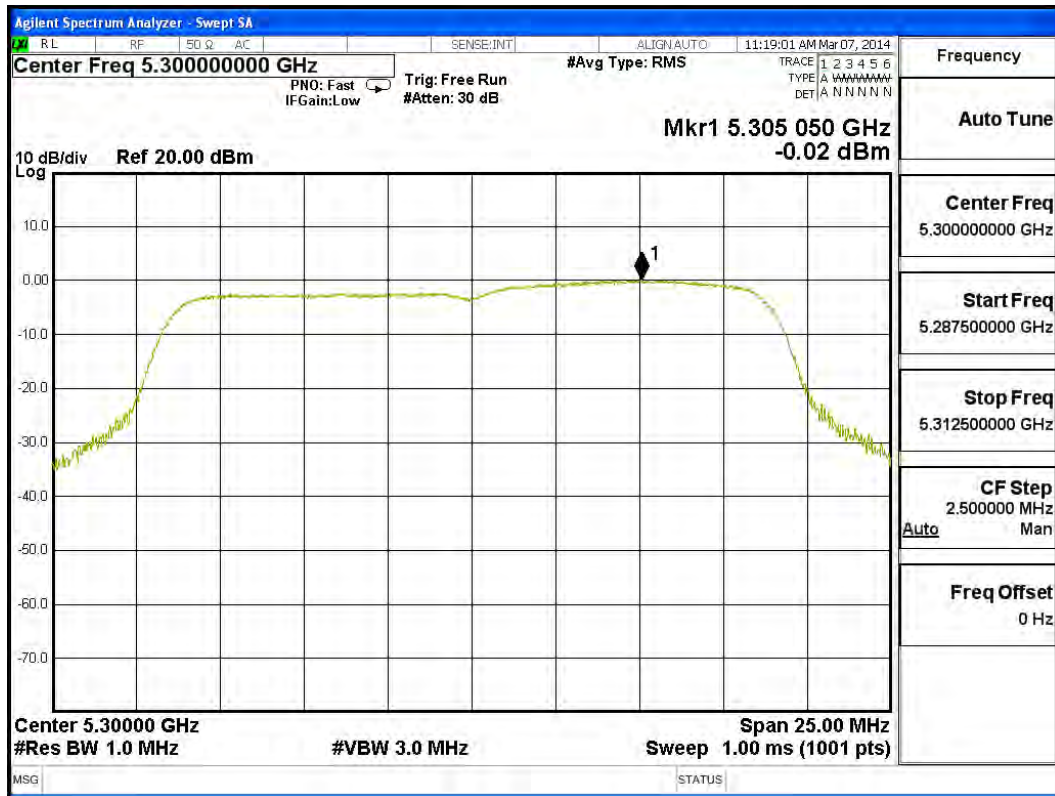
### Channel 48 – Chain A



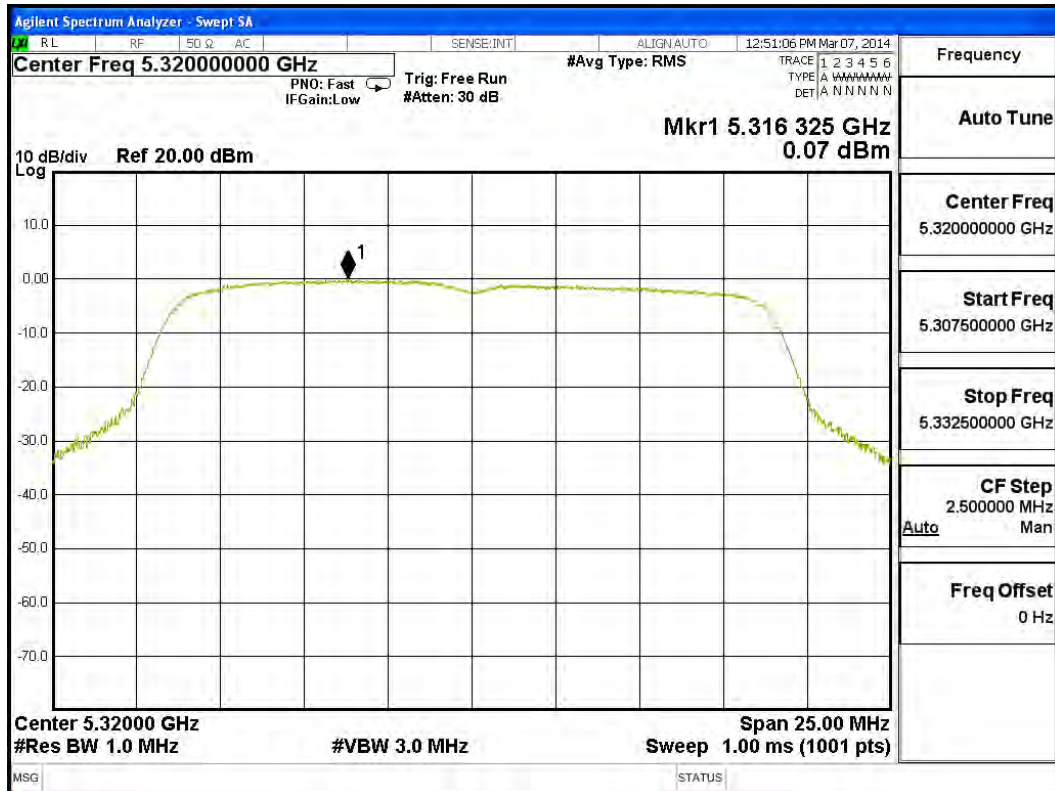
### Channel 52 – Chain A



### Channel 60 – Chain A



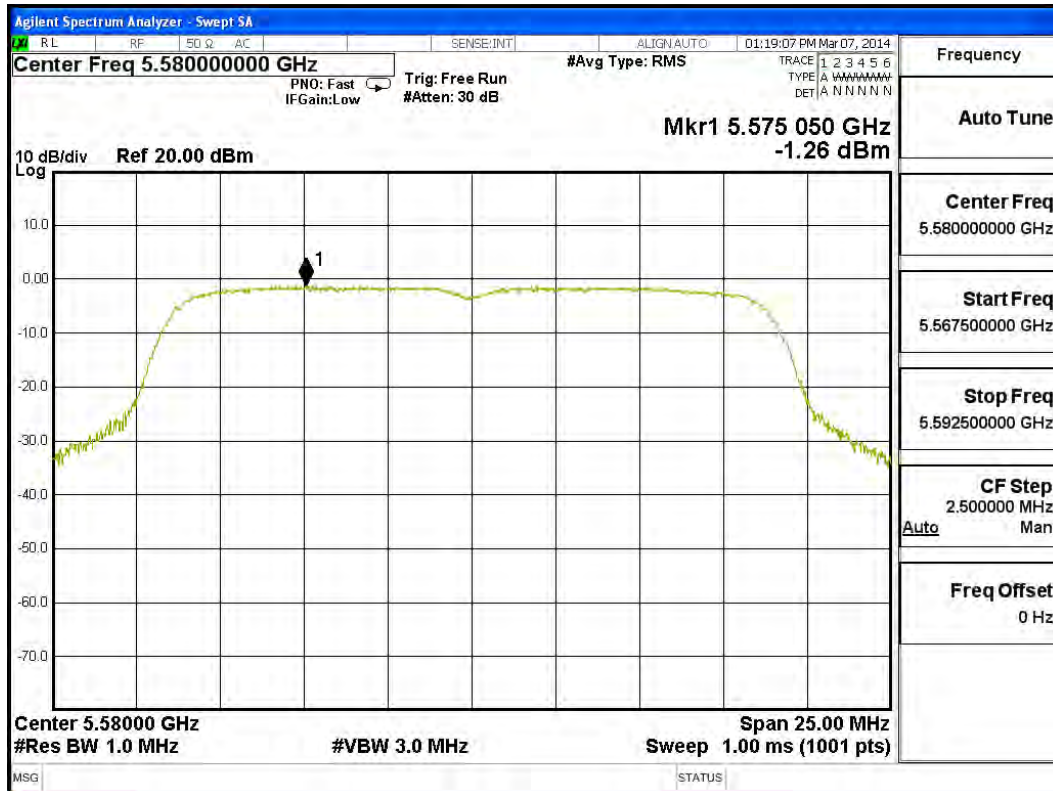
### Channel 64 – Chain A



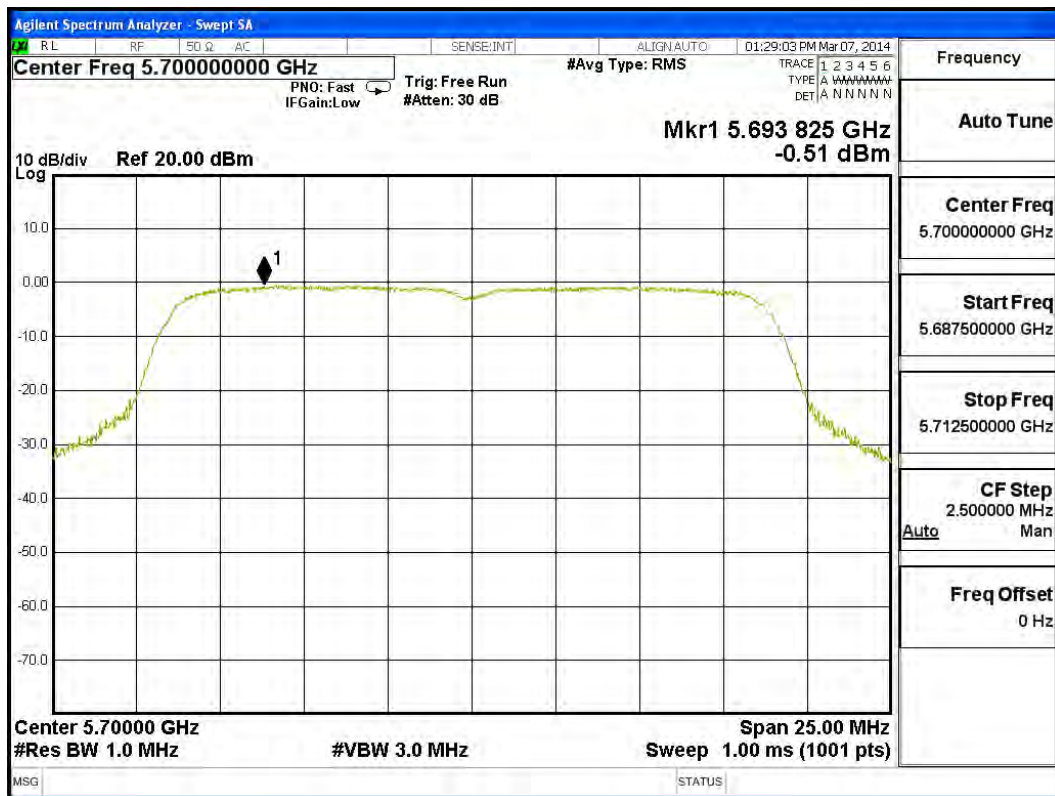
### Channel 100 – Chain A



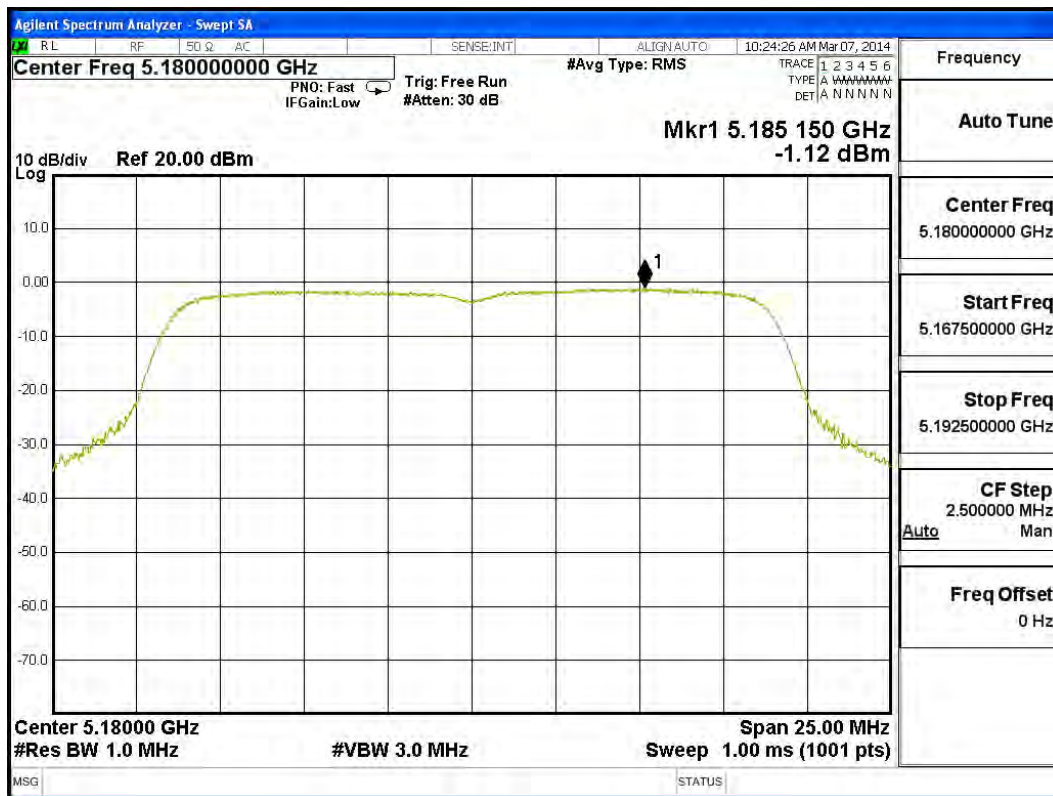
### Channel 116 – Chain A



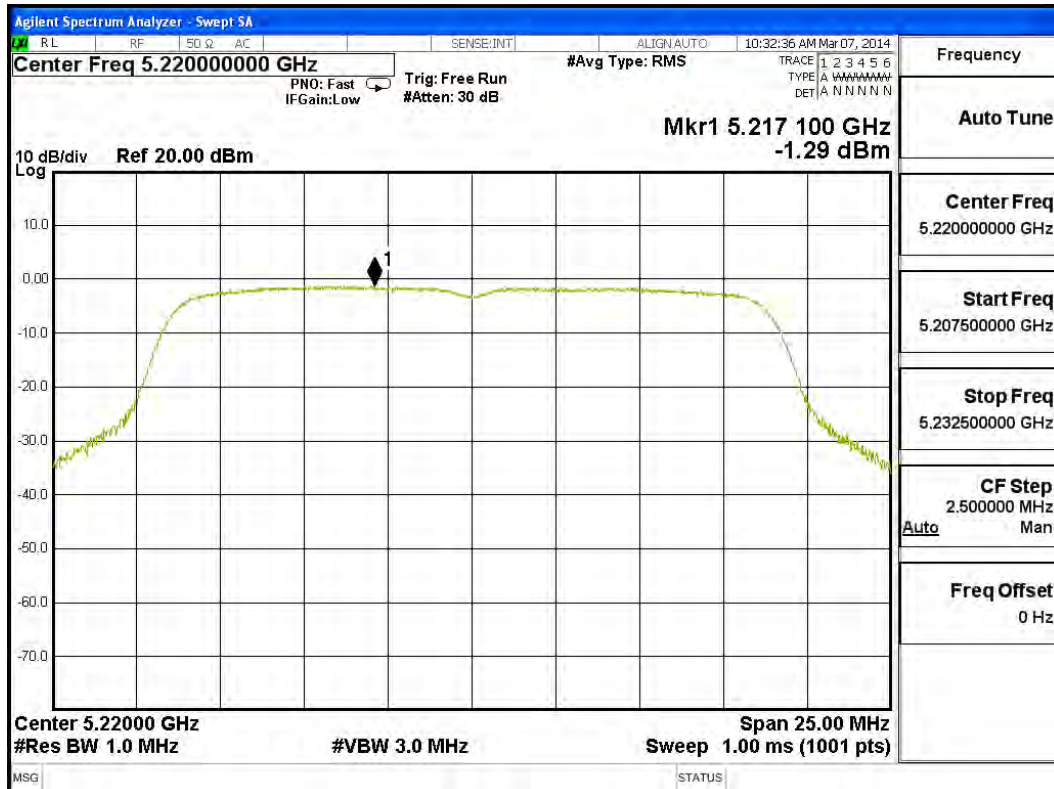
### Channel 140 – Chain A



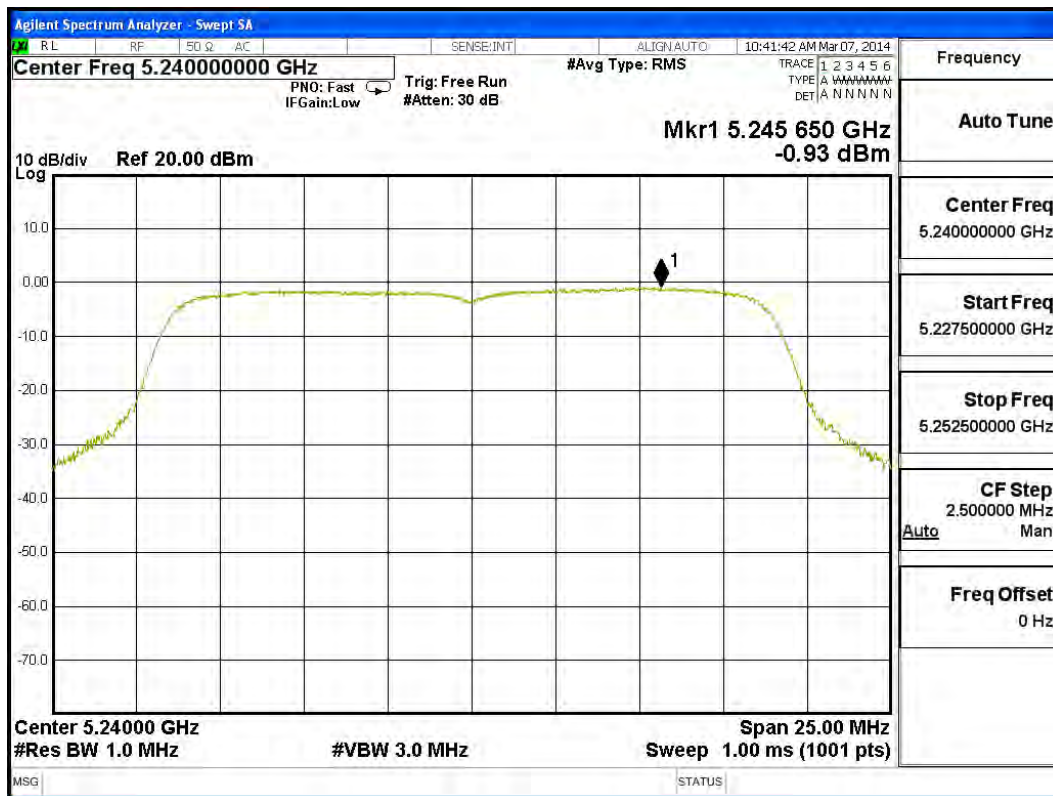
### Channel 36 – Chain B



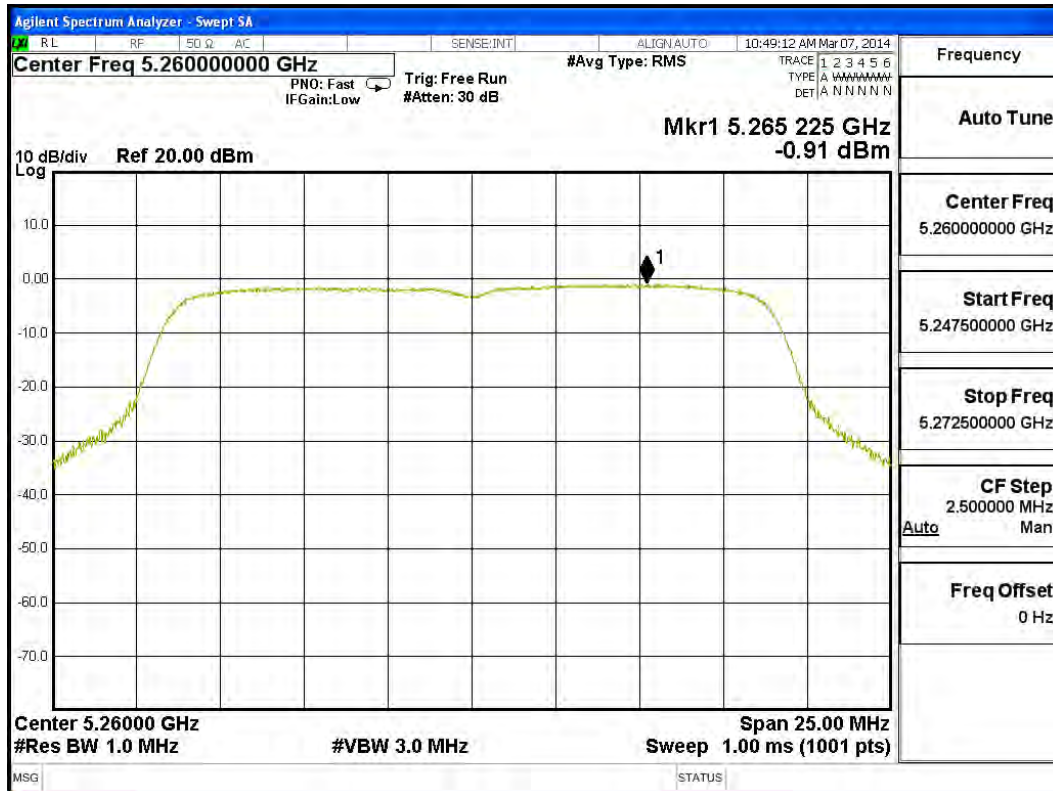
### Channel 44 – Chain B



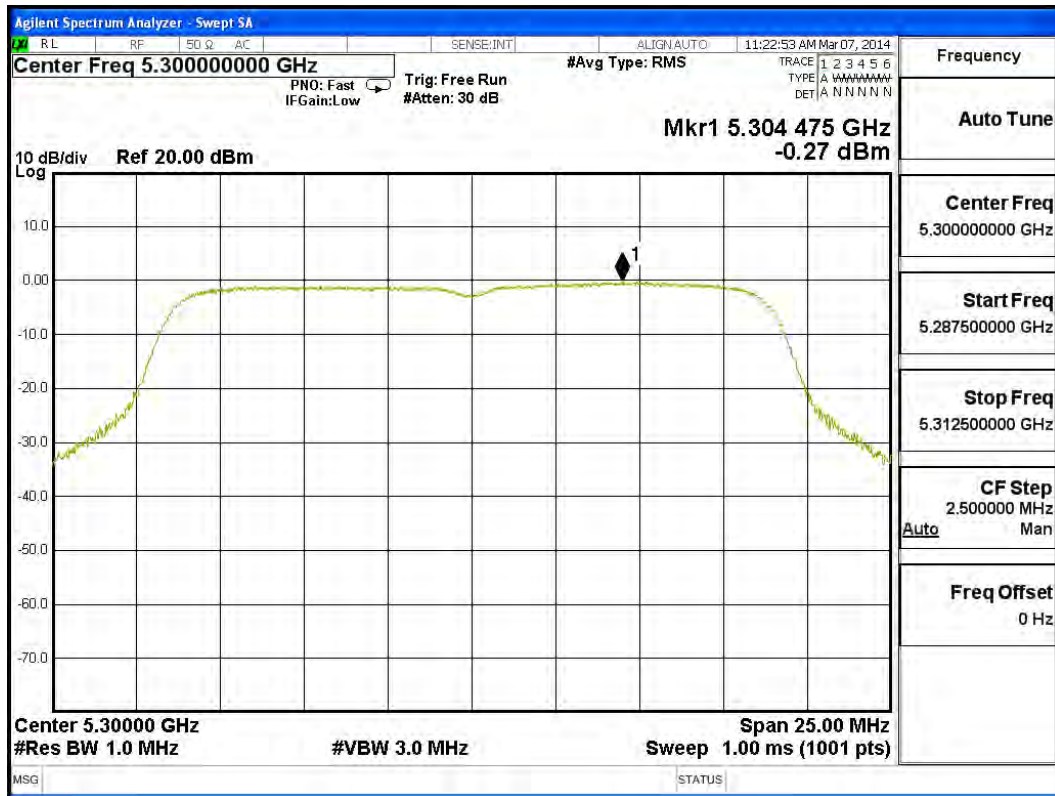
### Channel 48 – Chain B



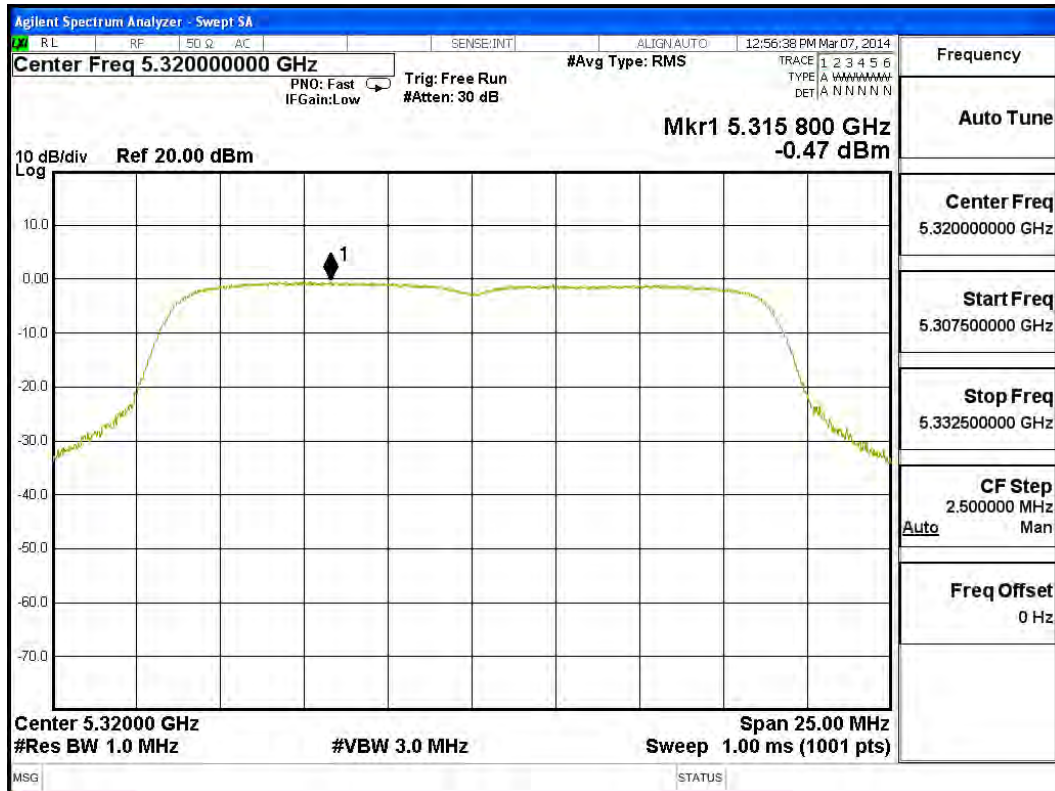
### Channel 52 – Chain B



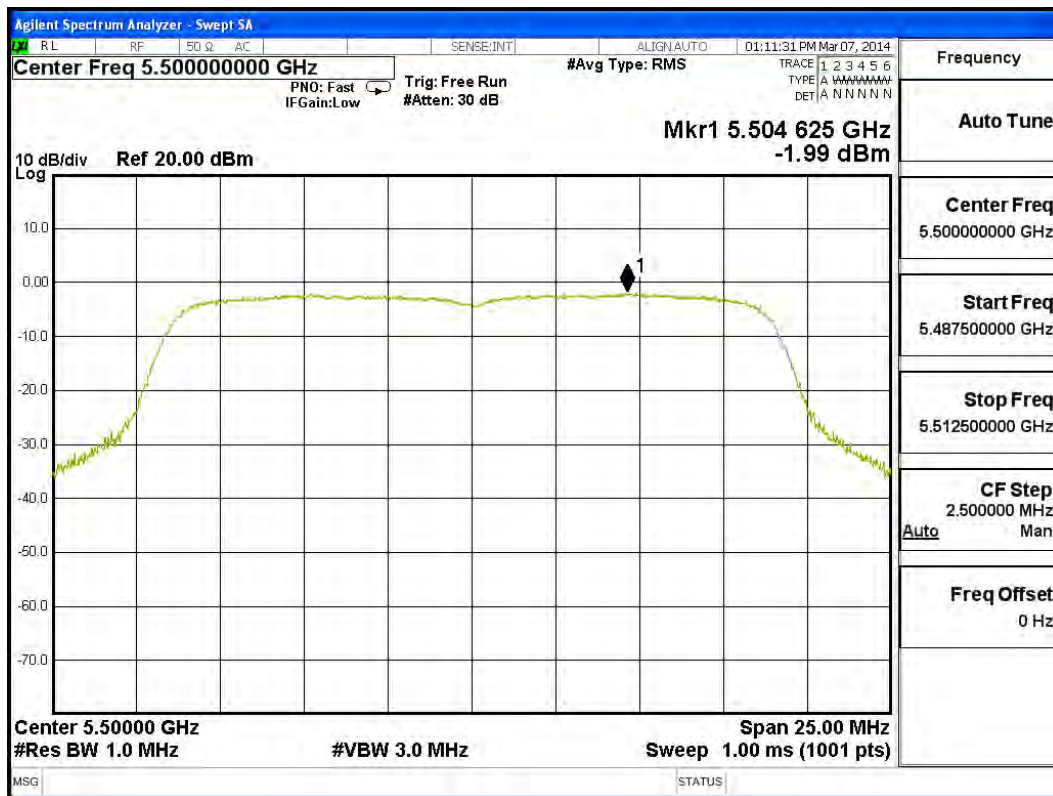
### Channel 60 – Chain B



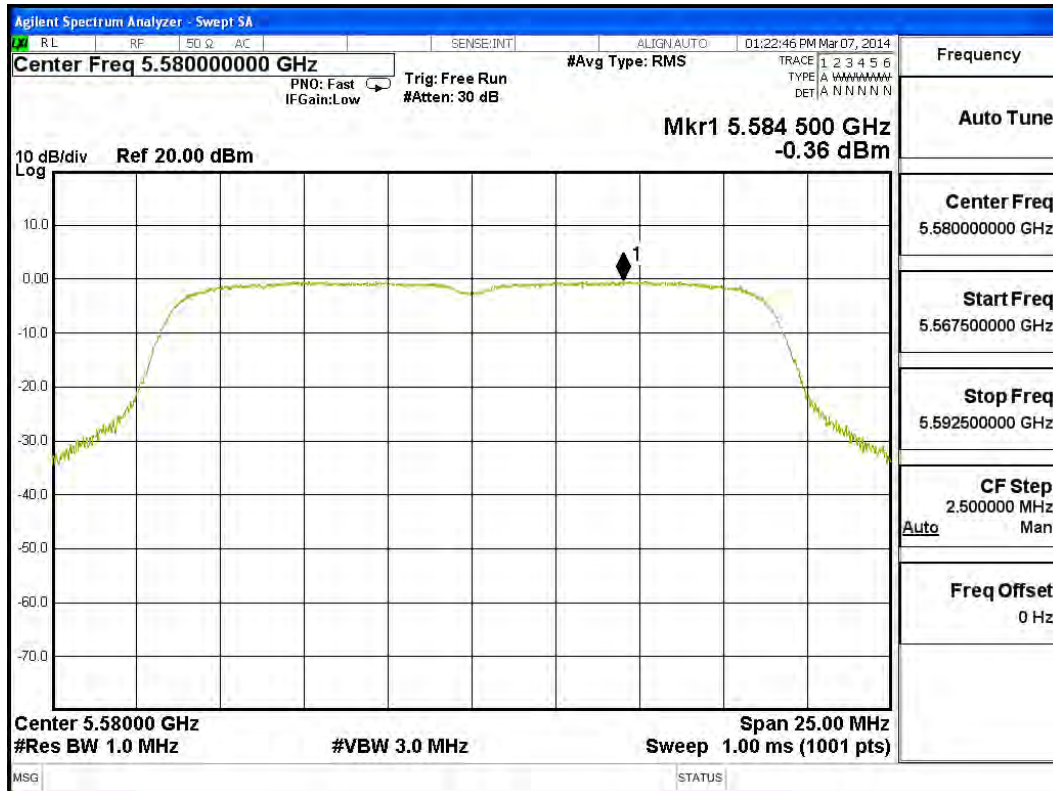
### Channel 64 – Chain B



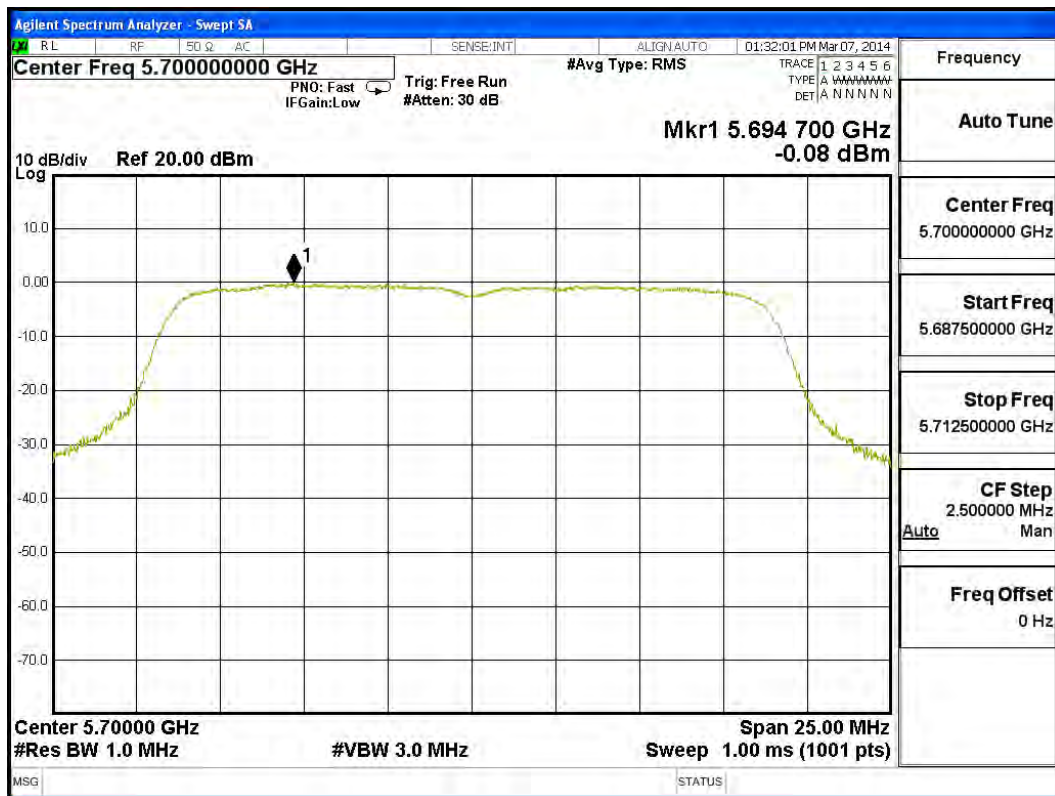
### Channel 100 – Chain B



### Channel 116 – Chain B



### Channel 140 – Chain B

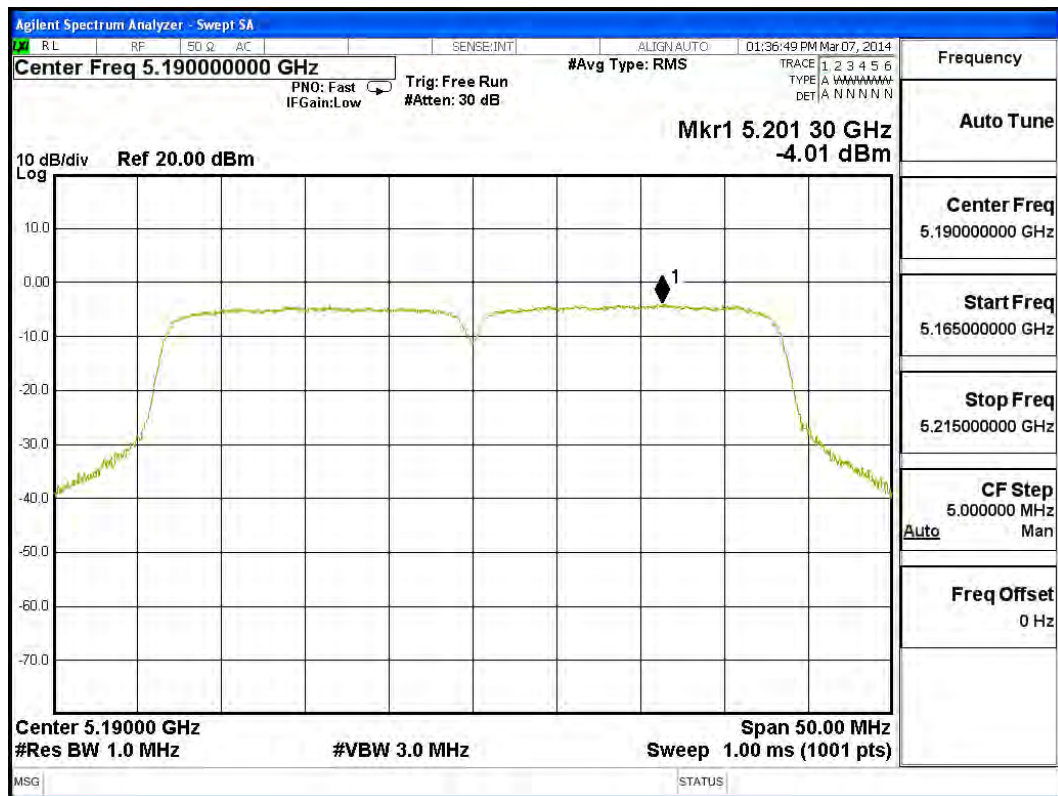


Product : MOXA IEEE 802.11a/b/g/n Wireless  
Test Item : Peak Power Spectral Density  
Test Site : No.3 OATS  
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)

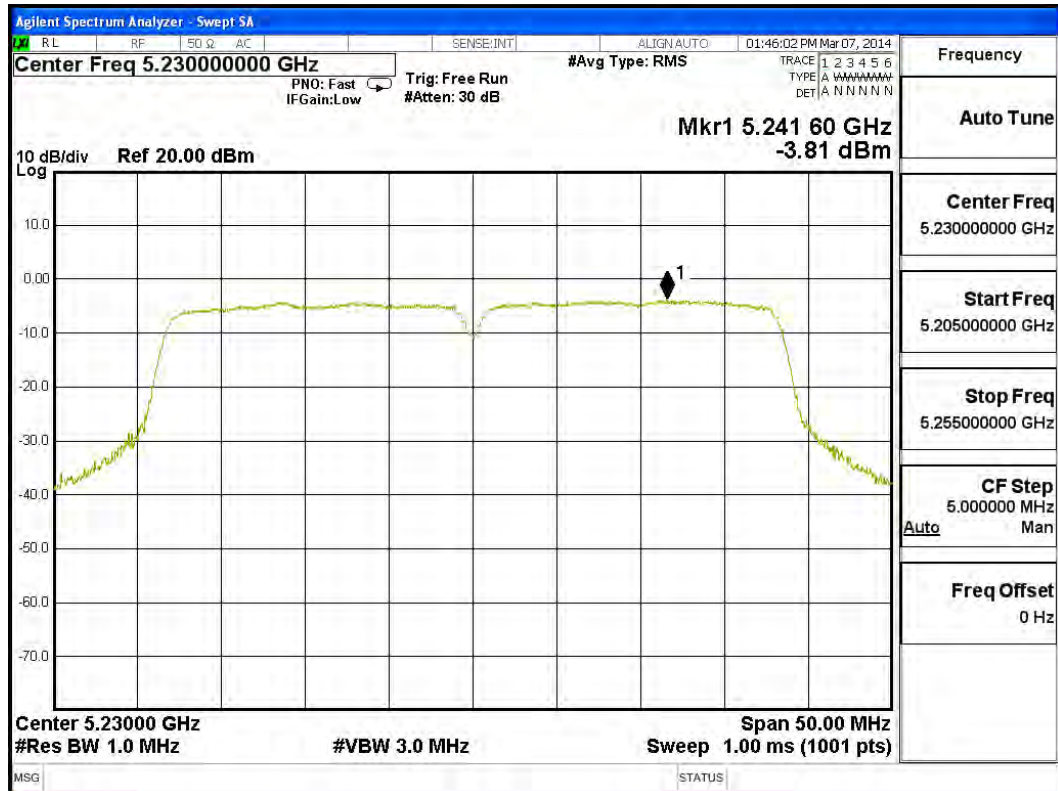
| Channel Number | Frequency (MHz) | Chain | PPSD/MHz (dBm) | Total PPST/MHz (dBm) <sup>1</sup> | Required Limit (dBm) | Result |
|----------------|-----------------|-------|----------------|-----------------------------------|----------------------|--------|
| 38             | 5190            | A     | -4.010         | -1.000                            | 4                    | Pass   |
|                |                 | B     | -4.230         | -1.220                            | 4                    | Pass   |
| 46             | 5230            | A     | -3.810         | -0.800                            | 4                    | Pass   |
|                |                 | B     | -4.630         | -1.620                            | 4                    | Pass   |
| 54             | 5270            | A     | -3.550         | -0.540                            | 11                   | Pass   |
|                |                 | B     | -4.490         | -1.480                            | 11                   | Pass   |
| 62             | 5310            | A     | -3.960         | -0.950                            | 11                   | Pass   |
|                |                 | B     | -4.250         | -1.240                            | 11                   | Pass   |
| 102            | 5510            | A     | -5.200         | -2.190                            | 11                   | Pass   |
|                |                 | B     | -4.600         | -1.590                            | 11                   | Pass   |
| 110            | 5550            | A     | -4.720         | -1.710                            | 11                   | Pass   |
|                |                 | B     | -4.290         | -1.280                            | 11                   | Pass   |
| 134            | 5670            | A     | -4.560         | -1.550                            | 11                   | Pass   |
|                |                 | B     | -3.490         | -0.480                            | 11                   | Pass   |

Note 1: The quantity  $10 \cdot \log 2$  (two antennas) is added to the spectrum peak value according to document 662911 D01.

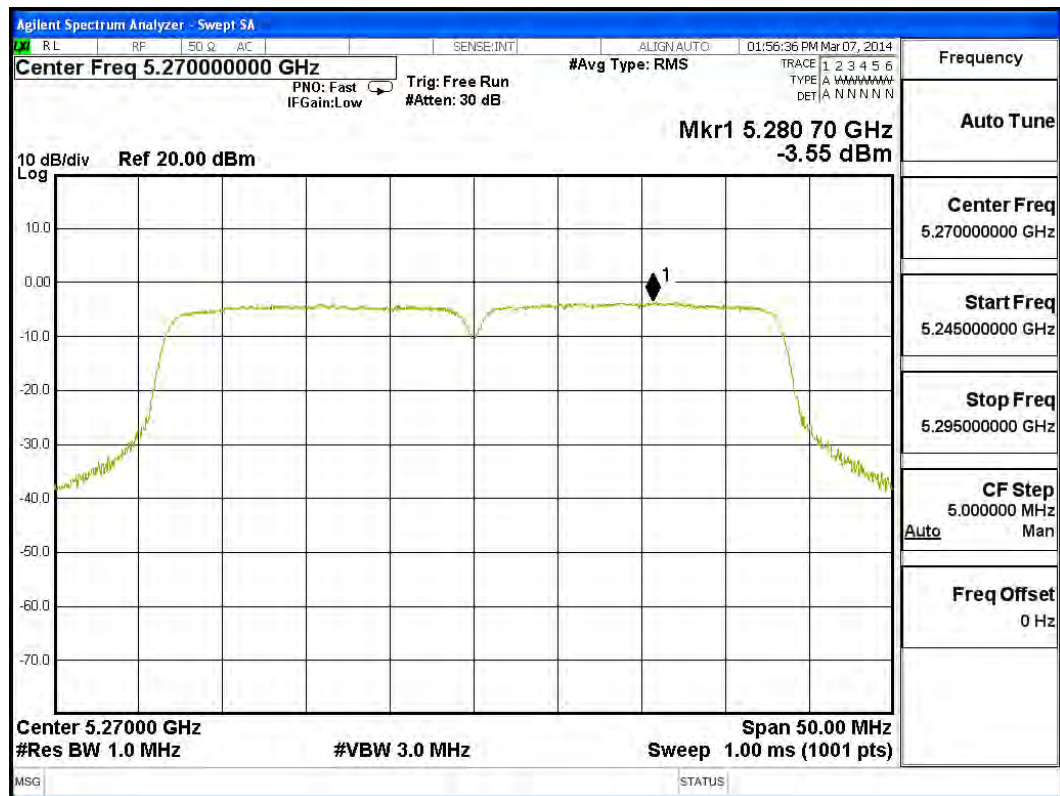
### Channel 38 – Chain A



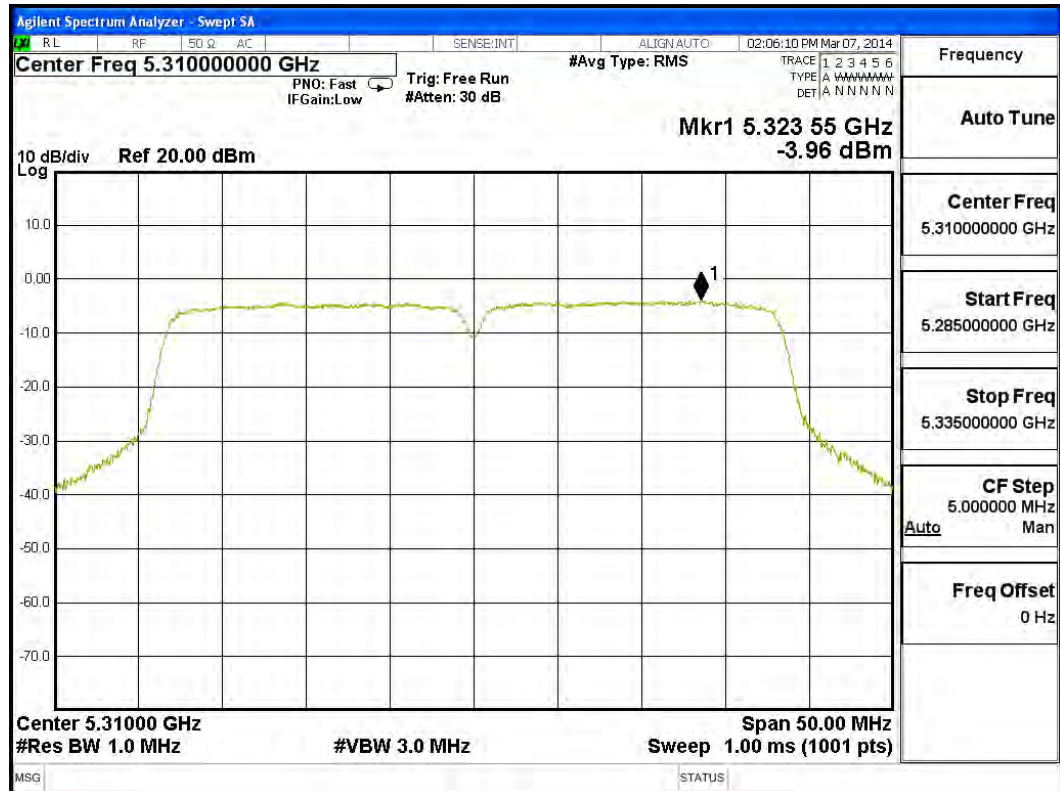
### Channel 46 – Chain A



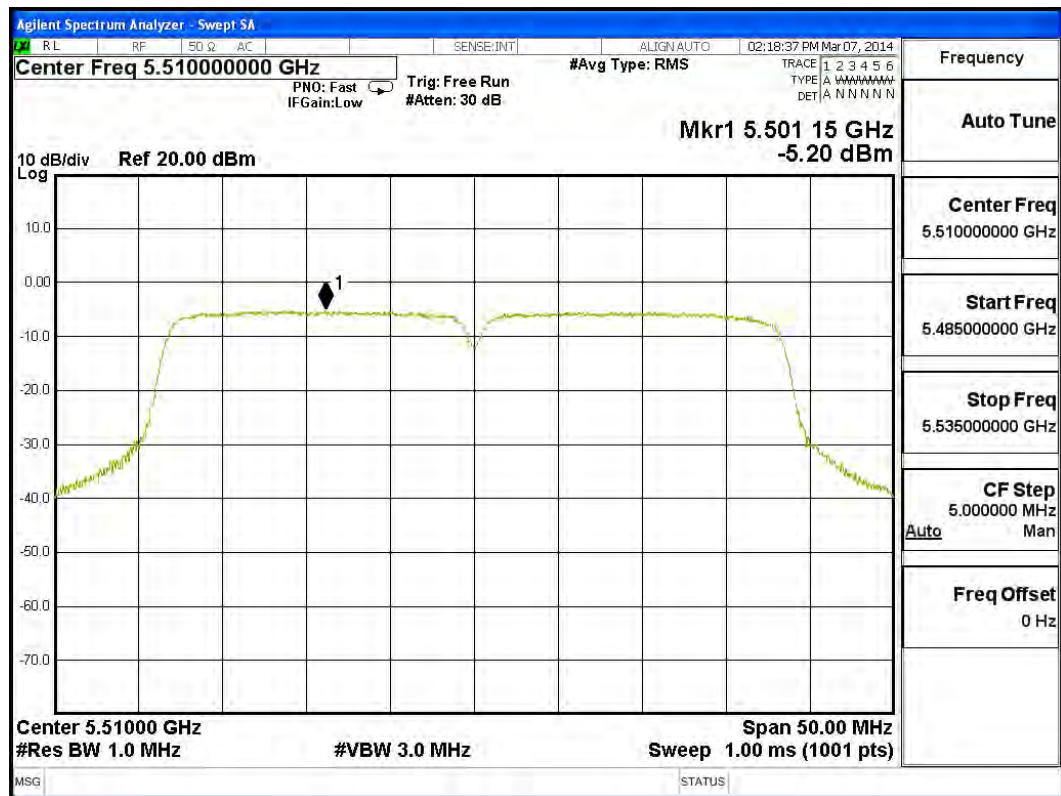
### Channel 54 – Chain A



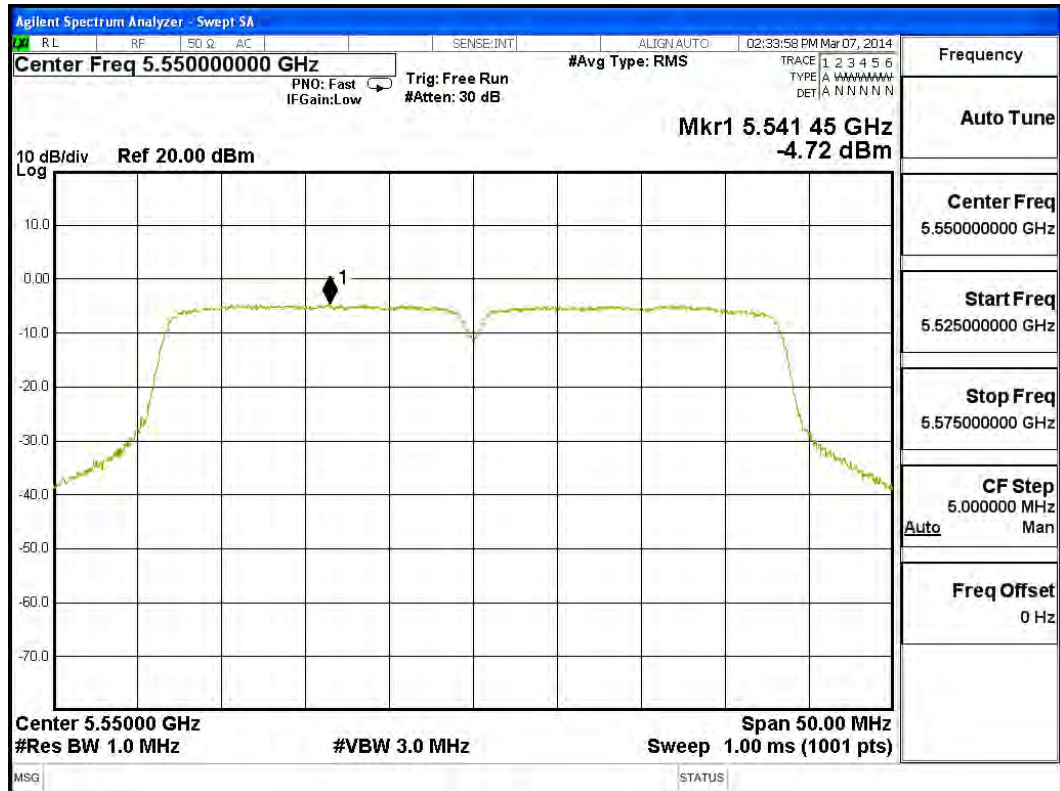
### Channel 62 – Chain A



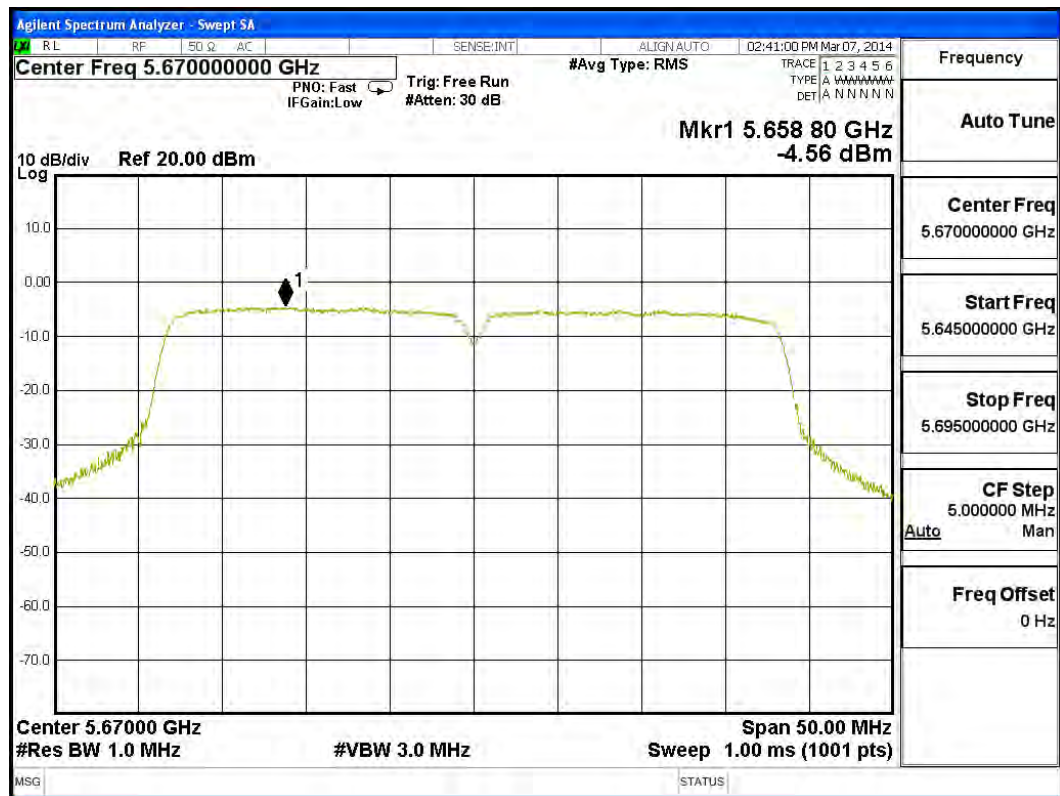
### Channel 102 – Chain A



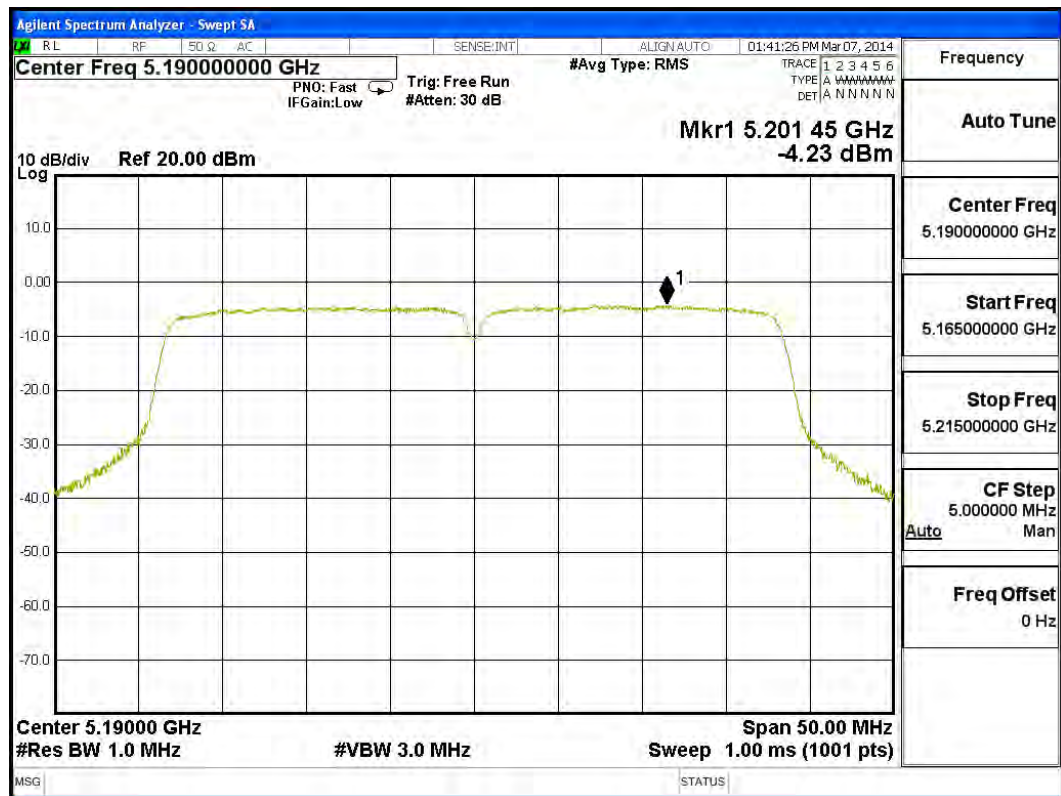
### Channel 110 – Chain A



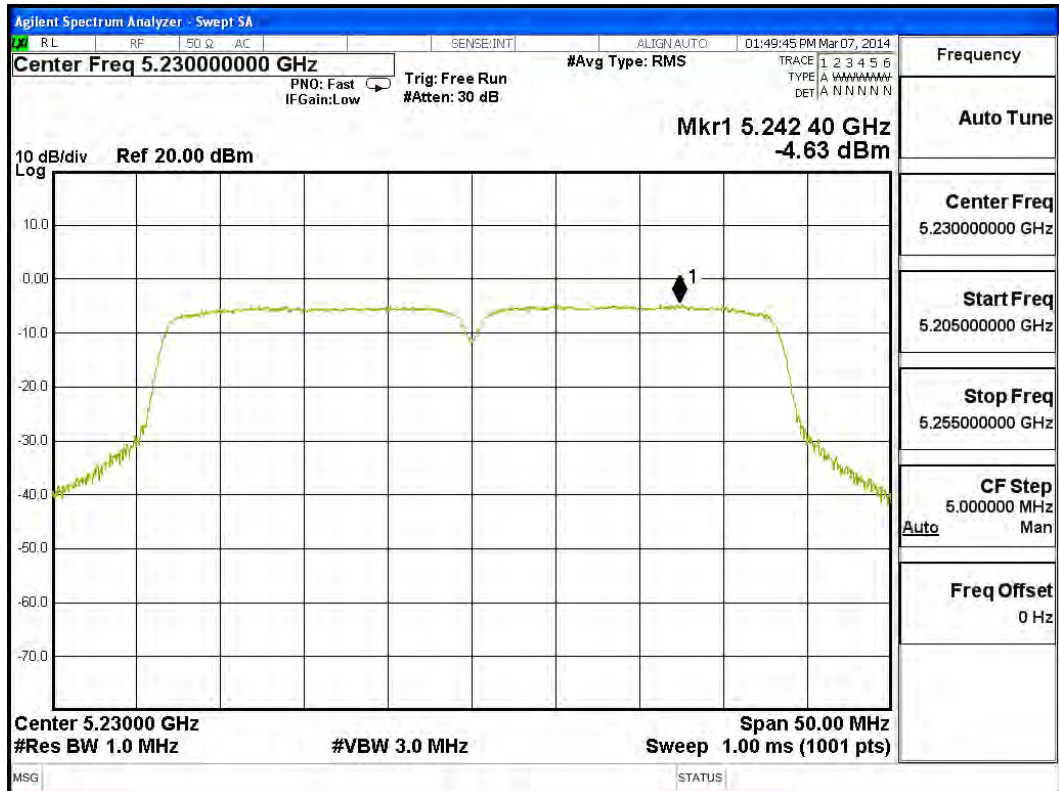
### Channel 134 – Chain A



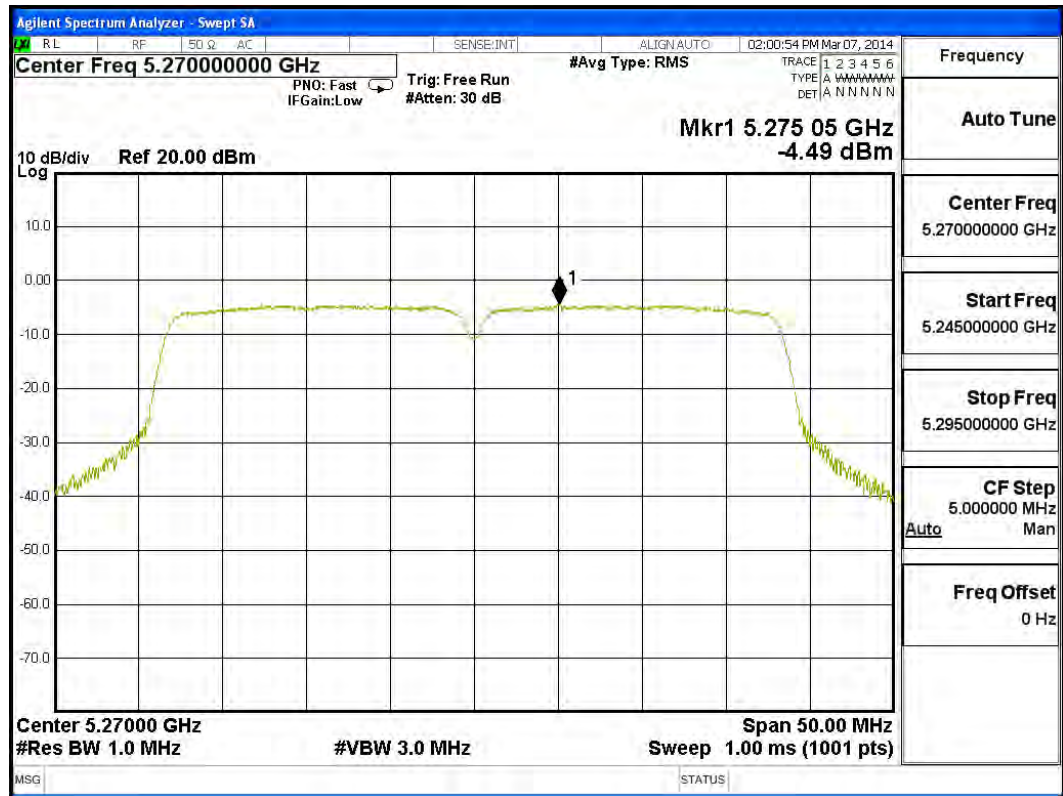
### Channel 38 – Chain B



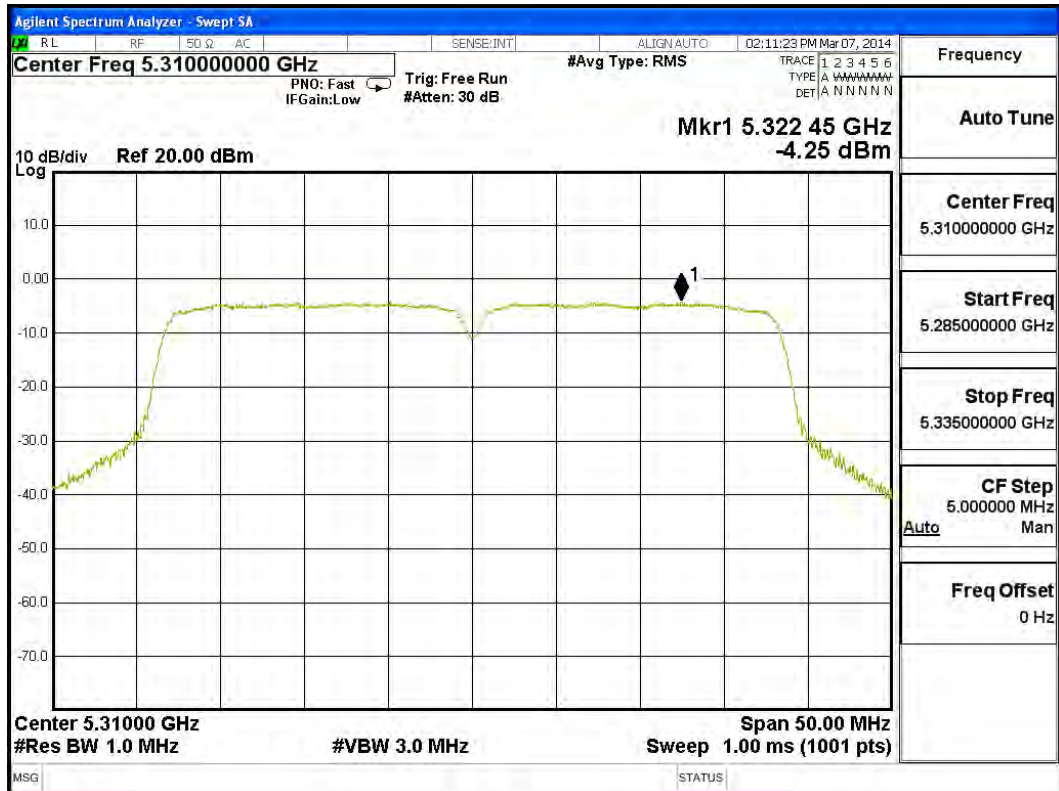
### Channel 46 – Chain B



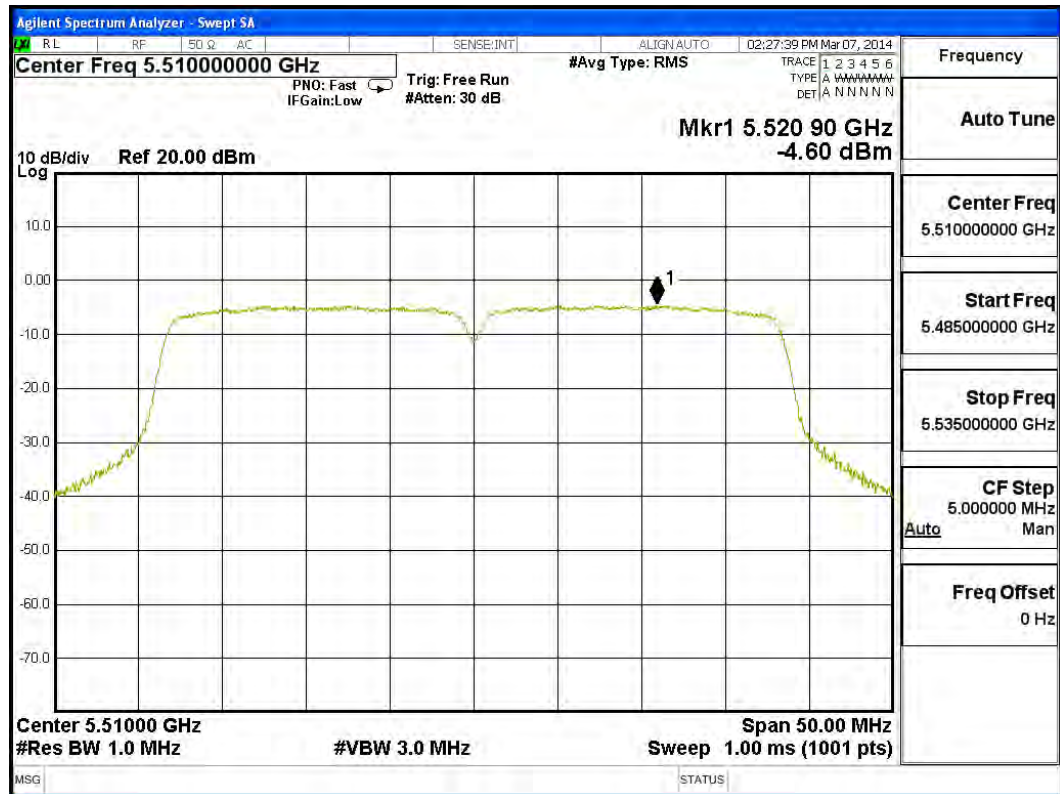
### Channel 54 – Chain B



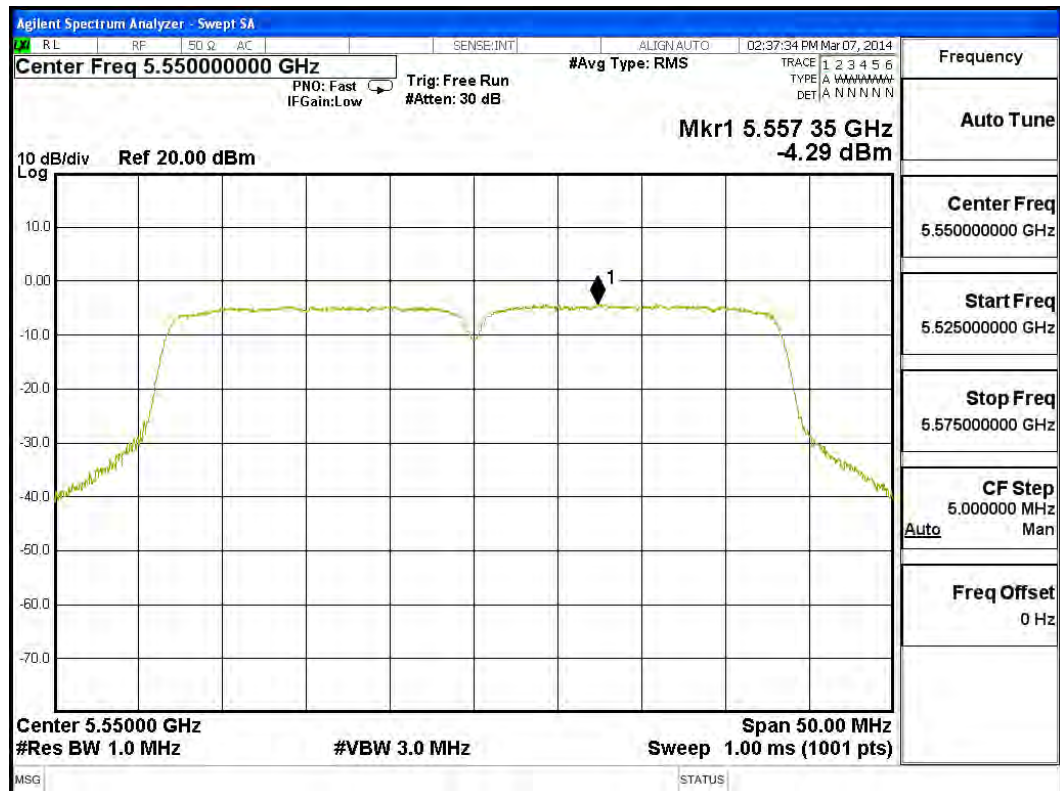
### Channel 62 – Chain B



### Channel 102 – Chain B



### Channel 110 – Chain B



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE/INT ALIGN AUTO 02:44:02 PM Mar 07, 2014

Center Freq 5.670000000 GHz #Avg Type: RMS

PNO: Fast Trig: Free Run  
IF Gain: Low #Atten: 30 dB

Mkr1 5.658 10 GHz  
-3.49 dBm

10 dB/div Ref 20.00 dBm

Log

Center Freq 5.670000000 GHz

Start Freq 5.645000000 GHz

Stop Freq 5.695000000 GHz

CF Step 5.000000 MHz

Auto Man

Freq Offset 0 Hz

Center 5.67000 GHz Span 50.00 MHz

#Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.00 ms (1001 pts)

MSG STATUS

## 5. Peak Excursion

### 5.1. Test Equipment

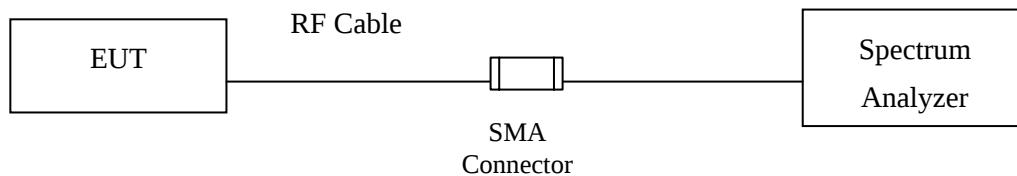
|   | Equipment         | Manufacturer | Model No./Serial No. | Last Cal.  |
|---|-------------------|--------------|----------------------|------------|
|   | Spectrum Analyzer | R&S          | FSP40 / 100170       | Jun., 2013 |
|   | Spectrum Analyzer | Agilent      | E4407B / US39440758  | Jun., 2013 |
| X | Spectrum Analyzer | Agilent      | N9010A / MY48030495  | Apr., 2013 |

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

### 5.2. Test Setup

#### Conduction Power Measurement



### 5.3. Limits

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

#### 5.4. Test Procedure

The EUT was setup to ANSI C63.10, 2009; tested to DTS test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

Step 1: Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth.

Step 2: Find the maximum of the peak-max-hold spectrum.

(Set RBW = 1 MHz, VBW  $\geq$  3 MHz, Detector = peak, Trace mode = max-hold,  
Allow the sweeps to continue until the trace stabilizes, Use the peak search function to  
find the peak of the spectrum.)

Step 3: Use the procedure found under KDB-789033 F) to measure the PPSD.

Step 4: Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

#### 5.5. Uncertainty

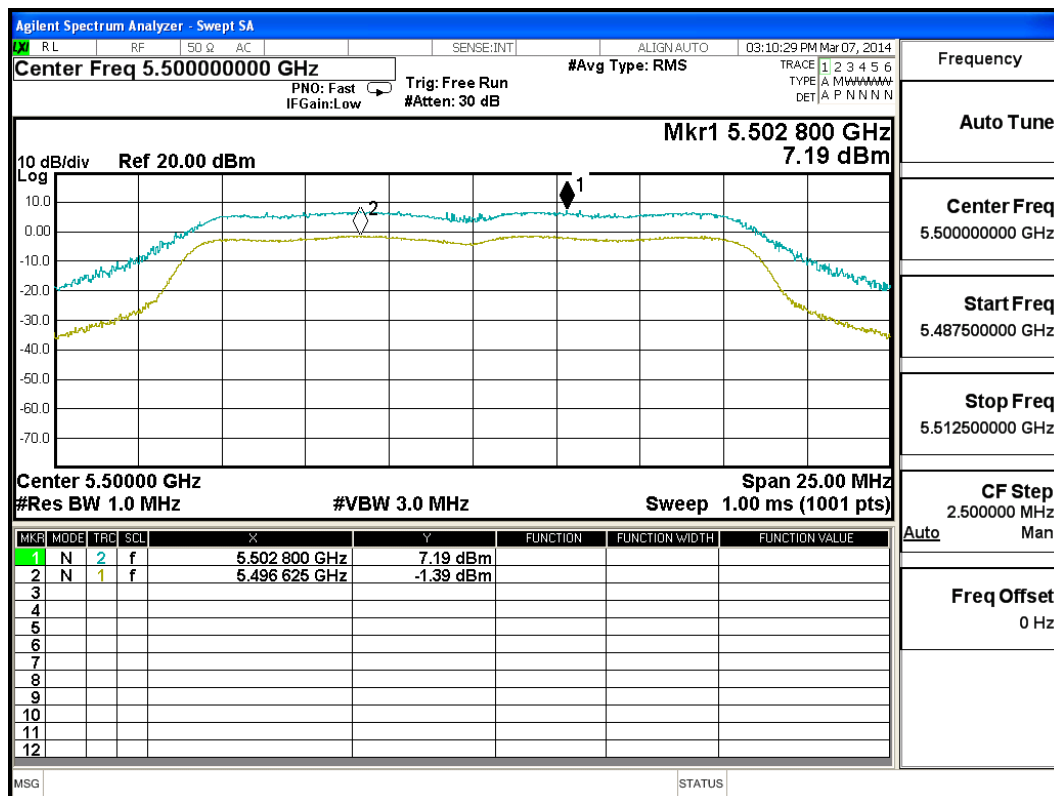
$\pm 1.27$  dB

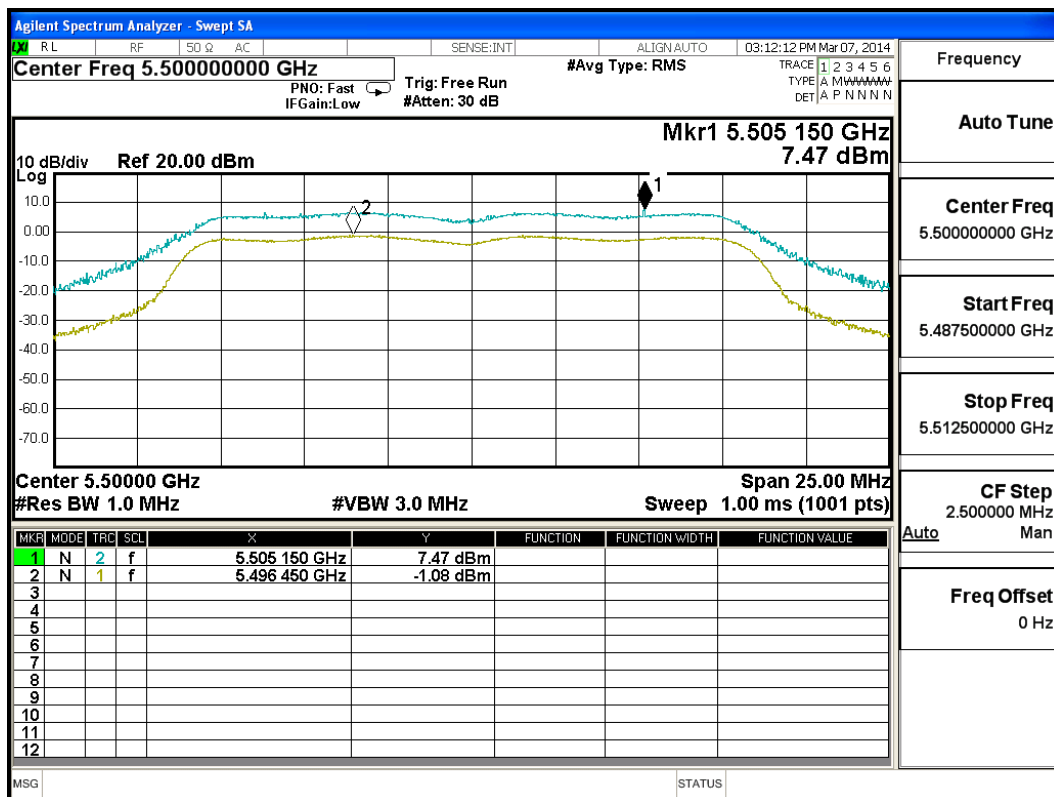
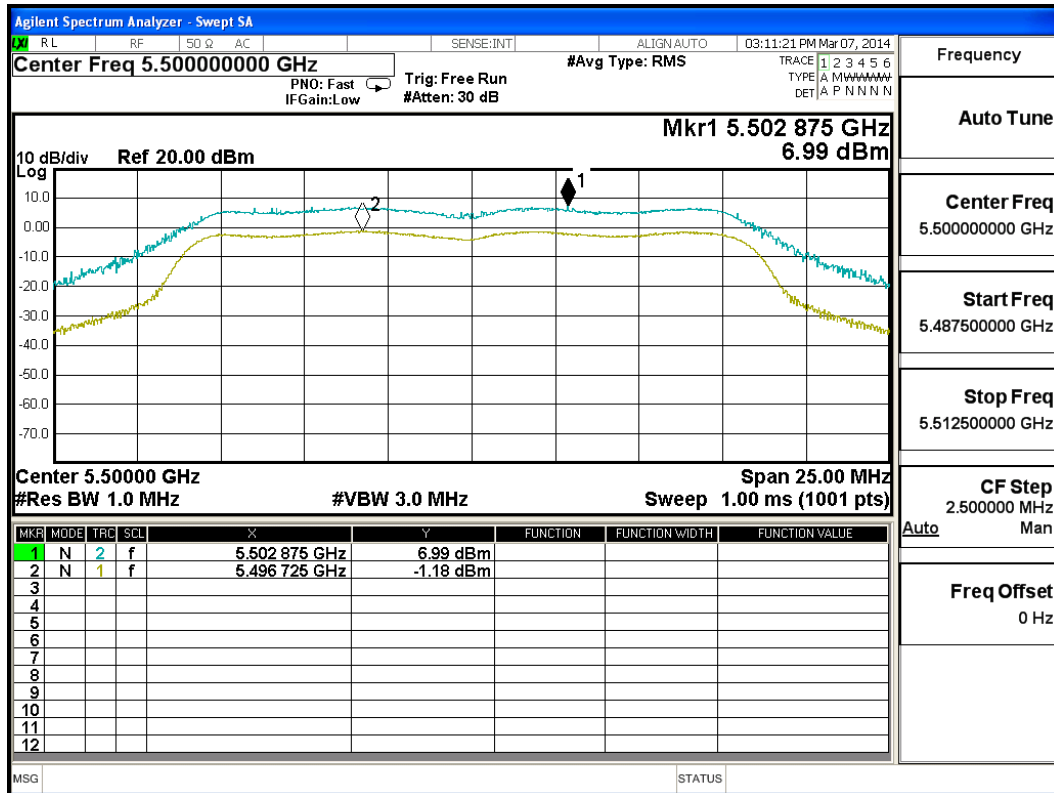
## 5.6. Test Result of Peak Excursion

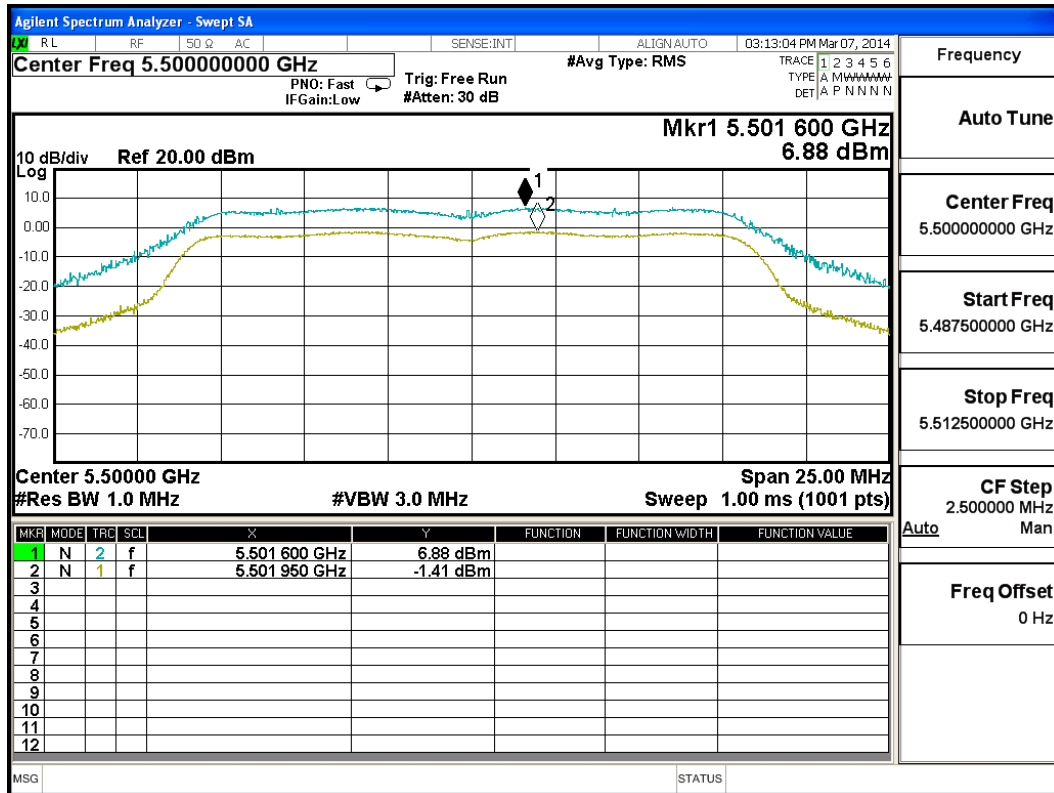
Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Peak Excursion  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)

| Channel No. | Frequency (MHz) | Data Rate (Mbps) | Measurement Level (dB) | Required Limit (dB) | Result |
|-------------|-----------------|------------------|------------------------|---------------------|--------|
| 100         | 5500            | MCS (0)          | 8.580                  | <13                 | Pass   |
|             |                 | MCS (2)          | 8.170                  | <13                 | Pass   |
|             |                 | MCS (4)          | 8.550                  | <13                 | Pass   |
|             |                 | MCS (7)          | 8.290                  | <13                 | Pass   |

Channel 100:





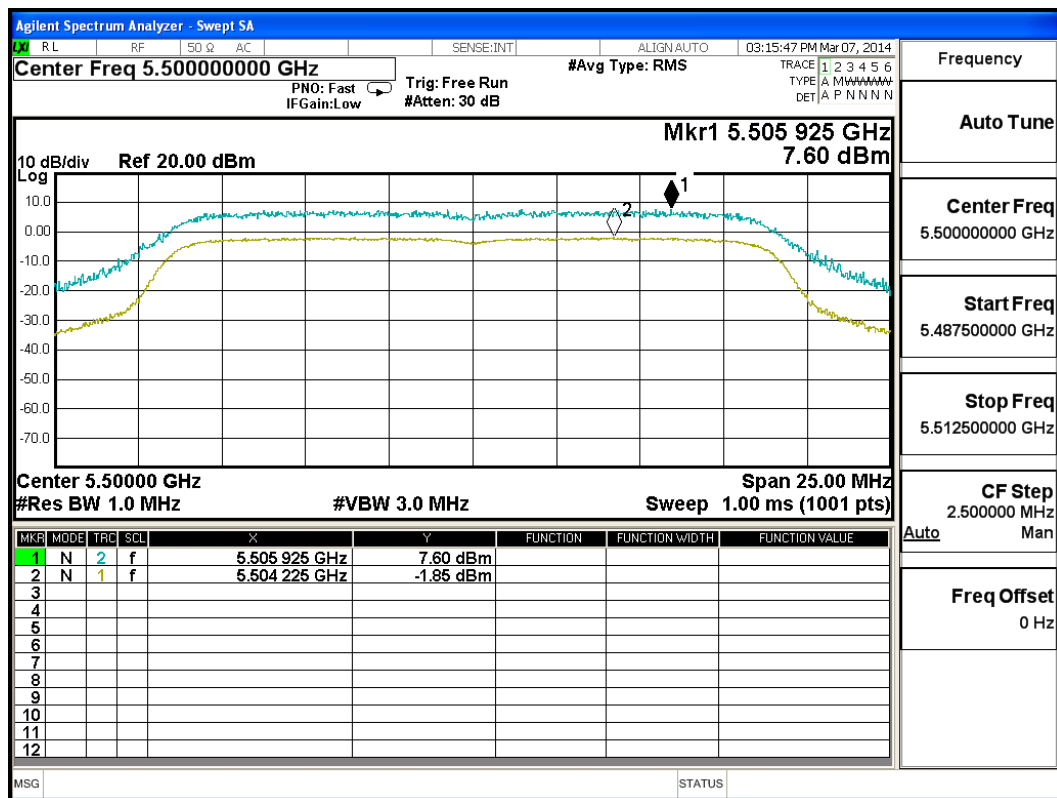


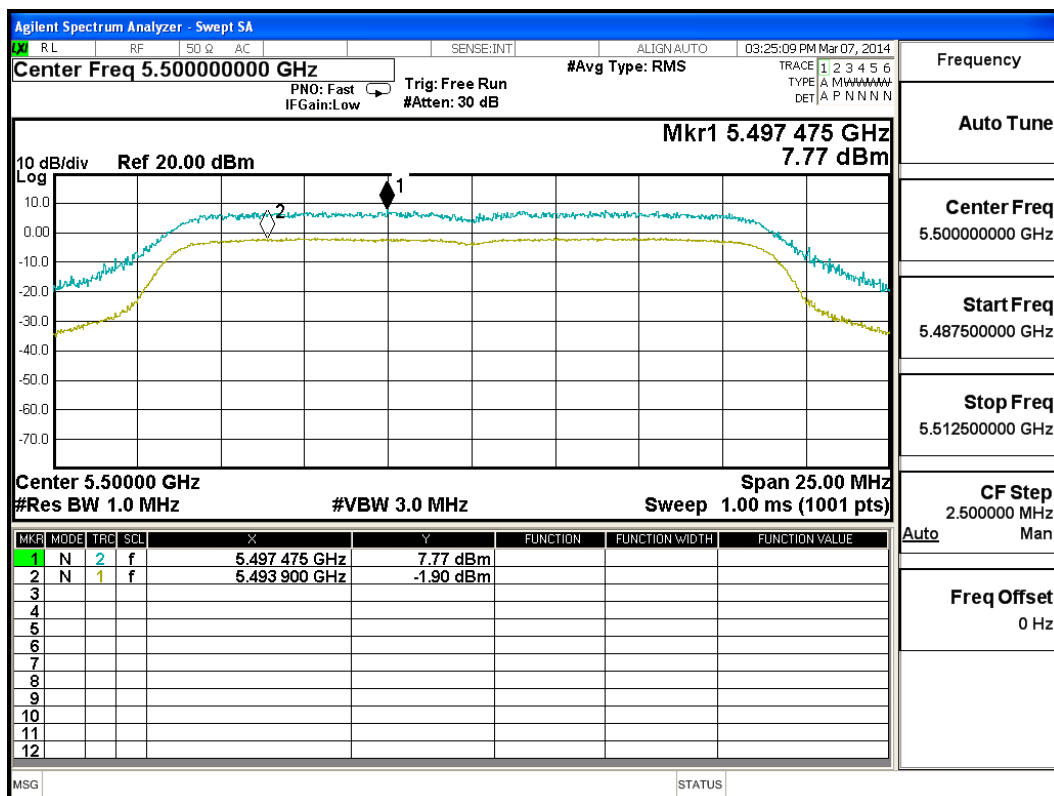
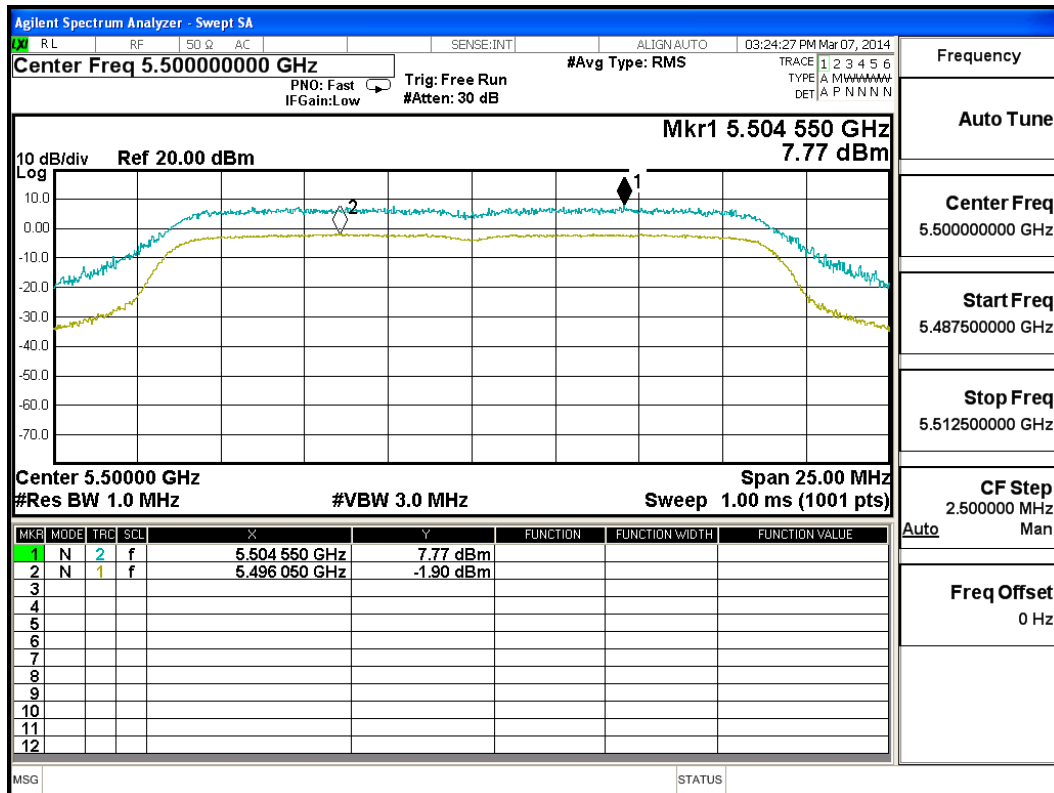
Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Peak Excursion  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)

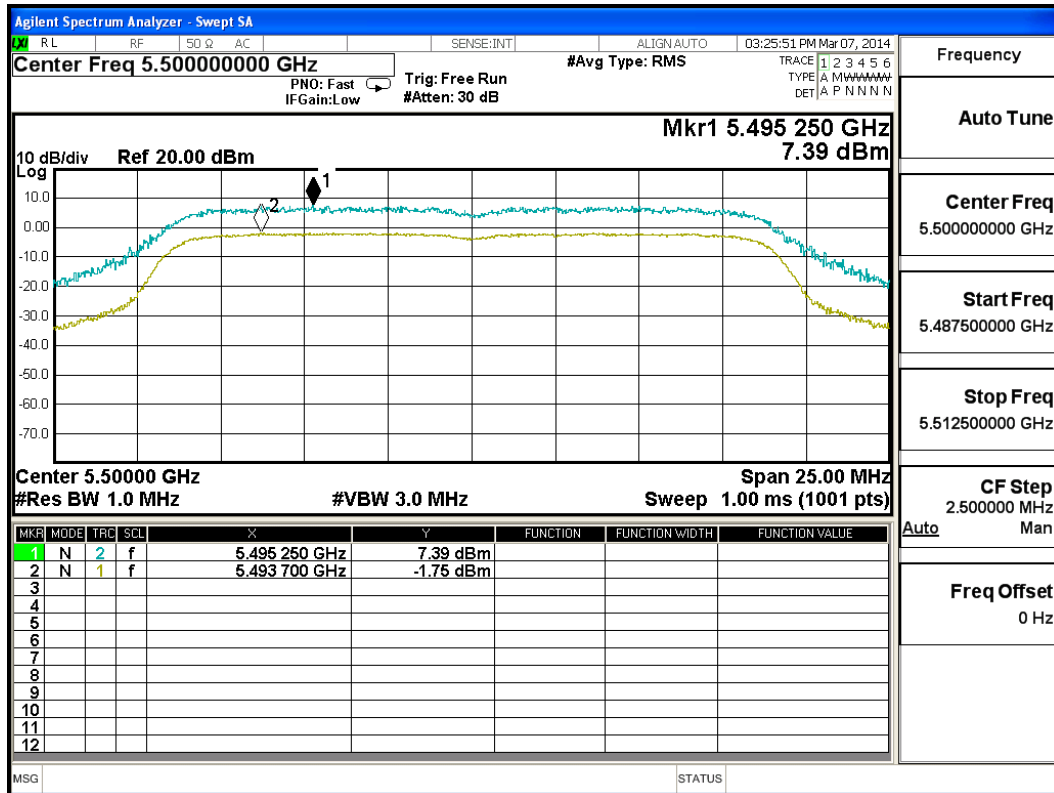
### Chain A

| Channel No. | Frequency (MHz) | Data Rate (Mbps) | Measurement Level (dB) | Required Limit (dB) | Result |
|-------------|-----------------|------------------|------------------------|---------------------|--------|
| 100         | 5500            | MCS (0)          | 9.450                  | <13                 | Pass   |
|             |                 | MCS (2)          | 9.670                  | <13                 | Pass   |
|             |                 | MCS (4)          | 9.670                  | <13                 | Pass   |
|             |                 | MCS (7)          | 9.140                  | <13                 | Pass   |

### Channel 100:



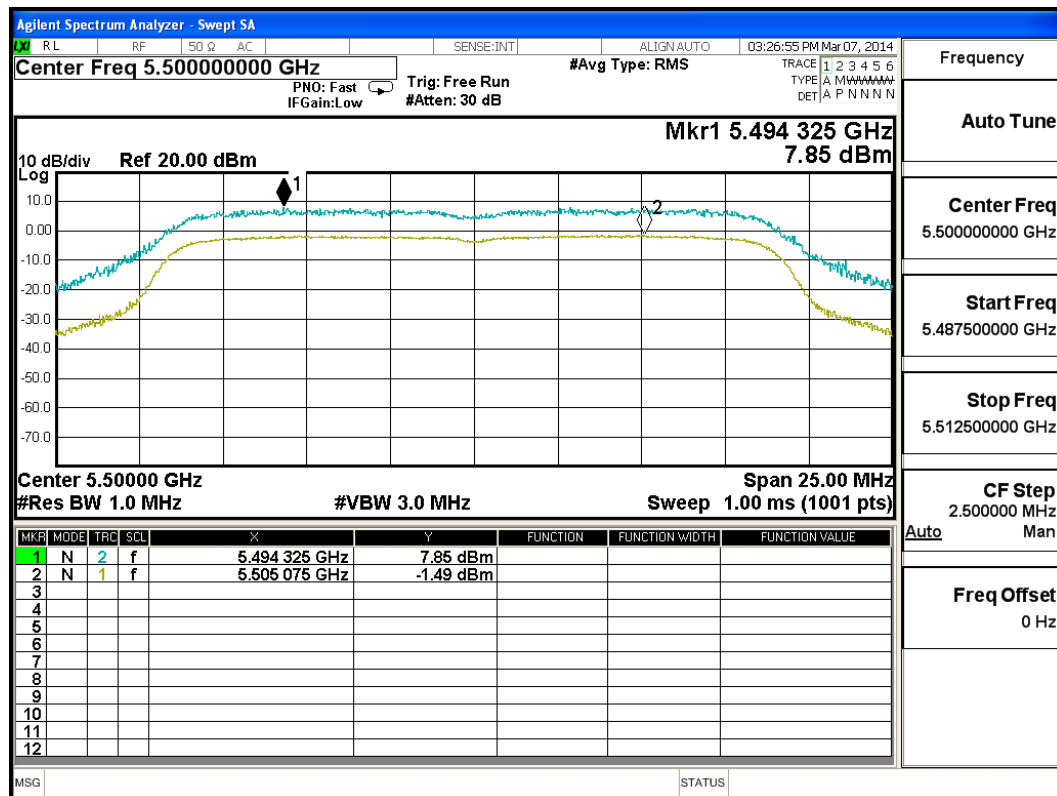


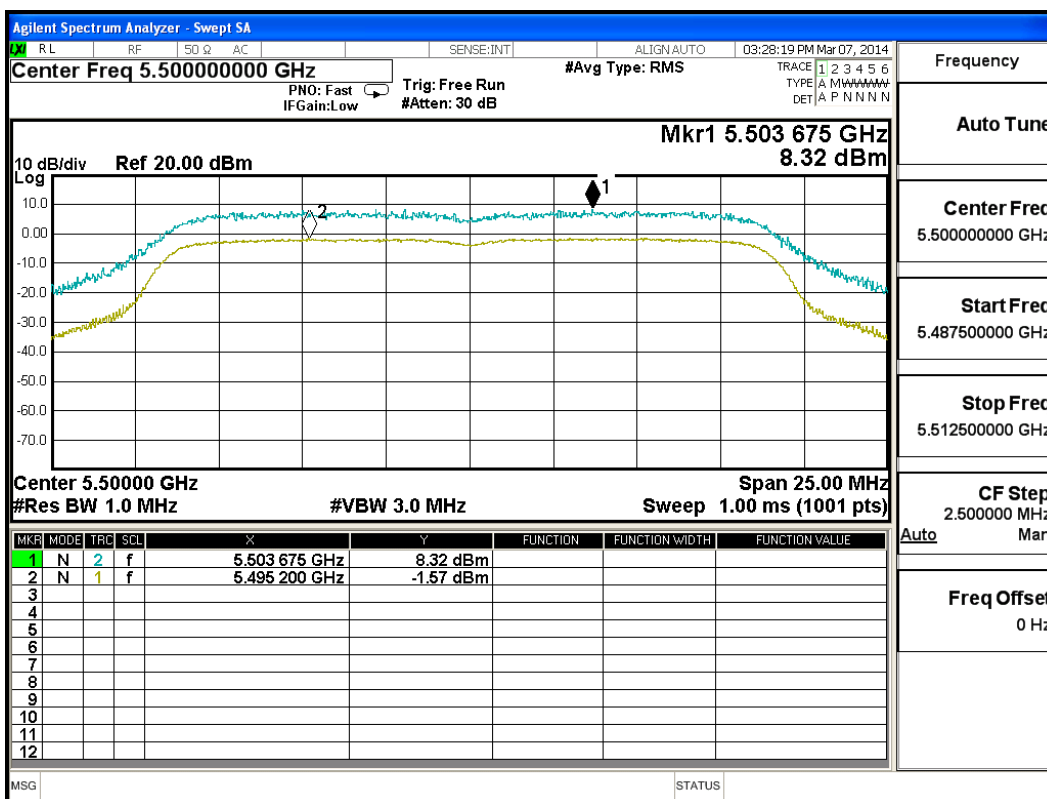
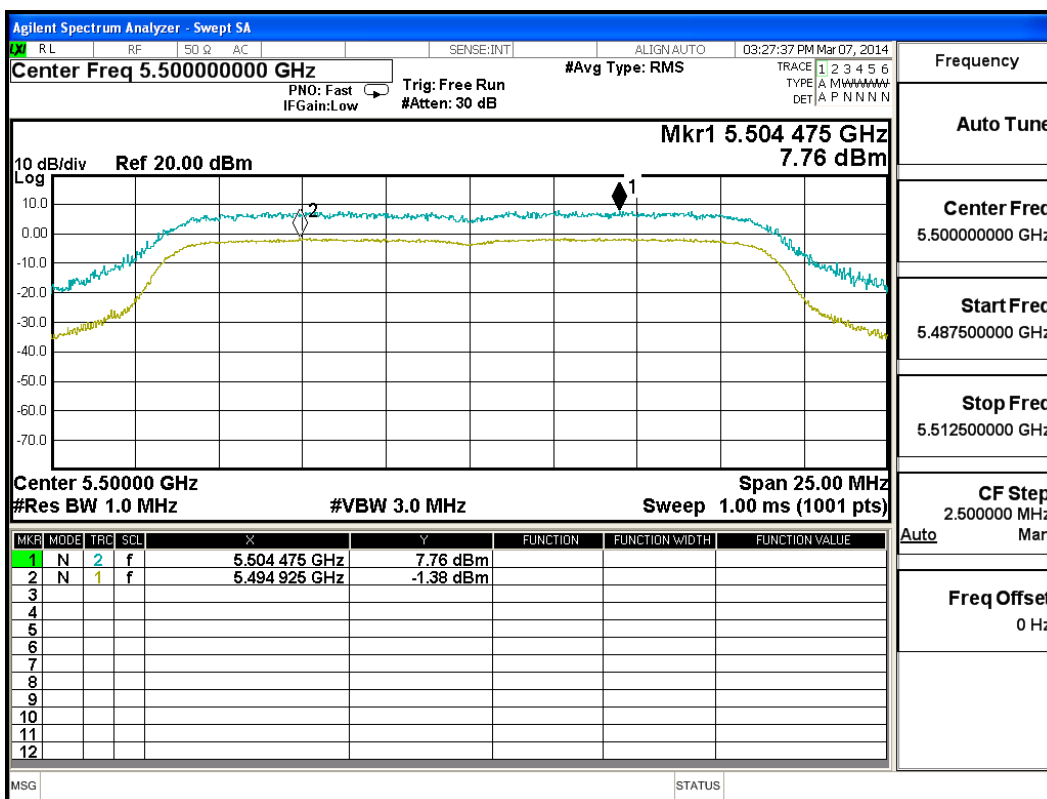


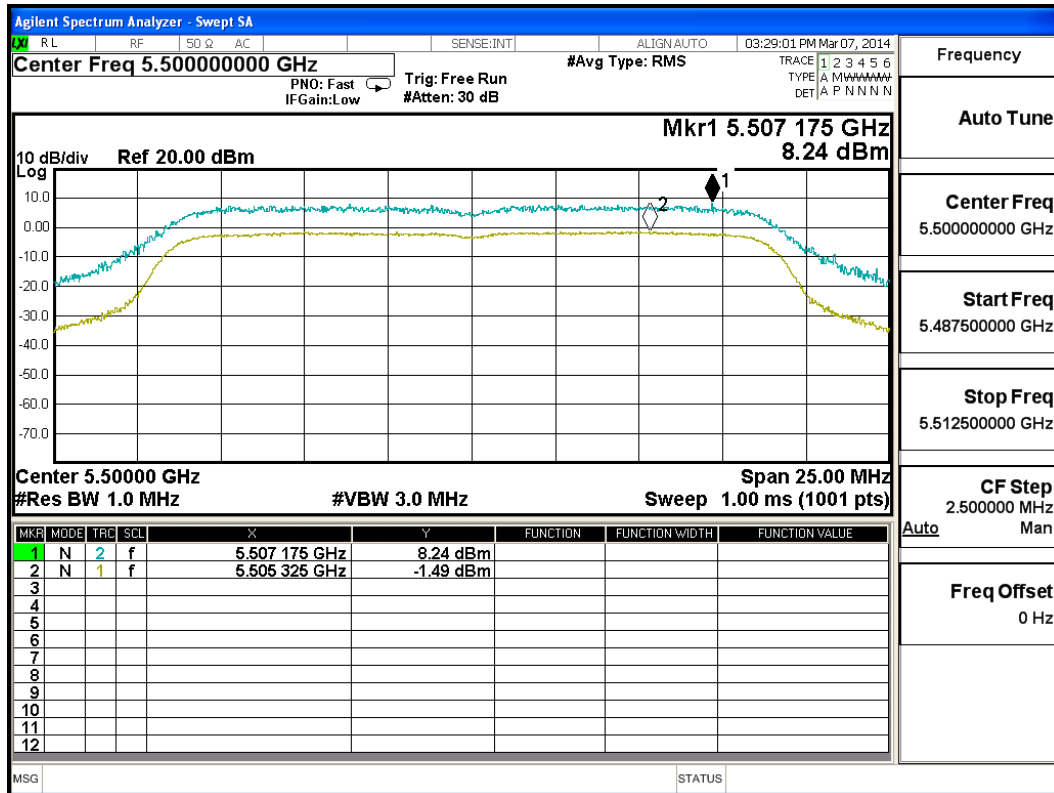
### Chain B

| Channel No. | Frequency (MHz) | Data Rate (Mbps) | Measurement Level (dB) | Required Limit (dB) | Result |
|-------------|-----------------|------------------|------------------------|---------------------|--------|
| 100         | 5500            | MCS (0)          | 9.340                  | <13                 | Pass   |
|             |                 | MCS (2)          | 9.140                  | <13                 | Pass   |
|             |                 | MCS (4)          | 9.890                  | <13                 | Pass   |
|             |                 | MCS (7)          | 9.730                  | <13                 | Pass   |

### Channel 100:





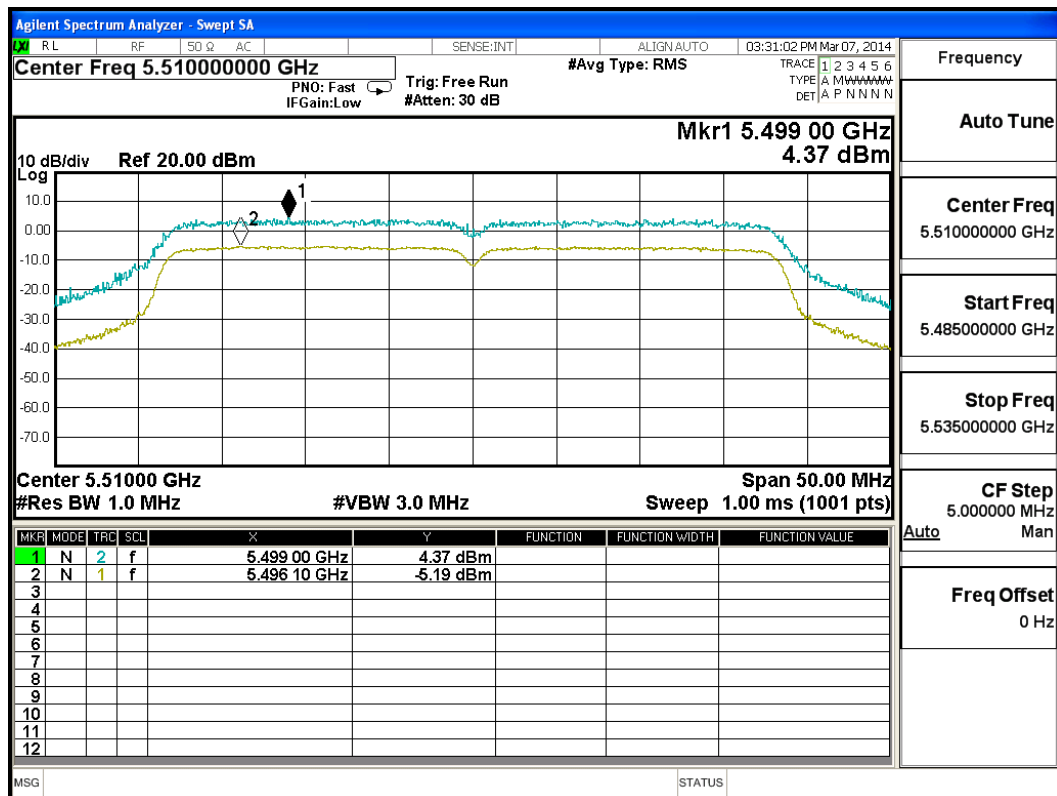


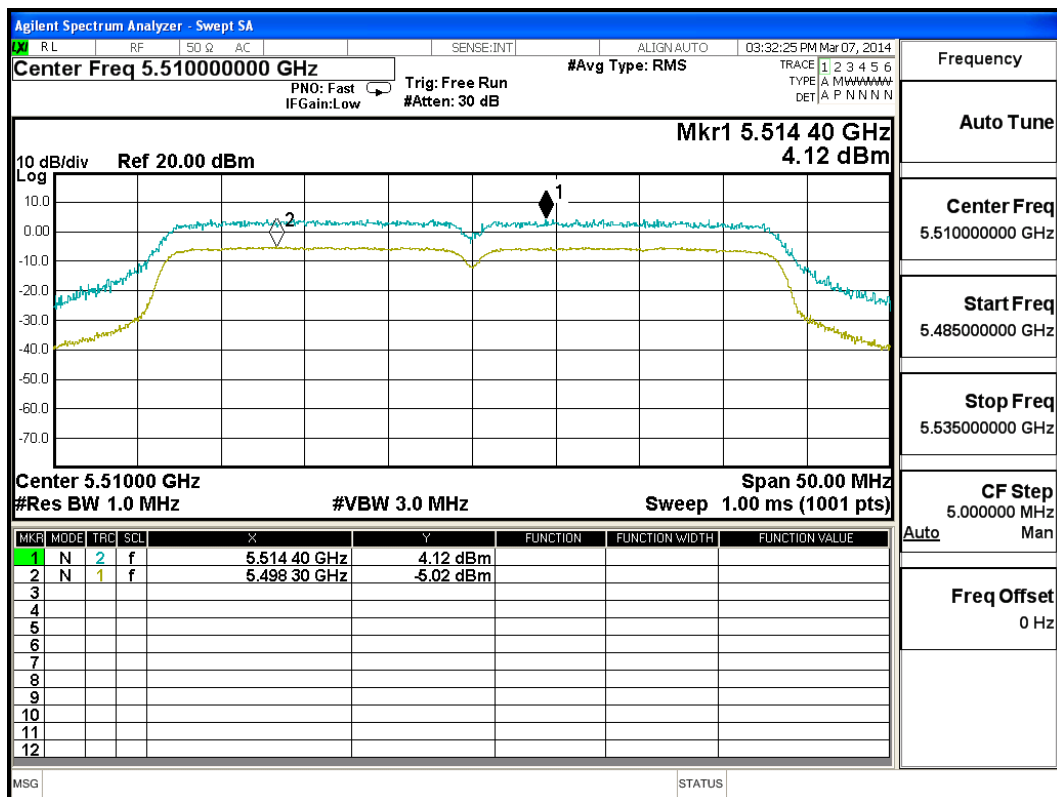
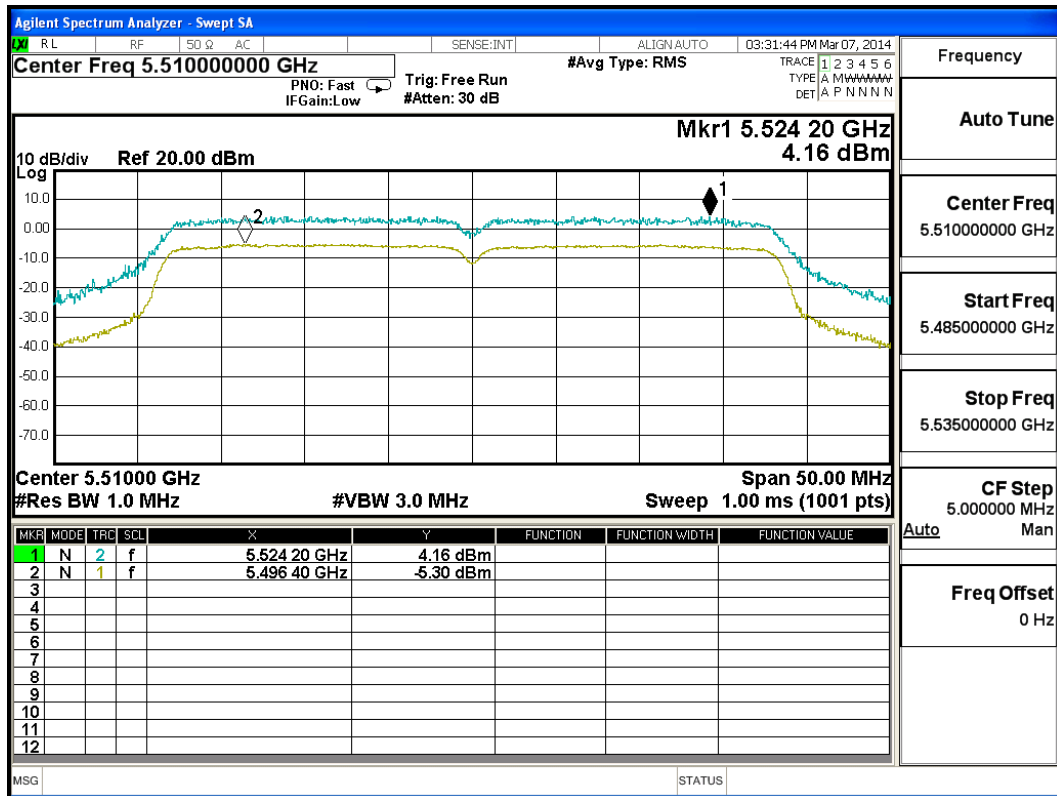
Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Peak Excursion  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)

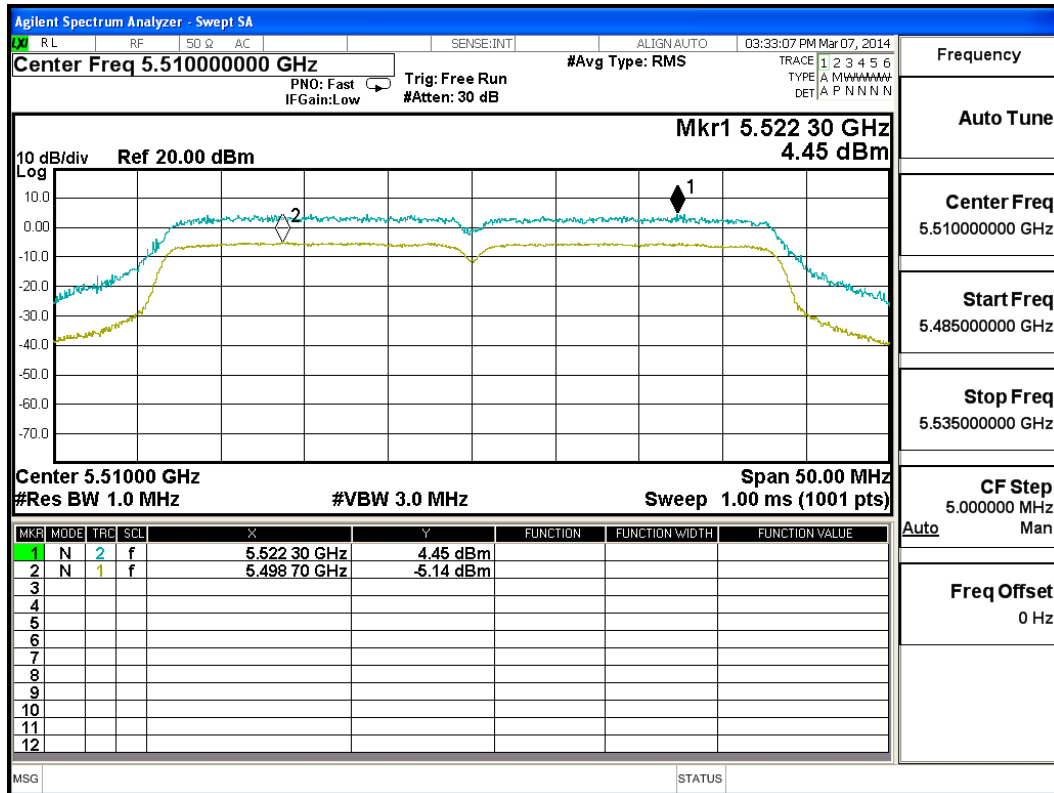
### Chain A

| Channel No. | Frequency (MHz) | Data Rate (Mbps) | Measurement Level (dB) | Required Limit (dB) | Result |
|-------------|-----------------|------------------|------------------------|---------------------|--------|
| 102         | 5510            | MCS (0)          | 9.560                  | <13                 | Pass   |
|             |                 | MCS (2)          | 9.460                  | <13                 | Pass   |
|             |                 | MCS (4)          | 9.140                  | <13                 | Pass   |
|             |                 | MCS (7)          | 9.590                  | <13                 | Pass   |

### Channel 102:



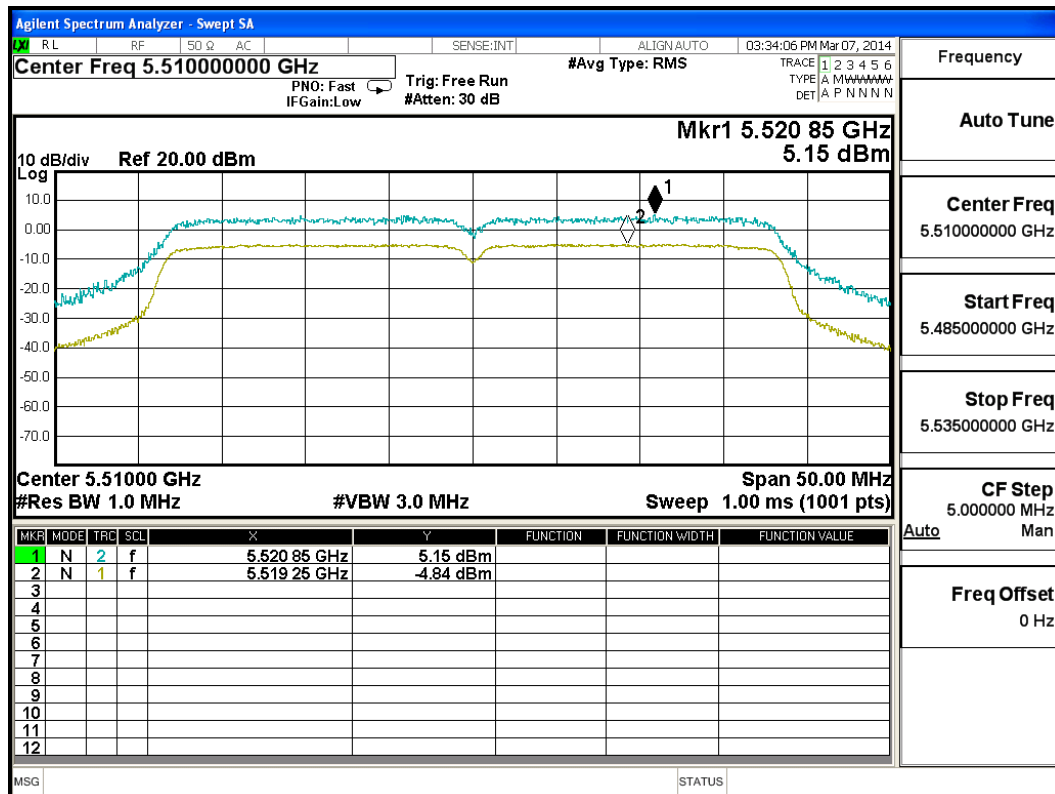


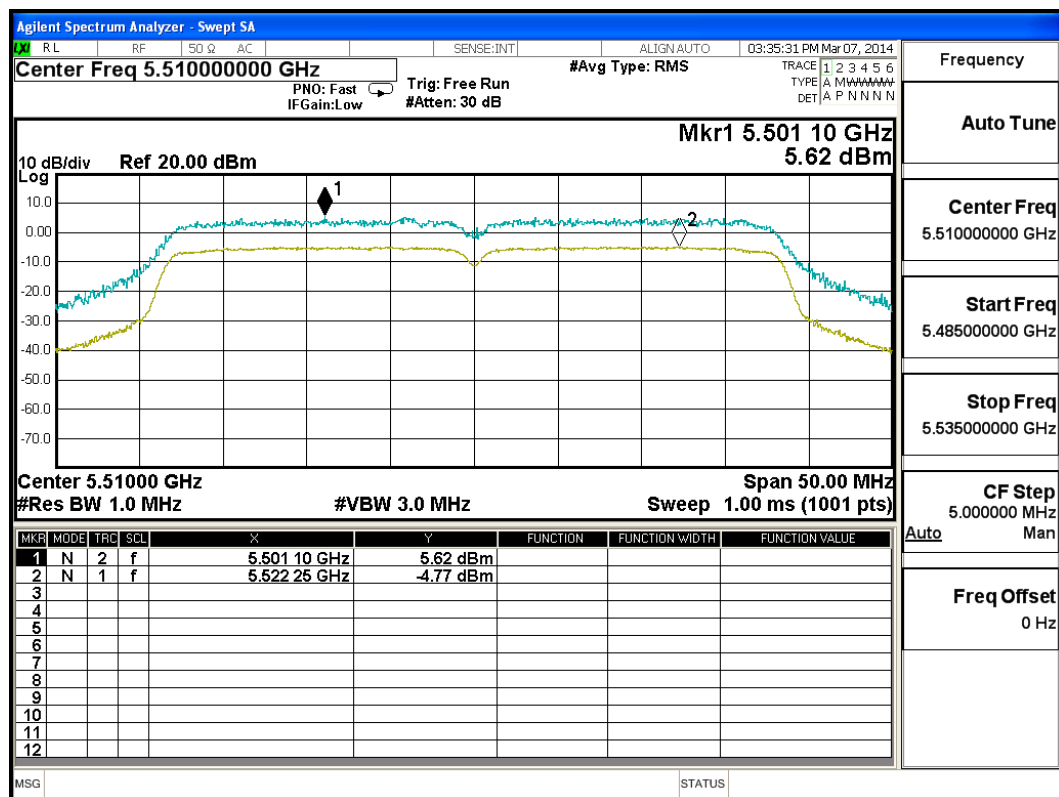
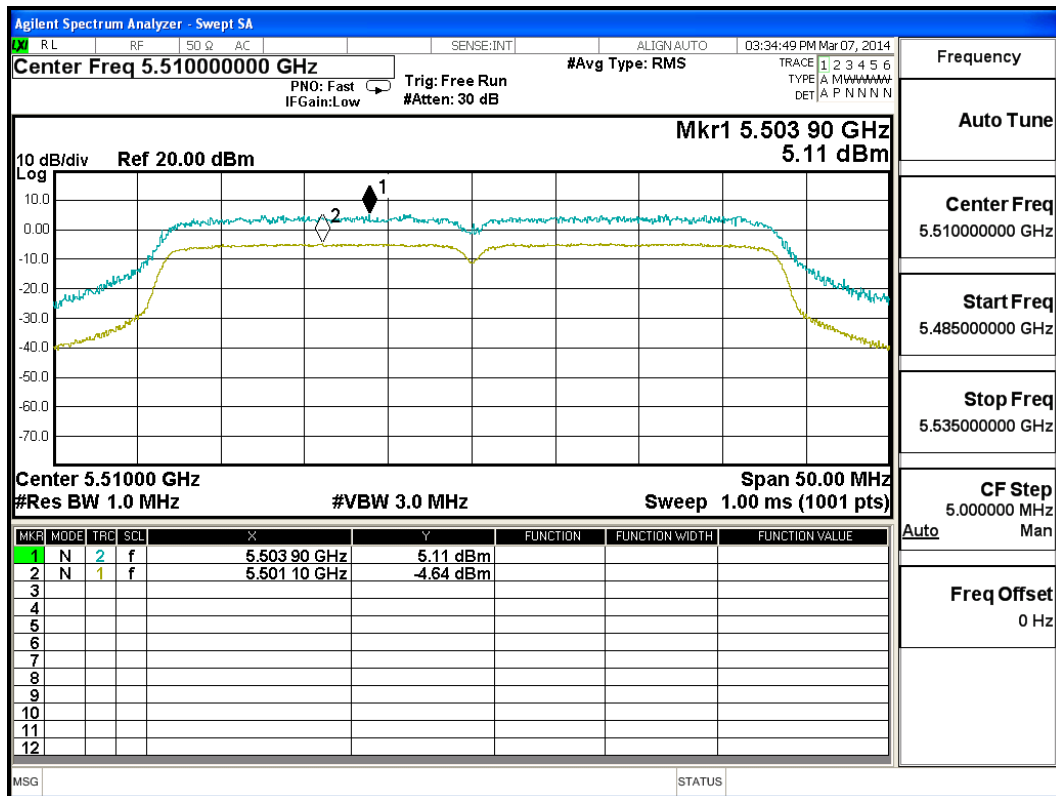


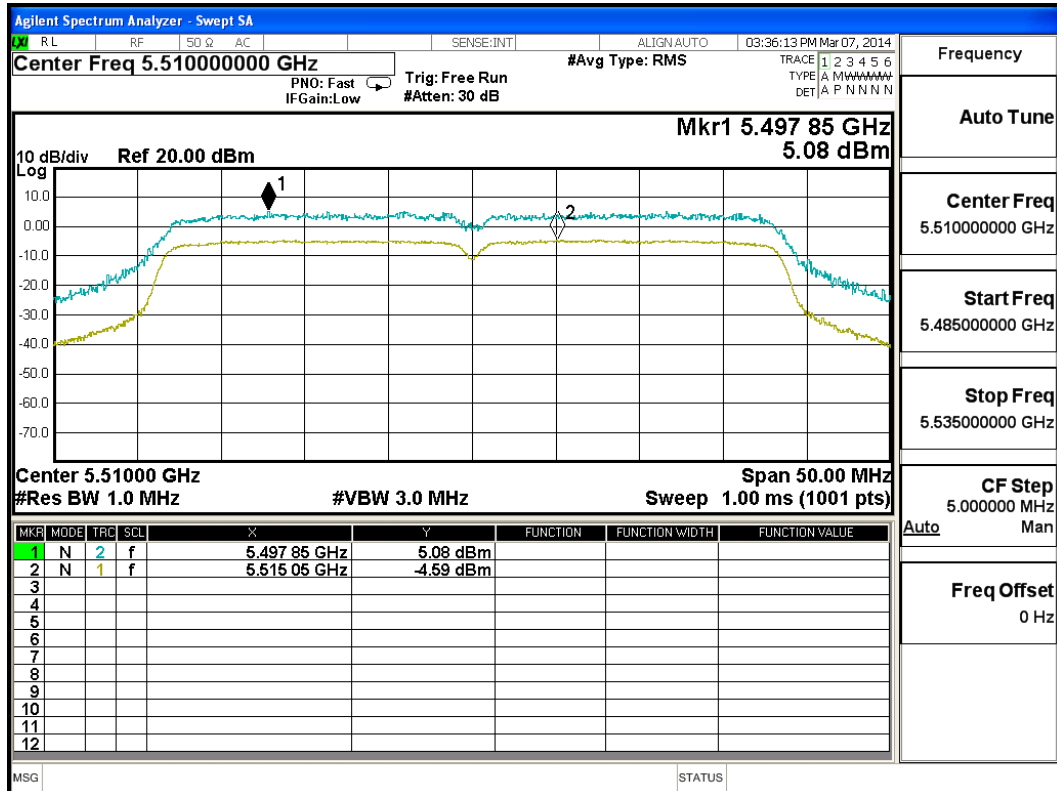
### Chain B

| Channel No. | Frequency (MHz) | Data Rate (Mbps) | Measurement Level (dB) | Required Limit (dB) | Result |
|-------------|-----------------|------------------|------------------------|---------------------|--------|
| 102         | 5510            | MCS (0)          | 9.990                  | <13                 | Pass   |
|             |                 | MCS (2)          | 9.750                  | <13                 | Pass   |
|             |                 | MCS (4)          | 10.390                 | <13                 | Pass   |
|             |                 | MCS (7)          | 9.670                  | <13                 | Pass   |

### Channel 102:







## 6. Radiated Emission

### 6.1. Test Equipment

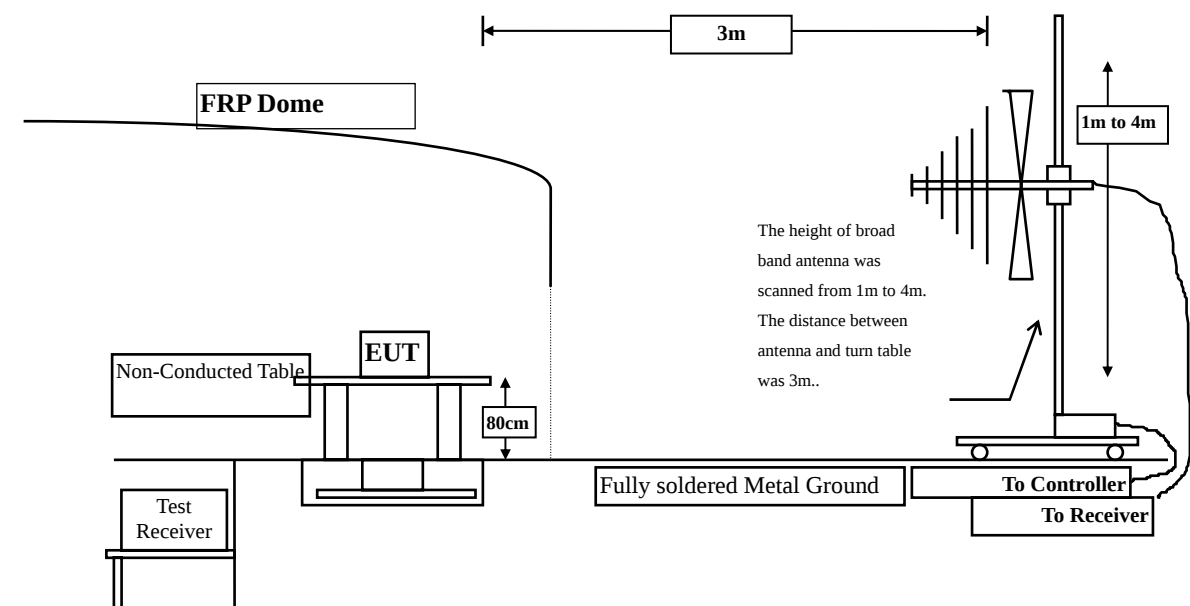
The following test equipments are used during the radiated emission test:

| Test Site  |   | Equipment         | Manufacturer    | Model No./Serial No.        | Last Cal.  |
|------------|---|-------------------|-----------------|-----------------------------|------------|
| ☒ Site # 3 | X | Loop Antenna      | Teseq           | HLA6120 / 26739             | Jul., 2013 |
|            | X | Bilog Antenna     | Schaffner Chase | CBL6112B/2673               | Sep., 2013 |
|            | X | Horn Antenna      | Schwarzbeck     | BBHA9120D/D305              | Sep., 2013 |
|            | X | Horn Antenna      | Schwarzbeck     | BBHA9170/208                | Jul., 2013 |
|            | X | Pre-Amplifier     | QTK             | QTK-AMP-03 / 0003           | May, 2013  |
|            | X | Pre-Amplifier     | QTK             | AP-180C / CHM_0906076       | Sep., 2013 |
|            | X | Pre-Amplifier     | MITEQ           | AMF-4D-180400-45-6P/ 925975 | Mar., 2014 |
|            | X | Spectrum Analyzer | Agilent         | E4407B / US39440758         | May, 2013  |
|            | X | Test Receiver     | R & S           | ESCS 30/ 825442/018         | Sep., 2013 |
|            | X | Coaxial Cable     | QuieTek         | QTK-CABLE/ CAB5             | Feb., 2014 |
|            | X | Controller        | QuieTek         | QTK-CONTROLLER/ CTRL3       | N/A        |
|            | X | Coaxial Switch    | Anritsu         | MP59B/6200265729            | N/A        |

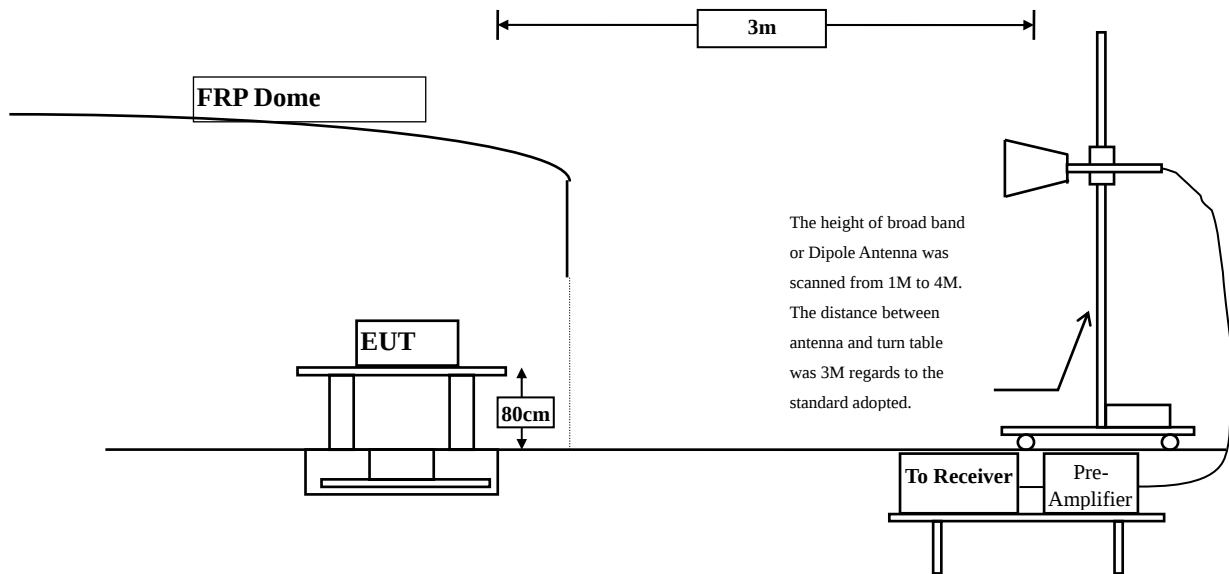
- Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.  
2. The test instruments marked with "X" are used to measure the final test results.

### 6.2. Test Setup

Radiated Emission Below 1GHz



## Radiated Emission Above 1GHz



### 6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

| FCC Part 15 Subpart C Paragraph 15.209(a) Limits |                                   |                              |
|--------------------------------------------------|-----------------------------------|------------------------------|
| Frequency MHz                                    | Field strength (microvolts/meter) | Measurement distance (meter) |
| 0.009-0.490                                      | 2400/F(kHz)                       | 300                          |
| 0.490-1.705                                      | 24000/F(kHz)                      | 30                           |
| 1.705-30                                         | 30                                | 30                           |
| 30-88                                            | 100                               | 3                            |
| 88-216                                           | 150                               | 3                            |
| 216-960                                          | 200                               | 3                            |
| Above 960                                        | 500                               | 3                            |

Remarks: E field strength (dB $\mu$ V/m) = 20 log E field strength (uV/m)

#### **6.4. Test Procedure**

The EUT was setup according to ANSI C63.10, 2009 and tested according to FCC KDB-789033 test procedure for compliance to FCC 47CFR 15. 407 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10, 2009 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The measurement frequency range from 9KHz - 10th Harmonic of fundamental was investigated.

#### **6.5. Uncertainty**

± 3.8 dB below 1GHz

± 3.9 dB above 1GHz

## 6.6. Test Result of Radiated Emission

Product : MOXA IEEE 802.11a/b/g/n Wireless  
Test Item : Harmonic Radiated Emission Data  
Test Site : No.3 OATS  
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5180MHz)

| Frequency<br>MHz      | Correct<br>Factor<br>dB | Reading<br>Level<br>dBμV | Measurement<br>Level<br>dBμV/m | Margin<br>dB | Limit<br>dBμV/m |
|-----------------------|-------------------------|--------------------------|--------------------------------|--------------|-----------------|
| <b>Horizontal</b>     |                         |                          |                                |              |                 |
| <b>Peak Detector:</b> |                         |                          |                                |              |                 |
| 10360.000             | 12.930                  | 36.480                   | 49.410                         | -24.590      | 74.000          |
| 15540.000             | *                       | *                        | *                              | *            | 74.000          |
| 20720.000             | *                       | *                        | *                              | *            | 74.000          |
| 25900.000             | *                       | *                        | *                              | *            | 74.000          |
| 31080.000             | *                       | *                        | *                              | *            | 74.000          |
| 36260.000             | *                       | *                        | *                              | *            | 74.000          |
| <b>Average</b>        |                         |                          |                                |              |                 |
| <b>Detector:</b>      |                         |                          |                                |              |                 |
| --                    |                         |                          |                                |              |                 |
| <b>Vertical</b>       |                         |                          |                                |              |                 |
| <b>Peak Detector:</b> |                         |                          |                                |              |                 |
| 10360.000             | 13.724                  | 36.320                   | 50.044                         | -23.956      | 74.000          |
| 20720.000             | *                       | *                        | *                              | *            | 74.000          |
| 25900.000             | *                       | *                        | *                              | *            | 74.000          |
| 31080.000             | *                       | *                        | *                              | *            | 74.000          |
| 36260.000             | *                       | *                        | *                              | *            | 74.000          |
| <b>Average</b>        |                         |                          |                                |              |                 |
| <b>Detector:</b>      |                         |                          |                                |              |                 |
| --                    |                         |                          |                                |              |                 |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)

| Frequency             | Correct | Reading | Measurement | Margin  | Limit  |
|-----------------------|---------|---------|-------------|---------|--------|
| MHz                   | Factor  | Level   | Level       |         |        |
|                       | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>     |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10440.000             | 13.322  | 36.770  | 50.092      | -23.908 | 74.000 |
| 15600.000             | *       | *       | *           | *       | 74.000 |
| 20800.000             | *       | *       | *           | *       | 74.000 |
| 26000.000             | *       | *       | *           | *       | 74.000 |
| 31200.000             | *       | *       | *           | *       | 74.000 |
| 36400.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |
| <b>Vertical</b>       |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10440.000             | 14.245  | 36.890  | 51.135      | -22.865 | 74.000 |
| 20800.000             | *       | *       | *           | *       | 74.000 |
| 26000.000             | *       | *       | *           | *       | 74.000 |
| 31200.000             | *       | *       | *           | *       | 74.000 |
| 36400.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5240MHz)

| Frequency             | Correct | Reading | Measurement | Margin  | Limit  |
|-----------------------|---------|---------|-------------|---------|--------|
| MHz                   | Factor  | Level   | Level       |         |        |
|                       | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>     |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10480.000             | 13.693  | 37.560  | 51.254      | -22.746 | 74.000 |
| 15720.000             | *       | *       | *           | *       | 74.000 |
| 20960.000             | *       | *       | *           | *       | 74.000 |
| 26200.000             | *       | *       | *           | *       | 74.000 |
| 31440000              | *       | *       | *           | *       | 74.000 |
| 36680.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |
| <b>Vertical</b>       |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10480.000             | 14.620  | 37.860  | 52.481      | -21.519 | 74.000 |
| 20960.000             | *       | *       | *           | *       | 74.000 |
| 26200.000             | *       | *       | *           | *       | 74.000 |
| 31440000              | *       | *       | *           | *       | 74.000 |
| 36680.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5260MHz)

| Frequency             | Correct | Reading | Measurement | Margin  | Limit  |
|-----------------------|---------|---------|-------------|---------|--------|
| MHz                   | Factor  | Level   | Level       |         |        |
|                       | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>     |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10520.000             | 14.015  | 35.960  | 49.975      | -24.025 | 74.000 |
| 15780.000             | *       | *       | *           | *       | 74.000 |
| 21040.000             | *       | *       | *           | *       | 74.000 |
| 26300.000             | *       | *       | *           | *       | 74.000 |
| 31560.000             | *       | *       | *           | *       | 74.000 |
| 36820.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |
| <b>Vertical</b>       |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10520.000             | 14.818  | 36.890  | 51.708      | -22.292 | 74.000 |
| 15780.000             | *       | *       | *           | *       | 74.000 |
| 21040.000             | *       | *       | *           | *       | 74.000 |
| 26300.000             | *       | *       | *           | *       | 74.000 |
| 31560.000             | *       | *       | *           | *       | 74.000 |
| 36820.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5300MHz)

| Frequency             | Correct | Reading | Measurement | Margin  | Limit  |
|-----------------------|---------|---------|-------------|---------|--------|
| MHz                   | Factor  | Level   | Level       |         |        |
|                       | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>     |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10600.000             | 14.550  | 35.510  | 50.059      | -23.941 | 74.000 |
| 15900.000             | *       | *       | *           | *       | 74.000 |
| 21200.000             | *       | *       | *           | *       | 74.000 |
| 26500.000             | *       | *       | *           | *       | 74.000 |
| 31800.000             | *       | *       | *           | *       | 74.000 |
| 37100.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |
| <b>Vertical</b>       |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10600.000             | 14.881  | 36.120  | 51.001      | -22.999 | 74.000 |
| 15900.000             | *       | *       | *           | *       | 74.000 |
| 21200.000             | *       | *       | *           | *       | 74.000 |
| 26500.000             | *       | *       | *           | *       | 74.000 |
| 31800.000             | *       | *       | *           | *       | 74.000 |
| 37100.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5320MHz)

| Frequency             | Correct | Reading | Measurement | Margin  | Limit  |
|-----------------------|---------|---------|-------------|---------|--------|
| MHz                   | Factor  | Level   | Level       |         |        |
|                       | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>     |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10640.000             | 14.690  | 36.120  | 50.810      | -23.190 | 74.000 |
| 15960.000             | *       | *       | *           | *       | 74.000 |
| 21280.000             | *       | *       | *           | *       | 74.000 |
| 26600.000             | *       | *       | *           | *       | 74.000 |
| 31920.000             | *       | *       | *           | *       | 74.000 |
| 37240.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |
| <b>Vertical</b>       |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10640.000             | 15.083  | 36.670  | 51.753      | -22.247 | 74.000 |
| 15960.000             | *       | *       | *           | *       | 74.000 |
| 21280.000             | *       | *       | *           | *       | 74.000 |
| 26600.000             | *       | *       | *           | *       | 74.000 |
| 31920.000             | *       | *       | *           | *       | 74.000 |
| 37240.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5500MHz)

| Frequency | Correct | Reading    | Measurement  | Margin | Limit        |
|-----------|---------|------------|--------------|--------|--------------|
| MHz       | Factor  | Level      | Level        |        |              |
|           | dB      | dB $\mu$ V | dB $\mu$ V/m | dB     | dB $\mu$ V/m |

### Horizontal

#### Peak Detector:

|           |        |        |        |         |        |
|-----------|--------|--------|--------|---------|--------|
| 11000.000 | 16.399 | 36.130 | 52.529 | -21.471 | 74.000 |
| 16500.000 | *      | *      | *      | *       | 74.000 |
| 22000.000 | *      | *      | *      | *       | 74.000 |
| 27500.000 | *      | *      | *      | *       | 74.000 |
| 33000.000 | *      | *      | *      | *       | 74.000 |
| 38500.000 | *      | *      | *      | *       | 74.000 |

#### Average

#### Detector:

--

### Vertical

#### Peak Detector:

|           |        |        |        |         |        |
|-----------|--------|--------|--------|---------|--------|
| 11000.000 | 17.132 | 36.450 | 53.582 | -20.418 | 74.000 |
| 16500.000 | *      | *      | *      | *       | 74.000 |
| 22000.000 | *      | *      | *      | *       | 74.000 |
| 27500.000 | *      | *      | *      | *       | 74.000 |
| 33000.000 | *      | *      | *      | *       | 74.000 |
| 38500.000 | *      | *      | *      | *       | 74.000 |

#### Average

#### Detector:

--

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
Test Item : Harmonic Radiated Emission Data  
Test Site : No.3 OATS  
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5580MHz)

| Frequency | Correct | Reading    | Measurement  | Margin | Limit        |
|-----------|---------|------------|--------------|--------|--------------|
| MHz       | Factor  | Level      | Level        |        |              |
|           | dB      | dB $\mu$ V | dB $\mu$ V/m | dB     | dB $\mu$ V/m |

### Horizontal

#### Peak Detector:

|           |        |        |        |         |        |
|-----------|--------|--------|--------|---------|--------|
| 11160.000 | 16.664 | 35.800 | 52.465 | -21.535 | 74.000 |
| 16740.000 | *      | *      | *      | *       | 74.000 |
| 22320.000 | *      | *      | *      | *       | 74.000 |
| 27900.000 | *      | *      | *      | *       | 74.000 |
| 33480.000 | *      | *      | *      | *       | 74.000 |
| 39060.000 | *      | *      | *      | *       | 74.000 |

#### Average

#### Detector:

--

### Vertical

#### Peak Detector:

|           |        |        |        |         |        |
|-----------|--------|--------|--------|---------|--------|
| 11160.000 | 17.643 | 35.960 | 53.603 | -20.397 | 74.000 |
| 16740.000 | *      | *      | *      | *       | 74.000 |
| 22320.000 | *      | *      | *      | *       | 74.000 |
| 27900.000 | *      | *      | *      | *       | 74.000 |
| 33480.000 | *      | *      | *      | *       | 74.000 |
| 39060.000 | *      | *      | *      | *       | 74.000 |

#### Average

#### Detector:

--

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5700MHz)

| Frequency | Correct | Reading    | Measurement  | Margin | Limit        |
|-----------|---------|------------|--------------|--------|--------------|
| MHz       | Factor  | Level      | Level        |        |              |
|           | dB      | dB $\mu$ V | dB $\mu$ V/m | dB     | dB $\mu$ V/m |

#### Horizontal

##### Peak Detector:

|           |        |        |        |         |        |
|-----------|--------|--------|--------|---------|--------|
| 11400.000 | 16.530 | 34.460 | 50.991 | -23.009 | 74.000 |
| 17100.000 | *      | *      | *      | *       | 74.000 |
| 22800.000 | *      | *      | *      | *       | 74.000 |
| 28500.000 | *      | *      | *      | *       | 74.000 |
| 34200.000 | *      | *      | *      | *       | 74.000 |
| 39900.000 | *      | *      | *      | *       | 74.000 |

##### Average

##### Detector:

--

#### Vertical

##### Peak Detector:

|           |        |        |        |         |        |
|-----------|--------|--------|--------|---------|--------|
| 11400.000 | 17.138 | 35.790 | 52.928 | -21.072 | 74.000 |
| 17100.000 | *      | *      | *      | *       | 74.000 |
| 22800.000 | *      | *      | *      | *       | 74.000 |
| 28500.000 | *      | *      | *      | *       | 74.000 |
| 34200.000 | *      | *      | *      | *       | 74.000 |
| 39900.000 | *      | *      | *      | *       | 74.000 |

##### Average

##### Detector:

--

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5180MHz)

| Frequency | Correct | Reading | Measurement | Margin | Limit  |
|-----------|---------|---------|-------------|--------|--------|
| MHz       | Factor  | Level   | Level       |        |        |
|           | dB      | dBμV    | dBμV/m      | dB     | dBμV/m |

### Horizontal

#### Peak Detector:

|           |        |        |        |         |        |
|-----------|--------|--------|--------|---------|--------|
| 10360.000 | 12.930 | 35.760 | 48.690 | -25.310 | 74.000 |
| 15540.000 | *      | *      | *      | *       | 74.000 |
| 20720.000 | *      | *      | *      | *       | 74.000 |
| 25900.000 | *      | *      | *      | *       | 74.000 |
| 31080.000 | *      | *      | *      | *       | 74.000 |
| 36260.000 | *      | *      | *      | *       | 74.000 |

#### Average

#### Detector:

--

### Vertical

#### Peak Detector:

|           |        |        |        |         |        |
|-----------|--------|--------|--------|---------|--------|
| 10360.000 | 13.724 | 36.220 | 49.944 | -24.056 | 74.000 |
| 20720.000 | *      | *      | *      | *       | 74.000 |
| 25900.000 | *      | *      | *      | *       | 74.000 |
| 31080.000 | *      | *      | *      | *       | 74.000 |
| 36260.000 | *      | *      | *      | *       | 74.000 |

#### Average

#### Detector:

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#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5220MHz)

| Frequency             | Correct | Reading | Measurement | Margin  | Limit  |
|-----------------------|---------|---------|-------------|---------|--------|
| MHz                   | Factor  | Level   | Level       |         |        |
|                       | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>     |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10440.000             | 13.322  | 36.330  | 49.652      | -24.348 | 74.000 |
| 15660.000             | *       | *       | *           | *       | 74.000 |
| 20880.000             | *       | *       | *           | *       | 74.000 |
| 26100.000             | *       | *       | *           | *       | 74.000 |
| 31320.000             | *       | *       | *           | *       | 74.000 |
| 36540.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |
| <b>Vertical</b>       |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10440.000             | 14.245  | 36.760  | 51.005      | -22.995 | 74.000 |
| 20880.000             | *       | *       | *           | *       | 74.000 |
| 26100.000             | *       | *       | *           | *       | 74.000 |
| 31320.000             | *       | *       | *           | *       | 74.000 |
| 36540.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
Test Item : Harmonic Radiated Emission Data  
Test Site : No.3 OATS  
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5240MHz)

| Frequency             | Correct | Reading | Measurement | Margin  | Limit  |
|-----------------------|---------|---------|-------------|---------|--------|
| MHz                   | Factor  | Level   | Level       |         |        |
|                       | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>     |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10480.000             | 13.693  | 36.190  | 49.884      | -24.116 | 74.000 |
| 15720.000             | *       | *       | *           | *       | 74.000 |
| 20960.000             | *       | *       | *           | *       | 74.000 |
| 26200.000             | *       | *       | *           | *       | 74.000 |
| 31440.000             | *       | *       | *           | *       | 74.000 |
| 36680.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |
| <b>Vertical</b>       |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10480.000             | 14.620  | 36.560  | 51.181      | -22.819 | 74.000 |
| 20960.000             | *       | *       | *           | *       | 74.000 |
| 26200.000             | *       | *       | *           | *       | 74.000 |
| 31440.000             | *       | *       | *           | *       | 74.000 |
| 36680.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5260MHz)

| Frequency             | Correct | Reading | Measurement | Margin  | Limit  |
|-----------------------|---------|---------|-------------|---------|--------|
| MHz                   | Factor  | Level   | Level       |         |        |
|                       | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>     |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10520.000             | 14.015  | 35.890  | 49.905      | -24.095 | 74.000 |
| 15780.000             | *       | *       | *           | *       | 74.000 |
| 21040.000             | *       | *       | *           | *       | 74.000 |
| 26300.000             | *       | *       | *           | *       | 74.000 |
| 31560.000             | *       | *       | *           | *       | 74.000 |
| 36820.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |
| <b>Vertical</b>       |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10520.000             | 14.818  | 36.180  | 50.998      | -23.002 | 74.000 |
| 15780.000             | *       | *       | *           | *       | 74.000 |
| 21040.000             | *       | *       | *           | *       | 74.000 |
| 26300.000             | *       | *       | *           | *       | 74.000 |
| 31560.000             | *       | *       | *           | *       | 74.000 |
| 36820.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5300MHz)

| Frequency             | Correct | Reading | Measurement | Margin  | Limit  |
|-----------------------|---------|---------|-------------|---------|--------|
| MHz                   | Factor  | Level   | Level       |         |        |
|                       | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>     |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10600.000             | 14.550  | 35.490  | 50.039      | -23.961 | 74.000 |
| 15900.000             | *       | *       | *           | *       | 74.000 |
| 21200.000             | *       | *       | *           | *       | 74.000 |
| 26500000              | *       | *       | *           | *       | 74.000 |
| 31800.000             | *       | *       | *           | *       | 74.000 |
| 37100.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |
| <b>Vertical</b>       |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10600.000             | 14.881  | 35.960  | 50.841      | -23.159 | 74.000 |
| 15900.000             | *       | *       | *           | *       | 74.000 |
| 21200.000             | *       | *       | *           | *       | 74.000 |
| 26500000              | *       | *       | *           | *       | 74.000 |
| 31800.000             | *       | *       | *           | *       | 74.000 |
| 37100.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5320MHz)

| Frequency             | Correct | Reading | Measurement | Margin  | Limit  |
|-----------------------|---------|---------|-------------|---------|--------|
| MHz                   | Factor  | Level   | Level       |         |        |
|                       | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>     |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10640.000             | 14.690  | 36.530  | 51.220      | -22.780 | 74.000 |
| 15960.000             | *       | *       | *           | *       | 74.000 |
| 21280.000             | *       | *       | *           | *       | 74.000 |
| 26600.000             | *       | *       | *           | *       | 74.000 |
| 31920.000             | *       | *       | *           | *       | 74.000 |
| 37240.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |
| <b>Vertical</b>       |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10640.000             | 15.083  | 36.780  | 51.863      | -22.137 | 74.000 |
| 15960.000             | *       | *       | *           | *       | 74.000 |
| 21280.000             | *       | *       | *           | *       | 74.000 |
| 26600.000             | *       | *       | *           | *       | 74.000 |
| 31920.000             | *       | *       | *           | *       | 74.000 |
| 37240.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5500MHz)

| Frequency | Correct | Reading    | Measurement  | Margin | Limit        |
|-----------|---------|------------|--------------|--------|--------------|
| MHz       | Factor  | Level      | Level        |        |              |
|           | dB      | dB $\mu$ V | dB $\mu$ V/m | dB     | dB $\mu$ V/m |

### Horizontal

#### Peak Detector:

|           |        |        |        |         |        |
|-----------|--------|--------|--------|---------|--------|
| 11000.000 | 16.399 | 35.870 | 52.269 | -21.731 | 74.000 |
| 16500.000 | *      | *      | *      | *       | 74.000 |
| 22000.000 | *      | *      | *      | *       | 74.000 |
| 27500.000 | *      | *      | *      | *       | 74.000 |
| 33000.000 | *      | *      | *      | *       | 74.000 |
| 38500.000 | *      | *      | *      | *       | 74.000 |

#### Average

#### Detector:

--

### Vertical

#### Peak Detector:

|           |        |        |        |         |        |
|-----------|--------|--------|--------|---------|--------|
| 11000.000 | 17.132 | 35.990 | 53.122 | -20.878 | 74.000 |
| 16500.000 | *      | *      | *      | *       | 74.000 |
| 22000.000 | *      | *      | *      | *       | 74.000 |
| 27500.000 | *      | *      | *      | *       | 74.000 |
| 33000.000 | *      | *      | *      | *       | 74.000 |
| 38500.000 | *      | *      | *      | *       | 74.000 |

#### Average

#### Detector:

--

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5580MHz)

| Frequency             | Correct | Reading    | Measurement  | Margin  | Limit        |
|-----------------------|---------|------------|--------------|---------|--------------|
| MHz                   | Factor  | Level      | Level        |         |              |
|                       | dB      | dB $\mu$ V | dB $\mu$ V/m | dB      | dB $\mu$ V/m |
| <b>Horizontal</b>     |         |            |              |         |              |
| <b>Peak Detector:</b> |         |            |              |         |              |
| 11160.000             | 16.664  | 34.690     | 51.355       | -22.645 | 74.000       |
| 16740.000             | *       | *          | *            | *       | 74.000       |
| 22320.000             | *       | *          | *            | *       | 74.000       |
| 27900.000             | *       | *          | *            | *       | 74.000       |
| 33480.000             | *       | *          | *            | *       | 74.000       |
| 39060.000             | *       | *          | *            | *       | 74.000       |
| <b>Average</b>        |         |            |              |         |              |
| <b>Detector:</b>      |         |            |              |         |              |
| --                    |         |            |              |         |              |
| <b>Vertical</b>       |         |            |              |         |              |
| <b>Peak Detector:</b> |         |            |              |         |              |
| 11160.000             | 17.643  | 36.050     | 53.693       | -20.307 | 74.000       |
| 16740.000             | *       | *          | *            | *       | 74.000       |
| 22320.000             | *       | *          | *            | *       | 74.000       |
| 27900.000             | *       | *          | *            | *       | 74.000       |
| 33480.000             | *       | *          | *            | *       | 74.000       |
| 39060.000             | *       | *          | *            | *       | 74.000       |
| <b>Average</b>        |         |            |              |         |              |
| <b>Detector:</b>      |         |            |              |         |              |
| --                    |         |            |              |         |              |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5700MHz)

| Frequency             | Correct | Reading    | Measurement  | Margin  | Limit        |
|-----------------------|---------|------------|--------------|---------|--------------|
| MHz                   | Factor  | Level      | Level        |         |              |
|                       | dB      | dB $\mu$ V | dB $\mu$ V/m | dB      | dB $\mu$ V/m |
| <b>Horizontal</b>     |         |            |              |         |              |
| <b>Peak Detector:</b> |         |            |              |         |              |
| 11400.000             | 16.530  | 34.850     | 51.381       | -22.619 | 74.000       |
| 17100.000             | *       | *          | *            | *       | 74.000       |
| 22800.000             | *       | *          | *            | *       | 74.000       |
| 28500.000             | *       | *          | *            | *       | 74.000       |
| 34200.000             | *       | *          | *            | *       | 74.000       |
| 39900.000             | *       | *          | *            | *       | 74.000       |
| <b>Average</b>        |         |            |              |         |              |
| <b>Detector:</b>      |         |            |              |         |              |
| --                    |         |            |              |         |              |
| <b>Vertical</b>       |         |            |              |         |              |
| <b>Peak Detector:</b> |         |            |              |         |              |
| 11400.000             | 17.138  | 36.850     | 53.988       | -20.012 | 74.000       |
| 17100.000             | *       | *          | *            | *       | 74.000       |
| 22800.000             | *       | *          | *            | *       | 74.000       |
| 28500.000             | *       | *          | *            | *       | 74.000       |
| 34200.000             | *       | *          | *            | *       | 74.000       |
| 39900.000             | *       | *          | *            | *       | 74.000       |
| <b>Average</b>        |         |            |              |         |              |
| <b>Detector:</b>      |         |            |              |         |              |
| --                    |         |            |              |         |              |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
Test Item : Harmonic Radiated Emission Data  
Test Site : No.3 OATS  
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5190MHz)

| Frequency | Correct | Reading | Measurement | Margin | Limit  |
|-----------|---------|---------|-------------|--------|--------|
| MHz       | Factor  | Level   | Level       |        |        |
|           | dB      | dBμV    | dBμV/m      | dB     | dBμV/m |

#### Horizontal

##### Peak Detector:

|           |        |        |        |         |        |
|-----------|--------|--------|--------|---------|--------|
| 10380.000 | 12.939 | 35.870 | 48.809 | -25.191 | 74.000 |
| 15570.000 | *      | *      | *      | *       | 74.000 |
| 20760.000 | *      | *      | *      | *       | 74.000 |
| 25950.000 | *      | *      | *      | *       | 74.000 |
| 31140.000 | *      | *      | *      | *       | 74.000 |
| 36330.000 | *      | *      | *      | *       | 74.000 |

##### Average

##### Detector:

--

#### Vertical

##### Peak Detector:

|           |        |        |        |         |        |
|-----------|--------|--------|--------|---------|--------|
| 10380.000 | 13.796 | 36.730 | 50.526 | -23.474 | 74.000 |
| 20760.000 | *      | *      | *      | *       | 74.000 |
| 25950.000 | *      | *      | *      | *       | 74.000 |
| 31140.000 | *      | *      | *      | *       | 74.000 |
| 36330.000 | *      | *      | *      | *       | 74.000 |

##### Average

##### Detector:

--

#### Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
Test Item : Harmonic Radiated Emission Data  
Test Site : No.3 OATS  
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5230MHz)

| Frequency             | Correct | Reading | Measurement | Margin  | Limit  |
|-----------------------|---------|---------|-------------|---------|--------|
| MHz                   | Factor  | Level   | Level       |         |        |
|                       | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>     |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10640.000             | 14.690  | 36.290  | 50.980      | -23.020 | 74.000 |
| 15690.000             | *       | *       | *           | *       | 74.000 |
| 20920.000             | *       | *       | *           | *       | 74.000 |
| 26150.000             | *       | *       | *           | *       | 74.000 |
| 31380.000             | *       | *       | *           | *       | 74.000 |
| 36610.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |
| <b>Vertical</b>       |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10460.000             | 14.433  | 36.760  | 51.193      | -22.807 | 74.000 |
| 20920.000             | *       | *       | *           | *       | 74.000 |
| 26150.000             | *       | *       | *           | *       | 74.000 |
| 31380.000             | *       | *       | *           | *       | 74.000 |
| 36610.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5270MHz)

| Frequency             | Correct | Reading | Measurement | Margin  | Limit  |
|-----------------------|---------|---------|-------------|---------|--------|
| MHz                   | Factor  | Level   | Level       |         |        |
|                       | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>     |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10540.000             | 14.151  | 35.890  | 50.040      | -23.960 | 74.000 |
| 15810.000             | *       | *       | *           | *       | 74.000 |
| 21080.000             | *       | *       | *           | *       | 74.000 |
| 26350.000             | *       | *       | *           | *       | 74.000 |
| 31620.000             | *       | *       | *           | *       | 74.000 |
| 36890.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |
| <b>Vertical</b>       |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10540.000             | 14.829  | 36.770  | 51.598      | -22.402 | 74.000 |
| 15810.000             | *       | *       | *           | *       | 74.000 |
| 21080.000             | *       | *       | *           | *       | 74.000 |
| 26350.000             | *       | *       | *           | *       | 74.000 |
| 31620.000             | *       | *       | *           | *       | 74.000 |
| 36890.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5310MHz)

| Frequency             | Correct | Reading | Measurement | Margin  | Limit  |
|-----------------------|---------|---------|-------------|---------|--------|
| MHz                   | Factor  | Level   | Level       |         |        |
|                       | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>     |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10620.000             | 14.623  | 36.060  | 50.683      | -23.317 | 74.000 |
| 15930.000             | *       | *       | *           | *       | 74.000 |
| 21240.000             | *       | *       | *           | *       | 74.000 |
| 26550.000             | *       | *       | *           | *       | 74.000 |
| 31860.000             | *       | *       | *           | *       | 74.000 |
| 37170.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |
| <b>Vertical</b>       |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 10620.000             | 14.970  | 36.170  | 51.140      | -22.860 | 74.000 |
| 15930.000             | *       | *       | *           | *       | 74.000 |
| 21240.000             | *       | *       | *           | *       | 74.000 |
| 26550.000             | *       | *       | *           | *       | 74.000 |
| 31860.000             | *       | *       | *           | *       | 74.000 |
| 37170.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5510MHz)

| Frequency             | Correct | Reading | Measurement | Margin  | Limit  |
|-----------------------|---------|---------|-------------|---------|--------|
| MHz                   | Factor  | Level   | Level       |         |        |
|                       | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>     |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 11020.000             | 16.474  | 35.660  | 52.133      | -21.867 | 74.000 |
| 15930.000             | *       | *       | *           | *       | 74.000 |
| 21240.000             | *       | *       | *           | *       | 74.000 |
| 26550.000             | *       | *       | *           | *       | 74.000 |
| 31860.000             | *       | *       | *           | *       | 74.000 |
| 37170.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |
| <b>Vertical</b>       |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 11020.000             | 17.224  | 36.020  | 53.244      | -20.756 | 74.000 |
| 15930.000             | *       | *       | *           | *       | 74.000 |
| 21240.000             | *       | *       | *           | *       | 74.000 |
| 26550.000             | *       | *       | *           | *       | 74.000 |
| 31860.000             | *       | *       | *           | *       | 74.000 |
| 37170.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5550MHz)

| Frequency             | Correct | Reading    | Measurement  | Margin  | Limit        |
|-----------------------|---------|------------|--------------|---------|--------------|
| MHz                   | Factor  | Level      | Level        |         |              |
|                       | dB      | dB $\mu$ V | dB $\mu$ V/m | dB      | dB $\mu$ V/m |
| <b>Horizontal</b>     |         |            |              |         |              |
| <b>Peak Detector:</b> |         |            |              |         |              |
| 11100.000             | 16.681  | 35.180     | 51.861       | -22.139 | 74.000       |
| 15930.000             | *       | *          | *            | *       | 74.000       |
| 21240.000             | *       | *          | *            | *       | 74.000       |
| 26550.000             | *       | *          | *            | *       | 74.000       |
| 31860.000             | *       | *          | *            | *       | 74.000       |
| 37170.000             | *       | *          | *            | *       | 74.000       |
| <b>Average</b>        |         |            |              |         |              |
| <b>Detector:</b>      |         |            |              |         |              |
| --                    |         |            |              |         |              |
| <b>Vertical</b>       |         |            |              |         |              |
| <b>Peak Detector:</b> |         |            |              |         |              |
| 11100.000             | 17.523  | 36.120     | 53.643       | -20.357 | 74.000       |
| 15930.000             | *       | *          | *            | *       | 74.000       |
| 21240.000             | *       | *          | *            | *       | 74.000       |
| 26550.000             | *       | *          | *            | *       | 74.000       |
| 31860.000             | *       | *          | *            | *       | 74.000       |
| 37170.000             | *       | *          | *            | *       | 74.000       |
| <b>Average</b>        |         |            |              |         |              |
| <b>Detector:</b>      |         |            |              |         |              |
| --                    |         |            |              |         |              |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5670MHz)

| Frequency             | Correct | Reading | Measurement | Margin  | Limit  |
|-----------------------|---------|---------|-------------|---------|--------|
| MHz                   | Factor  | Level   | Level       |         |        |
|                       | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>     |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 11340.000             | 16.408  | 35.890  | 52.297      | -21.703 | 74.000 |
| 15930.000             | *       | *       | *           | *       | 74.000 |
| 21240.000             | *       | *       | *           | *       | 74.000 |
| 26550.000             | *       | *       | *           | *       | 74.000 |
| 31860.000             | *       | *       | *           | *       | 74.000 |
| 37170.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |
| <b>Vertical</b>       |         |         |             |         |        |
| <b>Peak Detector:</b> |         |         |             |         |        |
| 11340.000             | 17.167  | 36.320  | 53.487      | -20.513 | 74.000 |
| 15930.000             | *       | *       | *           | *       | 74.000 |
| 21240.000             | *       | *       | *           | *       | 74.000 |
| 26550.000             | *       | *       | *           | *       | 74.000 |
| 31860.000             | *       | *       | *           | *       | 74.000 |
| 37170.000             | *       | *       | *           | *       | 74.000 |
| <b>Average</b>        |         |         |             |         |        |
| <b>Detector:</b>      |         |         |             |         |        |
| --                    |         |         |             |         |        |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5220MHz)

| Frequency            | Correct | Reading    | Measurement  | Margin  | Limit        |
|----------------------|---------|------------|--------------|---------|--------------|
| MHz                  | Factor  | Level      | Level        |         |              |
|                      | dB      | dB $\mu$ V | dB $\mu$ V/m | dB      | dB $\mu$ V/m |
| <b>Horizontal</b>    |         |            |              |         |              |
| <b>Peak Detector</b> |         |            |              |         |              |
| 161.920              | -11.626 | 47.213     | 35.588       | -7.912  | 43.500       |
| 392.780              | -2.096  | 36.327     | 34.231       | -11.769 | 46.000       |
| 483.960              | -0.688  | 36.919     | 36.232       | -9.768  | 46.000       |
| 600.360              | 3.977   | 33.950     | 37.927       | -8.073  | 46.000       |
| 712.880              | 3.569   | 27.806     | 31.375       | -14.625 | 46.000       |
| 961.200              | 6.450   | 43.499     | 49.949       | -4.051  | 54.000       |

|                      |        |        |        |         |        |
|----------------------|--------|--------|--------|---------|--------|
| <b>Vertical</b>      |        |        |        |         |        |
| <b>Peak Detector</b> |        |        |        |         |        |
| 111.480              | -0.954 | 35.740 | 34.786 | -8.714  | 43.500 |
| 181.320              | -9.512 | 44.271 | 34.759 | -8.741  | 43.500 |
| 222.060              | -8.789 | 43.212 | 34.423 | -11.577 | 46.000 |
| 286.080              | -8.097 | 45.106 | 37.009 | -8.991  | 46.000 |
| 365.620              | -2.179 | 34.574 | 32.395 | -13.605 | 46.000 |
| 747.800              | 2.166  | 30.672 | 32.838 | -13.162 | 46.000 |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5300MHz)

| Frequency            | Correct | Reading | Measurement | Margin  | Limit  |
|----------------------|---------|---------|-------------|---------|--------|
| MHz                  | Factor  | Level   | Level       |         |        |
|                      | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>    |         |         |             |         |        |
| <b>Peak Detector</b> |         |         |             |         |        |
| 222.060              | -10.439 | 45.017  | 34.578      | -11.422 | 46.000 |
| 505.300              | 0.308   | 31.268  | 31.576      | -14.424 | 46.000 |
| 664.380              | 2.062   | 29.952  | 32.014      | -13.986 | 46.000 |
| 747.800              | 3.296   | 29.620  | 32.916      | -13.084 | 46.000 |
| 858.380              | 5.972   | 31.844  | 37.816      | -8.184  | 46.000 |
| 961.200              | 6.450   | 43.202  | 49.652      | -4.348  | 54.000 |

|                      |        |        |        |         |        |
|----------------------|--------|--------|--------|---------|--------|
| <b>Vertical</b>      |        |        |        |         |        |
| <b>Peak Detector</b> |        |        |        |         |        |
| 101.780              | -0.021 | 34.656 | 34.634 | -8.866  | 43.500 |
| 171.620              | -8.752 | 41.884 | 33.132 | -10.368 | 43.500 |
| 229.820              | -8.512 | 44.640 | 36.128 | -9.872  | 46.000 |
| 363.680              | -2.393 | 37.978 | 35.585 | -10.415 | 46.000 |
| 480.080              | -4.359 | 32.641 | 28.282 | -17.718 | 46.000 |
| 961.200              | 7.260  | 33.483 | 40.743 | -13.257 | 54.000 |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (5580MHz)

| Frequency            | Correct | Reading    | Measurement  | Margin  | Limit        |
|----------------------|---------|------------|--------------|---------|--------------|
| MHz                  | Factor  | Level      | Level        |         |              |
|                      | dB      | dB $\mu$ V | dB $\mu$ V/m | dB      | dB $\mu$ V/m |
| <b>Horizontal</b>    |         |            |              |         |              |
| <b>Peak Detector</b> |         |            |              |         |              |
| 152.220              | -10.135 | 41.859     | 31.724       | -11.776 | 43.500       |
| 402.480              | -2.263  | 33.788     | 31.525       | -14.475 | 46.000       |
| 513.060              | 1.550   | 30.172     | 31.722       | -14.278 | 46.000       |
| 625.580              | 1.770   | 28.788     | 30.558       | -15.442 | 46.000       |
| 697.360              | 3.171   | 27.379     | 30.550       | -15.450 | 46.000       |
| 961.200              | 6.450   | 43.013     | 49.463       | -4.537  | 54.000       |
| <b>Vertical</b>      |         |            |              |         |              |
| <b>Peak Detector</b> |         |            |              |         |              |
| 134.760              | -4.648  | 37.232     | 32.584       | -10.916 | 43.500       |
| 355.920              | -3.488  | 38.783     | 35.295       | -10.705 | 46.000       |
| 480.080              | -4.359  | 36.246     | 31.887       | -14.113 | 46.000       |
| 600.360              | -2.833  | 29.121     | 26.288       | -19.712 | 46.000       |
| 747.800              | 2.166   | 29.746     | 31.912       | -14.088 | 46.000       |
| 961.200              | 7.260   | 36.865     | 44.125       | -9.875  | 54.000       |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5220MHz)

| Frequency            | Correct | Reading    | Measurement  | Margin  | Limit        |
|----------------------|---------|------------|--------------|---------|--------------|
| MHz                  | Factor  | Level      | Level        |         |              |
|                      | dB      | dB $\mu$ V | dB $\mu$ V/m | dB      | dB $\mu$ V/m |
| <b>Horizontal</b>    |         |            |              |         |              |
| <b>Peak Detector</b> |         |            |              |         |              |
| 171.620              | -10.242 | 44.542     | 34.300       | -9.200  | 43.500       |
| 406.360              | -2.500  | 35.772     | 33.272       | -12.728 | 46.000       |
| 559.620              | 1.664   | 33.160     | 34.824       | -11.176 | 46.000       |
| 608.120              | 4.384   | 29.852     | 34.236       | -11.764 | 46.000       |
| 720.640              | 3.511   | 31.804     | 35.315       | -10.685 | 46.000       |
| 961.200              | 6.450   | 43.648     | 50.098       | -3.902  | 54.000       |
| <b>Vertical</b>      |         |            |              |         |              |
| <b>Peak Detector</b> |         |            |              |         |              |
| 159.980              | -6.185  | 38.478     | 32.293       | -11.207 | 43.500       |
| 288.020              | -8.189  | 44.244     | 36.055       | -9.945  | 46.000       |
| 390.840              | -3.099  | 37.207     | 34.108       | -11.892 | 46.000       |
| 509.180              | -0.158  | 31.207     | 31.049       | -14.951 | 46.000       |
| 687.660              | 2.444   | 27.477     | 29.921       | -16.079 | 46.000       |
| 961.200              | 7.260   | 36.351     | 43.611       | -10.389 | 54.000       |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5300MHz)

| Frequency            | Correct | Reading | Measurement | Margin  | Limit  |
|----------------------|---------|---------|-------------|---------|--------|
| MHz                  | Factor  | Level   | Level       |         |        |
|                      | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>    |         |         |             |         |        |
| <b>Peak Detector</b> |         |         |             |         |        |
| 148.340              | -10.254 | 41.038  | 30.784      | -12.716 | 43.500 |
| 408.300              | -2.866  | 38.357  | 35.491      | -10.509 | 46.000 |
| 474.260              | 0.024   | 36.979  | 37.002      | -8.998  | 46.000 |
| 600.360              | 3.977   | 34.330  | 38.307      | -7.693  | 46.000 |
| 720.640              | 3.511   | 32.508  | 36.019      | -9.981  | 46.000 |
| 961.200              | 6.450   | 43.038  | 49.488      | -4.512  | 54.000 |
| <b>Vertical</b>      |         |         |             |         |        |
| <b>Peak Detector</b> |         |         |             |         |        |
| 111.480              | -0.954  | 37.405  | 36.451      | -7.049  | 43.500 |
| 235.640              | -9.330  | 48.536  | 39.206      | -6.794  | 46.000 |
| 390.840              | -3.099  | 35.414  | 32.315      | -13.685 | 46.000 |
| 480.080              | -4.359  | 40.738  | 36.379      | -9.621  | 46.000 |
| 666.320              | -1.809  | 32.539  | 30.731      | -15.269 | 46.000 |
| 961.200              | 7.260   | 36.131  | 43.391      | -10.609 | 54.000 |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5580MHz)

| Frequency            | Correct | Reading | Measurement | Margin  | Limit  |
|----------------------|---------|---------|-------------|---------|--------|
| MHz                  | Factor  | Level   | Level       |         |        |
|                      | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>    |         |         |             |         |        |
| <b>Peak Detector</b> |         |         |             |         |        |
| 159.980              | -11.775 | 43.334  | 31.559      | -11.941 | 43.500 |
| 355.920              | -2.528  | 40.571  | 38.043      | -7.957  | 46.000 |
| 460.680              | 1.589   | 34.277  | 35.866      | -10.134 | 46.000 |
| 600.360              | 3.977   | 35.394  | 39.371      | -6.629  | 46.000 |
| 720.640              | 3.511   | 31.599  | 35.110      | -10.890 | 46.000 |
| 825.400              | 6.250   | 24.043  | 30.293      | -15.707 | 46.000 |
| <b>Vertical</b>      |         |         |             |         |        |
| <b>Peak Detector</b> |         |         |             |         |        |
| 159.980              | -6.185  | 41.531  | 35.346      | -8.154  | 43.500 |
| 288.020              | -8.189  | 43.397  | 35.208      | -10.792 | 46.000 |
| 365.620              | -2.179  | 40.213  | 38.034      | -7.966  | 46.000 |
| 480.080              | -4.359  | 36.693  | 32.334      | -13.666 | 46.000 |
| 681.840              | 1.484   | 28.552  | 30.036      | -15.964 | 46.000 |
| 961.200              | 7.260   | 36.174  | 43.434      | -10.566 | 54.000 |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5190MHz)

| Frequency            | Correct | Reading    | Measurement  | Margin  | Limit        |
|----------------------|---------|------------|--------------|---------|--------------|
| MHz                  | Factor  | Level      | Level        |         |              |
|                      | dB      | dB $\mu$ V | dB $\mu$ V/m | dB      | dB $\mu$ V/m |
| <b>Horizontal</b>    |         |            |              |         |              |
| <b>Peak Detector</b> |         |            |              |         |              |
| 101.780              | -7.141  | 42.502     | 35.361       | -8.139  | 43.500       |
| 152.220              | -10.135 | 40.694     | 30.559       | -12.941 | 43.500       |
| 369.500              | -1.098  | 35.487     | 34.389       | -11.611 | 46.000       |
| 468.440              | 1.195   | 33.790     | 34.985       | -11.015 | 46.000       |
| 600.360              | 3.977   | 36.226     | 40.203       | -5.797  | 46.000       |
| 961.200              | 6.450   | 42.479     | 48.929       | -5.071  | 54.000       |
| <b>Vertical</b>      |         |            |              |         |              |
| <b>Peak Detector</b> |         |            |              |         |              |
| 119.240              | -3.541  | 34.451     | 30.910       | -12.590 | 43.500       |
| 237.580              | -8.970  | 49.206     | 40.236       | -5.764  | 46.000       |
| 357.860              | -3.734  | 40.629     | 36.895       | -9.105  | 46.000       |
| 480.080              | -4.359  | 35.967     | 31.608       | -14.392 | 46.000       |
| 687.660              | 2.444   | 28.304     | 30.748       | -15.252 | 46.000       |
| 831.220              | 2.561   | 33.565     | 36.126       | -9.874  | 46.000       |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5270MHz)

| Frequency            | Correct | Reading | Measurement | Margin  | Limit  |
|----------------------|---------|---------|-------------|---------|--------|
| MHz                  | Factor  | Level   | Level       |         |        |
|                      | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>    |         |         |             |         |        |
| <b>Peak Detector</b> |         |         |             |         |        |
| 49.400               | -11.018 | 44.021  | 33.003      | -6.997  | 40.000 |
| 225.940              | -9.878  | 45.873  | 35.994      | -10.006 | 46.000 |
| 398.600              | -2.268  | 36.141  | 33.873      | -12.127 | 46.000 |
| 600.360              | 3.977   | 35.177  | 39.154      | -6.846  | 46.000 |
| 747.800              | 3.296   | 29.772  | 33.068      | -12.932 | 46.000 |
| 961.200              | 6.450   | 42.999  | 49.449      | -4.551  | 54.000 |
| <b>Vertical</b>      |         |         |             |         |        |
| <b>Peak Detector</b> |         |         |             |         |        |
| 165.800              | -7.719  | 43.118  | 35.399      | -8.101  | 43.500 |
| 276.380              | -8.653  | 45.953  | 37.300      | -8.700  | 46.000 |
| 369.500              | -2.868  | 38.155  | 35.287      | -10.713 | 46.000 |
| 480.080              | -4.359  | 39.388  | 35.029      | -10.971 | 46.000 |
| 664.380              | -1.918  | 34.414  | 32.496      | -13.504 | 46.000 |
| 961.200              | 7.260   | 36.736  | 43.996      | -10.004 | 54.000 |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : General Radiated Emission  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5550MHz)

| Frequency            | Correct | Reading | Measurement | Margin  | Limit  |
|----------------------|---------|---------|-------------|---------|--------|
| MHz                  | Factor  | Level   | Level       |         |        |
|                      | dB      | dBμV    | dBμV/m      | dB      | dBμV/m |
| <b>Horizontal</b>    |         |         |             |         |        |
| <b>Peak Detector</b> |         |         |             |         |        |
| 175.500              | -10.017 | 46.537  | 36.519      | -6.981  | 43.500 |
| 396.660              | -2.296  | 35.982  | 33.686      | -12.314 | 46.000 |
| 476.200              | -0.252  | 39.170  | 38.918      | -7.082  | 46.000 |
| 600.360              | 3.977   | 33.844  | 37.821      | -8.179  | 46.000 |
| 666.320              | 2.031   | 31.468  | 33.500      | -12.500 | 46.000 |
| 961.200              | 6.450   | 43.395  | 49.845      | -4.155  | 54.000 |

|                      |        |        |        |         |        |
|----------------------|--------|--------|--------|---------|--------|
| <b>Vertical</b>      |        |        |        |         |        |
| <b>Peak Detector</b> |        |        |        |         |        |
| 169.680              | -8.728 | 42.051 | 33.323 | -10.177 | 43.500 |
| 299.660              | -6.855 | 42.258 | 35.403 | -10.597 | 46.000 |
| 373.380              | -2.373 | 35.882 | 33.509 | -12.491 | 46.000 |
| 503.360              | -0.852 | 29.721 | 28.869 | -17.131 | 46.000 |
| 637.220              | -3.649 | 31.262 | 27.613 | -18.387 | 46.000 |
| 961.200              | 7.260  | 34.913 | 42.173 | -11.827 | 54.000 |

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss – Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

## 7. Band Edge

### 7.1. Test Equipment

#### RF Conducted Measurement

The following test equipments are used during the band edge tests:

|   | Equipment         | Manufacturer | Model No./Serial No. | Last Cal.  |
|---|-------------------|--------------|----------------------|------------|
|   | Spectrum Analyzer | R&S          | FSP40 / 100170       | Jun, 2013  |
|   | Spectrum Analyzer | Agilent      | E4407B / US39440758  | Jun, 2013  |
| X | Spectrum Analyzer | Agilent      | N9010A / MY48030495  | Apr., 2013 |

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

#### RF Radiated Measurement:

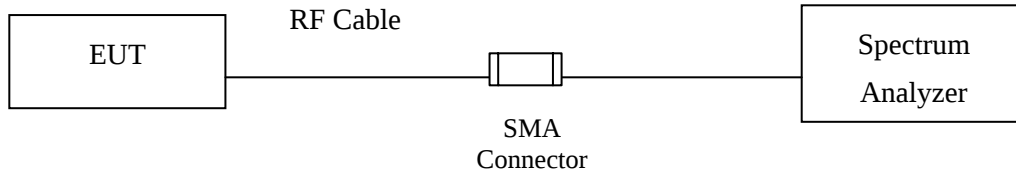
The following test equipments are used during the band edge tests:

| Test Site  | Equipment |                   | Manufacturer    | Model No./Serial No.        | Last Cal.  |
|------------|-----------|-------------------|-----------------|-----------------------------|------------|
| ☒ Site # 3 |           | Bilog Antenna     | Schaffner Chase | CBL6112B/2673               | Sep., 2013 |
|            | X         | Horn Antenna      | Schwarzbeck     | BBHA9120D/D305              | Sep., 2013 |
|            |           | Horn Antenna      | Schwarzbeck     | BBHA9170/208                | Jul., 2013 |
|            |           | Pre-Amplifier     | QTK             | QTK-AMP-03 / 0003           | May, 2013  |
|            | X         | Pre-Amplifier     | QTK             | AP-180C / CHM_0906076       | Sep., 2013 |
|            |           | Pre-Amplifier     | MITEQ           | AMF-4D-180400-45-6P/ 925975 | Mar., 2014 |
|            | X         | Spectrum Analyzer | Agilent         | E4407B / US39440758         | May, 2013  |
|            |           | Test Receiver     | R & S           | ESCS 30/ 825442/018         | Sep., 2012 |
|            | X         | Coaxial Cable     | QuieTek         | QTK-CABLE/ CAB5             | Feb., 2014 |
|            | X         | Controller        | QuieTek         | QTK-CONTROLLER/ CTRL3       | N/A        |
|            | X         | Coaxial Switch    | Anritsu         | MP59B/6200265729            | N/A        |

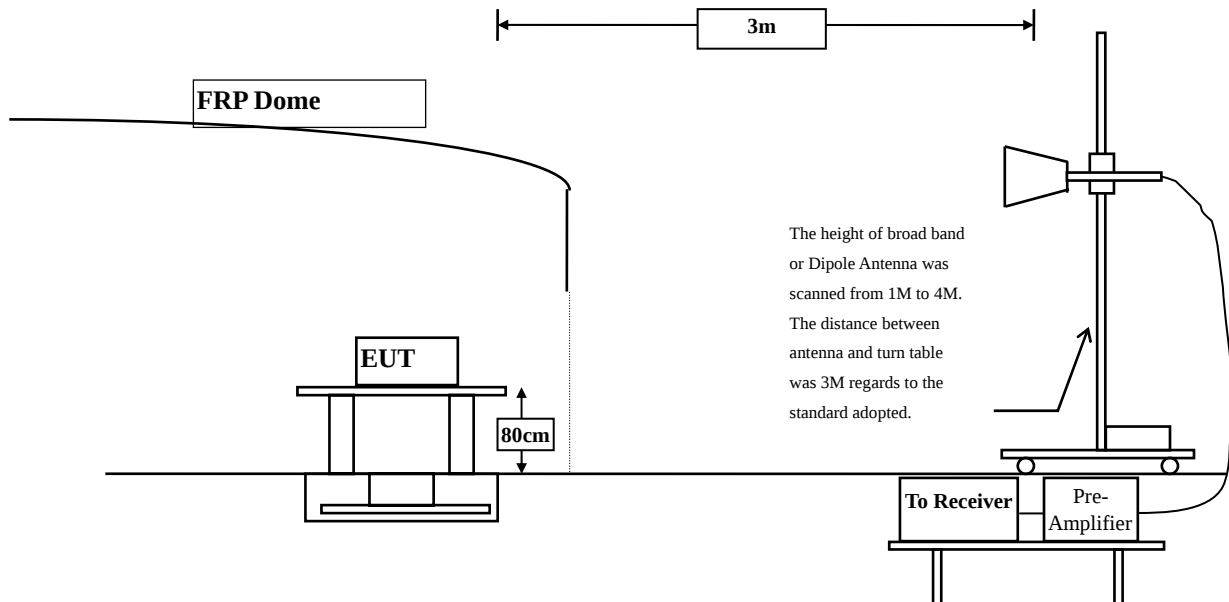
- Note:
1. All instruments are calibrated every one year.
  2. The test instruments marked by "X" are used to measure the final test results.

## 7.2. Test Setup

### RF Conducted Measurement:



### RF Radiated Measurement:



### 7.3. Limits

The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

Radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209:

| FCC Part 15 Subpart C Paragraph 15.209 Limits |          |           |
|-----------------------------------------------|----------|-----------|
| Frequency<br>MHz                              | uV/m @3m | dBμV/m@3m |
| 30-88                                         | 100      | 40        |
| 88-216                                        | 150      | 43.5      |
| 216-960                                       | 200      | 46        |
| Above 960                                     | 500      | 54        |

- Remarks :
1. RF Voltage (dBμV) = 20 log RF Voltage (uV)
  2. In the Above Table, the tighter limit applies at the band edges.
  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.

### 7.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10:2009 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz. The EUT was setup to ANSI C63.10, 2009; tested to DTS test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

### 7.5. Uncertainty

- ± 3.8 dB below 1GHz
- ± 3.9 dB above 1GHz

## 7.6. Test Result of Band Edge

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 36

### RF Radiated Measurement (Horizontal):

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 36 (Peak)    | 5149.600        | 3.342               | 41.296               | 44.638                  | 74.00               | 54.00                  | Pass   |
| 36 (Peak)    | 5150.000        | 3.340               | 40.457               | 43.797                  | 74.00               | 54.00                  | Pass   |
| 36 (Peak)    | 5183.200        | 3.223               | 89.953               | 93.176                  | --                  | --                     | --     |
| 36 (Average) | 5104.800        | 3.479               | 28.773               | 32.252                  | 74.00               | 54.00                  | Pass   |
| 36 (Average) | 5150.000        | 3.340               | 25.469               | 28.809                  | 74.00               | 54.00                  | Pass   |
| 36 (Average) | 5185.000        | 3.217               | 77.968               | 81.184                  | --                  | --                     | --     |

Figure Channel 36: Horizontal (Peak)

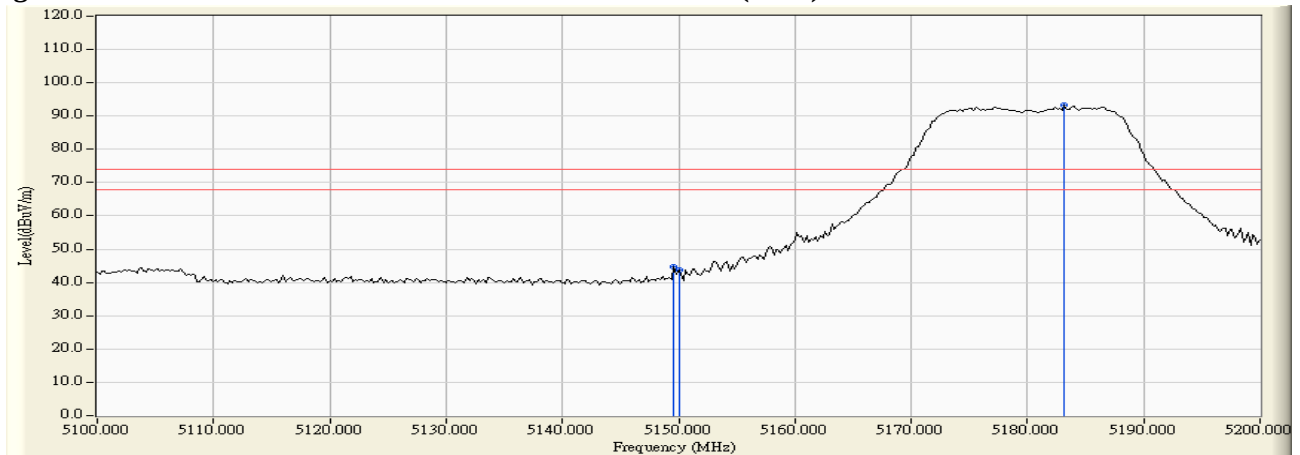
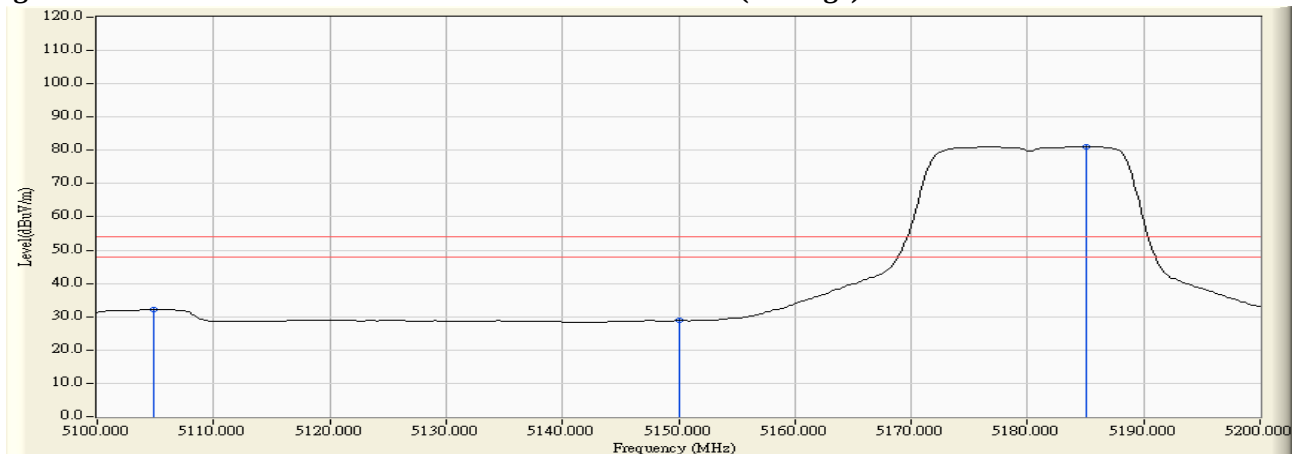


Figure Channel 36: Horizontal (Average)



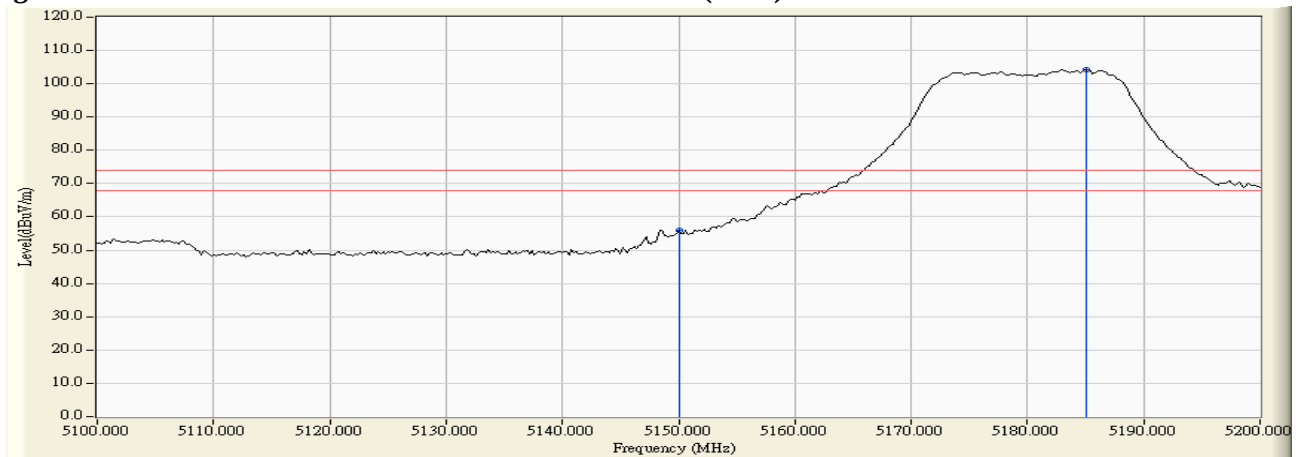
- Note:1. All readings above 1GHz are performed with peak and/or average measurements as necessary.  
 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.  
 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.  
 4. “ \* ”, means this data is the worst emission level.  
 5. Measurement Level = Reading Level + Correct Factor.  
 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)-Channel 36

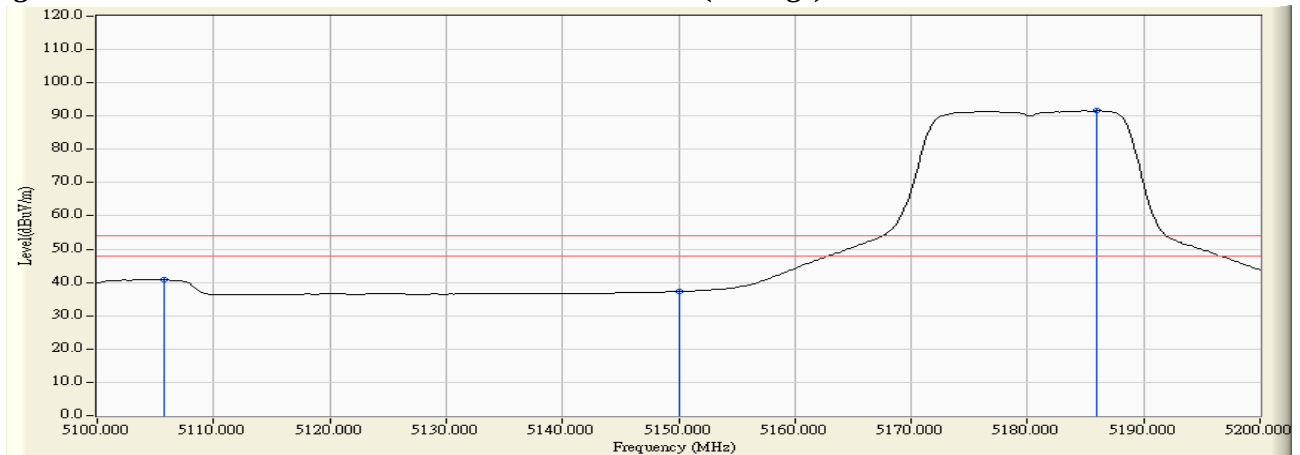
**RF Radiated Measurement (Vertical):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 36 (Peak)    | 5150.000        | 5.260               | 50.796               | 56.056                  | 74.00               | 54.00                  | Pass   |
| 36 (Peak)    | 5185.000        | 5.356               | 98.879               | 104.234                 | --                  | --                     | --     |
| 36 (Average) | 5105.800        | 5.148               | 35.614               | 40.762                  | 74.00               | 54.00                  | Pass   |
| 36 (Average) | 5150.000        | 5.260               | 32.037               | 37.297                  | 74.00               | 54.00                  | Pass   |
| 36 (Average) | 5186.000        | 5.359               | 86.239               | 91.597                  | --                  | --                     | --     |

**Figure Channel 36: Vertical (Peak)**



**Figure Channel 36: Vertical (Average)**



**Note:**

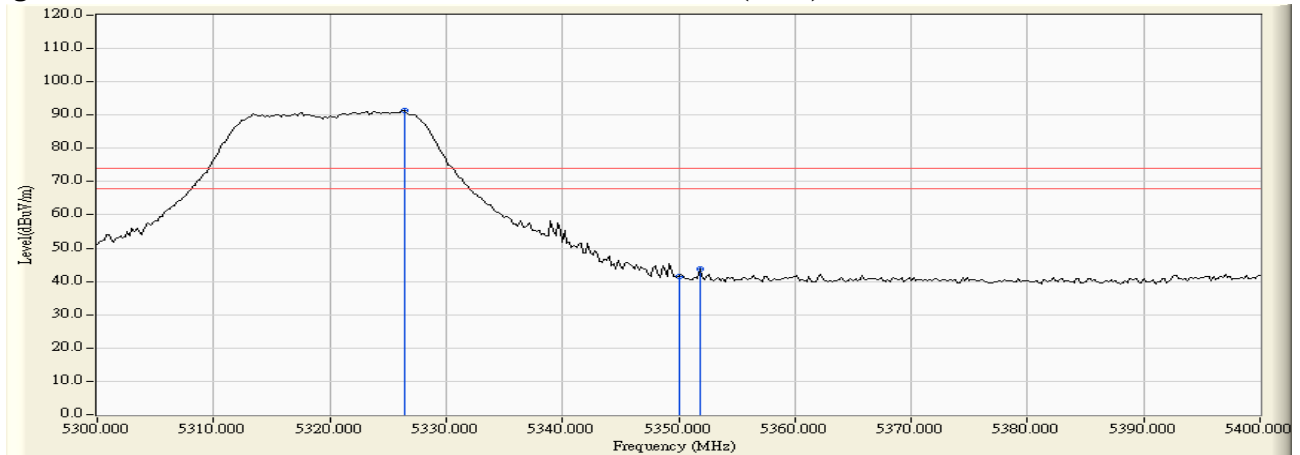
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 64

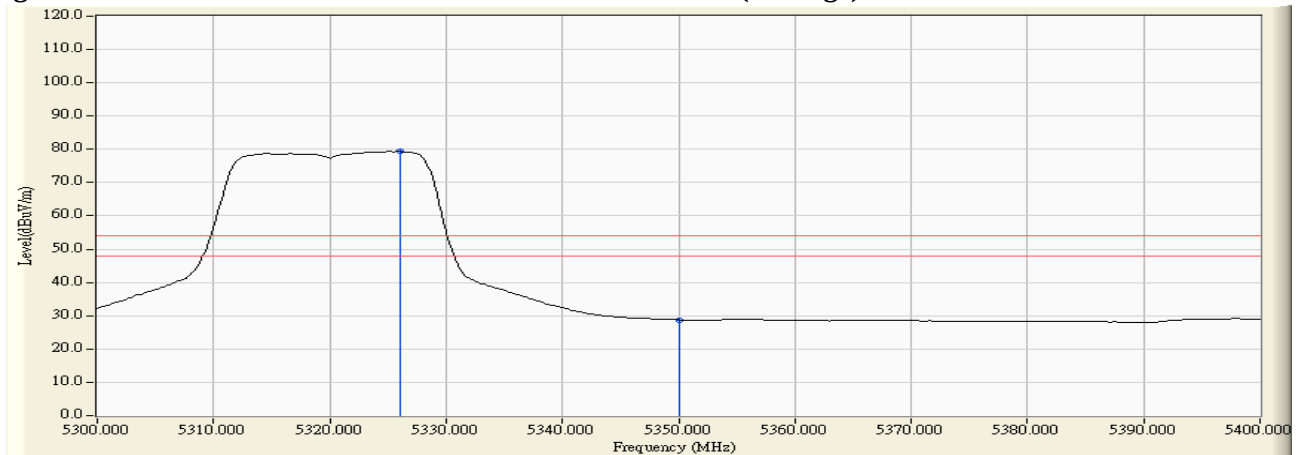
**RF Radiated Measurement (Horizontal):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 64 (Peak)    | 5326.400        | 3.792               | 87.578               | 91.370                  | --                  | --                     | --     |
| 64 (Peak)    | 5350.000        | 3.716               | 37.760               | 41.477                  | 74.00               | 54.00                  | Pass   |
| 64 (Peak)    | 5351.800        | 3.710               | 40.139               | 43.850                  | 74.00               | 54.00                  | Pass   |
| 64 (Average) | 5326.000        | 3.793               | 75.551               | 79.344                  | --                  | --                     | --     |
| 64 (Average) | 5350.000        | 3.716               | 25.073               | 28.790                  | 74.00               | 54.00                  | Pass   |

**Figure Channel 64: Horizontal (Peak)**



**Figure Channel 64: Horizontal (Average)**



**Note:**

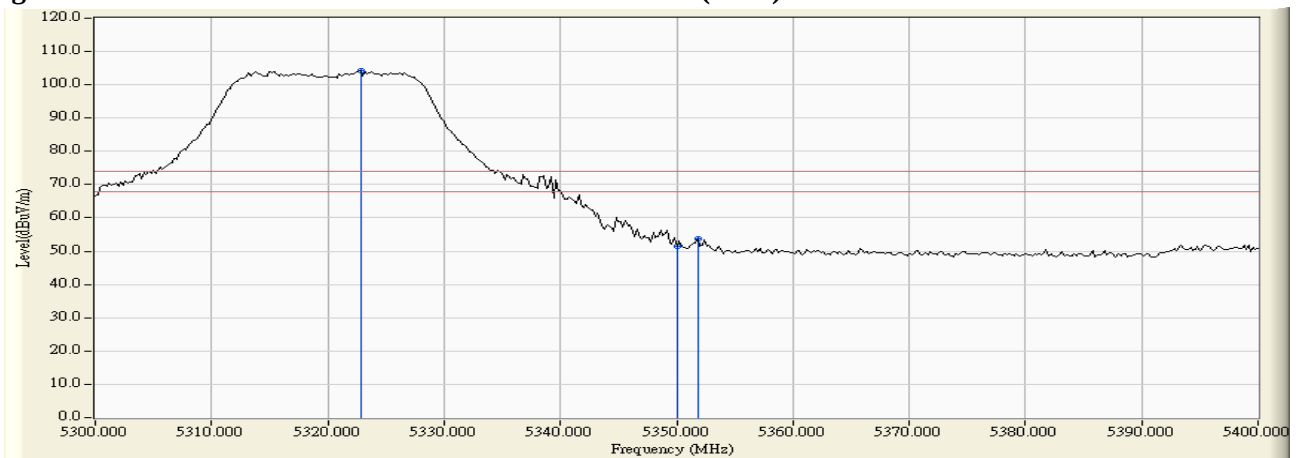
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 64

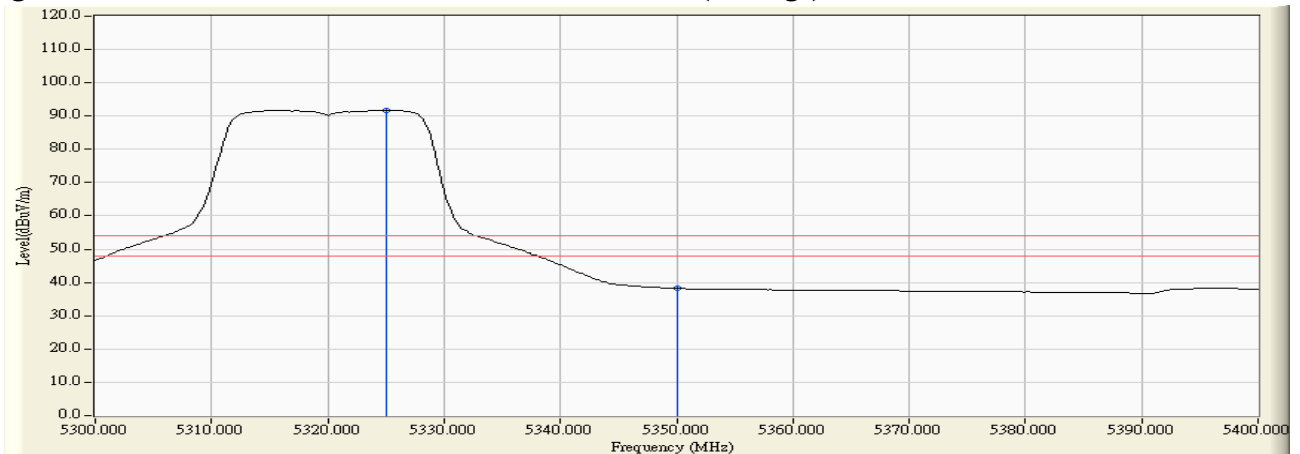
**RF Radiated Measurement (Vertical):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 64 (Peak)    | 5322.800        | 5.725               | 98.461               | 104.187                 | --                  | --                     | --     |
| 64 (Peak)    | 5350.000        | 5.691               | 45.813               | 51.505                  | 74.00               | 54.00                  | Pass   |
| 64 (Peak)    | 5351.800        | 5.689               | 48.035               | 53.724                  | 74.00               | 54.00                  | Pass   |
| 64 (Average) | 5325.000        | 5.722               | 86.013               | 91.736                  | --                  | --                     | --     |
| 64 (Average) | 5350.000        | 5.691               | 32.511               | 38.203                  | 74.00               | 54.00                  | Pass   |

**Figure Channel 64: Vertical (Peak)**



**Figure Channel 64: Vertical (Average)**



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

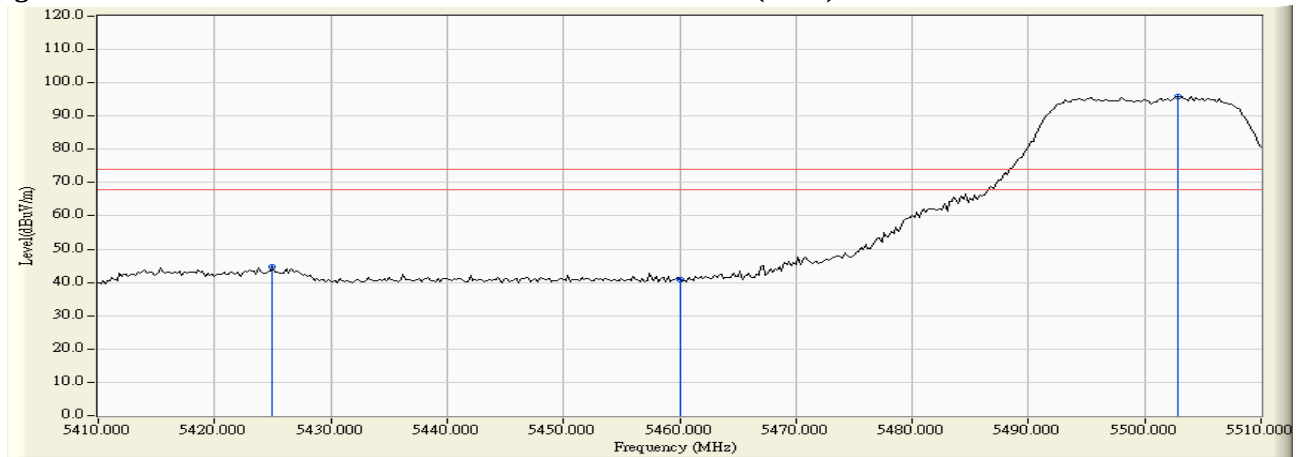
Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 100

**RF Radiated Measurement (Horizontal):**

| Channel No.   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|---------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 100 (Peak)    | 5425.000        | 3.888               | 40.673               | 44.561                  | 74.00               | 54.00                  | Pass   |
| 100 (Peak)    | 5460.000        | 4.354               | 36.464               | 40.818                  | 74.00               | 54.00                  | Pass   |
| 100 (Peak)    | 5502.800        | 4.834               | 91.125               | 95.959                  | --                  | --                     | --     |
| 100 (Average) | 5424.400        | 3.880               | 27.765               | 31.645                  | 74.00               | 54.00                  | Pass   |
| 100 (Average) | 5460.000        | 4.354               | 24.730               | 29.084                  | 74.00               | 54.00                  | Pass   |
| 100 (Average) | 5503.400        | 4.837               | 78.528               | 83.366                  | --                  | --                     | --     |

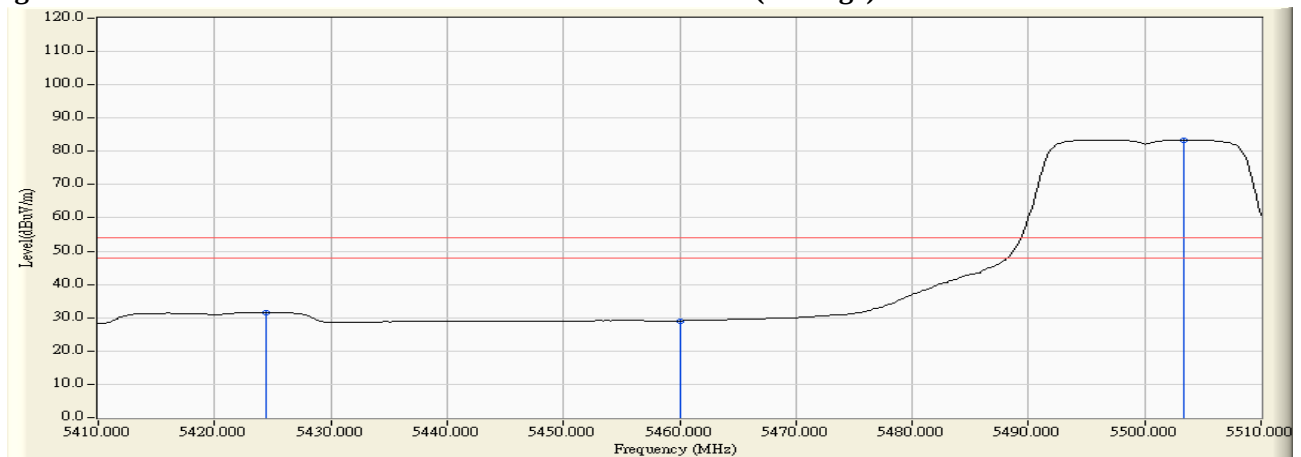
**Figure Channel 100:**

**Horizontal (Peak)**



**Figure Channel 100:**

**Horizontal (Average)**



**Note:**

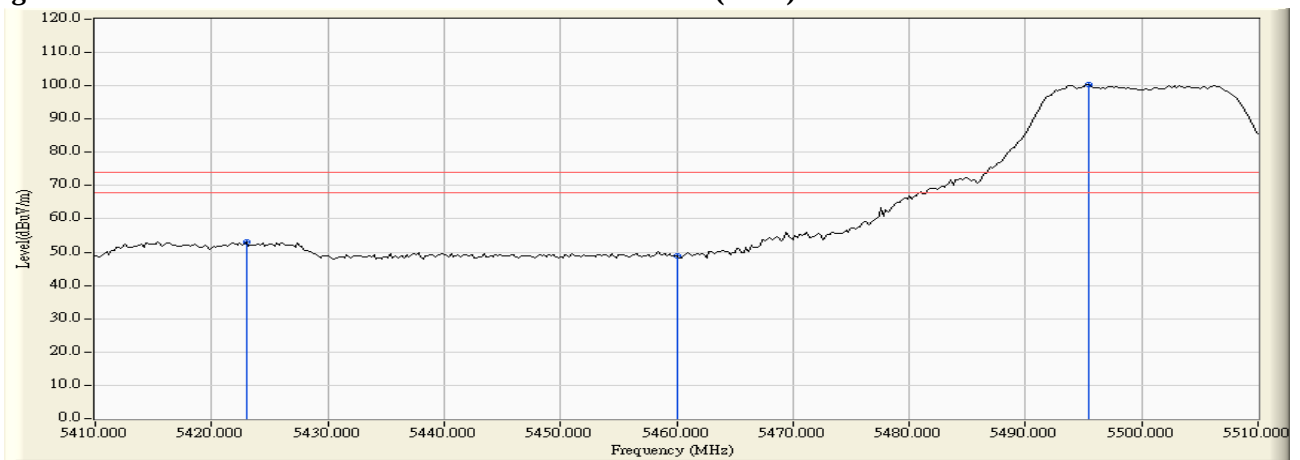
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 100

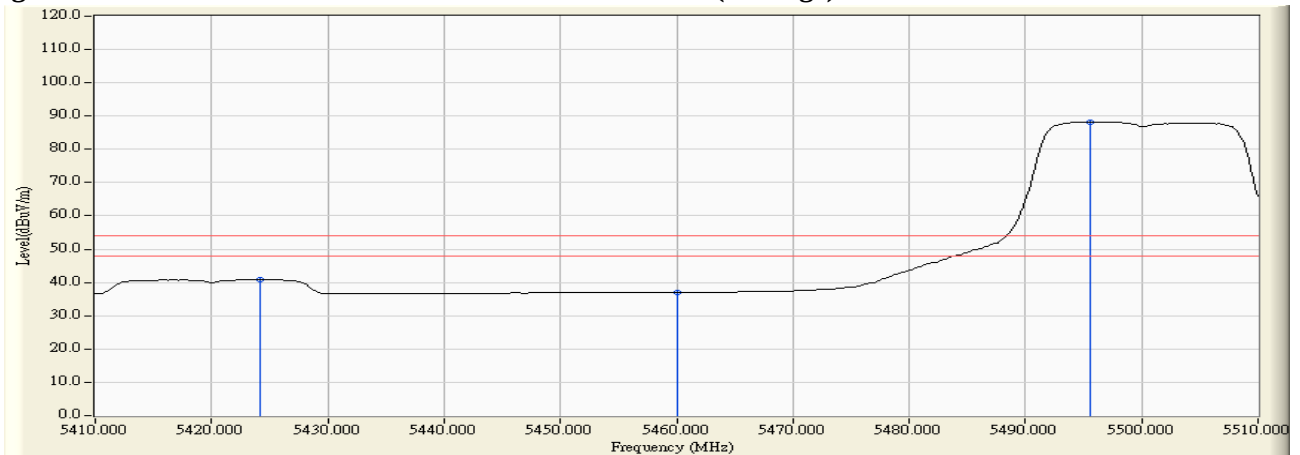
**RF Radiated Measurement (Vertical):**

| Channel No.   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|---------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 100 (Peak)    | 5423.000        | 5.785               | 47.198               | 52.983                  | 74.00               | 54.00                  | Pass   |
| 100 (Peak)    | 5460.000        | 6.041               | 42.825               | 48.866                  | 74.00               | 54.00                  | Pass   |
| 100 (Peak)    | 5495.400        | 6.261               | 94.100               | 100.361                 | --                  | --                     | --     |
| 100 (Average) | 5424.200        | 5.793               | 35.025               | 40.819                  | 74.00               | 54.00                  | Pass   |
| 100 (Average) | 5460.000        | 6.041               | 30.864               | 36.905                  | 74.00               | 54.00                  | Pass   |
| 100 (Average) | 5495.600        | 6.261               | 82.013               | 88.275                  | --                  | --                     | --     |

**Figure Channel 100: Vertical (Peak)**



**Figure Channel 100: Vertical (Average)**



**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 100

**RF Radiated Measurement:**

|            | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBm) | Measure Level (dBm/m) | Margin (dB) | Limit (dBm/m) | Result |
|------------|-----------------|---------------------|---------------------|-----------------------|-------------|---------------|--------|
| Horizontal | 5470.000        | 14.189              | -78.970             | -64.781               | -37.781     | -27.000       | Pass   |

|          | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBm) | Measure Level (dBm/m) | Margin (dB) | Limit (dBm/m) | Result |
|----------|-----------------|---------------------|---------------------|-----------------------|-------------|---------------|--------|
| Vertical | 5470.000        | 13.630              | -76.750             | -63.120               | -36.120     | -27.000       | Pass   |

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) -Channel 140

**RF Radiated Measurement:**

|            | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBm) | Measure Level<br>(dBm/m) | Margin<br>(dB) | Limit<br>(dBm/m) | Result |
|------------|--------------------|------------------------|------------------------|--------------------------|----------------|------------------|--------|
| Horizontal | 5725.000           | 14.557                 | -78.520                | -63.963                  | -36.963        | -27.000          | Pass   |

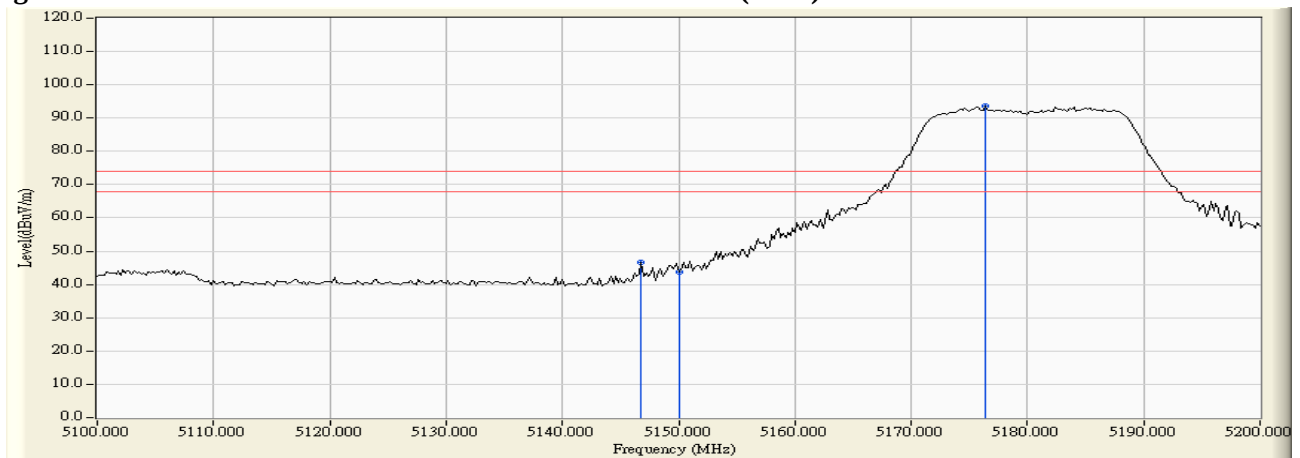
|          | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBm) | Measure Level<br>(dBm/m) | Margin<br>(dB) | Limit<br>(dBm/m) | Result |
|----------|--------------------|------------------------|------------------------|--------------------------|----------------|------------------|--------|
| Vertical | 5725.000           | 14.292                 | -77.070                | -62.778                  | -35.778        | -27.000          | Pass   |

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) -Channel 36

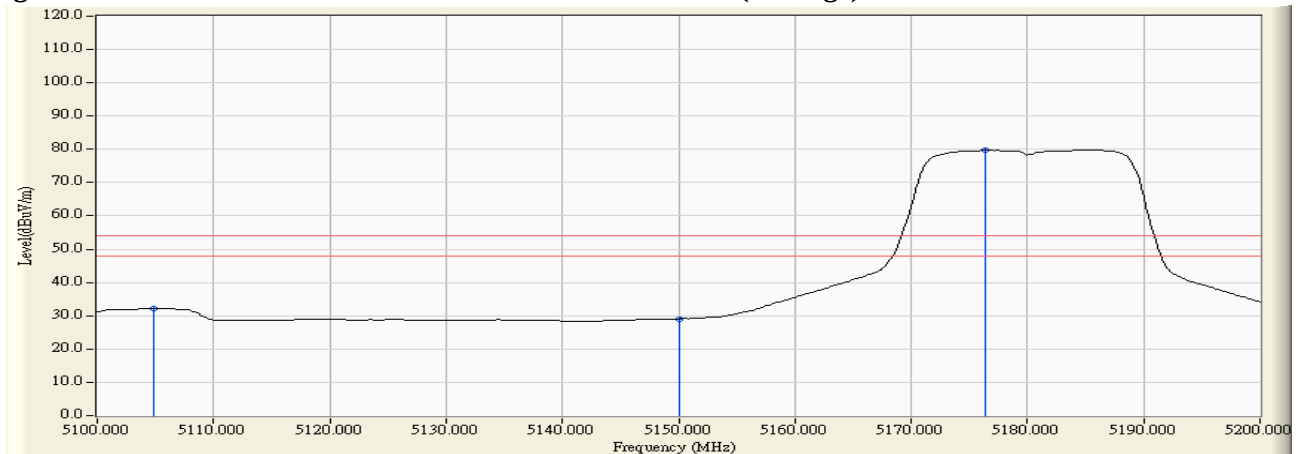
**RF Radiated Measurement (Horizontal):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 36 (Peak)    | 5146.800        | 3.351               | 43.139               | 46.491                  | 74.00               | 54.00                  | Pass   |
| 36 (Peak)    | 5150.000        | 3.340               | 40.376               | 43.716                  | 74.00               | 54.00                  | Pass   |
| 36 (Peak)    | 5176.400        | 3.248               | 90.519               | 93.766                  | --                  | --                     | --     |
| 36 (Average) | 5104.800        | 3.479               | 28.768               | 32.247                  | 74.00               | 54.00                  | Pass   |
| 36 (Average) | 5150.000        | 3.340               | 25.757               | 29.097                  | 74.00               | 54.00                  | Pass   |
| 36 (Average) | 5176.400        | 3.248               | 76.516               | 79.763                  | --                  | --                     | --     |

**Figure Channel 36: Horizontal (Peak)**



**Figure Channel 36: Horizontal (Average)**



**Note:**

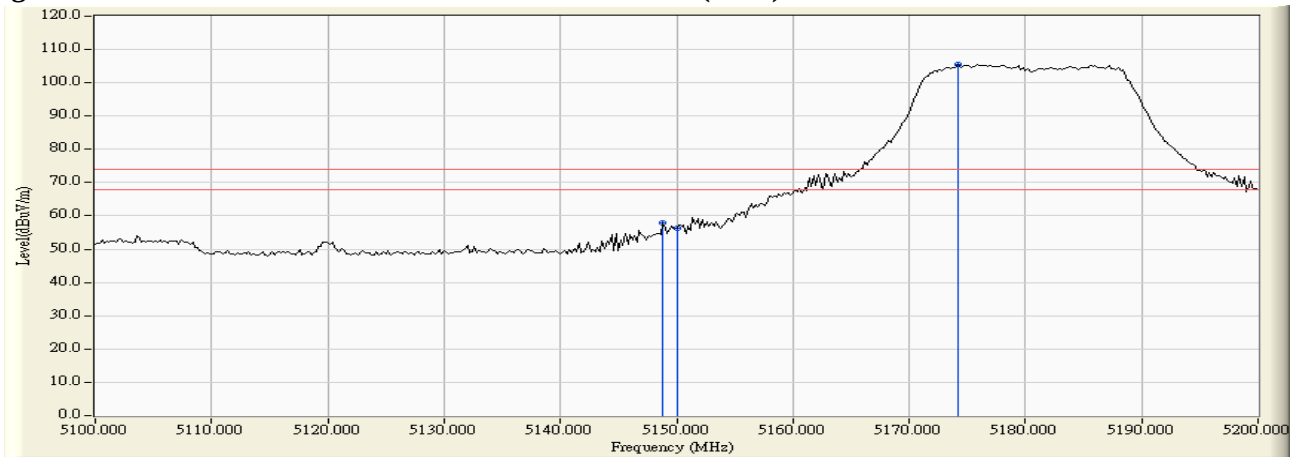
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) -Channel 36

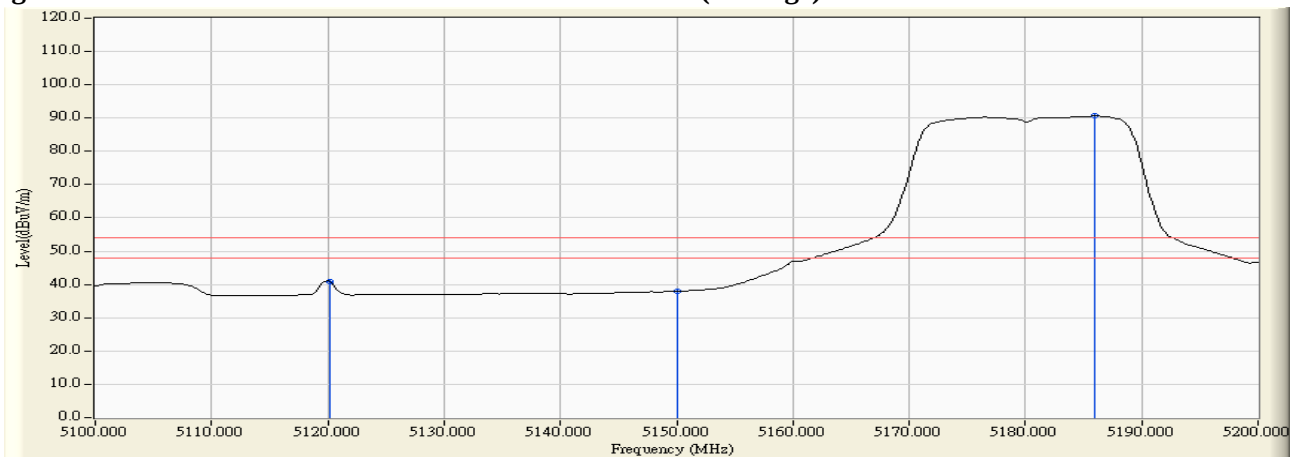
**RF Radiated Measurement (Vertical):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 36 (Peak)    | 5148.800        | 5.257               | 52.637               | 57.894                  | 74.00               | 54.00                  | Pass   |
| 36 (Peak)    | 5150.000        | 5.260               | 51.181               | 56.441                  | 74.00               | 54.00                  | Pass   |
| 36 (Peak)    | 5174.200        | 5.327               | 100.274              | 105.600                 | --                  | --                     | --     |
| 36 (Average) | 5120.200        | 5.178               | 35.675               | 40.853                  | 74.00               | 54.00                  | Pass   |
| 36 (Average) | 5150.000        | 5.260               | 32.722               | 37.982                  | 74.00               | 54.00                  | Pass   |
| 36 (Average) | 5186.000        | 5.359               | 85.224               | 90.582                  | --                  | --                     | --     |

**Figure Channel 36: Vertical (Peak)**



**Figure Channel 36: Vertical (Average)**



Note:

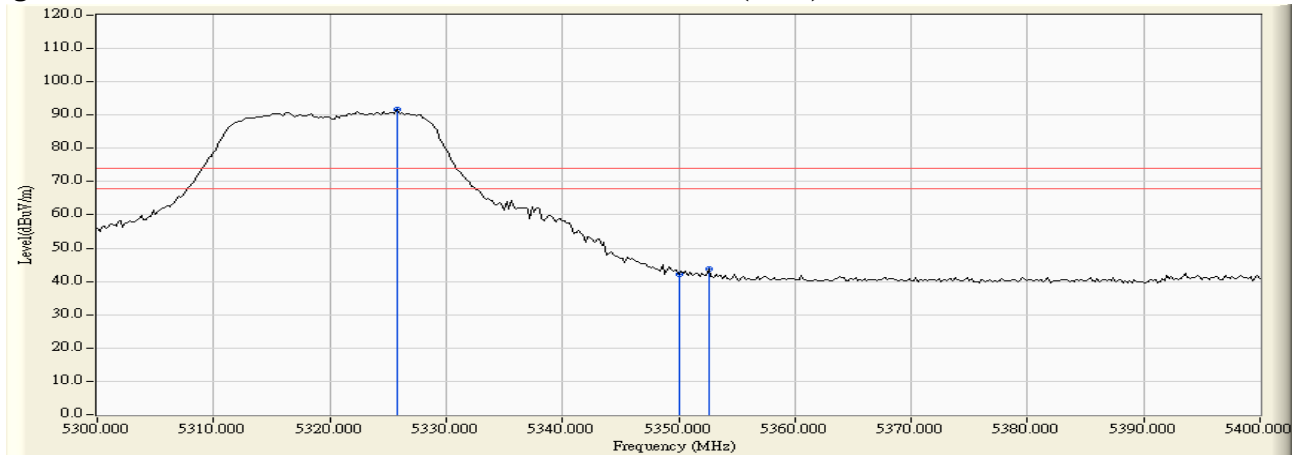
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) -Channel 64

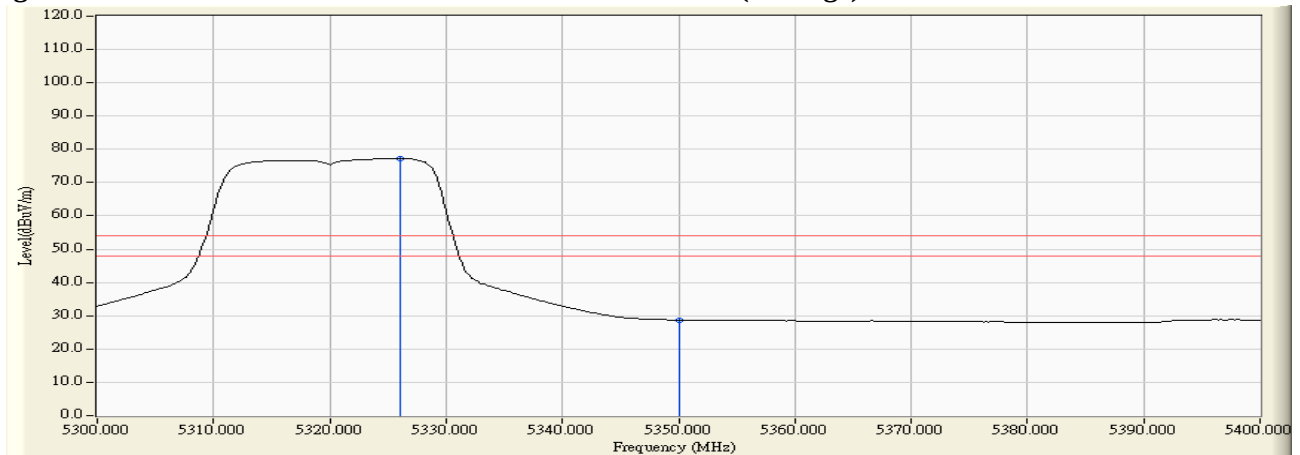
**RF Radiated Measurement (Horizontal):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 64 (Peak)    | 5325.800        | 3.794               | 87.778               | 91.572                  | --                  | --                     | --     |
| 64 (Peak)    | 5350.000        | 3.716               | 38.330               | 42.047                  | 74.00               | 54.00                  | Pass   |
| 64 (Peak)    | 5352.600        | 3.708               | 39.962               | 43.670                  | 74.00               | 54.00                  | Pass   |
| 64 (Average) | 5326.000        | 3.793               | 73.530               | 77.323                  | --                  | --                     | --     |
| 64 (Average) | 5350.000        | 3.716               | 24.953               | 28.670                  | 74.00               | 54.00                  | Pass   |

**Figure Channel 64: Horizontal (Peak)**



**Figure Channel 64: Horizontal (Average)**



**Note:**

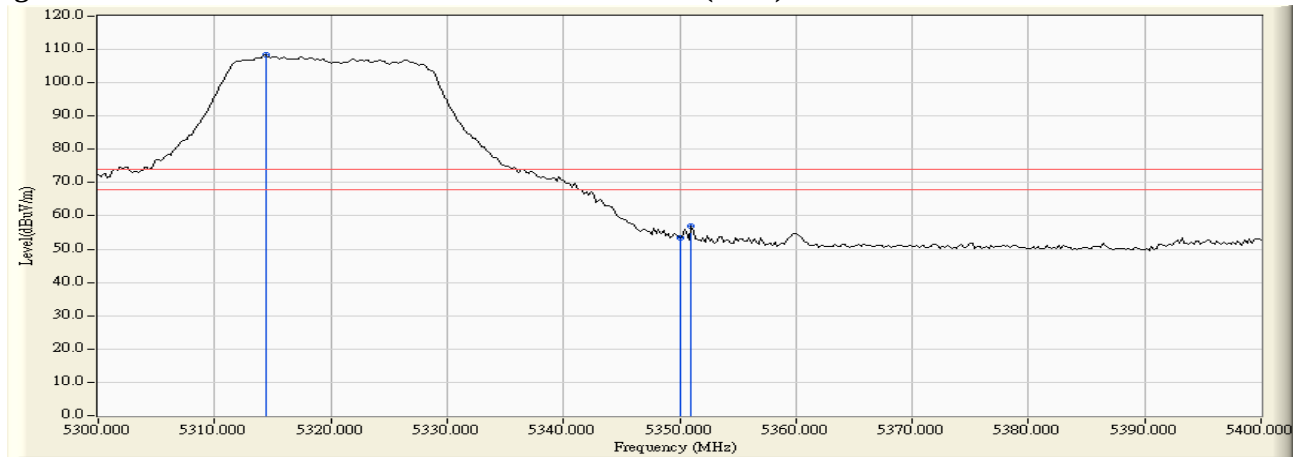
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) -Channel 64

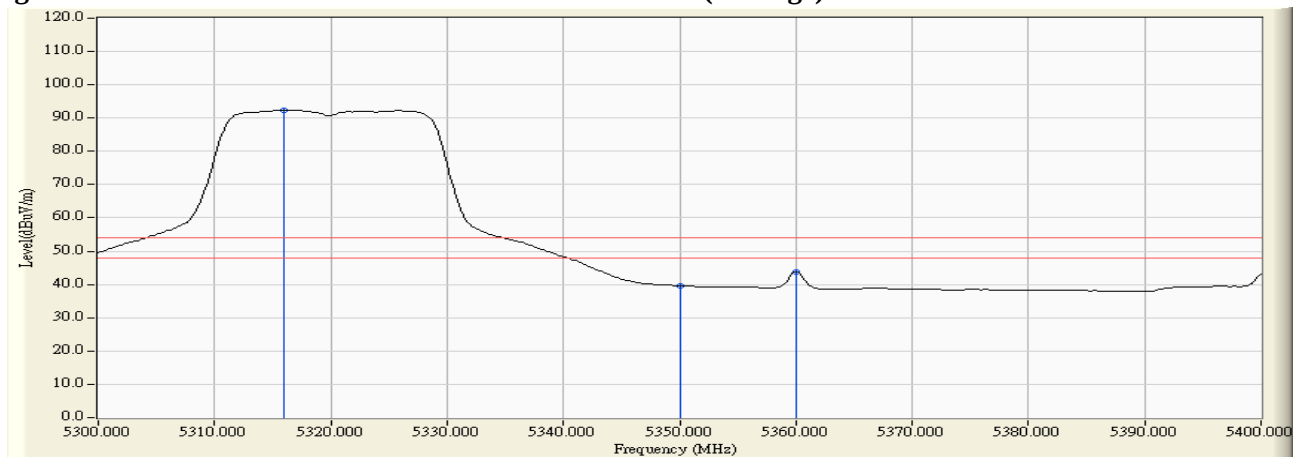
**RF Radiated Measurement (Vertical):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 64 (Peak)    | 5314.400        | 5.737               | 102.646              | 108.382                 | --                  | --                     | --     |
| 64 (Peak)    | 5350.000        | 5.691               | 47.868               | 53.560                  | 74.00               | 54.00                  | Pass   |
| 64 (Peak)    | 5351.000        | 5.690               | 51.253               | 56.943                  | 74.00               | 54.00                  | Pass   |
| 64 (Average) | 5316.000        | 5.733               | 86.626               | 92.360                  | --                  | --                     | --     |
| 64 (Average) | 5350.000        | 5.691               | 33.862               | 39.554                  | 74.00               | 54.00                  | Pass   |
| 64 (Average) | 5360.000        | 5.678               | 38.207               | 43.885                  | 74.00               | 54.00                  | Pass   |

**Figure Channel 64: Vertical (Peak)**



**Figure Channel 64: Vertical (Average)**



Note:

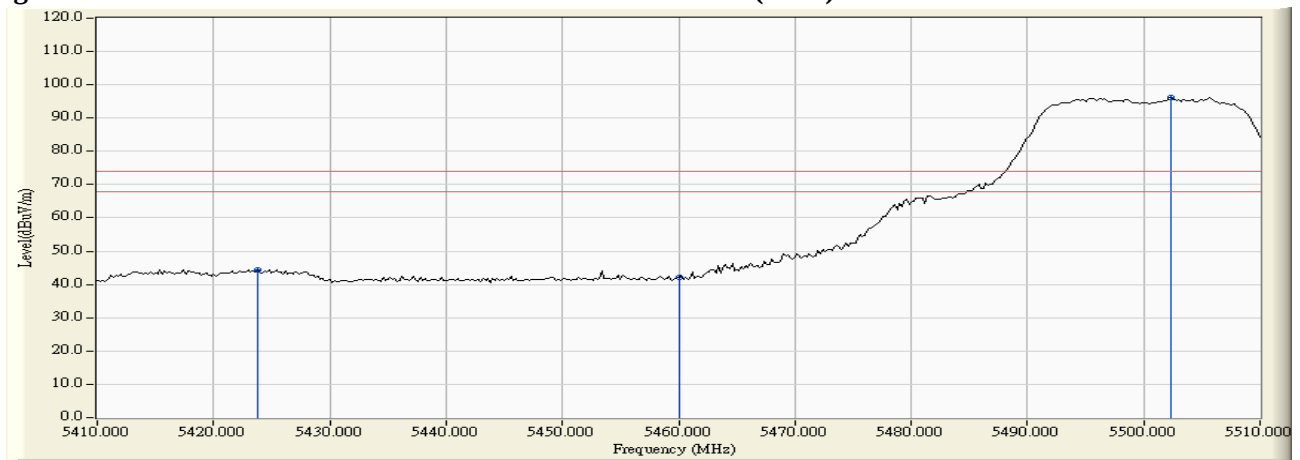
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) -Channel 100

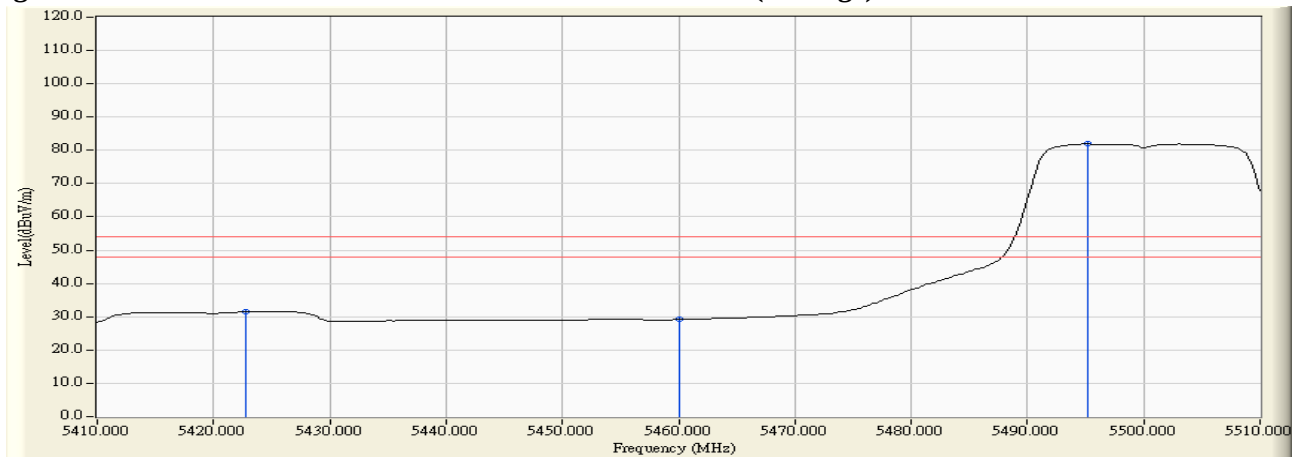
**RF Radiated Measurement (Horizontal):**

| Channel No.   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|---------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 100 (Peak)    | 5423.800        | 3.872               | 40.651               | 44.523                  | 74.00               | 54.00                  | Pass   |
| 100 (Peak)    | 5460.000        | 4.354               | 37.824               | 42.178                  | 74.00               | 54.00                  | Pass   |
| 100 (Peak)    | 5502.400        | 4.831               | 91.367               | 96.198                  | --                  | --                     | --     |
| 100 (Average) | 5422.800        | 3.859               | 27.642               | 31.501                  | 74.00               | 54.00                  | Pass   |
| 100 (Average) | 5460.000        | 4.354               | 24.763               | 29.117                  | 74.00               | 54.00                  | Pass   |
| 100 (Average) | 5495.200        | 4.781               | 77.146               | 81.927                  | --                  | --                     | --     |

**Figure Channel 100: Horizontal (Peak)**



**Figure Channel 100: Horizontal (Average)**



**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) -Channel 100

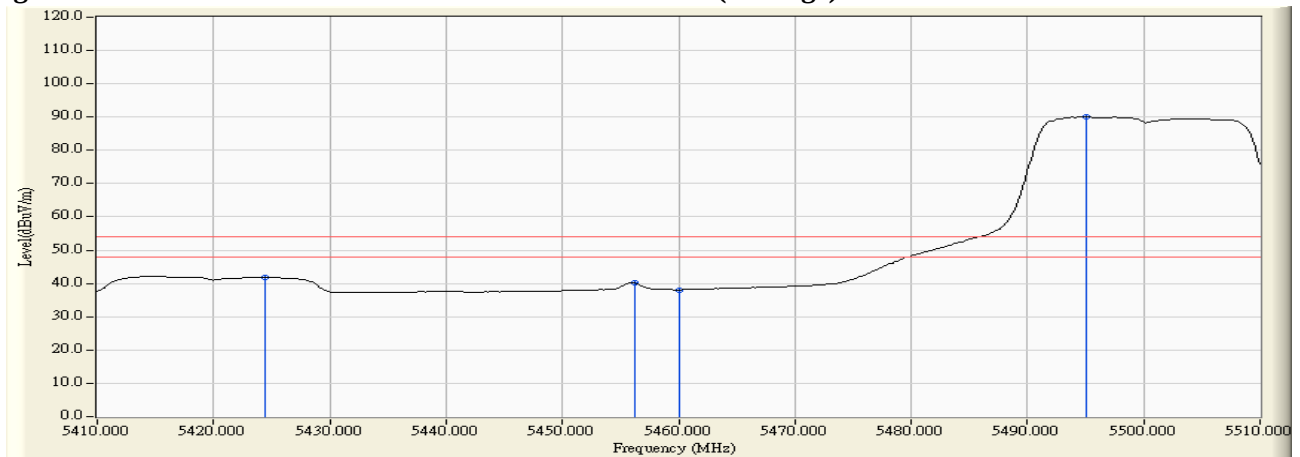
**RF Radiated Measurement (Vertical):**

| Channel No.   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|---------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 100 (Peak)    | 5460.000        | 6.041               | 46.595               | 52.636                  | 74.00               | 54.00                  | Pass   |
| 100 (Peak)    | 5506.200        | 6.282               | 98.514               | 104.796                 | --                  | --                     | --     |
| 100 (Average) | 5424.400        | 5.795               | 36.047               | 41.842                  | 74.00               | 54.00                  | Pass   |
| 100 (Average) | 5456.200        | 6.014               | 34.269               | 40.283                  | 74.00               | 54.00                  | Pass   |
| 100 (Average) | 5460.000        | 6.041               | 32.030               | 38.071                  | 74.00               | 54.00                  | Pass   |
| 100 (Average) | 5495.000        | 6.260               | 83.794               | 90.054                  | --                  | --                     | --     |

**Figure Channel 100: Vertical (Peak)**



**Figure Channel 100: Vertical (Average)**



**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) -Channel 100

**RF Radiated Measurement:**

|            | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBm) | Measure Level<br>(dBm/m) | Margin<br>(dB) | Limit<br>(dBm/m) | Result |
|------------|--------------------|------------------------|------------------------|--------------------------|----------------|------------------|--------|
| Horizontal | 5470.000           | 14.189                 | -78.790                | -64.601                  | -37.601        | -27.000          | Pass   |

|          | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBm) | Measure Level<br>(dBm/m) | Margin<br>(dB) | Limit<br>(dBm/m) | Result |
|----------|--------------------|------------------------|------------------------|--------------------------|----------------|------------------|--------|
| Vertical | 5470.000           | 13.630                 | -76.570                | -62.940                  | -35.940        | -27.000          | Pass   |

Product : MOXA IEEE 802.11a/b/g/n Wireless  
Test Item : Band Edge Data  
Test Site : No.3 OATS  
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) -Channel 140

**RF Radiated Measurement:**

|            | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBm) | Measure Level<br>(dBm/m) | Margin<br>(dB) | Limit<br>(dBm/m) | Result |
|------------|--------------------|------------------------|------------------------|--------------------------|----------------|------------------|--------|
| Horizontal | 5725.000           | 14.557                 | -78.200                | -63.643                  | -36.643        | -27.000          | Pass   |

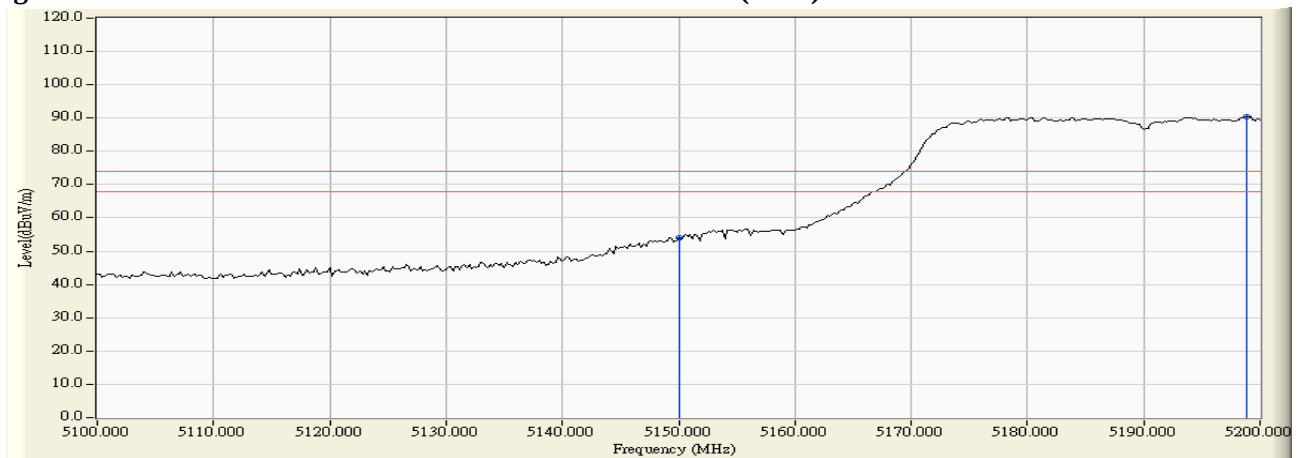
|          | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBm) | Measure Level<br>(dBm/m) | Margin<br>(dB) | Limit<br>(dBm/m) | Result |
|----------|--------------------|------------------------|------------------------|--------------------------|----------------|------------------|--------|
| Vertical | 5725.000           | 14.292                 | -77.520                | -63.228                  | -36.228        | -27.000          | Pass   |

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) -Channel 38

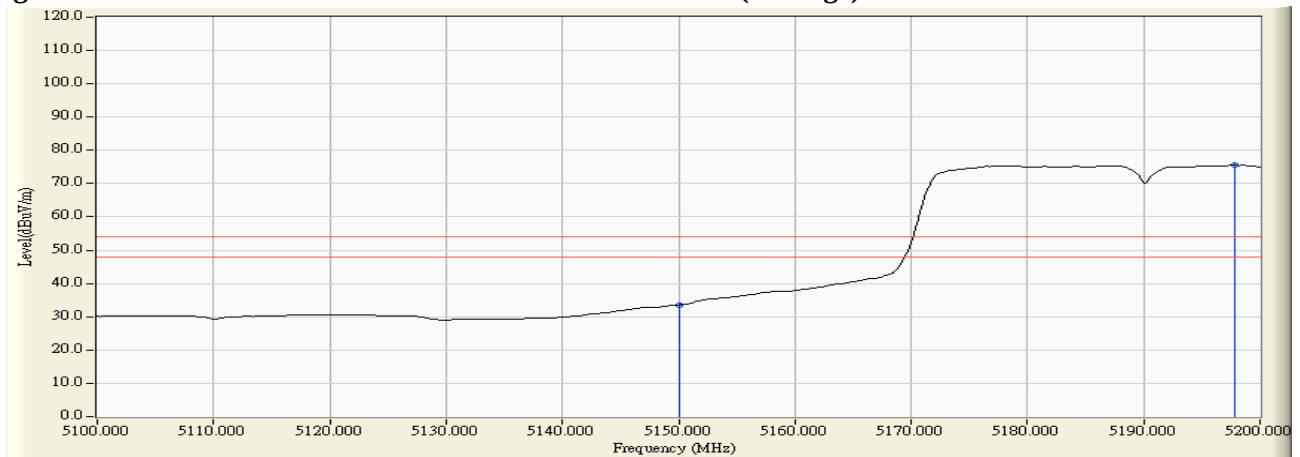
**RF Radiated Measurement (Horizontal):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 38 (Peak)    | 5150.000        | 3.340               | 50.773               | 54.113                  | 74.00               | 54.00                  | Pass   |
| 38 (Peak)    | 5198.800        | 3.157               | 87.297               | 90.454                  | --                  | --                     | --     |
| 38 (Average) | 5150.000        | 3.340               | 30.222               | 33.562                  | 74.00               | 54.00                  | Pass   |
| 38 (Average) | 5197.800        | 3.161               | 72.379               | 75.540                  | --                  | --                     | --     |

**Figure Channel 38: Horizontal (Peak)**



**Figure Channel 38: Horizontal (Average)**



**Note:**

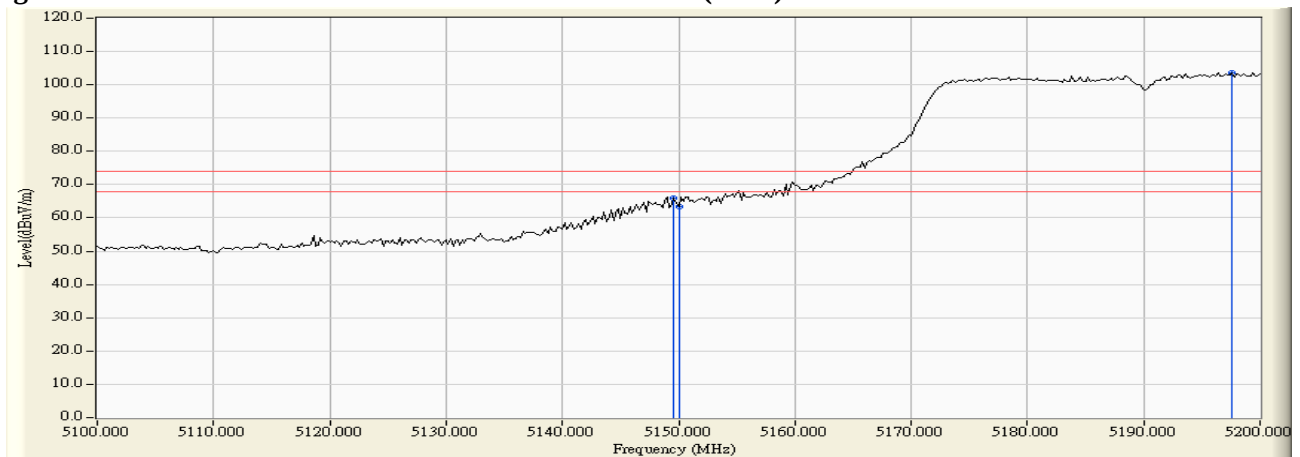
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) -Channel 38

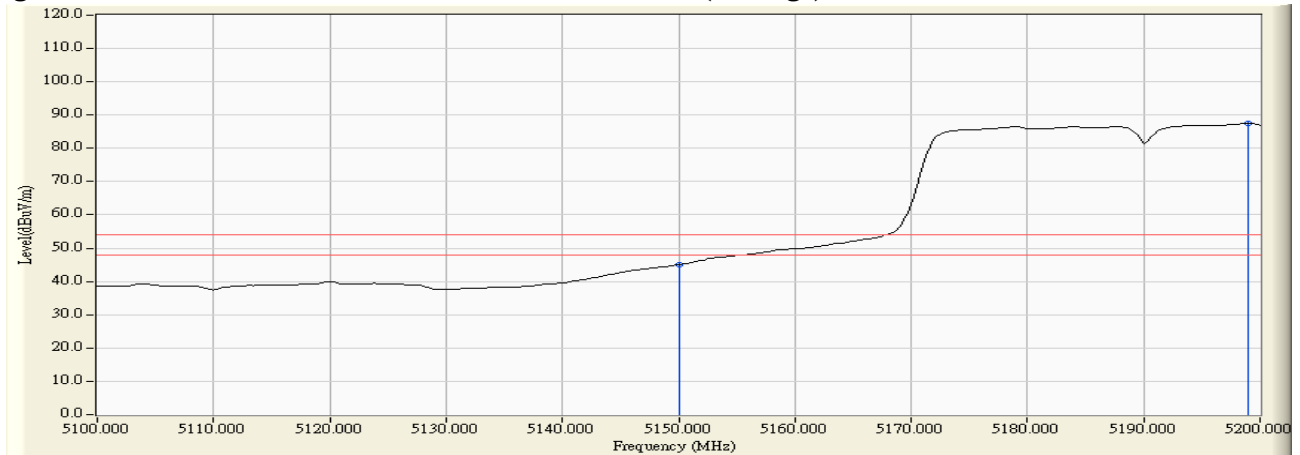
**RF Radiated Measurement (Vertical):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 38 (Peak)    | 5149.600        | 5.259               | 60.769               | 66.028                  | 74.00               | 54.00                  | Pass   |
| 38 (Peak)    | 5150.000        | 5.260               | 58.278               | 63.538                  | 74.00               | 54.00                  | Pass   |
| 38 (Peak)    | 5197.600        | 5.380               | 98.266               | 103.646                 | --                  | --                     | --     |
| 38 (Average) | 5150.000        | 5.260               | 39.773               | 45.033                  | 74.00               | 54.00                  | Pass   |
| 38 (Average) | 5199.000        | 5.383               | 82.113               | 87.496                  | --                  | --                     | --     |

**Figure Channel 38: Vertical (Peak)**



**Figure Channel 38: Vertical (Average)**



**Note:**

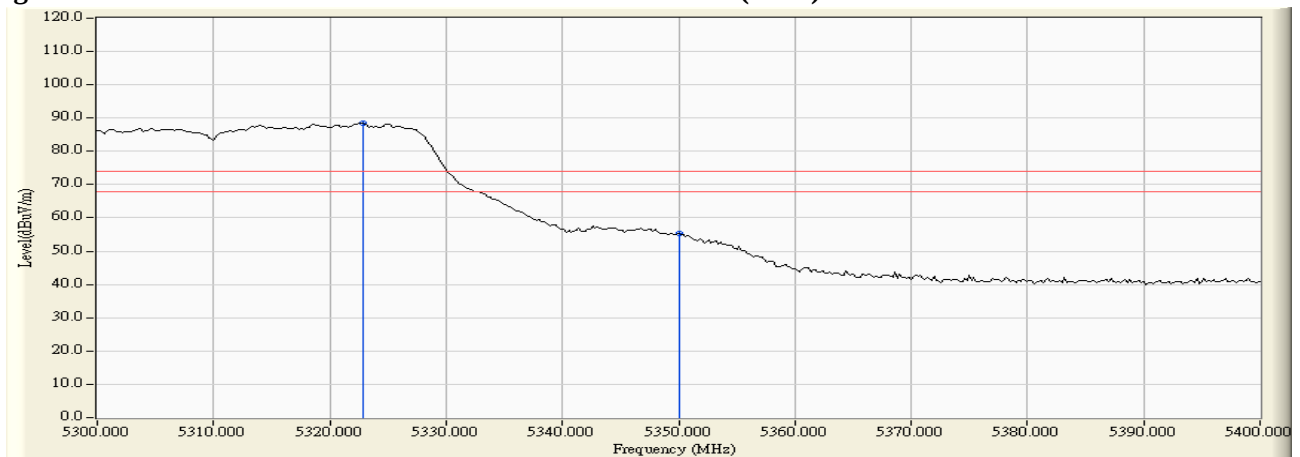
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) -Channel 62

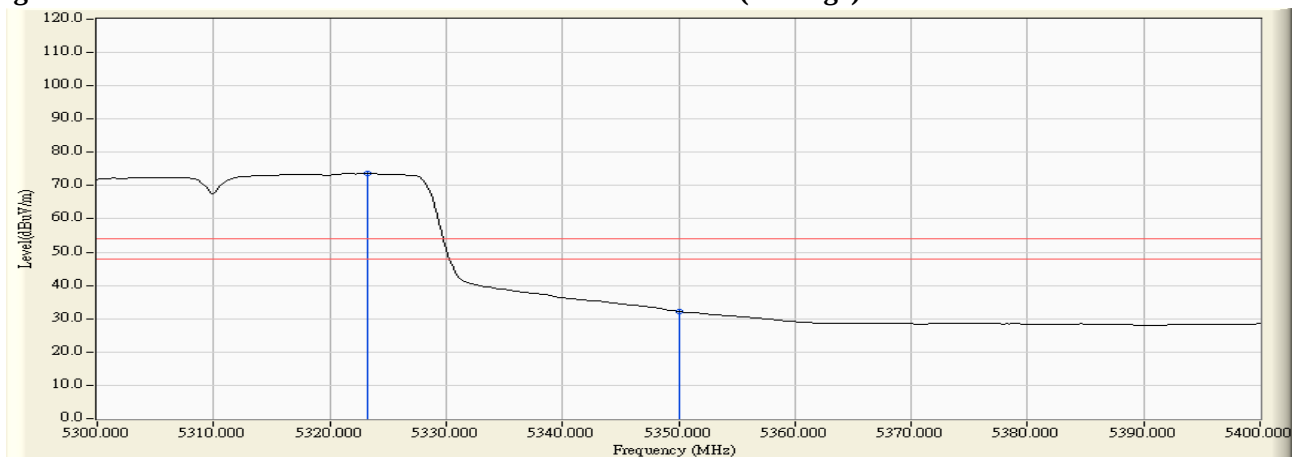
**RF Radiated Measurement (Horizontal):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 62 (Peak)    | 5322.800        | 3.803               | 84.561               | 88.365                  | --                  | --                     | --     |
| 62 (Peak)    | 5350.000        | 3.716               | 51.681               | 55.398                  | 74.00               | 54.00                  | Pass   |
| 62 (Average) | 5323.200        | 3.802               | 69.785               | 73.587                  | --                  | --                     | --     |
| 62 (Average) | 5350.000        | 3.716               | 28.421               | 32.138                  | 74.00               | 54.00                  | Pass   |

**Figure Channel 62: Horizontal (Peak)**



**Figure Channel 62: Horizontal (Average)**



Note:

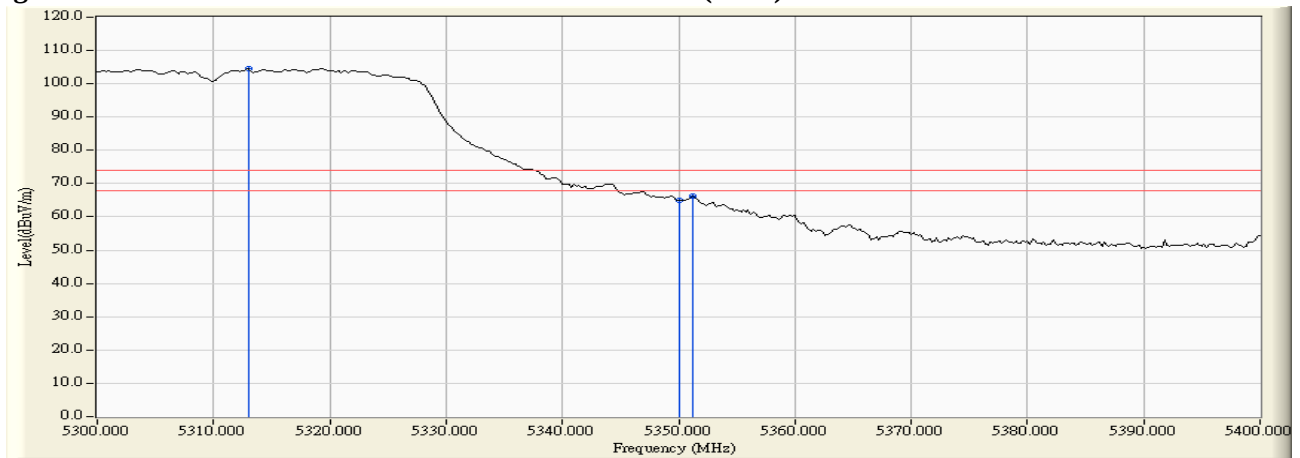
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) -Channel 62

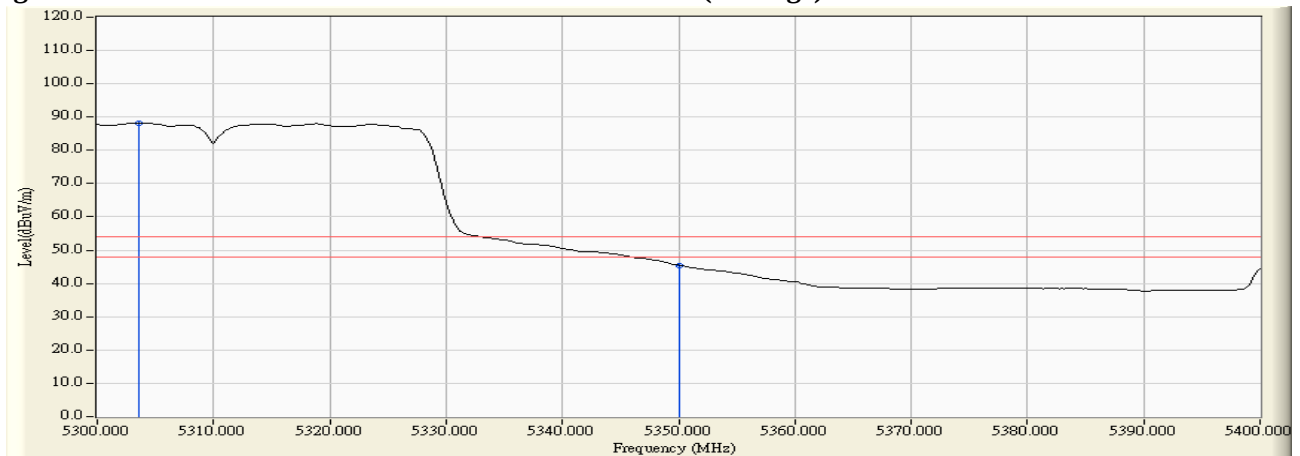
**RF Radiated Measurement (Vertical):**

| Channel No.  | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|--------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 62 (Peak)    | 5313.000        | 5.738               | 98.742               | 104.480                 | --                  | --                     | --     |
| 62 (Peak)    | 5350.000        | 5.691               | 59.219               | 64.911                  | 74.00               | 54.00                  | Pass   |
| 62 (Peak)    | 5351.200        | 5.690               | 60.663               | 66.353                  | 74.00               | 54.00                  | Pass   |
| 62 (Average) | 5303.600        | 5.751               | 82.437               | 88.187                  | --                  | --                     | --     |
| 62 (Average) | 5350.000        | 5.691               | 39.762               | 45.454                  | 74.00               | 54.00                  | Pass   |

**Figure Channel 62: Vertical (Peak)**



**Figure Channel 62: Vertical (Average)**



**Note:**

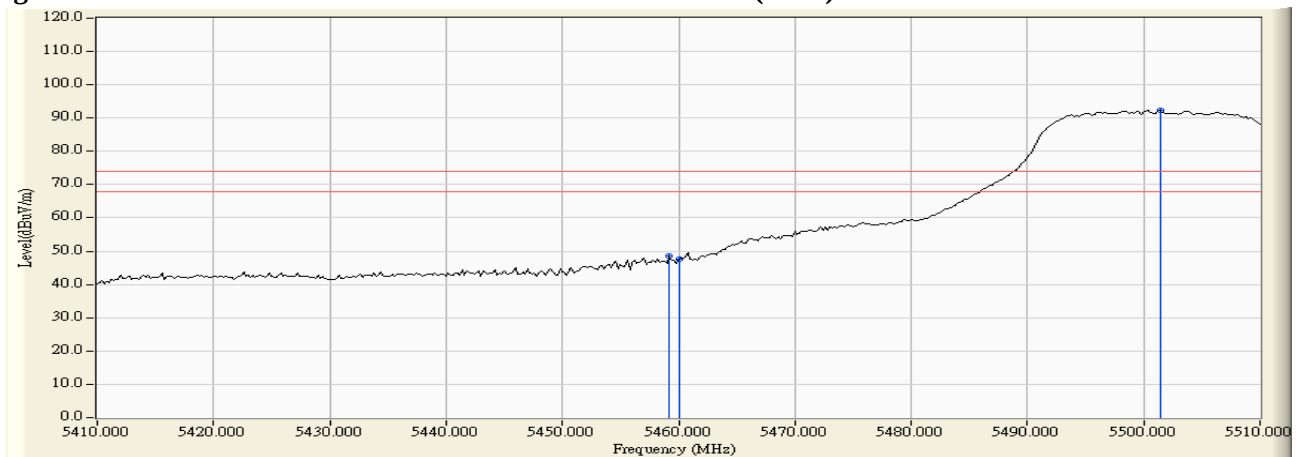
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) -Channel 102

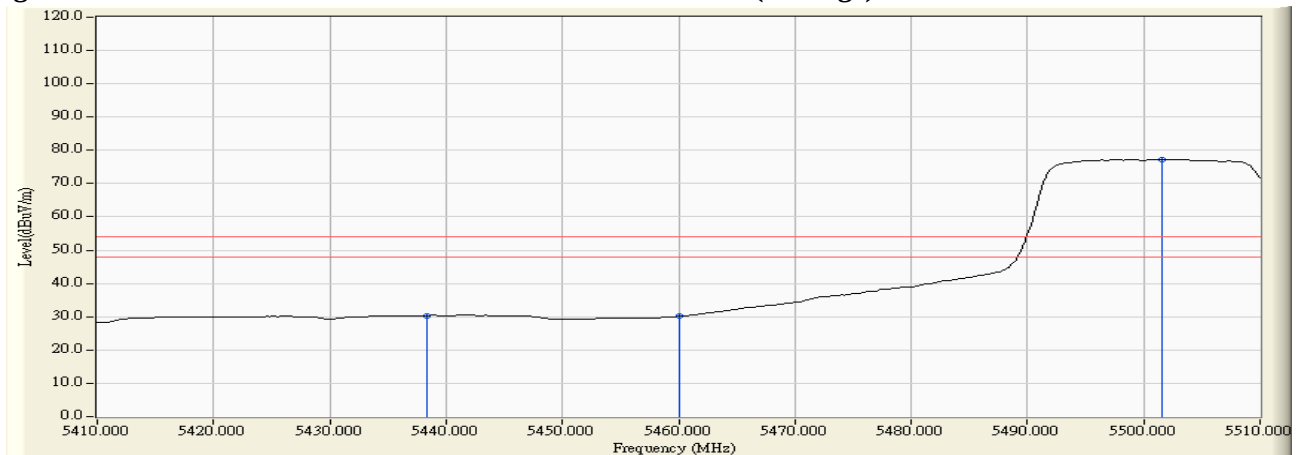
**RF Radiated Measurement (Horizontal):**

| Channel No.   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|---------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 102 (Peak)    | 5459.200        | 4.343               | 44.321               | 48.664                  | 74.00               | 54.00                  | Pass   |
| 102 (Peak)    | 5460.000        | 4.354               | 43.131               | 47.485                  | 74.00               | 54.00                  | Pass   |
| 102 (Peak)    | 5501.400        | 4.825               | 87.415               | 92.239                  | --                  | --                     | --     |
| 102 (Average) | 5438.400        | 4.068               | 26.334               | 30.402                  | 74.00               | 54.00                  | Pass   |
| 102 (Average) | 5460.000        | 4.354               | 25.797               | 30.151                  | 74.00               | 54.00                  | Pass   |
| 102 (Average) | 5501.600        | 4.826               | 72.426               | 77.252                  | --                  | --                     | --     |

**Figure Channel 102: Horizontal (Peak)**



**Figure Channel 102: Horizontal (Average)**



**Note:**

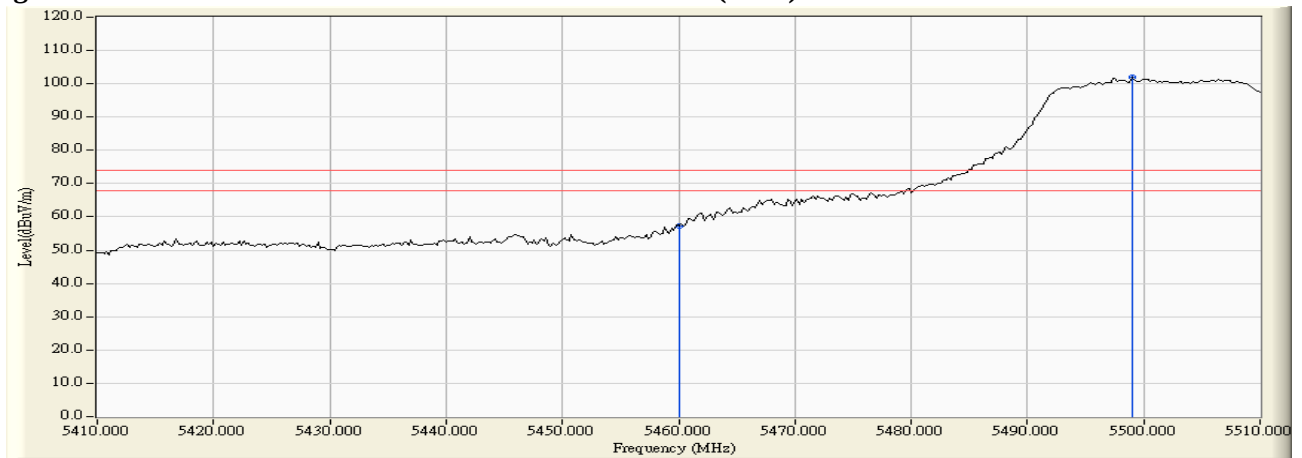
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " \* ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) -Channel 102

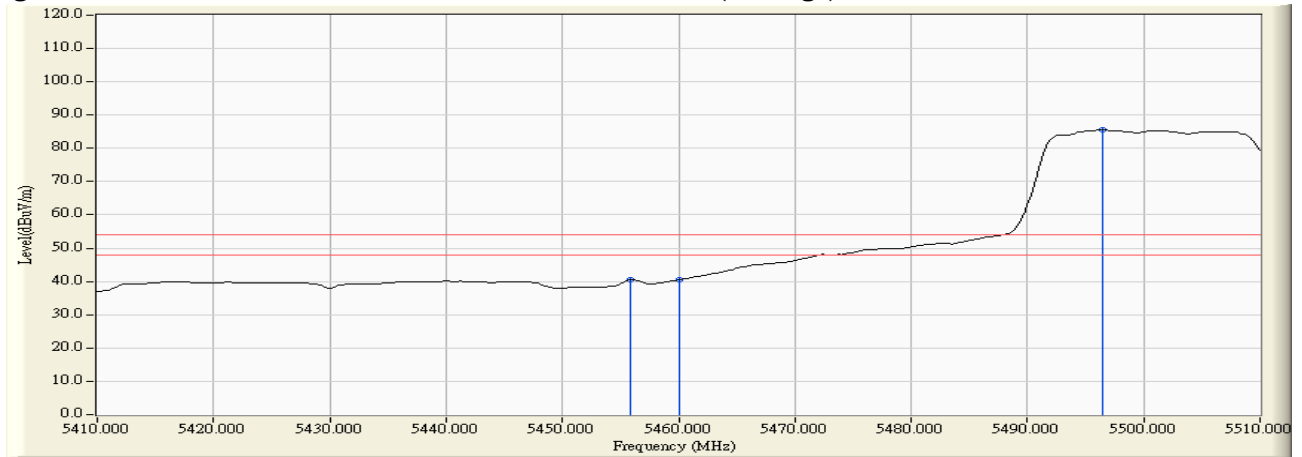
**RF Radiated Measurement (Vertical):**

| Channel No.   | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Peak Limit (dBμV/m) | Average Limit (dBμV/m) | Result |
|---------------|-----------------|---------------------|----------------------|-------------------------|---------------------|------------------------|--------|
| 102 (Peak)    | 5460.000        | 6.041               | 51.124               | 57.165                  | 74.00               | 54.00                  | Pass   |
| 102 (Peak)    | 5499.000        | 6.273               | 95.602               | 101.874                 | --                  | --                     | --     |
| 102 (Average) | 5455.800        | 6.011               | 34.496               | 40.507                  | 74.00               | 54.00                  | Pass   |
| 102 (Average) | 5460.000        | 6.041               | 34.339               | 40.380                  | 74.00               | 54.00                  | Pass   |
| 102 (Average) | 5496.400        | 6.264               | 79.341               | 85.605                  | --                  | --                     | --     |

**Figure Channel 102: Vertical (Peak)**



**Figure Channel 102: Vertical (Average)**



**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) -Channel 102

**RF Radiated Measurement:**

|            | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBm) | Measure Level (dBm/m) | Margin (dB) | Limit (dBm/m) | Result |
|------------|-----------------|---------------------|---------------------|-----------------------|-------------|---------------|--------|
| Horizontal | 5470.000        | 14.189              | -77.690             | -63.501               | -36.501     | -27.000       | Pass   |

|          | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBm) | Measure Level (dBm/m) | Margin (dB) | Limit (dBm/m) | Result |
|----------|-----------------|---------------------|---------------------|-----------------------|-------------|---------------|--------|
| Vertical | 5470.000        | 13.630              | -72.810             | -59.180               | -32.180     | -27.000       | Pass   |

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) -Channel 134

**RF Radiated Measurement:**

|            | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBm) | Measure Level<br>(dBm/m) | Margin<br>(dB) | Limit<br>(dBm/m) | Result |
|------------|--------------------|------------------------|------------------------|--------------------------|----------------|------------------|--------|
| Horizontal | 5725.000           | 14.557                 | -78.900                | -64.343                  | -37.343        | -27.000          | Pass   |

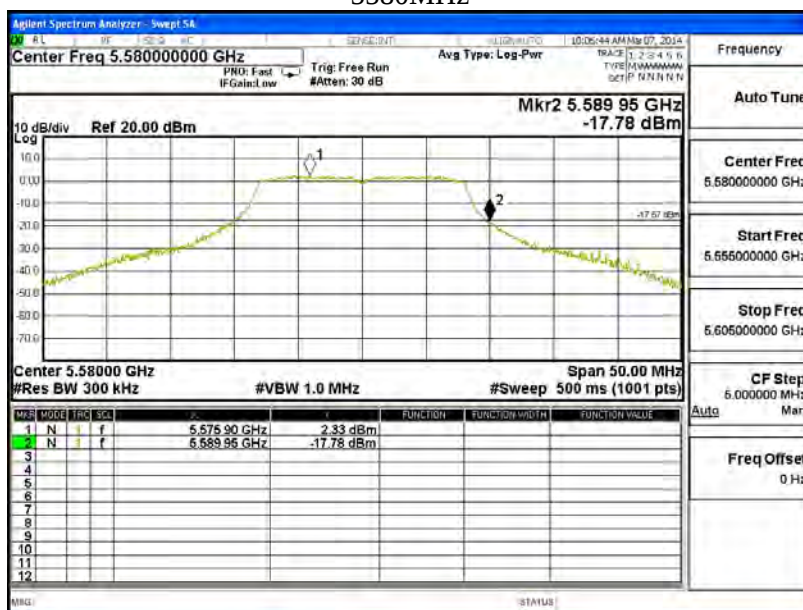
|          | Frequency<br>(MHz) | Correct Factor<br>(dB) | Reading Level<br>(dBm) | Measure Level<br>(dBm/m) | Margin<br>(dB) | Limit<br>(dBm/m) | Result |
|----------|--------------------|------------------------|------------------------|--------------------------|----------------|------------------|--------|
| Vertical | 5725.000           | 14.292                 | -78.340                | -64.048                  | -37.048        | -27.000          | Pass   |

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)

| Test Frequency<br>(MHz) | Measurement Level (20dB BW)<br>(MHz) | Limit<br>(MHz) | Result |
|-------------------------|--------------------------------------|----------------|--------|
| 5580                    | 5589.95                              | <5600          | PASS   |
| 5660                    | 5650.00                              | >5650          | PASS   |

NOTE: The 5600~5650MHz band is not used in accordance with 15.215 requirement.

### 5580MHz



### 5660MHz

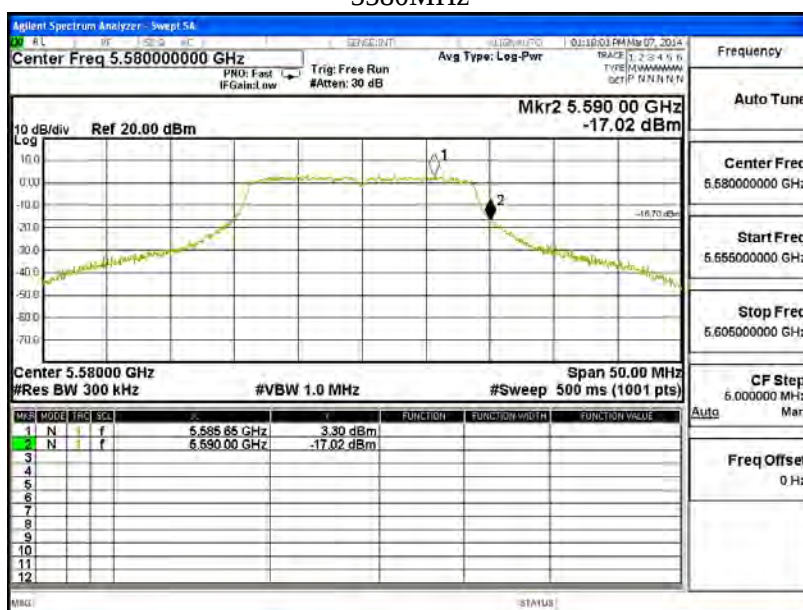


Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)

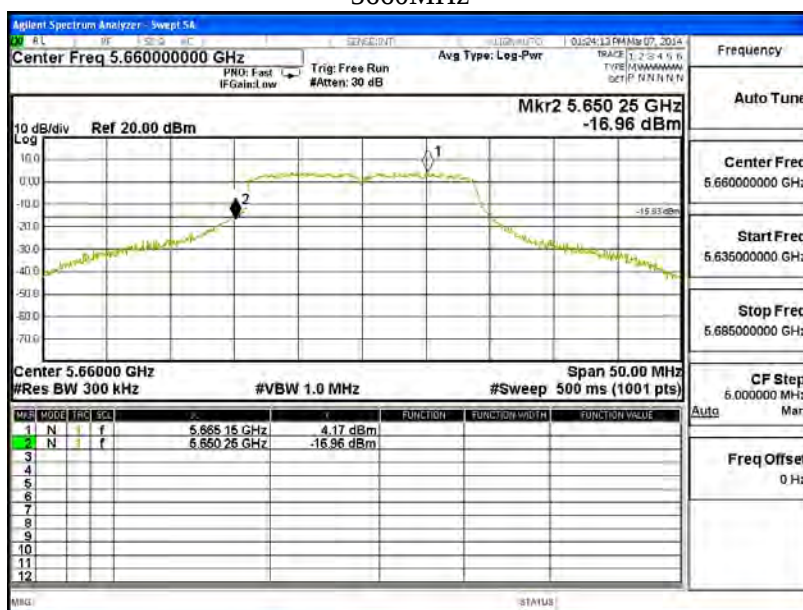
### Chain A

| Test Frequency<br>(MHz) | Measurement Level (20dB BW)<br>(MHz) | Limit<br>(MHz) | Result |
|-------------------------|--------------------------------------|----------------|--------|
| 5580                    | 5590.00                              | <5600          | PASS   |
| 5660                    | 5650.25                              | >5650          | PASS   |

NOTE: The 5600~5650MHz band is not used in accordance with 15.215 requirement.  
 5580MHz



### 5660MHz



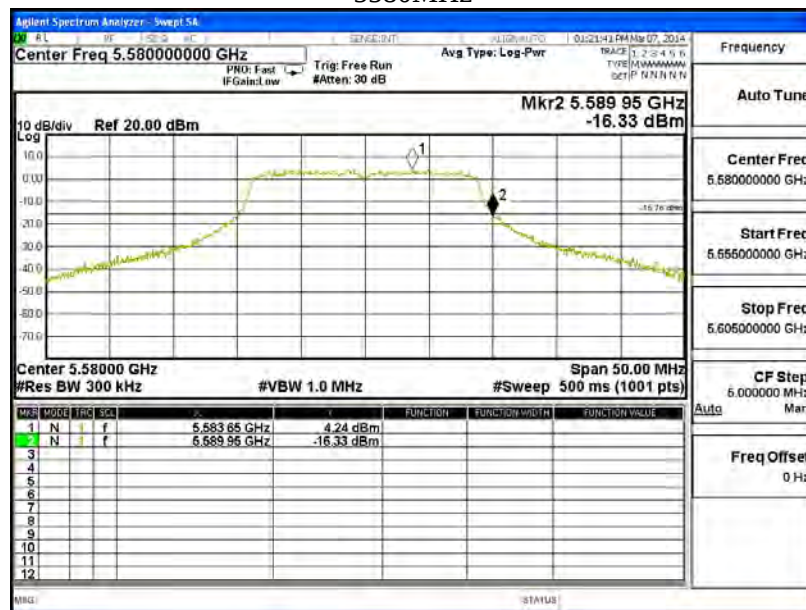
Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)

**Chain B**

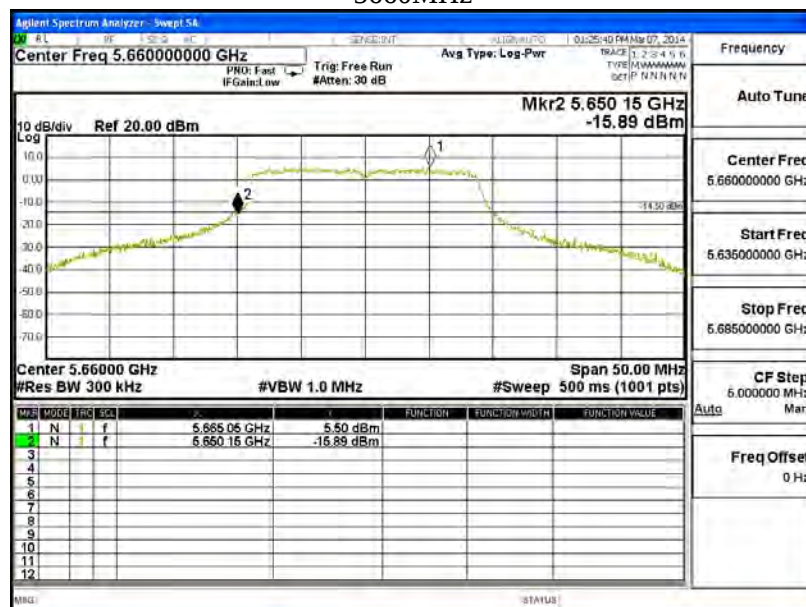
| Test Frequency (MHz) | Measurement Level (20dB BW) (MHz) | Limit (MHz) | Result |
|----------------------|-----------------------------------|-------------|--------|
| 5580                 | 5589.95                           | <5600       | PASS   |
| 5660                 | 5650.15                           | >5650       | PASS   |

NOTE: The 5600~5650MHz band is not used in accordance with 15.215 requirement.

**5580MHz**



**5660MHz**



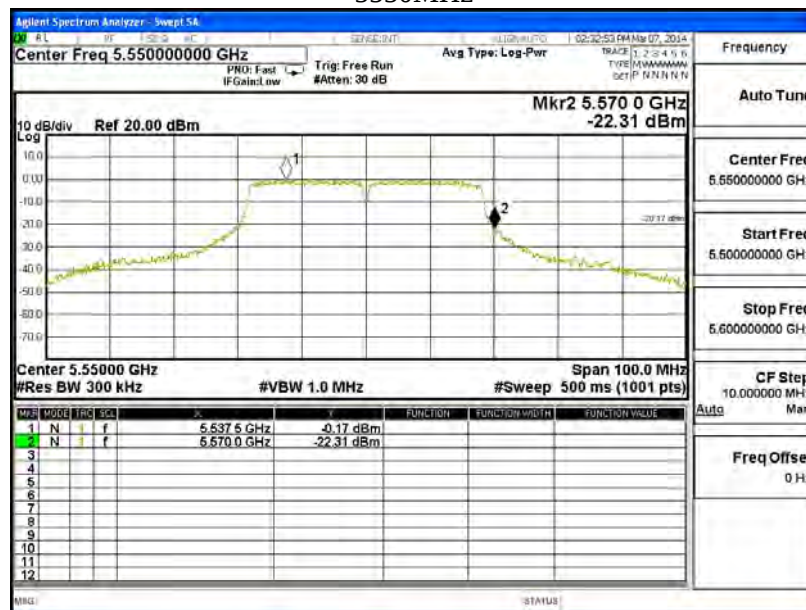
Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)

**Chain A**

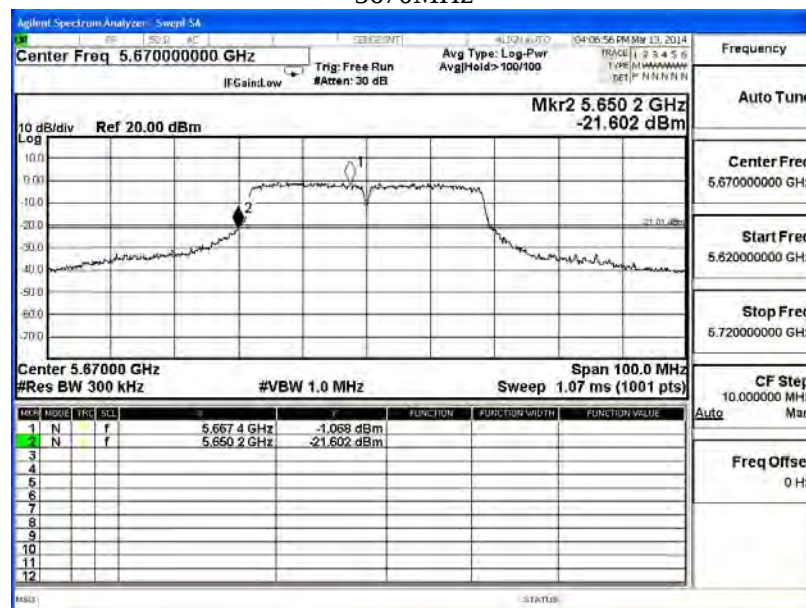
| Test Frequency (MHz) | Measurement Level (20dB BW) (MHz) | Limit (MHz) | Result |
|----------------------|-----------------------------------|-------------|--------|
| 5550                 | 5570.00                           | <5600       | PASS   |
| 5670                 | 5650.20                           | >5650       | PASS   |

NOTE: The 5600~5650MHz band is not used in accordance with 15.215 requirement.

**5550MHz**



**5670MHz**



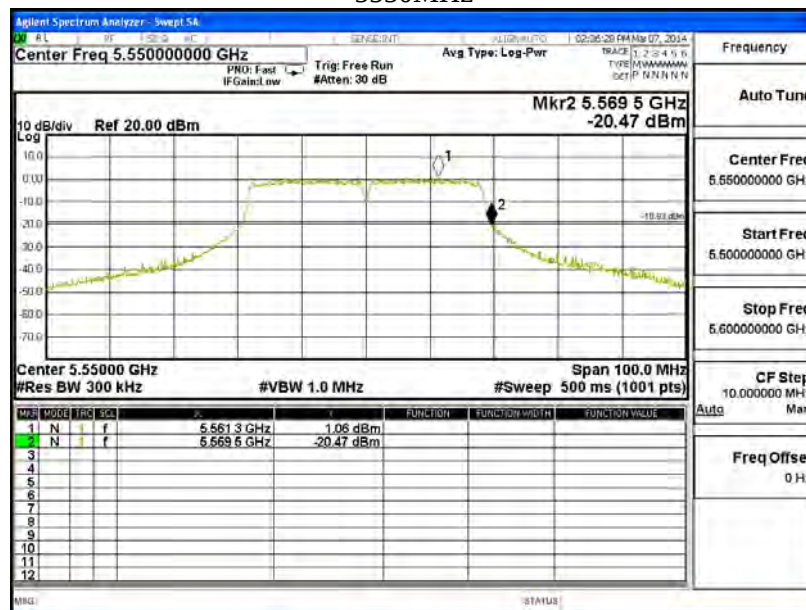
Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)

**Chain B**

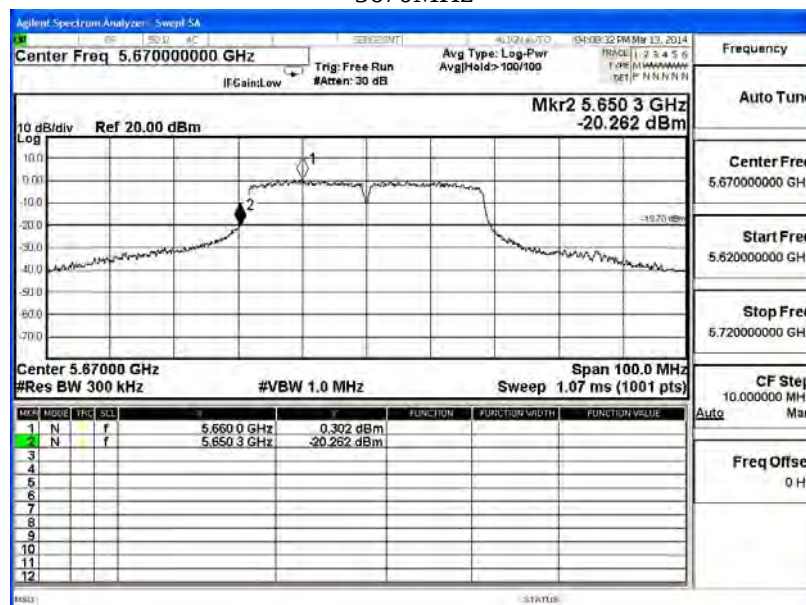
| Test Frequency (MHz) | Measurement Level (20dB BW) (MHz) | Limit (MHz) | Result |
|----------------------|-----------------------------------|-------------|--------|
| 5550                 | 5569.50                           | <5600       | PASS   |
| 5670                 | 5650.30                           | >5650       | PASS   |

NOTE: The 5600~5650MHz band is not used in accordance with 15.215 requirement.

**5550MHz**



**5670MHz**



## 8. Frequency Stability

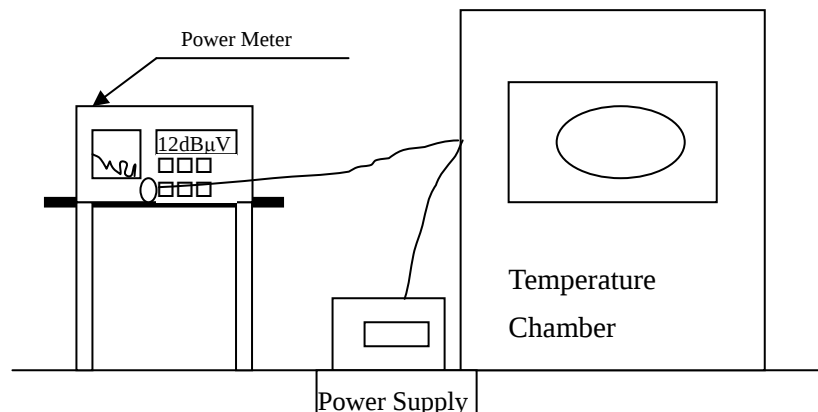
### 8.1. Test Equipment

|   | Equipment         | Manufacturer | Model No./Serial No. | Last Cal.  |
|---|-------------------|--------------|----------------------|------------|
|   | Spectrum Analyzer | R&S          | FSP40 / 100170       | Jun., 2013 |
|   | Spectrum Analyzer | Agilent      | E4407B / US39440758  | Jun., 2013 |
| X | Spectrum Analyzer | Agilent      | N9010A / MY48030495  | Apr., 2013 |

Note:

1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

### 8.2. Test Setup



### 8.3. Limits

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified

### 8.4. Test Procedure

The EUT was setup to ANSI C63.10, 2009; tested to DTS test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

### 8.5. Uncertainty

± 150 Hz

## 8.6. Test Result of Frequency Stability

Product : MOXA IEEE 802.11a/b/g/n Wireless  
 Test Item : Frequency Stability  
 Test Site : Temperature Chamber  
 Test Mode : Carrier Wave

### Chain A

| Test Conditions |             | Channel | Frequency (MHz) | Frequency (MHz) | $\Delta F$ (MHz) |
|-----------------|-------------|---------|-----------------|-----------------|------------------|
| Tnom (20) oC    | Vnom (120)V | 36      | 5180.0000       | 5180.0068       | -0.0068          |
|                 |             | 38      | 5190.0000       | 5190.0043       | -0.0043          |
|                 |             | 44      | 5220.0000       | 5220.0082       | -0.0082          |
|                 |             | 46      | 5230.0000       | 5230.0069       | -0.0069          |
|                 |             | 48      | 5240.0000       | 5240.0077       | -0.0077          |
|                 |             | 52      | 5260.0000       | 5260.0088       | -0.0088          |
|                 |             | 54      | 5270.0000       | 5270.0081       | -0.0081          |
|                 |             | 60      | 5300.0000       | 5300.0062       | -0.0062          |
|                 |             | 62      | 5310.0000       | 5310.0058       | -0.0058          |
|                 |             | 64      | 5320.0000       | 5320.0032       | -0.0032          |
|                 |             | 100     | 5500.0000       | 5500.0093       | -0.0093          |
|                 |             | 102     | 5510.0000       | 5510.0102       | -0.0102          |
|                 |             | 110     | 5550.0000       | 5550.0100       | -0.0100          |
|                 |             | 116     | 5580.0000       | 5580.0097       | -0.0097          |
|                 |             | 134     | 5670.0000       | 5670.0082       | -0.0082          |
|                 |             | 140     | 5700.0000       | 5700.0087       | -0.0087          |
| Tmax (50) oC    | Vmax (138)V | 36      | 5180.0070       | -0.0070         | 5180.0070        |
|                 |             | 38      | 5190.0040       | -0.0040         | 5190.0040        |
|                 |             | 44      | 5220.0080       | -0.0080         | 5220.0080        |
|                 |             | 46      | 5230.0070       | -0.0070         | 5230.0070        |
|                 |             | 48      | 5240.0071       | -0.0071         | 5240.0071        |
|                 |             | 52      | 5260.0083       | -0.0083         | 5260.0083        |
|                 |             | 54      | 5270.0079       | -0.0079         | 5270.0079        |
|                 |             | 60      | 5300.0062       | -0.0062         | 5300.0062        |
|                 |             | 62      | 5310.0088       | -0.0088         | 5310.0088        |
|                 |             | 64      | 5320.0073       | -0.0073         | 5320.0073        |
|                 |             | 100     | 5500.0074       | -0.0074         | 5500.0074        |
|                 |             | 102     | 5510.0069       | -0.0069         | 5510.0069        |
|                 |             | 110     | 5550.0100       | -0.0100         | 5550.0100        |
|                 |             | 116     | 5580.0094       | -0.0094         | 5580.0094        |
|                 |             | 134     | 5670.0081       | -0.0081         | 5670.0081        |
|                 |             | 140     | 5700.0077       | -0.0077         | 5700.0077        |

|               |             |     |           |           |         |
|---------------|-------------|-----|-----------|-----------|---------|
| Tmax (50) °C  | Vmin (102)V | 36  | 5180.0000 | 5180.0069 | -0.0069 |
|               |             | 38  | 5190.0000 | 5190.0077 | -0.0077 |
|               |             | 44  | 5220.0000 | 5220.0088 | -0.0088 |
|               |             | 46  | 5230.0000 | 5230.0074 | -0.0074 |
|               |             | 48  | 5240.0000 | 5240.0066 | -0.0066 |
|               |             | 52  | 5260.0000 | 5260.0079 | -0.0079 |
|               |             | 54  | 5270.0000 | 5270.0092 | -0.0092 |
|               |             | 60  | 5300.0000 | 5300.0086 | -0.0086 |
|               |             | 62  | 5310.0000 | 5310.0061 | -0.0061 |
|               |             | 64  | 5320.0000 | 5320.0074 | -0.0074 |
|               |             | 100 | 5500.0000 | 5500.0073 | -0.0073 |
|               |             | 102 | 5510.0000 | 5510.0079 | -0.0079 |
|               |             | 110 | 5550.0000 | 5550.0099 | -0.0099 |
|               |             | 116 | 5580.0000 | 5580.0101 | -0.0101 |
|               |             | 134 | 5670.0000 | 5670.0088 | -0.0088 |
|               |             | 140 | 5700.0000 | 5700.0080 | -0.0080 |
| Tmin (-10) °C | Vmax (138)V | 36  | 5180.0000 | 5180.0064 | -0.0064 |
|               |             | 38  | 5190.0000 | 5190.0078 | -0.0078 |
|               |             | 44  | 5220.0000 | 5220.0094 | -0.0094 |
|               |             | 46  | 5230.0000 | 5230.0077 | -0.0077 |
|               |             | 48  | 5240.0000 | 5240.0082 | -0.0082 |
|               |             | 52  | 5260.0000 | 5260.0076 | -0.0076 |
|               |             | 54  | 5270.0000 | 5270.0093 | -0.0093 |
|               |             | 60  | 5300.0000 | 5300.0084 | -0.0084 |
|               |             | 62  | 5310.0000 | 5310.0097 | -0.0097 |
|               |             | 64  | 5320.0000 | 5320.0100 | -0.0100 |
|               |             | 100 | 5500.0000 | 5500.0067 | -0.0067 |
|               |             | 102 | 5510.0000 | 5510.0074 | -0.0074 |
|               |             | 110 | 5550.0000 | 5550.0088 | -0.0088 |
|               |             | 116 | 5580.0000 | 5580.0094 | -0.0094 |
|               |             | 134 | 5670.0000 | 5670.0084 | -0.0084 |
|               |             | 140 | 5700.0000 | 5700.0086 | -0.0086 |

|               |             |     |           |           |         |
|---------------|-------------|-----|-----------|-----------|---------|
| Tmin (-10) °C | Vmin (102)V | 36  | 5180.0000 | 5180.0064 | -0.0064 |
|               |             | 38  | 5190.0000 | 5190.0078 | -0.0078 |
|               |             | 44  | 5220.0000 | 5220.0094 | -0.0094 |
|               |             | 46  | 5230.0000 | 5230.0077 | -0.0077 |
|               |             | 48  | 5240.0000 | 5240.0082 | -0.0082 |
|               |             | 52  | 5260.0000 | 5260.0076 | -0.0076 |
|               |             | 54  | 5270.0000 | 5270.0093 | -0.0093 |
|               |             | 60  | 5300.0000 | 5300.0084 | -0.0084 |
|               |             | 62  | 5310.0000 | 5310.0097 | -0.0097 |
|               |             | 64  | 5320.0000 | 5320.0100 | -0.0100 |
|               |             | 100 | 5500.0000 | 5500.0067 | -0.0067 |
|               |             | 102 | 5510.0000 | 5510.0074 | -0.0074 |
|               |             | 110 | 5550.0000 | 5550.0088 | -0.0088 |
|               |             | 116 | 5580.0000 | 5580.0094 | -0.0094 |
|               |             | 134 | 5670.0000 | 5670.0084 | -0.0084 |
|               |             | 140 | 5700.0000 | 5700.0086 | -0.0086 |

**Chain B**

| Test Conditions |             | Channel | Frequency (MHz) | Frequency (MHz) | $\Delta F$ (MHz) |
|-----------------|-------------|---------|-----------------|-----------------|------------------|
| Tnom (20) °C    | Vnom (120)V | 36      | 5180.0000       | 5180.0065       | -0.0065          |
|                 |             | 38      | 5190.0000       | 5190.0040       | -0.0040          |
|                 |             | 44      | 5220.0000       | 5220.0077       | -0.0077          |
|                 |             | 46      | 5230.0000       | 5230.0067       | -0.0067          |
|                 |             | 48      | 5240.0000       | 5240.0074       | -0.0074          |
|                 |             | 52      | 5260.0000       | 5260.0084       | -0.0084          |
|                 |             | 54      | 5270.0000       | 5270.0077       | -0.0077          |
|                 |             | 60      | 5300.0000       | 5300.0059       | -0.0059          |
|                 |             | 62      | 5310.0000       | 5310.0057       | -0.0057          |
|                 |             | 64      | 5320.0000       | 5320.0030       | -0.0030          |
|                 |             | 100     | 5500.0000       | 5500.0090       | -0.0090          |
|                 |             | 102     | 5510.0000       | 5510.0100       | -0.0100          |
|                 |             | 110     | 5550.0000       | 5550.0098       | -0.0098          |
|                 |             | 116     | 5580.0000       | 5580.0096       | -0.0096          |
|                 |             | 134     | 5670.0000       | 5670.0080       | -0.0080          |
|                 |             | 140     | 5700.0000       | 5700.0086       | -0.0086          |
| Tmax (50) °C    | Vmax (138)V | 36      | 5180.0000       | 5180.0069       | -0.0069          |
|                 |             | 38      | 5190.0000       | 5190.0041       | -0.0041          |
|                 |             | 44      | 5220.0000       | 5220.0077       | -0.0077          |
|                 |             | 46      | 5230.0000       | 5230.0069       | -0.0069          |
|                 |             | 48      | 5240.0000       | 5240.0064       | -0.0064          |
|                 |             | 52      | 5260.0000       | 5260.0078       | -0.0078          |
|                 |             | 54      | 5270.0000       | 5270.0073       | -0.0073          |
|                 |             | 60      | 5300.0000       | 5300.0060       | -0.0060          |
|                 |             | 62      | 5310.0000       | 5310.0080       | -0.0080          |
|                 |             | 64      | 5320.0000       | 5320.0069       | -0.0069          |
|                 |             | 100     | 5500.0000       | 5500.0071       | -0.0071          |
|                 |             | 102     | 5510.0000       | 5510.0061       | -0.0061          |
|                 |             | 110     | 5550.0000       | 5550.0097       | -0.0097          |
|                 |             | 116     | 5580.0000       | 5580.0093       | -0.0093          |
|                 |             | 134     | 5670.0000       | 5670.0080       | -0.0080          |
|                 |             | 140     | 5700.0000       | 5700.0074       | -0.0074          |

|               |             |     |           |           |         |
|---------------|-------------|-----|-----------|-----------|---------|
| Tmax (50) °C  | Vmin (102)V | 36  | 5180.0000 | 5180.0063 | -0.0063 |
|               |             | 38  | 5190.0000 | 5190.0074 | -0.0074 |
|               |             | 44  | 5220.0000 | 5220.0087 | -0.0087 |
|               |             | 46  | 5230.0000 | 5230.0070 | -0.0070 |
|               |             | 48  | 5240.0000 | 5240.0063 | -0.0063 |
|               |             | 52  | 5260.0000 | 5260.0077 | -0.0077 |
|               |             | 54  | 5270.0000 | 5270.0090 | -0.0090 |
|               |             | 60  | 5300.0000 | 5300.0084 | -0.0084 |
|               |             | 62  | 5310.0000 | 5310.0060 | -0.0060 |
|               |             | 64  | 5320.0000 | 5320.0072 | -0.0072 |
|               |             | 100 | 5500.0000 | 5500.0072 | -0.0072 |
|               |             | 102 | 5510.0000 | 5510.0077 | -0.0077 |
|               |             | 110 | 5550.0000 | 5550.0097 | -0.0097 |
|               |             | 116 | 5580.0000 | 5580.0099 | -0.0099 |
|               |             | 134 | 5670.0000 | 5670.0087 | -0.0087 |
|               |             | 140 | 5700.0000 | 5700.0079 | -0.0079 |
| Tmin (-10) °C | Vmax (138)V | 36  | 5180.0000 | 5180.0061 | -0.0061 |
|               |             | 38  | 5190.0000 | 5190.0077 | -0.0077 |
|               |             | 44  | 5220.0000 | 5220.0091 | -0.0091 |
|               |             | 46  | 5230.0000 | 5230.0077 | -0.0077 |
|               |             | 48  | 5240.0000 | 5240.0080 | -0.0080 |
|               |             | 52  | 5260.0000 | 5260.0071 | -0.0071 |
|               |             | 54  | 5270.0000 | 5270.0090 | -0.0090 |
|               |             | 60  | 5300.0000 | 5300.0081 | -0.0081 |
|               |             | 62  | 5310.0000 | 5310.0094 | -0.0094 |
|               |             | 64  | 5320.0000 | 5320.0094 | -0.0094 |
|               |             | 100 | 5500.0000 | 5500.0065 | -0.0065 |
|               |             | 102 | 5510.0000 | 5510.0071 | -0.0071 |
|               |             | 110 | 5550.0000 | 5550.0087 | -0.0087 |
|               |             | 116 | 5580.0000 | 5580.0092 | -0.0092 |
|               |             | 134 | 5670.0000 | 5670.0083 | -0.0083 |
|               |             | 140 | 5700.0000 | 5700.0085 | -0.0085 |

|               |             |     |           |           |         |
|---------------|-------------|-----|-----------|-----------|---------|
| Tmin (-10) °C | Vmin (102)V | 36  | 5180.0000 | 5180.6300 | -0.6300 |
|               |             | 38  | 5190.0000 | 5190.0075 | -0.0075 |
|               |             | 44  | 5220.0000 | 5220.0084 | -0.0084 |
|               |             | 46  | 5230.0000 | 5230.0080 | -0.0080 |
|               |             | 48  | 5240.0000 | 5240.0087 | -0.0087 |
|               |             | 52  | 5260.0000 | 5260.0075 | -0.0075 |
|               |             | 54  | 5270.0000 | 5270.0089 | -0.0089 |
|               |             | 60  | 5300.0000 | 5300.7700 | -0.7700 |
|               |             | 62  | 5310.0000 | 5310.0090 | -0.0090 |
|               |             | 64  | 5320.0000 | 5320.0097 | -0.0097 |
|               |             | 100 | 5500.0000 | 5500.0079 | -0.0079 |
|               |             | 102 | 5510.0000 | 5510.0066 | -0.0066 |
|               |             | 110 | 5550.0000 | 5550.0074 | -0.0074 |
|               |             | 116 | 5580.0000 | 5580.0089 | -0.0089 |
|               |             | 134 | 5670.0000 | 5670.0077 | -0.0077 |
|               |             | 140 | 5700.0000 | 5700.0086 | -0.0086 |

## **9. EMI Reduction Method During Compliance Testing**

No modification was made during testing.

## Attachment 1: EUT Test Photographs

## Attachment 2: EUT Detailed Photographs